

*Staff Copy*

# **CONSOLIDATED ANNUAL REPORT**

**on**

## **State and Territorial Public Health Laboratories**

### **Fiscal Year 1976**



---

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE  
PUBLIC HEALTH SERVICE  
CENTER FOR DISEASE CONTROL  
ATLANTA, GEORGIA 30333

---

CONSOLIDATED ANNUAL REPORT  
on State and Territorial  
Public Health Laboratories  
Fiscal Year 1976  
For Administrative Use Only

March 1977

A Collaborative Compilation  
by the  
U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE  
Public Health Service  
Center for Disease Control  
Bureau of Laboratories  
Atlanta, Georgia 30333  
and the  
Association of State and Territorial  
Public Health Laboratory Directors

ASSOCIATION OF STATE AND TERRITORIAL  
PUBLIC HEALTH LABORATORY DIRECTORS

1976 - 1977

President

Dr. Martin Goldfield  
New Jersey

President-Elect

Dr. Elmer R. Spurrier  
Missouri

Secretary-Treasurer

Dr. Robert A. Miliner  
New Hampshire

Consolidated Annual Report  
Ad Hoc Committee

Dr. Frank P. Pauls  
(Chairman) - Alaska

Mrs. Mildred A. Kerbaugh  
North Carolina

Dr. Raymond G. Lundgren  
Rhode Island

Dr. Redolfo Romero  
New Mexico

TABLE OF CONTENTS

	Page
INTRODUCTION	1
SECTION I                      SUMMARY TABLES	3
SECTION II                     PERSONNEL	23
SECTION III                    FINANCES	31
SECTION IV                    WORKLOAD REPORTING CATEGORIES	47
SECTION V                    ORGANIZATIONAL CHANGES, SCREENING PROGRAMS, AND BRANCH LABORATORY INFORMATION	135

LIST OF TABLES

Table	Title	Page
<u>SUMMARY TABLES</u>		
1-1.	Budgeted Positions for State and Territorial Public Health Laboratories	4
1-2.	Percentage of Turnover in All Positions	5
1-3.	Laboratory Expenditures Per Capita	6
1-4.	Specimens/Samples Received by The State and Territorial Public Health Laboratories	7
1-5.	Total Filled Positions, Professional and Technical Filled Positions, and Ratios of each to Population	8
1-6.	Ranking of States by Number of Filled Positions and by Ratio of Positions to Population	9
1-7.	Ranking of States by Number of Filled Positions and by Ratio of Filled Positions to Population Arranged by Region	10
1-8.	Expenditures to Filled Positions and Filled Professional and Technical Positions	11
1-9.	Ranking of States by Expenditures to Filled Positions, and Expenditures to Filled Professional and Technical Positions	12
1-10.	Ranking of States by Expenditures to Total Filled Positions, and Expenditures to Filled Professional and Technical Positions Arranged by Region	13
1-11.	Laboratory Expenditures and Expenditures Per Capita	14
1-12.	Ranking of States by Expenditures and by Expenditures Per Capita	15
1-13.	Ranking of States by Expenditures and by Expenditures Per Capita Arranged by Region	16
1-14.	Summary of Laboratory Specimens by Category and Percent of Category to Total Specimens	17
1-15.	Total Specimens and Number of Specimens to Population	19
1-16.	Ranking of States by Specimens and Number of Specimens to Population	20
1-17.	Ranking of States by Total Specimens and Number of Total Specimens to Population Arranged by Region	21
<u>PERSONNEL</u>		
2-1.	Budgeted Positions by Type	24
2-2.	Number of Positions Filled and (Vacancies)	26
2-3.	Turnover	28
2-4.	Staffing Pattern of Professional and Technical Personnel in the 15 Workload Reporting Categories and Position Changes Since the Last Reporting Period (+ and -)	29

LIST OF TABLES  
(Continued)

Table	Title	Page
<u>FINANCES</u>		
3-1.	Laboratory Expenditures by Category	32
3-2.	Sources of Laboratory Funds	34
3-3.	Grants, Contracts, or Special Service Agreements With Other Departments or Agencies (Private, Federal, State, or Local)	35
3-4.	States Reporting Charges for Laboratory Services	43
<u>WORKLOAD REPORTING CATEGORIES</u>		
4-1.	Diagnostic Bacteriology Specimens by Category and Sub-Category	51
4-2.	I. Diagnostic Bacteriology A. Nasopharyngeal Specimens 1. Streptococcus, Beta Hemolytic, Group A Specimens	52
	2. Diphtheria Specimens	52
4-3.	I. A. Nasopharyngeal Specimens (Continued) 3. Pertussis Specimens	55
4-4.	I. A. Nasopharyngeal Specimens (Continued) 4. Other Nasopharyngeal Specimens	56
4-5.	I. B. Mycobacteria Specimens	58
4-6.	I. C. Enteric Specimens	60
4-7.	I. D. Gonococcus Specimens	62
4-8.	I. E. Other Bacteriology Specimens	64
4-9.	II. Mycology	68
4-10.	Parasitology Specimens by Category and Sub-Category	71
4-11.	III. Parasitology A. Intestinal Specimens	72
	B. Other Parasitology Specimens	72
4-12.	Virology Specimens by Category and Sub-Category	75
4-13.	IV. Virology A. Rabies Specimens	76
4-14.	IV. B. Viral Isolation Specimens	78
4-15.	Immunology Specimens by Category and Sub-Category	81
4-16.	V. Immunology A. Syphilis Serology Specimens	82
4-17.	V. B. Bacterial Serology Specimens	84
	C. Fungal Serology Specimens	84
4-18.	V. D. Parasitological Serology Specimens	86
	E. Viral and Rickettsial Serology Specimens	86
4-19.	V. F. Other Serology Specimens	88
4-20.	Hematology Specimens by Category and Sub-Category	89

LIST OF TABLES  
(Continued)

Table	Title	Page
<u>WORKLOAD REPORTING CATEGORIES (Cont.)</u>		
4-21.	VI. Hematology	
	A. Hematology Specimens	90
	B. Immunohematology Specimens	90
4-22.	VI. C. Hemoglobinopathy Specimens	92
4-23.	Clinical Chemistry Specimens by Category and Sub-Category	95
4-24.	VII. Clinical Chemistry	
	A. Clinical Chemistry Specimens	96
4-25.	VII. B. Urinalysis Specimens	98
	C. Inborn Errors of Metabolism Specimens	98
4-26.	VII. D. Multiphasic Screening Specimens	99
	E. Other Clinical Chemistry Specimens	99
4-27.	VIII. Pathology	100
4-28.	Environmental Microbiology Samples by Category and Sub-Category	101
4-29.	IX. Environmental Microbiology	
	A. Water Samples	102
	B. Dairy Product Samples	102
4-30.	IX. C. Food and Beverage Samples	104
	D. Other Samples	104
4-31.	Environmental Chemistry Samples by Category and Sub-Category	105
4-32.	X. Environmental Chemistry	
	A. Water Samples	107
	B. Dairy Products and Food Samples	107
4-33.	X. C. Pesticide Samples	108
	D. Air Pollution Samples	108
4-34.	X. E. Radiological Analysis Samples	110
4-35.	X. F. Other Samples	111
4-36.	XI. Occupational Health and Safety	112
4-37.	Toxicology Samples by Category and Sub-Category	113
4-38.	XII. Toxicology	
	A. Physical Samples	114
4-39.	XII. B. Biological Samples	116
4-40.	XIII. Laboratory Improvement Program	
	A. Clinical Laboratories	122
	B. Dairy/Food Laboratories	122
4-41.	XIII. C. Water Laboratories	124
	D. Other Activities	124
4-42.	XIV. Biologics, Reagents, and Media Produced for Distribution	126
4-43.	XV. Research and Development	
	A. Basic Research	129
4-44.	XV. B. Applied Research	130
4-45.	XV. C. Technical Development	132

LIST OF TABLES  
(Continued)

Table	Title	Page
	<u>ORGANIZATIONAL CHANGES, SCREENING PROGRAMS, AND BRANCH LABORATORY INFORMATION</u>	
5-1.	States Reporting Changes During the Reporting Year Affecting Relationships of the Laboratory With Other Units of Government	136
5-2.	Laboratories Reporting Screening Programs	137
5-3.	Laboratories Reporting Branch Laboratories	138



## INTRODUCTION

This is the 13th Edition of the Consolidated Annual Report (CAR) on State and Public Health Laboratories. The purpose of the CAR is to provide data for planning, management, and evaluation to the members of the Association of State and Territorial Public Health Laboratory Directors (ASTPHLD). At the annual ASTPHLD meeting held in Mobile in April 1975, the Association voted to emphasize three areas of reporting: Personnel, Finances, and Diagnostic Workload. This report contains data on these three areas and on three additional topics concerning organizational changes, screening programs, and branch laboratories. This edition, CAR - FY 76, contains data from 53 of the 54 members of ASTPHLD. The Virgin Islands is the only member of the organization which did not report.

This CAR contains several major changes from previous issues. These changes are a result of a three year study of the CAR conducted by an ad hoc committee of the ASTPHLD and several members of the Laboratory Management Consultation Office, Center for Disease Control.

The changes generally have occurred in the workload reporting section. The addition of (1) Laboratory Improvement Programs, (2) Biologics, Reagents, and Media Produced for Distribution, and (3) Research and Development has expanded the workload reporting categories from 12 to 15. Reporting the number of examinations which are conducted has been dropped. The workload reporting section of CAR - FY 76 now contains the number of specimens by category and sub-category and the type of testing which is routinely performed by the laboratory.

The major change in the Personnel area is the reporting of Professional and Technical positions by workload category, thus providing an indication of the emphasis within each of the participating laboratories. The Finance section remains about the same as last year, except that data on "Grants and Contracts" and "Fees for Services" are now a routine part of this section rather than special tables under miscellaneous.

There are several special instructions which the reader of this report should be aware of. First, a "-" inserted in a reporting column indicates that a state reported no activity, for that particular item. An "X" indicates a yes response, or that the laboratory does provide this service. In some of the tables the data which is being reported is not an activity of all of the member laboratories. In these instances, the states with no activity are either deleted from the table or the appropriate column is "blank". The reader is reminded that the data contained in this report is provided only by the members of ASTPHLD. The information which they provide is generally limited to the organizations for which they have direct responsibility. Thus, a "no activity" indication for a state means "no activity" for that reporting organization only. In actuality, other state organizations may be quite active, but the data is not available for this report.

Second, many of the tables have averages and totals or other statistical analyses. Because of rounding error and population estimates, the analyses may not sum to precisely the expected results.

The third item to be aware of is the use of footnotes to indicate any unusual circumstance relating to an entry in a table. These footnotes are referred to in the tables by (a, b, c, etc.) and are found at the end of each table.

Generally, the term "specimen" indicates an animal or human source and "sample" indicates an environmental source. However, in tables 1-14 through 1-17 the term "specimens" refers to both human sources and environmental samples.

There is one more topic which deserves a brief discussion in this introduction to the CAR - FY 76. Each reader should exercise caution when making comparisons between states. Every attempt has been made to insure the correctness of the raw data which is included in this report. However, in many instances, the operating mechanisms of a given state can be of such a nature that a false impression of that state's activity is implied to the reader. For example, State A may have a budgetary system whereby administrative overhead, heating and cooling, and operation of branch laboratories are included in its budget. State B may have a system whereby only direct operational costs are included in the laboratory's budget. Thus, the casual reader of this report would conclude that State A expends more money than State B. Actually, State B could have more, less than, or the same amount of funds as State A, depending upon the amount of "hidden expenditures" not reported for State B.

The same caution should be applied to the indices and rankings which are contained in some of the summary tables. These summary tables are reduced to a common denominator in an attempt to equalize the large variation in population, size of the laboratory, etc. However, a high per capita index does not necessarily indicate high salaries, nor does it indicate lack of efficiency. In order to be able to put a value judgment of "good" or "bad" on such an indicator you would first have to know a great deal more about the details of what goes on in a state's program.

Thus, we suggest that if you wish to make state to state comparisons, you should (1) study the detailed information from the tables on each of the states in the comparison to ascertain similarities and differences, and (2) contact the individual State Laboratory Directors to determine the reasons for the differences.

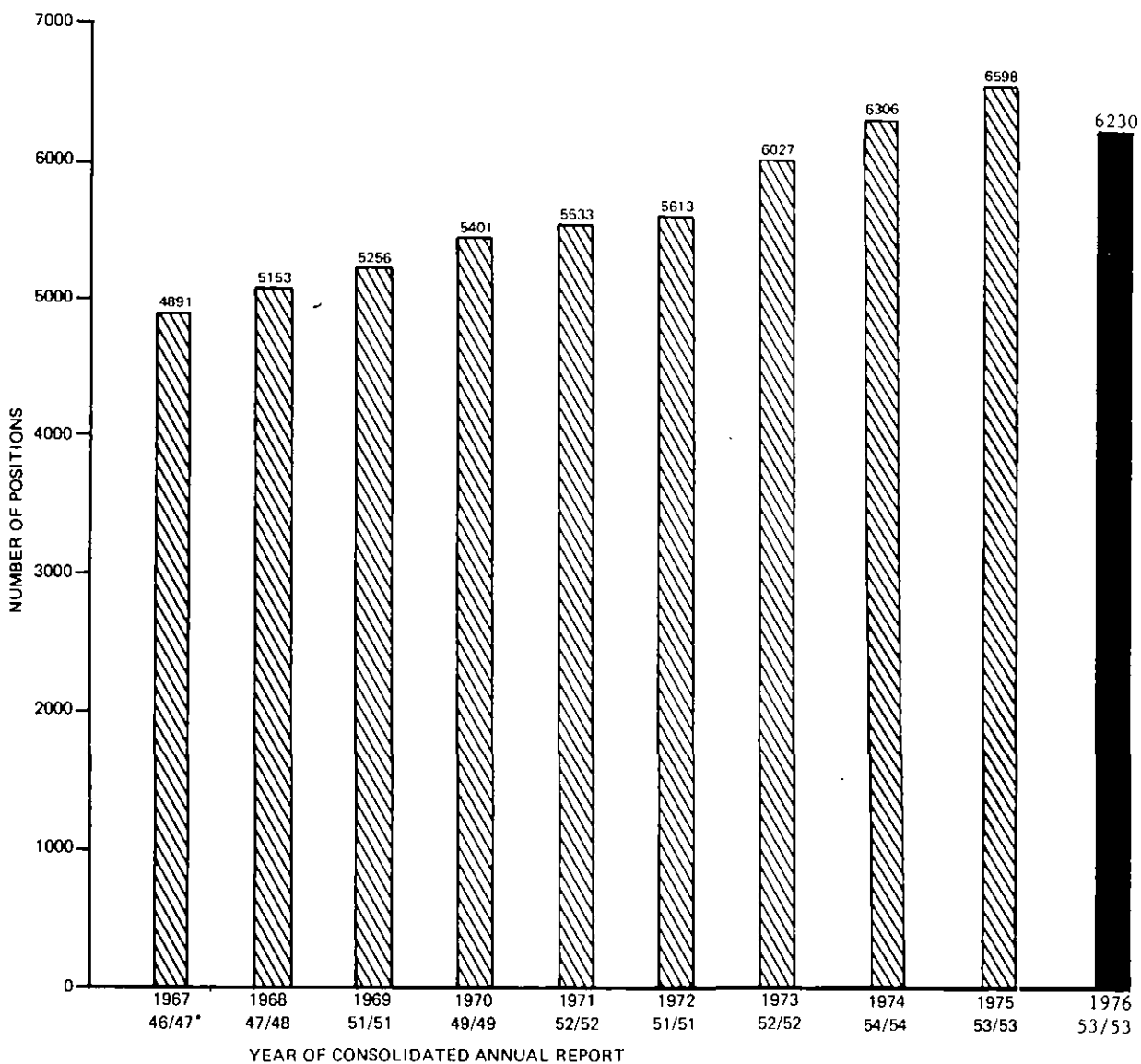
SECTION I

SUMMARY TABLES

SECTION I

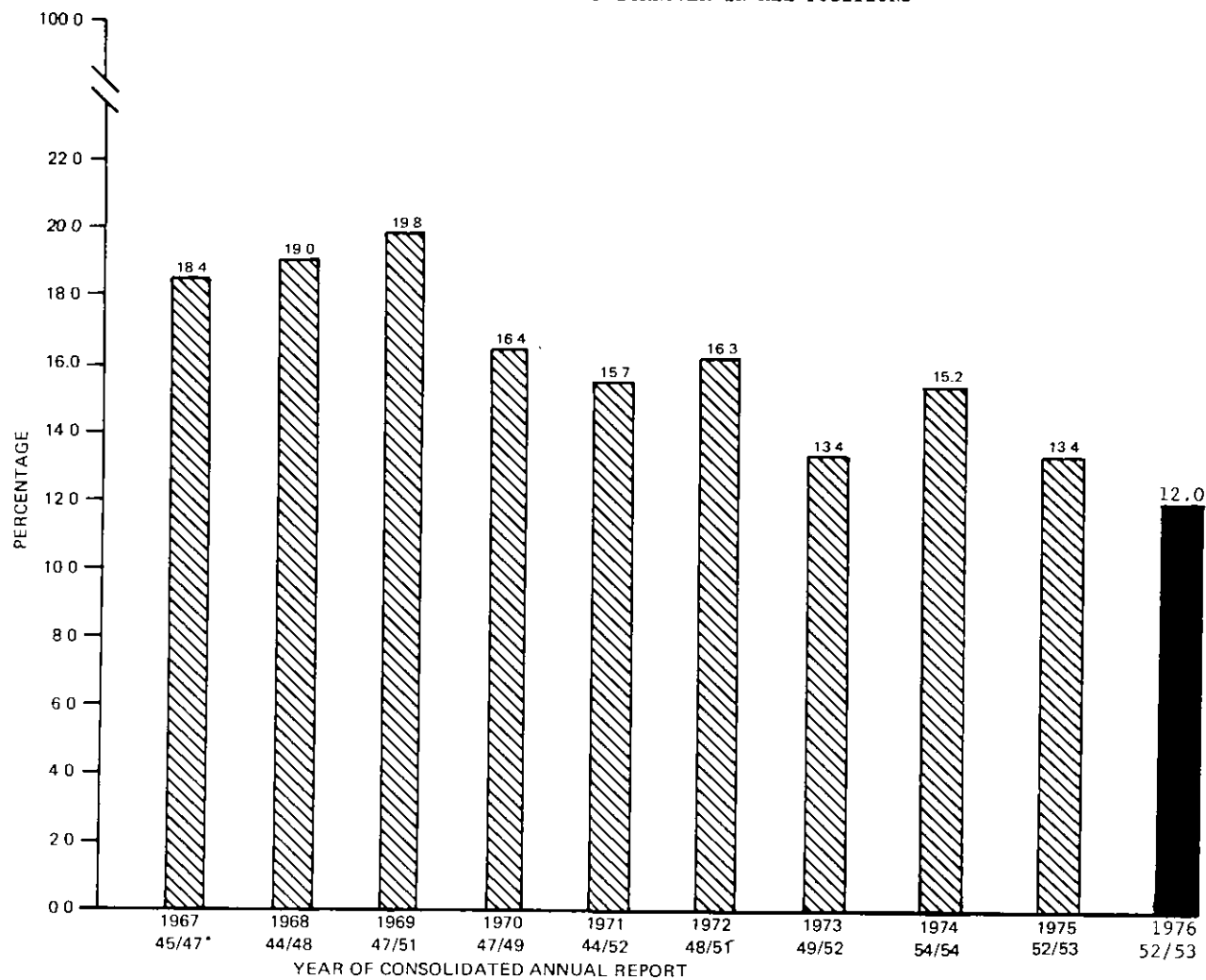
SUMMARY TABLES

TABLE 1-1. BUDGETED POSITIONS FOR STATE AND TERRITORIAL PUBLIC HEALTH LABORATORIES



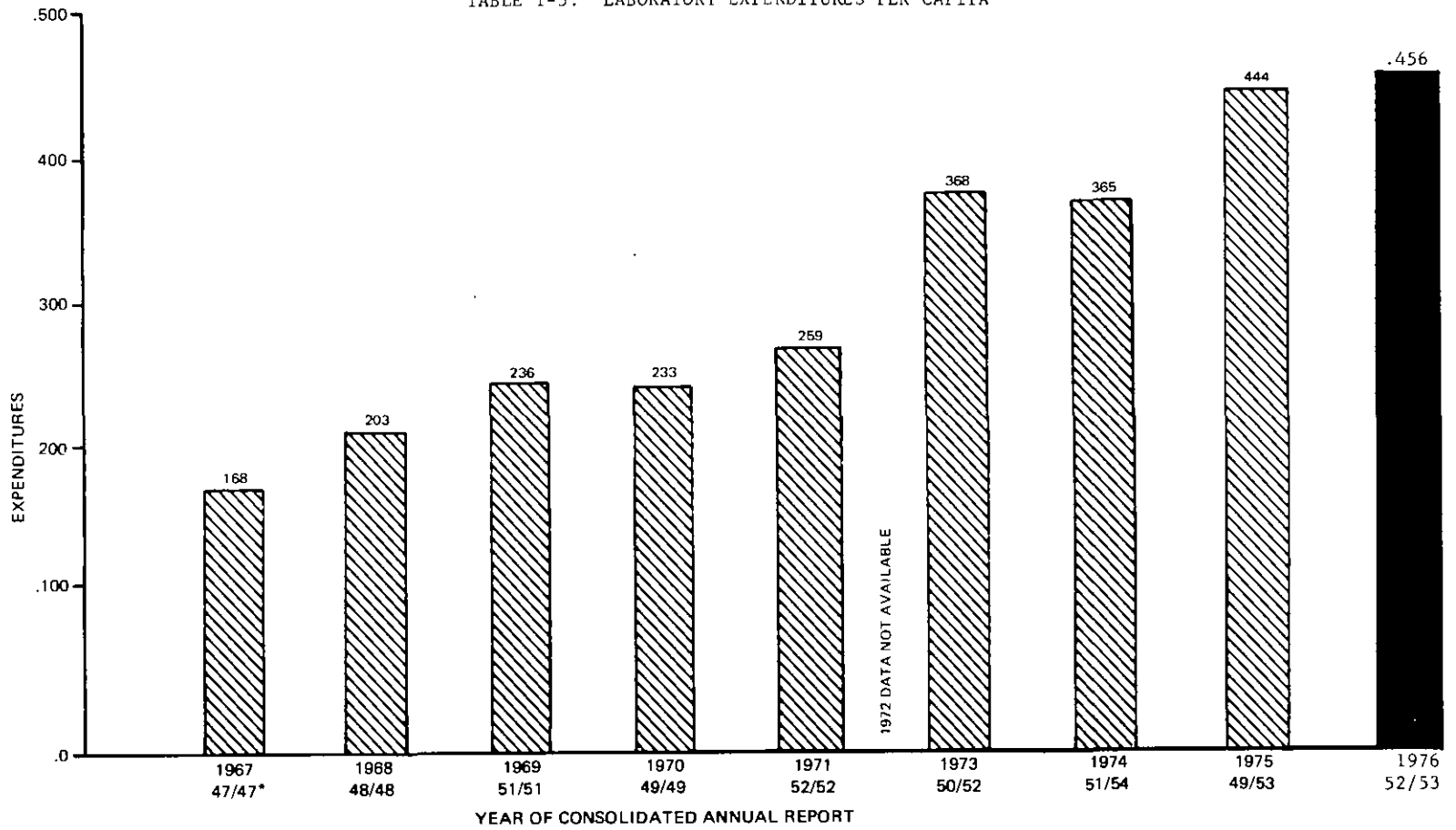
\*46/47 = INDICATES 46 LABS REPORTED THIS TYPE DATA OUT OF 47 LABS REPORTING

TABLE 1-2. PERCENTAGE OF TURNOVER IN ALL POSITIONS



\*45/47 \* INDICATES 45 LABS REPORTING THIS TYPE DATA OUT OF 47 LABS REPORTING

TABLE 1-3. LABORATORY EXPENDITURES PER CAPITA



\*47/47 - INDICATES 47 LABS REPORTED THIS TYPE DATA OUT OF 47 LABS REPORTING

TABLE 1-4. SPECIMENS/SAMPLES RECEIVED BY THE STATE AND TERRITORIAL PUBLIC HEALTH LABORATORIES

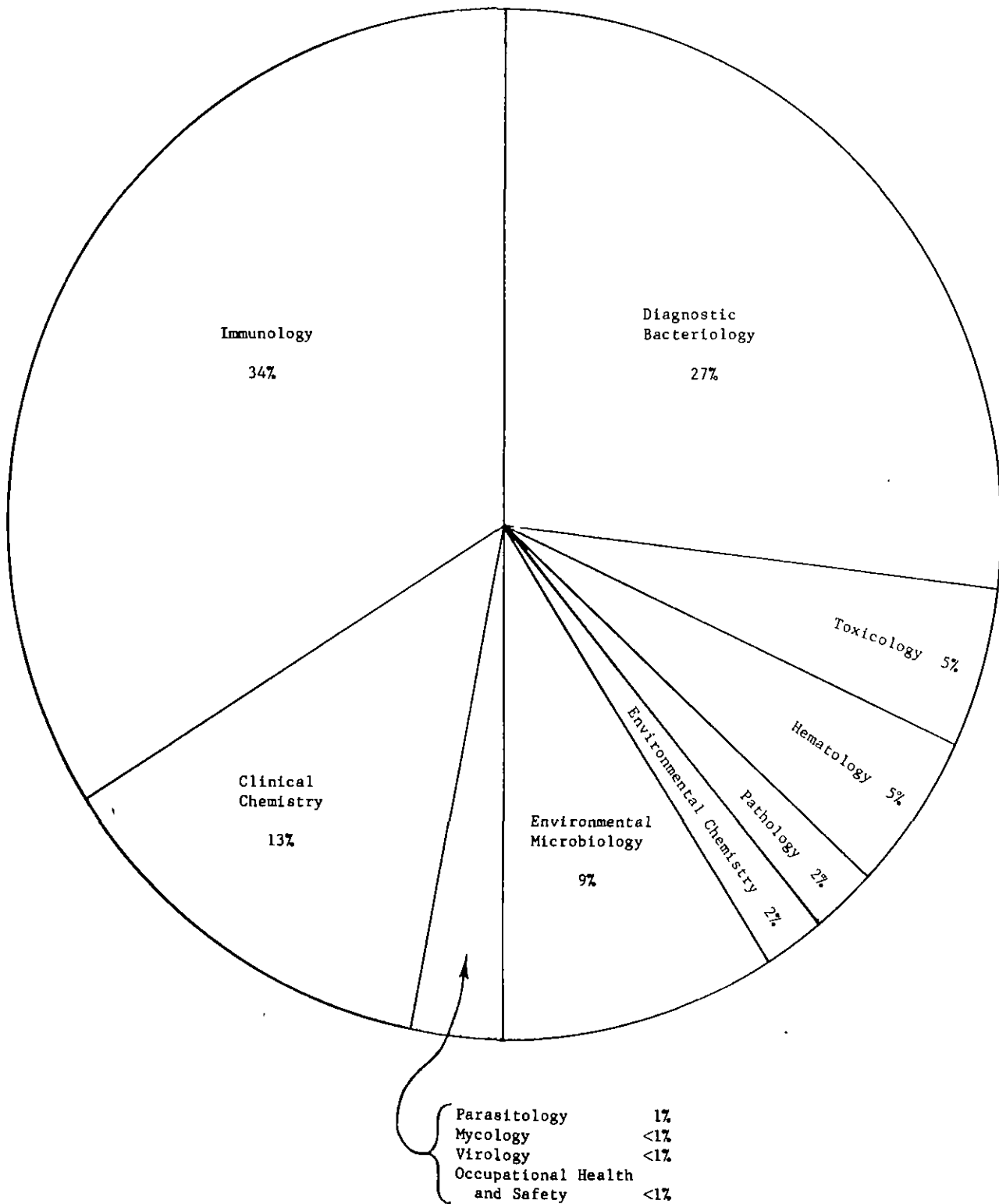




TABLE 1-5. TOTAL FILLED POSITIONS, PROFESSIONAL AND TECHNICAL FILLED POSITIONS, AND RATIOS OF EACH TO POPULATION

	Population	Total Filled Positions	Total Filled Prof. & Tech. Positions	Ratio of Total Filled Positions to Population	Ratio of Filled Prof. & Tech. Positions to Population
<b>New England</b>	12,198,000	604.50	351	1: 20,179	1: 34,752
Me.	1,059,000	40	27	1: 26,475	1: 39,222
N.H.	818,000	21	13	1: 38,952	1: 62,923
Vt.	471,000	28	19	1: 16,821	1: 24,789
Mass.	5,828,000	212.5	102	1: 27,426	1: 57,137
R.I.	927,000	89	62	1: 10,416	1: 14,952
Conn.	3,095,000	214	128	1: 14,463	1: 24,180
<b>Middle Atlantic</b>	37,263,000	294	181	1: 65,112**	1:105,762**
N.Y.	18,120,000	*	*	-	-
N.J.	7,316,000	197	131	1: 37,137	1: 55,847
Pa.	11,827,000	97	50	1:121,928	1:236,540
<b>East North Central</b>	40,979,000	878.4	567.2	1: 46,652	1: 72,248
Ohio	10,759,000	173	103	1: 62,191	1:104,456
Ind.	5,311,000	88	55	1: 60,352	1: 96,564
Ill.	11,145,000	140	85	1: 79,607	1:131,118
Mich.	9,157,000	327.4	226.2	1: 27,969	1: 40,482
Wis.	4,607,000	150	98	1: 30,713	1: 47,010
<b>West North Central</b>	16,690,000	391.74	243.24	1: 42,605	1: 68,615
Minn.	3,926,000	87.5	47	1: 44,869	1: 83,532
Ia.	2,870,000	101	63	1: 28,416	1: 45,556
Mo.	4,763,000	48	35	1: 99,229	1:136,086
N.D.	635,000	29.82	16.82	1: 21,294	1: 37,753
S.D.	683,000	21	14	1: 32,524	1: 48,786
Nebr.	1,546,000	30	21	1: 51,533	1: 73,620
Kans.	2,267,000	74.42	46.42	1: 30,462	1: 48,837
<b>South Atlantic</b>	33,715,000	1,084.9	700.1	1: 31,077	1: 48,157
Del.	579,000	32	22	1: 18,093	1: 26,318
Md.	4,098,000	265	184	1: 15,464	1: 22,272
D.C.	716,000	53	44	1: 13,509	1: 16,273
Va.	4,967,000	89	56	1: 55,809	1: 88,696
W.Va.	1,803,000	56	35	1: 32,196	1: 51,514
N.C.	5,451,000	128	83	1: 42,586	1: 65,675
S.C.	2,818,000	92.9	60.1	1: 30,334	1: 46,889
Ga.	4,926,000	146	76	1: 33,740	1: 64,816
Fla.	8,357,000	223	140	1: 37,475	1: 59,693
<b>East South Central</b>	13,544,000	467.5	283	1: 28,971	1: 47,859
Ky.	3,396,000	70.5	44	1: 48,170	1: 77,182
Tenn.	4,188,000	160	85	1: 26,175	1: 49,271
Ala.	3,614,000	184	120	1: 19,641	1: 30,117
Miss.	2,346,000	53	34	1: 44,264	1: 69,000
<b>West South Central</b>	20,855,000	445.5	262	1: 46,813	1: 79,599
Ark.	2,116,000	54	33	1: 39,185	1: 64,121
La.	3,791,000	143	70	1: 26,510	1: 54,157
Okla.	2,712,000	51.5	33	1: 52,660	1: 82,182
Tex.	12,237,000	197	126	1: 62,117	1: 97,119
<b>Mountain</b>	9,644,000	381.4	242	1: 25,286	1: 39,851
Mont.	748,000	20.9	11	1: 35,789	1: 68,000
Ida.	820,000	69.5	43	1: 11,799	1: 19,070
Wyo.	374,000	11	8	1: 34,000	1: 46,750
Colo.	2,534,000	75	50	1: 33,787	1: 50,680
N.M.	1,147,000	65	36	1: 17,646	1: 31,861
Ariz.	2,224,000	55	35	1: 40,436	1: 63,543
Utah	1,206,000	57	40	1: 21,158	1: 30,150
Nev.	592,000	28	19	1: 21,143	1: 31,158
<b>Pacific</b>	28,234,000	627.75	418.25	1: 44,977	1: 67,505
Wash.	3,544,000	67	35	1: 52,896	1:101,257
Ore.	2,288,000	50.25	33.25	1: 45,532	1: 68,812
Cal.	21,185,000	426	299.5	1: 49,730	1: 70,735
Alaska	352,000	33	14	1: 10,667	1: 25,143
Hawaii	865,000	51.5	36.5	1: 16,796	1: 23,699
Guam	100,000	10	9	1: 10,000	1: 11,111
P.R.	2,951,000	75	41	1: 39,347	1: 71,976
<b>TOTAL**</b>	216,172,000	5,260.69	3,297.79		
<b>AVERAGE**</b>		101.17	63.42	1: 37,646	1: 60,055

\* Figures not available.

\*\*Computed with N.Y. population figures removed.

TABLE 1-6. RANKING OF STATES BY NUMBER OF FILLED POSITIONS AND BY RATIO OF POSITIONS TO POPULATION

Rank	State	Total Filled Positions	Rank	State	Ratio of Filled Positions to Population
1	Cal.	426	1	Guam	1: 10,000
2	Mich.	327.4	2	R.I.	1: 10,416
3	Md.	265	3	Alaska	1: 10,667
4	Fla.	223	4	Idaho	1: 11,799
5	Conn.	214	5	D.C.	1: 13,509
6	Mass.	212.5	6	Conn.	1: 14,463
7	N.J.	197	7	Md.	1: 15,464
8	Tex.	197	8	Hawaii	1: 16,796
9	Ala.	184	9	Vt.	1: 16,821
10	Ohio	173	10	N.M.	1: 17,646
11	Tenn.	160	11	Del.	1: 18,093
12	Wisc.	150	12	Ala.	1: 19,641
13	Ga.	146	13	Nev.	1: 21,143
14	La.	143	14	Utah	1: 21,158
15	Ill.	140	15	N.D.	1: 21,294
16	N.C.	128	16	Tenn.	1: 26,175
National Average		101.17			
17	Ia.	101	17	Me.	1: 26,475
18	Pa.	97	18	La.	1: 26,510
19	S.C.	92.9	19	Mass.	1: 27,426
20	R.I.	89	20	Mich.	1: 27,969
21	Va.	89	21	Ia.	1: 28,416
22	Ind.	88	22	S.C.	1: 30,334
23	Minn.	87.5	23	Kans.	1: 30,462
24	Colo.	75	24	Wisc.	1: 30,713
25	Guam	75	25	W.Va.	1: 32,196
26	Kans.	74.42	26	S.D.	1: 32,524
27	Ky.	70.5	27	Ga.	1: 33,470
28	Ida.	69.5	28	Colo.	1: 33,787
29	Wash.	67	29	Wyo.	1: 34,000
30	N.M.	65	30	Mont.	1: 35,789
31	Utah	55	31	N.J.	1: 37,137
32	W.Va.	56	32	Fla.	1: 37,475
			National Average 1: 37,646		
33	Ariz.	55	33	N.H.	1: 38,952
34	Ark.	54	34	Ark.	1: 39,185
35	D.C.	53	35	P.R.	1: 39,347
36	Miss.	53	36	Ariz.	1: 40,436
37	Hawaii	51.5	37	N.C.	1: 42,586
38	Okla.	51.5	38	Miss.	1: 44,264
39	Ore.	50.25	39	Minn.	1: 44,869
40	Mo.	48	40	Ore.	1: 45,532
41	Me.	40	41	Ky.	1: 48,170
42	Alaska	33	42	Cal.	1: 49,730
43	Del.	32	43	Nebr.	1: 51,533
44	Nebr.	30	44	Okla.	1: 52,660
45	N.D.	29.82	45	Wash.	1: 52,896
46	Nev.	28	46	Va.	1: 55,809
47	Vt.	28	47	Ind.	1: 60,352
48	N.H.	21	48	Tex.	1: 62,117
49	S.C.	21	49	Ohio	1: 62,191
50	Mont.	20.9	50	Ill.	1: 79,607
51	Wyo.	11	51	Mo.	1: 99,229
52	P.R.	10	52	Pa.	1: 121,928

TABLE 1-7. RANKING OF STATES BY NUMBER OF FILLED POSITIONS AND BY RATIO OF FILLED POSITIONS TO POPULATION ARRANGED BY REGION

State	Filled Positions	State	Ratio of Filled Positions to Population
New England		New England	
Conn.	214	R.I.	1: 10,416
Mass.	212.5	Conn.	1: 14,463
R.I.	89	Vt.	1: 16,821
Me.	40	Me.	1: 26,475
Vt.	28	Mass.	1: 27,426
N.H.	21	N.H.	1: 38,952
Middle Atlantic		Middle Atlantic	
N.J.	197	N.J.	1: 37,137
Pa.	97	Pa.	1: 121,928
N.Y.	*	N.Y.	*
East North Central		East North Central	
Mich.	327.4	Mich.	1: 27,969
Ohio	173	Wisc.	1: 30,713
Wisc.	150	Ind.	1: 60,352
Ill.	140	Ohio	1: 62,191
Ind.	88	Ill.	1: 79,607
West North Central		West North Central	
Ia.	101	N.D.	1: 21,294
Minn.	87.5	Ia.	1: 28,416
Kans.	74.42	Kans.	1: 30,462
Mo.	48	S.D.	1: 32,524
Nebr.	30	Minn.	1: 44,869
N.D.	29.82	Nebr.	1: 51,533
S.D.	21	Mo.	1: 99,229
South Atlantic		South Atlantic	
Md.	265	D.C.	1: 13,509
Fla.	223	Md.	1: 15,464
Ga.	146	Del.	1: 18,093
N.C.	128	S.C.	1: 30,334
S.C.	92.9	W.Va.	1: 32,196
Va.	89	Ga.	1: 33,470
W.Va.	56	Fla.	1: 37,475
D.C.	53	N.C.	1: 42,586
Del.	32	Va.	1: 55,809
East South Central		East South Central	
Ala.	184	Ala.	1: 19,641
Tenn.	160	Tenn.	1: 26,175
Ky.	70.5	Miss.	1: 44,264
Miss.	53	Ky.	1: 48,170
West South Central		West South Central	
Tex.	197	La.	1: 26,510
La.	143	Ark.	1: 39,185
Ark.	54	Okla.	1: 52,660
Okla.	51.5	Tex.	1: 62,117
Mountain		Mountain	
Colo.	75	Ida.	1: 11,799
Ida.	69.5	N.M.	1: 17,646
N.M.	65	Nev.	1: 21,143
Utah	57	Utah	1: 21,158
Ariz.	55	Colo.	1: 33,787
Nev.	28	Wyo.	1: 34,000
Mont.	20.9	Mont.	1: 35,789
Wyo.	11	Ariz.	1: 40,436
Pacific		Pacific	
Cal.	426	Alaska	1: 10,667
Wash.	67	Hawaii	1: 16,796
Hawaii	51.5	Ore.	1: 45,532
Ore.	50.25	Cal.	1: 49,730
Alaska	33	Wash.	1: 52,896
P.R.	10	Guam	1: 10,000
Guam	75	P.R.	1: 39,347

TABLE 1-8. EXPENDITURES TO FILLED POSITIONS AND FILLED PROFESSIONAL AND TECHNICAL POSITIONS

	Total Expenditures	Total Filled Positions	Professional and Technical Personnel	Expenditures per Filled Position	Expenditures per Prof. & Tech. Filled Position
New England	9,356,061	604.50	351	15,477.35	26,655.44
Me.	663,738	40	27	16,593.45	24,582.89
N.H.	292,656	21	13	13,936.00	22,512.00
Vt.	375,000	28	19	13,392.86	19,736.84
Mass.	3,382,230	212.5	102	15,916.38	33,159.12
R.I.	1,370,202	89	62	15,395.53	22,100.03
Conn.	3,272,235	214	128	15,290.82	25,564.34
Middle Atlantic	17,450,814	294	181	19,012.38*	30,881.98*
N.Y.	11,861,175	(a)	(a)	-	-
N.J.	3,510,203	197	131	17,818.29	26,795.44
Pa.	2,079,436	97	50	21,437.48	41,588.72
East North Central	17,293,576	878.40	567.2	19,687.59	30,489.38
Ohio	2,463,560	173	103	12,019.86	20,188.70
Ind.	1,457,977	88	55	16,567.92	26,508.67
Ill.	2,487,283	140	85	17,766.31	29,262.15
Mich.	7,996,836	327.4	226.2	24,425.28	35,352.94
Wisc.	2,887,920	150	98	19,252.80	29,468.57
West North Central	6,159,517	381.92	237.92	16,127.77	25,889.03
Minn.	1,271,095	87.5	47	14,526.80	27,044.57
Ia.	1,994,924	101	63	19,751.72	31,665.46
Mo.	682,471	48	35	14,218.15	19,499.17
N.D. (b)	275,093	20	11.5	13,754.65	23,921.13
S.D.	275,700	21	14	13,128.57	19,692.86
Nebr.	405,828	30	21	13,527.60	19,325.14
Kans.	1,254,406	74.42	46.42	16,855.76	27,022.96
South Atlantic	15,201,781	1,084.90	700.10	14,012.15	21,713.73
Del.	405,428	32	22	12,669.63	18,428.54
Md.	3,826,227	265	184	14,438.59	20,794.71
D.C.	1,105,095	53	44	20,850.85	25,115.80
Va.	1,114,803	89	56	12,525.88	19,907.20
W.Va.	739,600	56	35	13,207.14	21,131.43
N.C.	1,894,348	128	83	14,799.59	22,823.47
S.C.	1,423,085	92.9	60.1	15,318.46	23,678.62
Ga.	2,019,221	146	76	13,830.28	26,568.70
Fla.	2,673,974	223	140	11,990.91	19,099.81
East South Central	6,811,549	467.50	283.00	14,570.16	24,069.08
Ky.	1,131,862	70.5	44	16,054.78	25,724.14
Tenn.	2,385,054	160	85	14,906.59	28,059.46
Ala.	2,559,971	184	120	13,912.89	21,333.09
Miss.	734,662	53	34	13,861.55	21,607.71
West South Central	6,273,749	445.50	262	14,082.49	23,945.61
Ark.	607,219	54	33	11,244.80	18,400.58
La.	1,859,704	143	70	13,004.92	26,256.72
Okla.	786,143	51.5	33	15,264.91	23,822.52
Tex.	3,020,683	197	126	15,333.42	23,973.67
Mountain	5,729,744	381.40	242	18,370.45**	28,792.68**
Mont.	360,414	20.9	11	17,244.69	32,764.91
Ida.	(c)	69.5	43	-	-
Wyo.	275,898	11	8	25,081.64	34,487.25
Colo.	1,310,828	75	50	17,477.71	26,216.56
N.M.	1,287,595	65	36	19,809.15	35,766.53
Ariz.	1,029,840	55	35	18,724.36	29,424.00
Utah	931,195	7	40	16,336.75	23,279.88
Nev.	533,974	28	19	19,070.50	28,103.89
Pacific	12,921,233	627.75	418.25	20,583.41	30,893.56
Wash.	1,361,207	67	35	20,316.52	38,891.63
Ore.	839,075	50.25	33.25	16,698.01	25,235.34
Cal.	8,811,420	426	299.5	20,684.08	29,420.43
Alaska	1,135,700	33	14	34,415.15	81,121.43
Hawaii	773,831	51.5	36.5	15,025.84	21,200.85
Guam	169,276	10	9	16,927.60	18,808.44
P.R.	887,162	75	41	11,828.83	21,638.10
TOTAL	98,254,462	5,250.87	3,292.47		
AVERAGE ***	1,889,509	100.98	63.32	16,673.83***	26,586.89***

(a) Figures not available.

(b) Figures reported for microbiology laboratory only.

(c) Elected not to report data.

\*Computed with New York figures removed.

\*\*Computed with Idaho figures removed.

\*\*\*Computed with New York and Idaho figures removed.

TABLE 1-9. RANKING OF STATES BY EXPENDITURES TO FILLED POSITIONS AND EXPENDITURES TO FILLED PROFESSIONAL AND TECHNICAL POSITIONS

Rank	State	Ratio of Expenditures to Total Filled Positions	Rank	State	Ratio of Expenditures to Filled Prof. & Tech. Positions
1	Alaska	34,415.15	1	Alaska	81,121.43
2	Wyo.	25,081.64	2	Pa.	41,588.72
3	Mich.	24,425.28	3	Wash.	38,891.63
4	Pa.	21,437.48	4	N.M.	35,766.53
5	D.C.	20,850.85	5	Mich.	35,352.94
6	Calif.	20,698.01	6	Wyo.	34,487.25
7	Wash.	20,316.52	7	Mass.	33,159.12
8	N.M.	19,809.15	8	Mont.	32,764.91
9	Ia.	19,751.72	9	Ia.	31,665.46
10	Wisc.	19,252.80	10	Wisc.	29,468.57
11	Nev.	19,070.50	11	Ariz.	29,424.00
12	Ariz.	18,274.36	12	Calif.	29,420.43
13	N.J.	17,818.29	13	Ill.	29,262.15
14	Ill.	17,766.31	14	Nev.	28,103.89
15	Colo.	17,477.71	15	Tenn.	28,059.46
16	Mont.	17,244.69	16	Minn.	27,044.57
17	Guam	16,927.60	17	Kans.	27,022.96
18	Kans.	16,855.76	18	N.J.	26,795.44
19	Ore.	16,698.01	19	Ga.	26,568.70
National Average		16,652.69	National Average		26,560.01
20	Me.	16,593.45	20	Ind.	26,508.67
21	Ind.	16,567.92	21	La.	26,256.72
22	Utah	16,336.75	22	Colo.	26,216.56
23	Ky.	16,054.78	23	Ky.	25,724.14
24	Mass.	15,916.38	24	Conn.	25,564.34
25	R.I.	15,395.53	25	Ore.	25,235.34
26	Tex.	15,333.42	26	D.C.	25,115.80
27	S.C.	15,318.46	27	Me.	24,582.89
28	Conn.	15,290.82	28	Tex.	23,973.67
29	Okla.	15,264.91	29	N.D.(a)	23,921.13
30	Hawaii	15,025.84	30	Okla.	23,882.52
31	Tenn.	14,906.59	31	S.C.	23,678.62
32	N.C.	14,799.59	32	Utah	23,279.88
33	Minn.	14,526.80	33	N.C.	22,823.47
34	Md.	14,438.59	34	N.H.	22,512.00
35	Mo.	14,218.15	35	R.I.	22,100.03
36	N.H.	13,936.00	36	P.R.	21,638.10
37	Ala.	13,912.89	37	Mise.	21,607.71
38	Miss.	13,861.55	38	Ala.	21,333.09
39	Ga.	13,830.28	39	Hawaii	21,205.85
40	N.D.(a)	13,754.65	40	W.Va.	21,131.43
41	Nebr.	13,527.60	41	Md.	20,794.71
42	Vt.	13,392.86	42	Ohio	20,188.70
43	W.Va.	13,207.14	43	Va.	19,907.20
44	S.D.	13,128.57	44	Vt.	19,736.84
45	La.	13,004.92	45	S.D.	19,692.86
46	Del.	12,669.63	46	Mo.	19,499.17
47	Va.	12,525.88	47	Nebr.	19,325.14
48	Ohio	12,019.86	48	Fla.	19,099.81
49	Fla.	11,990.91	49	Guam	18,808.44
50	P.R.	11,828.83	50	Del.	18,428.54
51	Ark.	11,244.80	51	Ark.	18,400.58

(a) Figures reported for microbiology laboratory only.

TABLE 1-10. RANKING OF STATES BY EXPENDITURES TO TOTAL FILLED POSITIONS AND EXPENDITURES TO FILLED PROFESSIONAL AND TECHNICAL POSITIONS ARRANGED BY REGION

State	Expenditures to Total Filled Positions	State	Expenditures to Filled Prof. & Tech. Positions
<b>New England</b>		<b>New England</b>	
Me.	16,593.45	Mass.	33,159.12
Mass.	15,916.38	Conn.	25,564.34
R.I.	15,395.53	Me.	24,582.89
Conn.	15,290.82	N.H.	22,512.00
N.H.	13,936.00	R.I.	22,100.03
Vt.	13,392.86	Vt.	19,736.84
<b>Middle Atlantic</b>		<b>Middle Atlantic</b>	
Pa.	21,437.48	Pa.	41,588.72
N.J.	17,818.29	N.J.	26,795.44
N.Y.	(a)	N.Y.	(a)
<b>East North Central</b>		<b>East North Central</b>	
Mich.	24,425.28	Mich.	35,352.94
Wisc.	19,252.80	Wisc.	29,468.57
Ill.	17,766.31	Ill.	29,262.15
Ind.	16,567.92	Ind.	26,508.67
Ohio	12,019.86	Ohio	20,188.70
<b>West North Central</b>		<b>West North Central</b>	
Ia.	19,751.72	Ia.	31,665.46
Kans.	16,855.76	Minn.	27,044.57
Minn.	14,526.80	Kans.	27,022.96
Mo.	14,218.15	N.D. (b)	23,921.13
N.D. (b)	13,754.65	S.D.	19,692.86
Nebr.	13,527.60	Mo.	19,499.17
S.D.	13,128.57	Nebr.	19,325.14
<b>South Atlantic</b>		<b>South Atlantic</b>	
D.C.	20,850.85	Ga.	26,568.70
S.C.	15,318.46	D.C.	25,115.80
N.C.	14,799.59	S.C.	23,678.62
Md.	14,438.59	N.C.	22,823.47
Ga.	13,830.28	W.Va.	21,131.43
W.Va.	13,207.14	Md.	20,794.71
Del.	12,669.63	Va.	19,907.20
Va.	12,525.88	Fla.	19,099.81
Fla.	11,990.91	Del.	18,428.54
<b>East South Central</b>		<b>East South Central</b>	
Ky.	16,054.78	Tenn.	28,059.46
Tenn.	14,906.59	Ky.	25,724.14
Ala.	13,912.89	Miss.	21,607.71
Miss.	13,861.55	Ala.	21,333.09
<b>West South Central</b>		<b>West South Central</b>	
Tex.	15,333.42	La.	26,256.72
Okla.	15,264.91	Tex.	23,973.67
La.	13,004.92	Okla.	23,882.52
Ark.	11,244.80	Ark.	18,400.58
<b>Mountain</b>		<b>Mountain</b>	
Wyo.	25,081.64	N.M.	35,766.53
N.M.	19,809.15	Wyo.	34,487.25
Nev.	19,070.50	Mont.	32,764.91
Ariz.	18,274.36	Ariz.	29,424.00
Colo.	17,477.71	Nev.	28,103.89
Mont.	17,244.69	Colo.	26,216.56
Utah	16,336.75	Utah	23,279.88
Ida.	(a)	Ida.	(a)
<b>Pacific</b>		<b>Pacific</b>	
Alaska	34,415.15	Alaska	81,121.43
Cal.	20,698.01	Wash.	38,891.63
Wash.	20,316.52	Cal.	29,420.43
Ore.	16,698.01	Ore.	25,235.34
Hawaii	15,025.84	Hawaii	21,200.85
P.R.	11,828.83	Guam	18,808.44
Guam	16,927.60	P.R.	21,638.10

(a) Figures Not Available

(b) Figures reported for microbiology laboratory only.

TABLE 1-11. LABORATORY EXPENDITURES AND EXPENDITURES PER CAPITA

	Population	Total Laboratory Expenditures	Laboratory Expenditures Per Capita
<b>New England</b>	12,198,000	9,356,061	.7670
Me.	1,059,000	663,738	.6268
N.H.	818,000	292,656	.3578
Vt.	471,000	375,000	.7962
Mass.	5,828,000	3,382,230	.5803
R.I.	927,000	1,370,202	1.4781
Conn.	3,095,000	3,272,235	1.0573
<b>Middle Atlantic</b>	37,263,000	17,450,814	.4683
N.Y.	18,120,000	11,861,175	.6546
N.J.	7,316,000	3,510,203	.4798
Pa.	11,827,000	2,079,436	.1758
<b>East North Central</b>	40,979,000	17,293,576	.4220
Ohio	10,759,000	2,463,560	.2290
Ind.	5,311,000	1,457,977	.2745
Ill.	11,145,000	2,487,283	.2232
Mich.	9,157,000	7,996,836	.8733
Wisc.	4,607,000	2,887,920	.6269
<b>West North Central</b>	16,690,000	6,159,517	.3691
Minn.	3,926,000	1,271,095	.3238
Ia.	2,870,000	1,994,924	.6951
Mo.	4,763,000	682,471	.1433
N.D.	635,000	275,093 (a)	.4332
S.D.	683,000	275,700	.4037
Nebr.	1,546,000	405,828	.2625
Kans.	2,267,000	1,254,406	.5533
<b>South Atlantic</b>	33,715,000	15,201,781	.4509
Del.	579,000	405,428	.7002
Md.	4,098,000	3,826,227	.9337
D.C.	716,000	1,105,095	1.5434
Va.	4,967,000	1,114,803	.2244
W.Va.	1,803,000	739,600	.4102
N.C.	5,451,000	1,894,348	.3475
S.C.	2,818,000	1,423,085	.5050
Ga.	4,926,000	2,019,221	.4099
Fla.	8,357,000	2,673,974	.3200
<b>East South Central</b>	13,544,000	6,811,549	.5029
Ky.	3,396,000	1,131,862	.3333
Tenn.	4,188,000	2,385,054	.5995
Ala.	3,614,000	2,559,971	.7083
Miss.	2,346,000	734,662	.3132
<b>West South Central</b>	20,855,000	6,273,749	.3008
Ark.	2,116,000	607,219	.2870
La.	3,791,000	1,859,704	.4906
Okla.	2,712,000	786,143	.2899
Tex.	12,237,000	3,020,683	.2468
<b>Mountain</b>	9,644,000	5,729,744	.6493
Mont.	748,000	360,414	.4818
Ida.	820,000	(b)	(b)
Wyo.	374,000	275,898	.7377
Colo.	2,534,000	1,310,828	.5173
N.M.	1,147,000	1,287,595	1.1226
Ariz.	2,224,000	1,029,840	.4631
Utah	1,206,000	931,195	.7721
Nev.	592,000	533,974	.9020
<b>Pacific</b>	28,234,000	12,921,233	.4576
Wash.	3,544,000	1,361,207	.3841
Ore.	2,288,000	839,075	.3667
Cal.	21,185,000	8,811,420	.4159
Alaska	352,000	1,135,700	3.2264
Hawaii	865,000	773,831	.8946
Guam	100,000	169,276	1.6928
P.R.	2,951,000	887,162	.3006
<b>Total</b>	216,172,000	98,254,462	
<b>Average</b>		1,889,509	.4563

(a) Figures reported for microbiology laboratory only.

(b) Elected not to report data.

TABLE 1-12. RANKING OF STATES BY EXPENDITURES AND BY EXPENDITURES PER CAPITA\*

Rank	State	Expenditures	Rank	State	Per Capita Expenditures
1	N.Y.	11,861,175	1	Alaska	3.2264
2	Calif.	8,811,420	2	Guam	1.6928
3	Mich.	7,996,836	3	D.C.	1.5434
4	Md.	3,826,227	4	R.I.	1.4781
5	N.J.	3,510,203	5	N.M.	1.1226
6	Mass.	3,382,230	6	Conn.	1.0573
7	Conn.	3,272,235	7	Md.	.9337
8	Tex.	3,020,683	8	Nev.	.9020
9	Wisc.	2,887,920	9	Hawaii	.8946
10	Fla.	2,673,974	10	Mich.	.8733
11	Ala.	2,559,971	11	Vt.	.7962
12	Ill.	2,487,283	12	Utah	.7721
13	Ohio	2,463,560	13	Wyo.	.7377
14	Tenn.	2,385,054	14	Ala.	.7083
15	Pa.	2,079,436	15	Del.	.7002
16	Ga.	2,019,221	16	Ia.	.6951
17	Ia.	1,994,924	17	N.Y.	.6546
18	N.C.	1,894,348	18	Wisc.	.6269
National Average		1,889,509			
19	La.	1,859,704	19	Me.	.6268
20	Ind.	1,457,977	20	Tenn.	.5995
21	S.C.	1,423,085	21	Mass.	.5803
22	R.I.	1,370,202	22	Kans.	.5533
23	Wash.	1,361,207	23	Colo.	.5173
24	Colo.	1,310,828	24	S.C.	.5050
25	N.M.	1,287,595	25	La.	.4906
26	Minn.	1,271,095	26	Mont.	.4818
27	Kans.	1,254,406	27	N.J.	.4798
28	Alaska	1,135,700	28	Ariz.	.4631
			National Average		.4563
29	Ky.	1,131,862	29	N.D.**	.4332
30	Va.	1,114,803	30	Calif.	.4159
31	D.C.	1,105,095	31	W.Va.	.4102
32	Ariz.	1,029,840	32	Ga.	.4099
33	Utah	931,195	33	S.D.	.4037
34	P.R.	887,162	34	Wash.	.3841
35	Ore.	839,075	35	Ore.	.3667
36	Okla.	786,143	36	N.H.	.3578
37	Hawaii	773,831	37	N.C.	.3475
38	W.Va.	739,600	38	Ky.	.3333
39	Miss.	734,622	39	Minn.	.3238
40	Mo.	682,471	40	Fla.	.3200
41	Me.	663,738	41	Miss.	.3132
42	Ark.	607,219	42	P.R.	.3006
43	Nev.	533,974	43	Okla.	.2899
44	Nebr.	405,828	44	Ark.	.2870
45	Del.	405,428	45	Ind.	.2745
46	Vt.	375,000	46	Nebr.	.2625
47	Mont.	360,414	47	Tex.	.2468
48	N.H.	292,656	48	Ohio	.2290
49	Wyo.	275,898	49	Va.	.2244
50	S.D.	275,700	50	Ill.	.2232
51	N.D.**	275,093	51	Pa.	.1758
52	Guam	169,276	52	Mo.	.1433

\*Idaho and Virgin Islands not included in table.

\*\*Figures reported for microbiology laboratory only.



TABLE 1-13. RANKING OF STATES BY EXPENDITURES AND BY EXPENDITURES PER CAPITA ARRANGED BY REGION

State	Expenditures	State	Per Capita Expenditures
<b>New England</b>		<b>New England</b>	
Mass.	3,382,230	R.I.	1.4781
Conn.	3,272,235	Conn.	1.0573
R.I.	1,370,202	Vt.	.7962
Me.	663,738	Me.	.6268
Vt.	375,000	Mass.	.5803
N.H.	292,656	N.H.	.3578
<b>Middle Atlantic</b>		<b>Middle Atlantic</b>	
N.Y.	11,861,175	N.Y.	.6546
N.J.	3,510,203	N.J.	.4798
Pa.	2,079,436	Pa.	.1758
<b>East North Central</b>		<b>East North Central</b>	
Mich.	7,996,836	Mich.	.8733
Wisc.	2,887,920	Wisc.	.6269
Ill.	2,487,283	Ind.	.2745
Ohio	2,463,560	Ohio	.2290
Ind.	1,457,977	Ill.	.2232
<b>West North Central</b>		<b>West North Central</b>	
Ia.	1,994,924	Ia.	.6951
Minn.	1,271,095	Kans.	.5533
Kans.	1,254,406	N.D. (a)	.4332
Mo.	682,471	S.D.	.4037
Nebr.	405,828	Minn.	.3238
S.D.	275,700	Nebr.	.2625
N.D.	275,093 (a)	Mo.	.1433
<b>South Atlantic</b>		<b>South Atlantic</b>	
Md.	3,826,227	D.C.	1.5434
Fla.	2,673,974	Md.	.9337
Ga.	2,019,221	Del.	.7002
N.C.	1,894,348	S.C.	.5050
S.C.	1,423,085	W.Va.	.4102
Va.	1,114,803	Ga.	.4099
D.C.	1,105,095	N.C.	.3475
W.Va.	739,600	Fla.	.3200
Del.	405,428	Va.	.2244
<b>East South Central</b>		<b>East South Central</b>	
Ala.	2,559,971	Ala.	.7083
Tenn.	2,385,054	Tenn.	.5995
Ky.	1,131,862	Ky.	.3333
Miss.	734,662	Miss.	.3132
<b>West South Central</b>		<b>West South Central</b>	
Tex.	3,020,683	La.	.4906
La.	1,859,704	Okla.	.2899
Okla.	786,143	Ark.	.2870
Ark.	607,219	Tex.	.2468
<b>Mountain</b>		<b>Mountain</b>	
Colo.	1,310,828	N.M.	1.1226
N.M.	1,287,595	Nev.	.9020
Ariz.	1,029,840	Utah	.7721
Utah	931,195	Wyo.	.7377
Nev.	533,974	Colo.	.5173
Mont.	360,414	Mont.	.4818
Wyo.	275,898	Ariz.	.4631
Ida.	(b)	Ida.	(b)
<b>Pacific</b>		<b>Pacific</b>	
Calif.	8,811,420	Alaska	3.2264
Wash.	1,361,207	Hawaii	.8946
Alaska	1,135,700	Calif.	.4159
Ore.	839,075	Wash.	.3841
Hawaii	773,831	Ore.	.3667
P.R.	887,162	Guam	1.6928
Guam	169,276	P.R.	.3006

(a) Figures reported for microbiology laboratory only.

(b) Elected not to report data.



TABLE 1-15. TOTAL SPECIMENS AND NUMBER OF SPECIMENS TO POPULATION

	Population	Total Specimens	Number of Specimens/Population
<b>New England</b>	12,198,000	2,624,409	.2152
Me.	1,059,000	161,303	.1523
N.H.	818,000	165,664	.2025
Vt.	471,000	133,226	.2829
Mass.	5,828,000	1,163,532	.1996
R.I.	927,000	298,205	.3217
Conn.	3,095,000	702,479	.2270
<b>Middle Atlantic</b>	37,263,000	1,415,141	.0380
N.Y.	18,120,000	590,694	.0326
N.J.	7,316,000	722,614	.0988
Pa.	11,827,000	101,833	.0086
<b>East North Central</b>	40,979,000	3,125,894	.0770
Ohio	10,759,000	747,029	.0069
Ind.,	5,311,000	179,007	.0337
Ill.	11,145,000	499,857	.0449
Mich.	9,157,000	1,033,924	.1129
Wisc.	4,607,000	666,077	.1446
<b>West North Central</b>	16,690,000	2,083,713	.1248
Minn.	3,926,000	559,633	.1425
Ia.	2,870,000	437,470	.1524
Mo.	4,763,000	339,109	.0712
N.D.	635,000	188,283	.2965
S.D.	683,000	122,127	.1788
Nebr.	1,546,000	143,706	.0930
Kans.	2,267,000	293,385	.1294
<b>South Atlantic</b>	33,715,000	7,738,702	.2295
Del.	579,000	152,900	.2641
Md.	4,098,000	1,319,219	.3219
D.C.	716,000	422,990	.5908
Va.	4,967,000	847,122	.1706
W.Va.	1,803,000	242,061	.1343
N.C.	5,451,000	917,889	.1684
S.C.	2,818,000	727,502	.2582
Ga.	4,926,000	1,058,003	.2148
Fla.	8,357,000	2,051,016	.2454
<b>East South Central</b>	13,544,000	3,540,743	.2614
Ky.	3,396,000	304,024	.0895
Tenn.	4,188,000	988,271	.2360
Ala.	3,614,000	1,293,280	.3579
Miss.	2,346,000	955,168	.4071
<b>West South Central</b>	20,855,000	3,905,336	.1873
Ark.	2,116,000	371,280	.1755
La.	3,791,000	791,224	.2087
Okla.	2,712,000	383,440	.1414
Tex.	12,237,000	2,359,392	.1928
<b>Mountain</b>	9,644,000	1,843,050	.1911
Mont.	748,000	117,554	.1572
Ida.	820,000	173,020	.2110
Wyo.	374,000	228,733	.6116
Colo.	2,534,000	572,972	.2261
N.M.	1,147,000	242,678	.2116
Ariz.	2,224,000	155,597	.0700
Utah	1,206,000	186,909	.1550
Nev.	592,000	165,587	.2797
<b>Pacific</b>	28,234,000	1,253,389	.0444
Wash.	3,544,000	160,766	.0454
Ore.	2,288,000	414,676	.1812
Cal.	21,185,000	177,990	.0084
Alaska	352,000	192,047	.5456
Hawaii	865,000	307,910	.3560
Guam	100,000	25,527	.2553
P.R.	2,951,000	323,615	.1097
<b>Total</b>	216,172,000	27,879,519	
<b>Average</b>		526,029	.1291

TABLE 1-16. RANKING OF STATES BY SPECIMENS AND NUMBER OF SPECIMENS TO POPULATION

Rank	State	Total Specimens	Rank	State	Number of Specimens/Population
1	Tex.	2,359,392	1	Wyo.	.6116
2	Fla.	2,051,016	2	D.C.	.5908
3	Md.	1,319,219	3	Alaska	.5456
4	Ala.	1,293,280	4	Miss.	.4071
5	Mass.	1,163,532	5	Ala.	.3579
6	Ga.	1,058,003	6	Hawaii	.3560
7	Mich.	1,033,924	7	Md.	.3219
8	Tenn.	988,271	8	R.I.	.3217
9	Miss.	955,168	9	N.D.	.2965
10	N.C.	917,889	10	Vt.	.2829
11	Va.	847,122	11	Nev.	.2797
12	La.	791,224	12	Del.	.2641
13	Ohio	747,029	13	S.C.	.2582
14	S.C.	727,502	14	Guam	.2553
15	N.J.	722,614	15	Fla.	.2454
16	Conn.	702,479	16	Tenn.	.2360
17	Wisc.	660,077	17	Conn.	.2270
18	N.Y.	590,694	18	Colo.	.2261
19	Colo.	572,972	19	Ga.	.2148
20	Minn.	559,633	20	N.M.	.2116
National Average		526,191			
21	Ill.	499,857	21	Ida.	.2110
22	Ia.	437,470	22	La.	.2087
23	D.C.	422,990	23	N.H.	.2025
24	Ore.	414,676	24	Mass.	.1996
25	Okla.	383,440	25	Tex.	.1928
26	Ark.	371,280	26	Ore.	.1812
27	Mo.	339,109	27	S.D.	.1788
28	P.R.	323,615	28	Ark.	.1755
29	Hawaii	307,910	29	Va.	.1706
30	Ky.	304,024	30	N.C.	.1684
31	R.I.	298,205	31	Mont.	.1572
32	Kans.	293,385	32	Utah	.1550
33	N.M.	242,678	33	Ia.	.1524
34	W.Va.	242,061	34	Me.	.1523
35	Wyo.	228,733	35	Wisc.	.1446
36	Alaska	192,047	36	Minn.	.1425
37	N.D.	188,283	37	Okla.	.1414
38	Utah	186,909	38	W.Va.	.1343
39	Ind.	179,007	39	Kans.	.1294
			National Average .1290		
40	Cal.	177,990	40	Mich.	.1129
41	Ida.	173,020	41	P.R.	.1097
42	N.H.	165,664	42	N.J.	.0988
43	Nev.	165,587	43	Nebr.	.0930
44	Me.	161,303	44	Ky.	.0895
45	Wash.	160,766	45	Mo.	.0712
46	Ariz.	155,597	46	Ariz.	.0700
47	Del.	152,900	47	Wash.	.0454
48	Nebr.	143,706	48	Ill.	.0449
49	Vt.	133,226	49	Ind.	.0337
50	S.D.	122,127	50	N.Y.	.0326
51	Mont.	117,554	51	Pa.	.0086
52	Pa.	101,833	52	Cal.	.0084
53	Guam	25,527	53	Ohio	.0069

TABLE 1-17. RANKING OF STATES BY TOTAL SPECIMENS AND NUMBER OF TOTAL SPECIMENS TO POPULATION ARRANGED BY REGION

State	Total Specimens	State	Number Of Specimens To Population
New England		New England	
Mass.	1,163,532	R.I.	.3217
Conn.	702,479	Vt.	.2829
R.I.	298,205	Conn.	.2270
N.H.	165,664	N.H.	.2025
Me.	161,303	Mass.	.1996
Vt.	133,226	Me.	.1523
Middle Atlantic		Middle Atlantic	
N.J.	722,614	N.J.	.0988
N.Y.	590,694	N.Y.	.0326
Pa.	101,833	Pa.	.0086
East North Central		East North Central	
Mich.	1,033,924	Wisc.	.1446
Ohio	747,029	Mich.	.1129
Wisc.	660,077	Ill.	.0449
Ill.	499,857	Ind.	.0394
Ind.	209,007	Ohio	.0069
West North Central		West North Central	
Minn.	559,633	N.D.	.2965
Ia.	437,470	S.D.	.1788
Mo.	339,109	Ia.	.1524
Kans.	293,385	Minn.	.1425
N.D.	188,283	Kans.	.1294
Nebr.	143,706	Nebr.	.0930
S.D.	122,127	Mo.	.0712
South Atlantic		South Atlantic	
Fla.	2,051,016	D.C.	.5908
Md.	1,319,219	Md.	.3219
Ga.	1,058,003	Del.	.2641
N.C.	917,889	S.C.	.2582
Va.	847,122	Fla.	.2454
S.C.	727,502	Ga.	.2148
D.C.	422,990	Va.	.1706
W.Va.	242,061	N.C.	.1684
Del.	152,900	W.Va.	.1343
East South Central		East South Central	
Ala.	1,293,280	Miss.	.4071
Tenn.	988,271	Ala.	.3579
Miss.	955,168	Tenn.	.2360
Ky.	304,024	Ky.	.0895
West South Central		West South Central	
Tex.	2,359,392	La.	.2087
La.	791,224	Tex.	.1928
Okla.	383,440	Ark.	.1755
Ark.	371,280	Okla.	.1414
Mountain		Mountain	
Colo.	572,972	Wyo.	.6116
N.M.	242,678	Nev.	.2797
Wyo.	228,733	Colo.	.2261
Utah	186,909	N.M.	.2116
Ida.	173,020	Ida.	.2110
Nev.	165,587	Mont.	.1572
Ariz.	155,597	Utah	.1550
Mont.	117,554	Ariz.	.0700
Pacific		Pacific	
Ore.	414,676	Alaska	.5456
Hawaii	307,910	Hawaii	.3560
Alaska	192,047	Ore.	.1812
Cal.	177,990	Wash.	.0454
Wash.	160,766	Cal.	.0084
P.R.	323,615	Guam	.2553
Guam	25,527	P.R.	.1097

SECTION II

PERSONNEL

SECTION II

PERSONNEL

TABLE 2-1

## BUDGETED POSITIONS BY TYPE

	Total* Budgeted Positions	Position Categories									
		Management		Clerical		Professional & Technical		Supportive Services		Maintenance	
		#	% of Total	#	% of Total	#	% of Total	#	% of Total	#	% of Total
Maine	42	3	7	6	14	27	64	6	14		
N.H.	21	1	5	4	19	13	62	3	14		
Vt.	28	1	4	4	14	19	68	4	14		
Mass.	245.5	19.5	8	44	18	119	48	31	13	32	13
R. I.	95	4	4	8	8	66	69	17	18		
Conn.	229	19	8	36	16	137	60	36	16	1	<1
N.Y.	717	12	2	98	14	508	71	67	9	32	4
N.J.	214	2	<1	27	13	139	65	46	21		
Penn.	100	20	20	10	10	51	51	15	15	4	4
Ohio	191	4	2	29	15	116	61	31	16	11	6
Ind.	92	6	7	13	14	59	64	14	15		
Ill.	146	12	8	25	17	86	59	23	16		
Mich.	341.4	16.9	5	29.2	9	237.2	69	58.1	17		
Wisc.	155	4	3	26	17	101	65	24	15		
Minn.	87.5	7.5	9	16	18	47	5	17	19		
Iowa	103	10	10	14	14	65	63	14	14		
Mo.	50	3	6	5	10	35	70	6	12	1	2
N.D.	30.82	3	8	6	19	17.82	58	3	10	1	3
S.D.	21	1	5	2	10	14	67	3.5	17	.5	2
Nebr.	33	3	9	5	14	22	64	3	9		
Kans.	76.42	9	12	10	13	46.42	61	11	14		
Del.	33	1	3	4	12	23	70	5	15		
Md.	273	7	3	35	13	189	69	31	11	11A	4
D.C.	58	2	3	7	12	46	79	3	5		
Va.	93	5	5	13	14	58	62	17	18		
W.Va.	56	2	3	8	14	35	63	7	13	4	7
N.C.	137	9	7	17	12	87	64	23	17	1	<1
S.C.	99.9	8.8	9	15	15	65.1	65	10	10	1	1
Ga.	148	9	6	24	16	77	52	37	3	1	<1
Fla.	227	11	5	32	14	143	63	39	17	2	<1
Ky.	75.5	7	9	8	11	45	60	14.5	19	1	1
Tenn.	164	10	6	28	17	88	54	35	21	3	2
Ala.	187	17	9	28	15	123	66	12	6	7	4
Miss.	53	2	4	9	17	34	64	8	15		
Ark.	54	2	8	8	15	33	61	10	19	1	2
La.	149	10	7	37	25	72	48	30	20		
Okla.	53.5	2	4	6	11	34	64	11.5	21		
Tex.	201B	12	6	24	12	127	63	38	19		
Mont.	20.9	2.9	14	4	19	11	53	3	14		
Ida.	71.5	7.5	10	12	17	45	63	5	7	2	3
Wyo.	13	1	8	2	15	9	69	1	8		
Colo.	81	3	4	5	6	51	63	21	26	1	1
N.M.	67	6	9	7	10	37	55	16	24	1	1
Ariz.	58	7	12	8	14	35	60	7	12	1	2
Utah	58	3	5	8	14	41	70	6	10		
Nev.	29	2	7	3	10	20	69	3	10	1	3

\*Expressed as full-time positions.

A = Six positions transferred at end of FY 1976 to State Department of General Service, who now have responsibility for building maintenance.

B = Includes fifteen (15) positions assigned to Regional Laboratories on special projects.



TABLE 2-1 (continued)

## BUDGETED POSITIONS BY TYPE

	Total Budgeted Positions	Position Categories									
		Management		Clerical		Professional & Technical		Supportive Services		Maintenance	
		#	% of Total	#	% of Total	#	% of Total	#	% of Total	#	% of Total
Wash.	67	8	12	13	19	35	52	10	15	1	1
Ore.	50.25	3	6	10	20	33.25	66	4	8		
Calif.	430	27	6	58.5 <sub>C</sub>	14	302.5 <sub>D</sub>	70	42	10		
Alaska	34	4	12	8	24	14	41	8	24		
Hawaii	54.5	1	2	4	7	37.5	69	12	22		
Guam	13	1	8	1	8	10	77	1	8		
P.R.	102	14	14	12	12	58	57	13	13	5	5
Total	6,229.69	368.1		875.7		3,943.79		915.6		126.5	
Average	117.54	7	6	17	14	74	63	17	14	2	2

Definitions

1. Management: Include laboratory directors and assistant directors, lab supervisors, business managers, management officers and administrative officers who spend more than 50% of their time on administration and management of laboratory activities.
2. Clerical: Include secretaries, typists, and clerks in the office of the director, office services staff, budget and fiscal clerks and others. Do not include those covered in supportive services categories.
3. Professional and Technical: Those primarily engaged in examining and testing specimens and samples, or in a laboratory improvement program; including bacteriologists, chemists, microbiologists, medical technicians and technologists, and those laboratory assistants and laboratory helpers who contribute directly to the performance of laboratory tests or work in laboratory improvement programs.
4. Supportive Services: All those except maintenance personnel not included in the first three categories. Examples are those engaged in preparation of glassware, media, shipping containers, animal handling work, messengers, and supply and procurement personnel.
5. Maintenance: Include those who install, repair, or perform preventive maintenance on equipment and maintenance of buildings including housekeeping.

C = Includes six (6) Project Funded Positions

D = Includes eighty (80) Project Funded Positions

TABLE 2-2

## NUMBER OF POSITIONS FILLED AND (VACANCIES)

	Total Budgeted Positions	Position Categories					Totals	
		Management	Clerical	Professional & Technical	Supportive Services	Maintenance	# Filled	% Filled
Maine	42	3	6	26(1)	5(1)		40	95
N.H.	21	1	4	13	3		21	100
Vt.	28	1	4	19	4		28	100
Mass.	245.5	18.5(1)	35(9)	102(17)	28(3)	29(3)	212.5	87
R. I.	95	3(1)	7(1)	62(4)	17		89	94
Conn.	229	18(1)	34(2)	128(9)	33(3)	1	214	93
N.Y.*								
N.J.	214	2	25(2)	131(8)	39(7)		197	92
Penn.	100	19(1)	9(1)	50(1)	15	4	97	97
Ohio	191	4	29	103(13)	29(2)	8(3)	173	91
Ind.	92	6	13	55(4)	14		88	
Ill.	146	12	23(2)	85(1)	20(3)		140	96
Mich.	341.4	15.9(1)	29.2	226.2(11)	56.1(2)		327.4	96
Wisc.	155	4	24(2)	98(3)	24		150	97
Minn.	87.5	7.5	16	47	17		87.5	100
Iowa	103	10	14	63(2)	14		101	98
Mo.	50	3	4(1)	35	5(1)	1	48	96
N.D.	30.82	3	6	16.82(1)	3	1	29.82	97
S.D.	21	1	2	14	3.5	.5	21	100
Nebr.	33	3	4(1)	21(1)	2(1)		30	95
Kans.	76.42	8(1)	9(1)	46.42	11		74.42	97
Del.	33	1	4	22(1)	5		32	97
Md.	273	5(2)	34(1)	184(5)	31	11	265	97
D.C.	58	2	7	44(2)	0(3)		53	91
Va.	93	5	12(1)	56(2)	16(1)		89	95
W.Va.	56	2	8	35	7	4	56	100
N.C.	137	9	12(5)	83(4)	23	1	128	96
S.C.	99.9	8.8	13(2)	60.1(5)	10	1	92.9	93
Ga.	148	9	23(1)	76(1)	37	1	146	99
Fla.	227	11	32	140(3)	38(1)	2	223	99
Ky.	75.5	7	6(2)	44(1)	12.5(2)	1	70.5	93
Tenn.	164	10	28	85(3)	34(1)	3	160	98
Ala.	187	17	28	120(3)	12	7	184	98
Miss.	53	2	9	34	8		53	100
Ark.	54	2	8	33	10	1	54	100
La.	149	9(1)	34(3)	70(2)	30		143	96
Okla.	53.5	2	5(1)	33(1)	11.5		51.5	96
Tex.	201	12	22(2)	126(1)	37(1)		197	98
Mont.	20.9	2.9	4	11	3		20.9	100
Ida.	71.5	7.5	12	43(2)	5	2	69.5	97
Wyo.	13	1	2	7(2)	1		11	92
Colo.	81	3	3(2)	50(1)	18(3)	1	75	93
N.M.	67	6	7	36(1)	15(1)	1	65	97
Ariz.	58	5(2)	8	35	6(1)	1	55	95
Utah	58	3	8	40(1)	6		57	98
Nev.	29	2	3	19(1)	3	1	28	97
Wash.	67	8	13	35	10	1	67	100
Ore.	50.25	3	10	33.25	4		50.25	100
Calif.	430	27	58.5	299.5(3)	41(1)		426	99
Alaska	34	4	7(1)	14	8		33	97
Hawaii	54.5	1	4	36.5(1)	10(2)		51.5	98

\*Not Available

TABLE 2-2 (continued)

## NUMBER OF POSITIONS FILLED AND (VACANCIES)

	Total Budgeted Positions	Position Categories					Totals	
		Management	Clerical	Professional & Technical	Supportive Services	Maintenance	# Filled	% Filled
Guam	13	0(1)	1	8(2)	1		10	85
P.R.	102	14	7(5)	41(17)	9(4)	4(1)	75	74
Total	5,512.69	344.1(12)	729.7(48)	3,294.79(141)	804.6(44)	87.5(7)	5,260.69 (252)	
Average	106	7(.23)	14(.92)	63(.03)	15(.85)	2(.13)	101	95

TABLE 2-3

## TURNOVER

	Total Filled Pos.	# of Filled Prof. & Tech. Pos.	Total # of Resig. & Sep.	Number of Resignations/Separations in the Position Categories					% Turnover	
				Management	Clerical	Prof. & Tech.	Supportive Services	Maintenance	% Total Filled Pos.	% Prof. & Tech. Pos.
Me.	40	27	7		2	3	2		18	11
N.H.	21	13	3		2	1			14	8
Vt.	28	19	5		1	3	1		18	16
Mass.	212.5	102	0						0	0
R.I.	89	62	7	1	1	4	1		8	6
Conn.	214	128	33	1	5	22	5		15	17
N.Y.*										
N.J.	197	131	17		2	8	7		8	6
Pa.	97	50	6	1	2	3			6	6
Ohio	173	103	33.5		6	14	11.5	2	19	14
Ind.	88	55	4						5	0
Ill.	140	85	20		7	8	5		14	9
Mich.	327.4	226.2	23		3	14	6		7	6
Wisc.	150	98	16		4	11	1		11	11
Minn.	87.5	47	7			4	3		8	9
Iowa	101	63	20	1	3	8	8		20	17
Mo.	48	35	14		2	1	4	7	29	3
N.D.	29.82	16.82	22		11	11			78	65
S.D.	21	14	5		2	2	1		24	14
Nebr.	30	21	7		2	4	1		22	19
Kans.	74.42	46.42	20	3	4	6	7		27	13
Del.	32	22	1			1			3	5
Md.	265	184	37	2	12	18	4	3	14	10
D.C.	53	44	3		1	2			6	5
Va.	89	56	13		3	7	3		15	13
W.Va.	56	35	7		1	6			13	17
N.C.	128	83	18		5	13			14	16
S.C.	92.9	60.1	18		7	10	1		19	17
Ga.	146	76	13	1	4	7	1		9	9
Fla.	223	140	21	1	2	16	2		9	11
Ky.	70.5	44	13		3	5	5		18	11
Tenn.	160	85	18	1	2	12	3		11	14
Ala.	184	120	27	1	6	16		4	15	13
Miss.	53	34	3		1	1	1		6	3
Ark.	54	33	26		11	8	7		48	24
La.	143	70	7	2	3	2			5	3
Okla.	51.5	33	5		1	4			33	12
Tex.	197	126	25		8	15	2		13	12
Mont.	20.9	11	0						0	0
Ida.	69.5	43	13		3	8	1	1	19	19
Wyo.	11	8	2			2			17	25
Colo.	75	50	11		2	3	6		15	6
N.M.	65	36	9			4	5		14	11
Ariz.	55	35	3	2			1		5	6
Utah.	57	40	7			5	2		12	13
Nev.	28	19	2				2		7	0
Wash.	67	35	6			3	3		9	9
Ore.	50.25	33.25	14	1	5	5	3		28	15
Cal.	426	299.5	16		4	9	3		4	3
Alaska	33	14	9	1	3	1	4		27	7
Hawaii	51.5	36.5	8			3	5		15	8
Guam	10	9	1	1					0	0
P.R.	75	41	6		2	3	1		8	7
Total	5,260.69	3,297.79	631.5	20	148	316	132.5	17		
Average	101	63.4	12.14	.4	2.8	6.1	2.5	.3	12.0	9.6

\*Not available.

TABLE 2-4

STAFFING PATTERN OF PROFESSIONAL AND TECHNICAL PERSONNEL IN THE 15 WORKLOAD REPORTING CATEGORIES AND POSITION CHANGES SINCE LAST REPORTING PERIOD (+ or -)

	WORKLOAD REPORTING CATEGORIES														Total Prof. and Tech. Pos. Reported in Workload Categories	Total Changes Reported	
	Diagnostic Bact.	Mycology	Parasitology	Virology	Immunology	Hematology	Clinical Chemistry	Pathology	Env. Micro.	Env. Chem.	Occup. Health & Safety	Toxicology	Lab Improve. Program	Biologic. Reagent, Media Prod.			Research and Develop.
Me.	3 (+1)	1 (-1)	1	3 (+1)	3		1		3	2	1	7	1 (+1)	1		27	+ 2
N.H.	8	1	1			1	1					2	1			13	
Vt.	6.0	0.25	0.75	2.0	4.0				2 (+1)	2 (+1)		9	7	41	2	19	+ 2
Mass.	17	1	1	16.6	11.4		13		5			16	1 (+1)			62	+18
R.I.	25 (-1)	7	4	9	7 (-1)	4 (-1)	7	3	8 (+4)C	17 (+12)C	1 (+1)C	31 (-1)	6	1	1	137	- 5
Conn.																	
N.Y.*	91	9	A	49	14	23	15	12	29	52		19	9	51	76	450	
N.J.	33	1	1	32	11 (-1)					46 (-5)			10		5	139	- 6
Pa.	16	1	1	4	3	1	9					4	9		3	51	
Ohio	36 (-1)	1.5	1.5	6 (+1)	6		3		8.5	20 (-3)	14 (+2)	2	3.5	6	1	115	- 1
Ind.	10	1.5	2	4.5 (+1)	7 (-1)				11.5	21 (+4)			1.5			59	+ 4
Ill.	22	1	1	8 (+3)	11				13			9	5	3		86	+ 3
Mich.	37.7	1.7	2.5	14.0	14.2	2.5	3.5		5.0	2.2			6.0 (-4)	63.4 (-13.6)	39.4 (-6.6)	192.1	-24.2
Wis.	19	3		16	16		9	19	2	6	2	6 (+1)	1	2	2 (-2)	101	- 1
Minn.	7.75	1	3.25	11	14		1	3					4	2		47	
Iowa	7	2	0.5	8	4		6		5	19	3	2	2.5	5		65	
Mo.	9	1		5	6		1		5	4			2			35	
N.D.	4.44	0.2	0.15	0.25	2.1		0.49		2.16	7			0.51	.52		17.52	
S.D.	4			2	2				2	5				1		16	
Nebr.	5.9	.02	.08		3.5				1.5	3.5				0.5		22	
Kans.	12	1	2	4	4				3.21	11.21	1		3			46.42	
Del.	4.9	.3	.2	.45	2.15	1.00	.65	6.95(+1)	3	1.50	.2	1	.35			22.4	+ 1
Md.	47	2	3	4	22	12	14	12	21	44	4	1	3			189	
D.C.	7 (-1)			2	6	2	3	7	3	5		9	2			46	
Va.	17.4	1	2	7	8.8	3.5	3.0		15.3							58	
W. Va.	10.25	9		3	3	0	4	5	6				4	1		35	
N.C.	10.25	1	1	5.25	14 (+1)	2.5 (+1)	7.75(+1)	17 (+2)	7.25	11 (+1)	5 (-1)		5			87	+ 5
S.C.	13.5 (+1)	3	3	5.8	10.8	3	3	2	5	8		2	3	3		65.1	+ 1
Ge.	32 (-2)	1	4	9 (-2)	11.5 (-1)	2.5	7		6			6		4		77	- 5
Fla.	40	1.5	6	7	22	6	11		16.5	7		5.5	15.5		5	143	
Ky.	39.5	10		4	7	2.5	.5		4	6	3	4 (+)		4		45	+
Tenn.	50	1.5	2.5	3	14				10.5			13	2	2		88	
Ala.	50	3	9	9	13	4	3	3 (-2)	16 (-1)					13		123	- 3
Miss.	21.9						2.6		8	1.25			.25			34	
Ark.	15	2	1	3	1	1	2		6 (+1)				2 (+1)			33	+ 2
La. E	24	1	1	10			18	2								56	
Okl. B	30	1	6	10	9 (+)		16		5 (+)	30 (+)		F	5	15		127	+
Tex.																	
Mont.	2.5	0.1	0.1	2.0	0.1				2.0	0.7	0.3	3.0	0.2			11	
Idaho	10	.5		2.5 (+.5)	1	2 (+1)		.5	6.5	9 (+1)		7.5 (-2)	.5		5 (-1)	45	
Wyom.	5			1	1							2 (+1)	1			9	
Colo.	12	.5	.5	2	3				4	17.7 (+1)	2.3	6.5	2		.5	51	
N.H.	6.2	.3	.5	2	2.8	.2	1		6	13		2	1			37	
Ariz.	4	7	1	4	3		1		3		9	4	4	7		35	
Utah	4	1	1	4	3				3	14	1	6 (+1)	3	1		41	+ 1
Nev.	4	5		3	3	1.4	.3		3	6			.3	1		20	
Wash.	7	1	1	2	2	1			4	3		5	8	1		35	-
Ore.*	5 (-3)	1	1	2	12 (-1)		6 (+1)		4.25			5	2			33.25	- 3
Calif.	12	6	3	21	14		14		3	83	41	1	30 (+2)	3	71	302	+ 2
Alaska	9.5			2	1				1				.5			14	-
Hawaii	8 (+3.5)	0.5	1	2	3		1		6.5	13.5		0.5	1.5 (+1)			37.5	+ 4.5
Guam	3		1	1	1	2	2									10	-
P.R.	1	1	3	3	5	5	4		6	8		3	3	2		43	-

\* Additional professional &amp; technical positions: Vet. Science - 15, Field Services-Staff Field Labs - 44.

A - Included with Diag. Bact.

B - Figures not available.

C - Increase a result of consolidation of all health laboratories and not an actual increase in laboratory employees.

D - Included in first 3 categories.

E - Figures for central lab only.

F - # included with Clinical Chemistry.

SECTION III

FINANCES

SECTION III

FINANCES

TABLE 3-1 LABORATORY EXPENDITURES BY CATEGORY

Total Laboratory Expenditures	EXPENDITURE CATEGORY											
	Personnel			Supplies & Material		Equipment		General Operating Exp.		Other		
	Salaries	Benefits	% of Total Exp.	Amount	% of Total Exp.	Amount	% of Total Exp.	Amount	% of Total Exp.	Amount	% of Total Exp.	
Me.	663,738	394,972	56,830	68	71,000	11	6,000	<1	28,000	4	106,936	16
N.H.	292,656	212,077	19,412	79	54,992	19	3,030	1	2,373	<1	772	<1
Vt.	375,000	279,711	24,789	81	45,000	12	6,558	2	18,942	5	-	-
Mass.	3,382,230	2,253,583	A	67	860,675	24	1,100	<1	197,254	6	69,618	2
R.I.	1,370,202	1,086,266	153,237	90	62,505	5	13,074	<1	51,917	4	3,203	<1
Conn.	3,272,235	2,326,262	503,100	86	311,225	10	35,402	1	96,246	3	-	-
N.Y.	11,861,175	8,706,000	B	73	1,565,299	13	256,572	2	C	-	1,333,304	11
N.J.	3,510,203	2,197,351	350,125	73	363,645	10	66,456	2	46,060	1	486,566 <sup>D</sup>	11
Pa.	2,079,436	1,331,000	498,000	88	140,500	7	15,400	<1	45,200	2	49,336	2
Ohio	2,463,560	1,625,688	344,843	80	244,012	10	117,172	5	120,641	5	11,204	<1
Ind.	1,457,977	1,045,252	139,634	81	A	-	A	-	269,374 <sup>E</sup>	18	3,717	<1
Ill.	2,487,283	1,825,279	216,142	82	251,194	10	47,157	2	130,190	5	17,321	<1
Mich.	7,996,836	5,176,589	1,145,398	79	465,290	6	281,575	4	882,287	11	45,697	<1
Wis.	2,887,920	1,818,826	366,046	76	598,318	21	104,730	4	-	-	-	-
Minn.	1,271,095	901,465	130,065	81	193,728	15	-	-	36,568	3	9,269	<1
Ia.	1,994,924	1,222,046	186,354	71	174,911	9	155,678	8	202,707	10	53,228	3
Mo.	682,471	450,800	51,900	74	151,769	22	18,196	3	1,306	<1	8,500	1
N.D.	275,093	189,992	21,882	77	38,126	14	6,973	3	18,120	7	-	-
S.D.	275,700	179,459	22,484	73	41,551	15	4,642	2	9,564 <sup>F</sup>	3	18,000	7
Nebr.	405,828	276,776	21,804	74	43,343	11	18,865	5	33,047	8	11,993	3
Kans.	1,254,406	731,998	133,593	69	100,483	8	133,274	11	132,650	11	22,408	2
Del.	405,428	281,410	56,281	83	37,344	9	6,408	2	8,985	2	15,000	4
Md.	3,826,227	2,667,702	416,346	81	536,161	14	59,638	2	72,178	2	74,202	2
D.C.	1,105,095	861,402	71,326	84	159,000	14	12,000	1	-	-	1,367	1
Va.	1,114,803 <sup>G</sup>	827,692	H	74	181,262	16	6,582	<1	92,512	8	6,755	<1
W.Va.	739,600	401,948	27,476 <sup>I</sup>	58	69,410	9	17,998	2	22,768	3	200,000 <sup>J</sup>	27
N.C.	1,894,348	1,305,540	212,949	80	262,006	14	36,435	2	64,673	3	12,745	<1
S.C.	1,423,085	1,068,903	28,327 <sup>K</sup>	77	215,084	15	51,598	4	40,016	3	19,157	1
Ga.	2,019,221	1,437,981	238,951	83	283,814	14	33,216	2	21,003	1	4,256	<1
Fla.	2,673,974	1,822,344	270,250	78	349,377	13	59,848	2	172,155	6	-	-
Ky.	1,131,862	791,926	117,055	80	162,743	14	27,029	2	21,347	2	11,762	1
Tenn.	2,385,054	1,474,320	184,548	70	136,869	6	199,677	8	98,557	4	291,083 <sup>L</sup>	12
Ala.	2,559,971	1,874,519	219,493	82	372,385	15	51,535	2	13,434	<1	28,605	1
Miss.	734,662	473,933	62,559	73	177,451	24	12,075	2	M	-	8,644	1
Ark.	607,219	453,198	79,463	87	62,831	10	1,199	<1	10,528	2	-	-
La.	1,859,704	1,388,077	136,971	82	145,939	8	27,256	1	157,307	8	4,154	<1
Okla.	786,143	556,559	104,637	84	92,576	12	17,773	2	12,649	2	1,949	<1
Tex.	3,020,683	1,938,079	310,092	74	315,487	10	60,000	2	387,615	13	9,410	<1
Mont.	360,414	251,675	34,258	79	27,568	8	14,953	4	28,672	8	3,288	<1
Ida.	N	-	-	-	-	-	-	-	-	-	-	-
Wyo.	275,898	134,621	18,721	56	26,046	9	13,568	5	76,492	28	6,450	2
Colo.	1,310,828	928,228	117,347	80	235,487	18	4,197	<1	16,002	<1	9,567	<1
N.M.	1,287,595	641,886	87,795	57	221,228	17	132,994	10	183,672	14	20,020	2
Ariz.	1,029,840	628,426	102,205	61	105,075	10	35,795	3	115,619	11	42,720	4
Utah	931,195	607,673	121,225	78	66,056	7	75,768	8	57,457	6	3,016	<1
Nev.	533,974	357,030	48,212	76	36,505	68	33,920	6	52,038	10	6,269	1
Wash.	1,361,207	896,104	146,262	77	104,655	8	29,819	2	124,429	9	59,938	4
Ore.	839,075	531,695	97,515	75	57,203	7	15,862	2	98,911	12	37,889	5
Cal.	8,811,420 <sup>O</sup>	5,644,311	1,008,983	76	540,321	6	216,415	2	1,127,504	13	273,886	3
Alaska	1,135,700	595,400	98,100	61	135,100	12	12,000	1	284,700	25	10,400	<1
Hawaii	773,831	635,504	P	82	90,230	12	48,097	6	-	-	-	-
Guam	169,276	108,884	12,359	72	19,000	11	5,000	3	-	-	24,033	14
P.R.	887,162	755,922	21,621	88	70,638	8	4,074	<1	19,907	2	15,000	2
TOTAL	98,254,462	66,574,284	8,836,965	77	11,072,417	11	2,614,583	3	5,703,576	6	3,452,637	4
AVERAGE	1,889,509	1,280,275	169,942	77	212,931	11	50,280	3	109,684	6	66,397	4



TABLE 3-1 FOOTNOTES

- A No breakdown available.
- B Not included in laboratory budget.
- C Figures not available.
- D Includes Department-wide Support Services (indirect cost).
- E Rate 22.7%.
- F Does not include rent and utilities.
- G This figure represents expenditures for Bureau of Microbiological Science only.
- H Not in budget.
- I For Federal Salaries only.
- J Purchase of Biologicals for Vaccination Program.
- K For Salaries on Fee Monies only.
- L Includes \$184,733 for a contract with the University of Tennessee to provide toxicological analyses.
- M Included in Supplies and Material category.
- N Chose not to include this data in the report.
- O Includes \$99,000 for temporary help.
- P Not in budget (22% - supplemental).

TABLE 3-1. DEFINITIONS

1. Personnel (Salaries and Benefits)  
Include all salaries and personnel benefits for all budgeted personnel.
2. Supplies and Material  
Include all supply and material expenditures for the laboratory.
3. Equipment  
Include all equipment costs--such as equipment purchased, rented, or maintenance and repair costs on equipment. Also include office and lab furniture.
4. General Operating Expenditures  
Include rent, all utilities, communication, building maintenance, postage, and housekeeping
5. Other  
Include intrastate travel, out-of-state travel, and special expenditures, i.e., renovation and remodeling costs, consulting fees, etc.
6. Total Laboratory Expenditures  
Total of 1-5, above.

TABLE 3-2 SOURCES OF LABORATORY FUNDS

	Total Laboratory Budget	STATE FUNDS		FEDERAL FUNDS		EARNED FUNDS		OTHER FUNDS	
		Amount	% of Total Exp.	Amount	% of Total Exp.	Amount	% of Total Exp.	Amount	% of Total Exp.
Me.	663,648	282,710	43	136,100	21	160,829	24	84,009	13
N.H.	292,656	196,856	67	95,800	33	-	-	-	-
Vt.	375,000	236,014	63	138,986	37	-	-	-	-
Mass.	3,382,230	2,982,428	88	399,802	12	-	-	-	-
R.I.	1,370,202	1,274,264	93	95,938	7	-	-	-	-
Conn.	3,272,235	2,891,194	88	381,041	12	-	-	-	-
N.Y.*									
N.J.	3,510,203	2,702,288	77	760,848	22	47,067	1	-	-
Pa.	2,079,436	1,544,281	74	390,500	19	97,855	5	46,800	2
Ohio	2,463,559	754,278	31	854,111	35	855,170	35	-	-
Ind.	1,457,977	1,264,129	87	193,848	13	-	-	-	-
Ill.	2,487,283	893,204	36	1,594,079	64	-	-	-	-
Mich.	7,996,836	6,631,814	83	1,285,792	16	-	-	79,230	<1
Wisc.	2,887,920	1,894,201	66	91,809	3	858,312	30	43,598	2
Minn.	1,271,095	936,009	74	335,086	26	-	-	-	-
Ia.	2,010,904	1,103,449	55	-	-	907,455	45	-	-
Mo.	681,775	42,600	6	639,175	94	-	-	-	-
N.D.	275,093	131,060	48	144,033	52	-	-	-	-
S.D.	275,700	135,000	49	118,000	43	22,700	8	-	-
Nebr.	410,752	144,684	35	221,884	54	9,879	2	34,305	8
Kans.	1,254,406	816,504	65	437,902	35	-	-	-	-
Del.	405,428	242,427	60	163,001	40	-	-	-	-
Md.	3,826,227	3,706,166	97	120,061	3	-	-	-	-
D.C.	1,105,095	839,000	76	266,095	24	-	-	-	-
Va.	1,114,803	1,114,803	100	-	-	-	-	-	-
W.Va.	739,601	518,533	70	221,068	30	-	-	-	-
N.C.	1,894,348	1,260,080	67	345,384	18	288,884	15	-	-
S.C.	1,423,085	974,592	67	265,982	19	182,511	13	-	-
Ga.	2,019,221	1,870,541	93	148,680	7	-	-	-	-
Fla.	2,673,610	1,602,311	60	1,071,299	40	-	-	-	-
Ky.	1,087,670	834,448	77	197,286	18	-	-	55,936	5
Tenn.	2,385,054	2,268,342	95	115,371	5	1,341	<1	-	-
Ala.	2,559,971	1,440,883	56	1,119,088	44	-	-	-	-
Miss.	734,661	159,478	22	470,183	64	105,000	14	-	-
Ark.	624,835	377,455	60	247,380	40	-	-	-	-
La.	1,859,704	1,765,000	95	27,519	1	-	-	67,185	4
Okla.	786,143	330,812	42	325,987	41	-	-	129,344	16
Tex.	3,020,683	2,073,681	69	432,391	14	514,611	17	-	-
Mont.	360,414	215,836	60	144,578	40	-	-	-	-
Ida.	(a)								
Wyo.	276,282	176,480	64	99,802	36	-	-	-	-
Colo.	1,310,828	624,617	48	619,601	47	66,610	5	-	-
N.M.	1,287,595	1,245,107	97	42,488	3	-	-	-	-
Ariz.	1,029,840	293,795	29	708,110	69	-	-	27,935	3
Utah	934,210	660,616	70	273,594	29	-	-	-	-
Nev.	533,974	478,628	90	46,587	9	8,759	2	-	-
Wash.	1,361,207	1,089,135	80	272,072	20	-	-	-	-
Ore.	839,075	578,053	69	225,681	27	35,341	4	-	-
Cal.	8,811,420	5,199,972	59	3,178,213	36	433,235	5	-	-
Alaska	1,135,700	1,051,200	93	77,500	7	-	-	7,000	<1
Hawaii	773,831	625,379	81	148,452	19	-	-	-	-
Guam	169,276	121,201	72	48,075	28	-	-	-	-
P.R.	878,722	810,902	92	34,073	4	33,747	4	-	-
TOTAL	86,381,423	61,406,440		19,770,335		4,629,306		575,342	
AVERAGE	1,693,753	1,204,048	71	387,654	23	90,771	5	11,281	<1

(a) Chose not to include this data in the report.

\*New York-only figures available: State Funds - \$11,977,300.

TABLE 3-3. GRANTS, CONTRACTS, OR SPECIAL SERVICE AGREEMENTS  
WITH OTHER DEPARTMENTS OR AGENCIES (PRIVATE, FEDERAL, STATE, OR LOCAL)

	Programs Served & Services Provided	Staff Utilized	Costs
New England Me.	Pilot Pesticides Project (Pesticide Monitoring)	Analytical Chemists	\$ 30,000
	Blood Lead Program	Analytical Chemists	54,000
Vt.	VD Grant (Gonorrhea Cultures)	1 Micro.	8,682
Conn.	PKU (Analytical)	2.0 (Chem. & Lab. Asst.)	17,000 (a)
	OSHA (Analytical)	1.4 (Chemists)	22,000 (a)
	Air Pollution (Analytical)	5.5 (Chemists)	103,677 (a)
	Solid Waste (Analytical)	1.0 (Chemists)	13,000 (a)
	Laboratory Certification - Medicare (Inspection & Certification)	3.6 (med. exam. & cler.)	48,480 (a)
	Gonorrhea Screening (microbiology)	3.0 (1 micro. & 2 lab. assistants)	29,175 (a)
N.J.	Department of Environmental Protection (Chemistry)	83.7%	*
	Delaware River Basin Commission (Chemistry)	5.0%	*
	Virologic services for State of Delaware	3.0%	15,000
Pa.	Lead poisoning detection project grant from PHS	3	101,000
Ohio	Ohio Environmental Protection Agency	Chemist I - 10.75	Pers. 516,493.60
		Chemist II - 3.4	Supp. 62,325.73
		Chemist III - 3.35	Equip. 17,681.53
		Microbiologist I - 4.3	Other 6,485.41
		Microbiologist II - .24	
		Microbiologist III - 1.75	
		Typist II - 4.6	
		Lab. Technologist - 2.9	
		Lab. Assistant - 1.25	
		Lab. Technician I - 1.55	
	Chem. Lab. Supvr. - 1.0		
	Maternal and Child Health A.	Lab. Technician I - 3.0	Pers. 38,027.55
		Lab. Assistant - 1.0	Supp. 12,143.57
		Typist II - 1.0	Equip. 212.94
		Chemist II - 1.0	
	Maternal and Child Health B.	Lab. Technician I - 3.0	Pers. 14,475.98
		Lab. Assistant - 1.0	
		Typist II - 1.0	
		Chemist II - 1.0	
	Childhood Lead Based Poisoning	Chemist I - 1.0	Pers. 11,976.49
		Supp. 13,867.20	
		Equip. 500.00	
Interstate Food Service Program	Microbiologist I - 1.0	Pers. 12,806.76	
		Equip. 488.28	
VD Control	Microbiologist II - 1.0	Pers. 66,296.91	
	Microbiologist I - 1.0		
	Lab. Technologist - 2.0		
	Lab. Technician I - 2.0		
	Lab. Assistant - 1.0		
Encephalitis Project	Lab. Animal Aide - 1.0	Pers. 2,457.40	

(a) Does not reflect total cost of program. Amounts represent support for part of the personnel costs for each of the programs listed.

TABLE 3-3 GRANTS, CONTRACTS, OR SPECIAL SERVICE AGREEMENTS  
WITH OTHER DEPARTMENTS OR AGENCIES (PRIVATE, FEDERAL, STATE, OR LOCAL)  
(Continued)

	Programs Served & Services Provided	Staff Utilized	Costs
Ohio (Cont.)	Industrial Relations (ISHA) and Industrial Commission (OSHA)	Chemist II 1.0 Chemist III - 1.0	Pers. 27,283.42 Supp. 7,211.56 Equip. 2,643.40 Other 1,506.00
Mich.	Laboratory Diagnosis (laboratory services to Kent County)	2.0 Bacteriologists 1.0 Lab. Tech.	Pers. 48,301 Supp. 763
	Pesticides (Community studies of pesticide exposure)	0.6 P.H. Administrator 1.0 Clerical 1.0 Environ. Sanitarian 2.0 P.H. Field Reps. 2.0 Chemists 2.0 Lab. Techs.	Pers. 125,258 Supp. 49,962 Equip. 1,030 Other 3,542
	Forensic Services (establish regional crime laboratory)	4.0 Crime Lab. Scien.	Pers. 76,715 Supp. 30,995 Equip. 45,701 Other 6,085
	Laboratory Diagnosis (V.D. Control)	2.0 Bacteriologists 0.3 Lab. Technician	38,516
	Biologic Products (preparation & clinical trials of intravenous gamma globulin)	1.0 Biochemist 1.0 Lab. Aide Sdpvr.	Pers. 37,575 Supp. 18,607 Other 267
	Biologic Products (preparation & testing of albumin, IGG & ICM as by-products of preparation of C'esterase inhibitor)	1.0 Biochemist 1.0 Lab. Aide	Pers. 20,529 Supp. 4,700 Equip. 4,719 Other 218
	Biologic Products (development of an improved method for inactivation of rabies virus)	2.0 Lab. Techs.	Pers. 20,891 Supp. 4,496 Equip. 1,790 Other 354
	Biologic Products (produce Anthrax Vaccine for distribution to woolen mfgs.)	0.5 Lab. Tech.	Pers. 8,761 Supp. 444
	Biologic Products (isolate clinically useful bovine factor VIII)	1.0 Biochemist 2.0 Lab. Techs 1.0 Animal Caretaker 0.4 Laborer 0.1 Veterinarian	Pers. 65,264 Supp. 14,556 Equip. 4,651 Other 32
	Cancer Research	1.0 Bacteriologist 1.0 Lab. Tech. 1.0 Lab. Apprentice 1.0 Clerical	Pers. 50,389 Supp. 2,582 Equip. 3,850 Other 178
Minn.	Univ. of Minn. Area Health Education Center (continuing education for laboratory personnel)	1.0 Med. Tech. 1.0 Clerk-Typist	Pers. 18,925 Supp. 4,433 Other 1,817
Ia.	Rubella Screening (screening of prenatal sera for rubella susceptible mothers)	3.0 Technicians 0.5 Clerical	Pers. 35,471.42 Supp. 11,515.65 Other 3,093.51
	Drug Abuse Control (urine screening for treatment facilities providing methadone therapy; analysis of "street drugs")	1.0 Chemist	Pers. 21,687.38 Supp. 3,352.35

TABLE 3-3 . GRANTS, CONTRACTS, OR SPECIAL SERVICE AGREEMENTS  
WITH OTHER DEPARTMENTS OR AGENCIES (PRIVATE, FEDERAL, STATE, OR LOCAL)  
(Continued)

	Programs Served & Services Provided	Staff Utilized	Costs
Ia. (Cont.)	Gonorrhea Culture Program (provision of culture service to physicians to detect asymptomatic patients)	1.0 Microbiologist	Pers. 11,454.26 Supp. 9,027.49 Other 12,819.93 (b)
	Industrial Hygiene (provision of laboratory services to the Iowa Bureau of Labor)	2.0 Chemists 1.0 Technician	Pers. 40,125.26 Supp. 7,693.52 Equip. 6,774.60 Other 12,502.20 (b)
	Medicare (surveys of hospital laboratories to insure compliance with Medicare standards).	1.0 Lab. Surveyor 0.5 X-ray Surveyor	Pers. 29,147.31 Other 11,504.60 (b)
	Air Quality (provision of laboratory services for air quality monitoring to the Iowa Department of Environmental Quality)	1.0 Chemist	Pers. 43,260.55 Supp. 15,124.81 Equip. 14,254.25 Other 23,178.37 (b)
	Water Quality (provision of laboratory services for water quality surveillance to the Iowa Department of Environmental Quality)	2.0 Limnologists 3.0 Technicians	Pers. 77,364.11 Supp. 5,187.39 Equip. 79,285.41 Other 28,556.55 (b)
	Radiation Response Team (purchase of equipment to outfit response team)		Supp. 1,792.33 Equip. 21,816.09
Mo.	State Milk Board (lab inspection & approval, performance of lab tests on milk)	2	*
	Department of Natural Resources (public water supply testing for bacteriology and chemical, lab inspection and approval)	4	*
	Federal Drug Administration (performance of lab tests on food samples - surveillance)	2	*
S.D.	South Dakota Department of Environmental Protection (water and air quality testing)	2 Chemists 1 Microbiologist	Pers. 19,502 Supp. 1,500 Equip. 834.21
Kans.	Venereal Disease Control Project (Federal Gonorrhea culture screening of OB/GYN patients in private and public clinics for gonorrhea detection and control)	1.0 Microbiologist 0.5 Lab. Tech. 0.2 Clerical	Supp. 22,000
	Water Pollution Control Project (Federal EPA laboratory support for National Pollution Discharge Elimination System - PL-02-500)	3.0 Chemist 1.0 Micro. 2.0 Lab. Tech.	Pers. 70,164
	Water Supply Program (Federal EPA laboratory support for Safe Drinking Water Act - PL-93-523 - requirements in form of equipment grant from Federal funds)	-	Equip. 138,650
	Air Quality Program (Federal EPA Sulfur dioxide, nitrogen dioxide, and suspended particulate monitoring from 56 air sampling sites in State)	1.0 Chemist 0.1 Clerical	Pers. 13,878
Del.	New Jersey Virus Lab (provides virology services)	-	15,000

(b) Includes indirect costs.

TABLE 3-3 . GRANTS, CONTRACTS, OR SPECIAL SERVICE AGREEMENTS  
WITH OTHER DEPARTMENTS OR AGENCIES (PRIVATE, FEDERAL, STATE, OR LOCAL)  
(Continued)

	Programs Served & Services Provided	Staff Utilized	Costs
Md.	Cervical Cancer Screening Program Laboratory Services to Md. State Department of Health and Mental Hygiene Federal Contract No. 1 - CN-55166	1 Lab. Sc. II 1 Lab. Sc. I	38,755
	Balto., City Lead Paint Poisoning Control Federal Grant	½ Lab. Asst.	11,968 (term. FY 76)
	Laboratory Support Services for Dept. Health and Mental Hygiene Federal Air Pollution Act Grant	1 Lab. Sc. II 1 Lab. Sc. I	29,977 (Salaries)
	Laboratory Support Services for Maryland Dept. of Licensing and Regulation Federal Grant for Occupational Safety and Health Laboratory Support Services for Maryland	1 Lab. Sc. II 1 Lab. Asst. II 1 Lab. Asst. I	38,590
	Power Plant Siting Program	1 Lab. Sc. (c)	771
D.C.	Intoxicated driver identification funded by Dept. of Trans.	1 Chemist	Pers. 17,583 Supp. 2,000
	Gonorrhea identification and control funded by HEW	3 Med. Tech. 1 Clerk	Pers. 42,979 Supp. 32,000
	Lead poison identification funded by HEW	1 Chemist 2 Technicians 1 Clerk	Pers. 42,505 Supp. 12,000
	Maternal and Infant Care funded by HEW	1 Chemist 2 Technicians 1 Cytotechnologist	Pers. 50,028
	Meat Inspection to provide assurance of quality funded by Dept. of Environmental Services	1 Chemist 1 Microbiologist 2 Technicians	Pers. 64,000 Supp. 3,000
W.Va.	Medicaid (evaluation and certification of laboratories participating in Medicaid Program	3.0 Microbiologists 1.0 Chemist .12 Director .20 Clerical .20 Lab. Assist. II	Pers. 52,355 Supp. 1,610 Equip. 228 Other 6,248
N.C.	The federal Venereal Disease Control Project partially funds a gonorrhea laboratory advisor position that provides training in laboratory techniques and proficiency testing to local health departments participating in the program.	1 Lab. Imp. Consultant (0.50 man year)	Pers. 9,139.02
	The Occupational Safety and Health Act Project funds two laboratory positions that provide analytical testing support to field engineering staff investigating OSHA complaints. This program is jointly administered by the Occupational Health Branch, Epidemiology Section (health inspections) and the N.C. Department of Labor (safety inspections).	1 Anal. Chemist I 1 Lab. Technician	Pers. 24,170.
	The North Carolina Drug Authority supports laboratory testing in hepatitis diagnosis. Suspect serum is analyzed using an RIA procedure to differentiate hepatitis A and B.	Public Hlth. Micro II	Supp. 1,433
	The Sickle Cell Program supports laboratory activities for screening and diagnosis of hemoglobinopathies.	1 Public Hlth. Micro. II 1 Med. Lab. Tech. II 1 Clerk-Typist III	Pers. 22,311 Supp. 8,522 Equip. 12,453 Other 570

(c) Portion not in Laboratories Administrative Budget.

TABLE 3-3 . GRANTS, CONTRACTS, OR SPECIAL SERVICE AGREEMENTS  
WITH OTHER DEPARTMENTS OR AGENCIES (PRIVATE, FEDERAL, STATE, OR LOCAL)  
(Continued)

	Programs Served & Services Provided	Staff Utilized	Costs
S.C.	Pesticide Contract (provide lab analyses for pesticides and herbicides in an EPA study to determine exposure levels for baseline information)	3 Chemists 5% of Dir. time	Pers. 37,880
	Blood Lead Agreement (Med. Univ. of S.C. through HEW (CDC) to determine geographical areas of high risk)	0.7 Chemist	Pers. 7,505
	Drug Agreement (drug analysis on urines for drugs, funded by local, private and federal)	1.4 Chemists	Pers. 16,646
Ga.	Venereal Disease service (culture examination for <u>N. gonorrhoeae</u> )	1 Lab. Associate II 1 Lab. Scientist II 3 Lab. Technician II 2 Clerical	Pers. 67,080 Supp. 63,606
	Div. of Mental Health Service (Testing for abuse drugs)	1 Lab. Associate II 1 Lab. Associate I 2 Lab. Technician III 2 Lab. Technician II 1 Clerical	Pers. 105,829 Supp. 43,041
Ky.	Occupational Safety and Health Program (The laboratory has a contract with the OSHA in the Kentucky Department of Labor to provide laboratory services to Industrial Hygienists. These services are primarily analyses for contaminants, such as metals, organics, dust, etc. in air. The contract provides for payment of up to sixty-four thousand dollars (\$64,000.00) for two thousand (2,000) analyses, with a provision for prorating charges with changes in workload. The entire Chemistry staff is used with no specific persons or positions assigned to this work)	3.5	Pers. 47,936 Supp. 3,000 Equip. 5,000 (The cost breakdown is an approximation; new equipment costs are prorated.)
Ala.	Mobile lead detection project and county health departments (erythrocyte protoporphyrin, cyanmethemoglobin and blood lead testing for children, ages one to six, to detect lead poisoning and iron deficiency anemia. Collection kits with instructions are provided.)	2 Microbiologists 1 Clerical	Pers. 31,603 Supp. 3,000 Equip. 34,288 Other 500 (Travel)
Tex.	Texas Water Quality Board	6 Chemists 1 Bacteriologist 1 Lab. Tech. 1 Secretary 1 Lab. Worker	146,277
	Texas Water Development Board	2 Chemists 1 Bacteriologist 2 Lab. Assistants	49,980
	Title XIX	3 Chemists 2 Med. Tech. 8 Lab. Tech. 1 Clerk 1 Lab. Worker	167,976

TABLE 3-3 . GRANTS, CONTRACTS, OR SPECIAL SERVICE AGREEMENTS  
WITH OTHER DEPARTMENTS OR AGENCIES (PRIVATE, FEDERAL, STATE, OR LOCAL)  
(Continued)

	Programs Served & Services Provided	Staff Utilized	Costs
Tex. (Cont.)	Meat (Cooperative Meat Inspection)	2 Chemists 1 Lab. Worker	31,764
Mont.	Highway Alcohol, Fed. Dept. of Transportation Contract	2 Chemists 1 Technician	49,133
	Family Planning Program - Federal	1 Microbiologist	- (d)
	Tuberculosis Control	1 Microbiologist	- (d)
	Air Quality Chemistry	2 Chemists	- (d)
	Water Quality Chemistry	4 Chemists	- (d)
	Workers' Compensation Division, Montana Dept. of Labor	2 Technicians 1 Chemist	714
Ida.	Dept. of Transportation Breath Alcohol Testing	2 Chemists 0.5 Clerical	Pers. 28,500 Supp. 28,700
	State Dept. Water Resources Study - Bact. - Virus in Water	.25 Virologist (2 months)	Supp. 4,900
	Regional Medical Program Study - Physicians office lab capabilities	½ Micro.	Pers. 9,754 Supp. 7,795 Other 2,451
	U.S. Forest Service - complete Tussock moth study from previous year	½ Chemist	3,137
Colo.	Blood Alcohol Test Program (Department of Highway Safety)	2 Implied Consent specialists	Pers. 44,827 Supp. 3,976 Equip. 4,158 Other 5,562 (Travel)
N.M.	Traffic Safety Program (court appearances as expert witnesses, training statistical reporting, administrative support)	2 (part-time)	24,000
	Lead Poisoning Control (laboratory analytical support)	1	Pers. 11,005 Supp. 3,584 Equip. 2,948 Other 951
Ariz.	Dairy Program - bacteriological and chemical testing of dairy products (reimbursed after expenditure by State Dairy Commissioner. They directly fund salaries for staff utilized.)	1 Chemist II 1 Lab. Tech. II 1 Typist II	Pers. 55,065 Other 4,935
	Occupational Safety and Health Agency Program - testing of industrial hygiene samples of a great variety (reimbursement after expenditure by State Industrial Commission. They directly fund salaries for staff utilized.)	1 Chemist III 1 Lab. Tech. II	Pers. 26,755 Supp. 519 Equip. 5,300 Other 1,725 (Travel 1,500, Fee for lab certif. 225)
	Highway Safety Project - Federal grant for blood alcohol program (lab analyst on-site testing, etc). No salary support.	1 Chemist III 1 Lab Consultant Surveyor	Supp. 3,629 Other 3,630 (Travel)
	HIB Program - Medicare laboratory certification program	1 Lab Consultant Surveyor	Pers. 16,731 Other 3,470 (Travel)
	Air Pollution Grant - EPA (air analysis - environmental program)	1 ½-time typist 1 Chemist III	Pers. 21,000
	Water Pollution Grant - EPA (waste water testing program and lab certification program for waste water laboratories)	1 Chemist III	Pers. 18,560 Other 18,900

(d) Costs nothing to the laboratory budget. Salaries and supplies paid directly from the program divisions.



TABLE 3-3 . GRANTS, CONTRACTS, OR SPECIAL SERVICE AGREEMENTS  
WITH OTHER DEPARTMENTS OR AGENCIES (PRIVATE, FEDERAL, STATE, OR LOCAL)  
(Continued)

	Programs Served & Services Provided	Staff Utilized	Costs
Ariz. (Cont.)	VD Grant for VD Control (Lab Inspection Program) Cholesterol Standardization (private donations to support cholesterol screening program held in cooperation with nutrition program). Serum Titer - In Vitro Antigenicity Correlation (study grant from Arizona Lung Association).	2 Lab Consultant Surveyors 1 Med. Tech. contract paid (not employee) 2 Microbiologists	Pers. 36,780 Other 870 Pers. 13,000 Supp. 14,000  Supp. 935
Ore.	Metabolic Disorders (MCH Grant)  Metabolic Disorders (Screening Program for other States) Laboratory Licensing  Water Testing	1.0 Clerical 2.0 Lab. Tech. 1 1.0 Lab. Tech. 1  1.0 Lab. Insp. Mgr. .5 Clerical .21 Microbiologist	Pers. 27,713  Pers. 7,206 Supp. 8,584 Pers. 23,340 Supp. 3,928 Pers. 3,105
Calif.	Diabetes detection program for 14 rural counties which contract with State Department of Health for public health services. Development of reference analytical methodology for plasma and RBC cholinesterase for monitoring pesticide exposure of farm workers; under contract with State Dept. of Food and Agriculture. Gonorrhoea Control Project (State) - Coordinate statewide laboratory capabilities to process gonorrhoea specimens using cultural methods that will assure reliable and accurate results. Activities include: proficiency testing with simulated specimens, confirmation of isolates from diagnostic specimens, training, consultation, and quality control checking of media, reagents and methodology. Berkeley City Health Department Laboratory Services Contract (local health dept.). Provides laboratory services, chemical and microbiological examinations for: communicable diseases, sanitary quality of water and milk and dairy products. NIH Reference Reagents Program (Testing and certification of viral reagents produced under NIH contracts) Alameda, Los Angeles and Contra Costa Counties - Blood Lead and Free Erythrocyte Protoporphyrin (FEP) State Department of Transportation - calibration of air monitoring equipment Community Study on Pesticides	0.1 Chemist 0.2 Clin. Lab. Tech. 0.1 Lab. Assistant 0.1 Clerical 1.0 Research Clin. Chemist 1.0 Public Health Chemist  4 Public Health Microbiologists 2 Lab. Assistants ½ Clerk Typist  4 Public Health Microbiologists  1 Microbiologist 1 Senior Lab. Asst.  1 Chemist  1.5 Chemists  2 Rsch. Specialists 2 Chemists 1 Clerk-Typist	Pers. 7,000 Supp. & Equip. 3,000 Pers. 47,000 Supp. & Equip. 13,000 Other 12,000  Pers. 79,666 Supp. 12,000 Other 1,000 (Travel)  Pers. 69,644 Supp. 3,587 Other 14,277  Pers. 31,261 Supp. 1,828 Other 6,409 (Overhead) 32,000  48,000  175,000

TABLE 3-3 . GRANTS, CONTRACTS, OR SPECIAL SERVICE AGREEMENTS  
 WITH OTHER DEPARTMENTS OR AGENCIES (PRIVATE, FEDERAL, STATE, OR LOCAL)  
 (Continued)

	Programs Served & Services Provided	Staff Utilized	Costs
Calif. (Cont.)	Food and Drug Administration - Laboratory support to Food and Drug Section programs. Analyses on food samples	2 Chemists 0.5 Lab. Asst. (LCSS)	
	State Water Resources Control Board - provision of water laboratory approval services	3 Chemists 1 Lab. Tech. 1 Clerk-Typist	130,000
	State Water Resources Control Board - provision of analytic services to various Regional Water Quality Control Boards	4 Chemists	148,700
	Federal: Title XVIII to administer laboratory standards and make recommendations to BHI/SSA	14.65 Examiners 1.5 Statistician 8.0 Clerical	615,600
	Federal: CLIA-67 to survey lab- oratories licensed in this program and make recommendations to CDC/PHS	0.1 Examiner 0.1 Clerk	3,980 (Not reimbursed by Federal source per agreement)

TABLE 3-4. STATES REPORTING CHARGES FOR LABORATORY SERVICES

State	Services Performed	Charge Per Unit	Estimated Annual Receipts	Disposition of Funds
Me.	Water analysis(Bact.& Chem.) Serological screening Throat cultures Enteric Mycology, Parasitology Chemistry - Toxicology Pesticide analyses	\$5,12,& 20 4.00 2.00 6.00 6.00 10.00/hr. 10.00/hr.	\$219,839.00	To support activities not State or Federally funded - personnel, supplies, equipment, travel, personal programs.
Mass.	Certificate fee for labs approved by Laboratory Approval Program	5.00/ certificate	1,455.00	The general funds of the Commonwealth.
N.Y.	Blood Lead and EP  Lead in paint	6.85/ sample for both 2.00/samp.	100,000.00	Funds provide support for Lead Program
N.J.	7/1/76 - VDRL Rubella screening Bact. Exam. - Potable water 10/1/76 - Blood lead	2.00/spec. 3.00/spec. 6.00/spec. 6.00/spec.	-	Division of Laboratories and Epidemiology's Revolving Fund.
Ind.	Premarital serologies Private water testing Public water testing	2.50 4.00/test 10.00/yr.	32,779.50	All goes to State general funds except \$4,674 (handling fee). Water sample funds remain in a revolving fund for postage for private well water samples.
Wisc.	Rabies Water bacteriology All other tests	1.00/spec. 1.00/spec. 1.50/spec.	663,000.00	Salaries, supplies, equipment, travel, training,etc.
Iowa	Bacteriological-MPN-Pvt. & Muni. water Nitrates, iron, hardness - Pvt. water Fecal coliform Trace metals Cations Anions Radiation Pesticides Many other chemical parameters	3.00  3.00 12.00 10-14.00 10.00/ea. 8 or 16.00/ea. 10-40.00 48-104.00 4-48.00	361,000.00	Estimate is included in general operating budget.
Neb.	Private water samples - Bact. & Chem. tests Agric. or Ind. water samples - Bact. & Chem. tests Blood or Breath Alcohol - quantitative test Body fluid drug screening test Provision of certain shipping outfits or specimen containers	2-15.00  5-20.00  8.00 5.00 1-3.00	15,000.00	Placed in dedicated fund. Appropriated to Laboratory annually by Legislature.

TABLE 3-4. STATES REPORTING CHARGES FOR LABORATORY SERVICES  
(Continued)

State	Services Performed	Charge Per Unit	Estimated Annual Receipts	Disposition of Funds
Kans.	Water bacteriology Water chemistry - partial Water chemistry - complete Ground water analysis (fee based on # people served by water supply) Surface water analysis (fee based on # people served by water supply)	2.00/samp. 7.50/samp. 23.00/samp. 35-325.00/ annual fee 135-800.00/ annual fee	\$ 96,999.80	To State's general revenue funds.
Md.	Expected in 1978			
N.C.	Bact. analysis - Pvt. water Chem. analysis - Pvt. water Examination of Pub. water supplies  Sale of specimen collection outfits and biologicals	5.00 5.00 15-64.00/yr Amt. depends upon gross sales or # of connections.  Varies with type.	237,685.00	State appropriation to Lab is reduced by the amount of estimated receipts and in effect becomes part of annual operating budget.
S.C.	STS Rh Factor Rubella Febrile agglutination FTA-ABS Infectious Mono Toxoplasmosis Drug - Qualitative Drug - Quantitative	1.00 2.00 2.00 3.00 3.00 3.00 3.00 3.00 8.00	82,621.00	Support Laboratory activities.
Fla.	Urine screening for dangerous drugs (If qualitative test for alcohol included with above)	2.00/spec. 0.50/spec.	10,742.00	Partial payment of expenses required for urine screening program.
Ala.	Medicaid: 1. Pinworm 2. Intestinal Parasite 3. Sickle Cell Lead Detection	1.25 3.58 2.75 3.50	170,000.00	Into Health Department for chosen dispersion.
Miss.	Medicare-Medicaid Patients Throat culture for Group A Strep	Medicaid Rate  1.00	105,000.00	General Laboratory budget.
Ark.	Premarital blood test	1.00	19-20,000.00	Pay off bonds on building.
Mont.	Water bacteriology MPN Fecal coliform STD Chemical - water EPA - STD Chemical - water Individual chemicals Drug screen - urine Alcohol - blood & urine Other Environmental - chemical analyses (air quality and water quality, etc.)	4.00 10.00 6.00 15.00 70.00 2.00 6.00 6.00 fee depends upon sample and test.	Water Bact. 28,278.00  Abused Substances 5,000.00 Chem. Lab. 5,500.00	Water bacteriology - deposited to State General Fund.  Credited to budget.  Credited to budget. Funds received for analytical services go into Air Quality & Water Quality Bureau's budget. They pay costs to operate their respective sections of the laboratory.

TABLE 3-4. STATES REPORTING CHARGES FOR LABORATORY SERVICES  
(Continued)

State	Services Performed	Charge Per Unit	Estimated Annual Receipts	Disposition of Funds
Ida.	Water Bacteriology tests Water chemistry tests Mercury, lead: tissues, urine, blood, foods, etc. Cholinesterase enzyme assay Urine drug screen Syphilis serology Rubella serology Cytogenetic analysis Food analysis - salmonella Food analysis - coliform	Fee depends upon # of test per mo. " 10.00 10.00 5.00 4.00 4.00 30.00 8.50 6.00	\$ 56,000.00	Included as part of operating budget (salaries & other expendable items).
N.M.	All services performed for federal agencies, contractors, or grantees or State Agencies outside HSSD are charged for services received per sample relative value unit (adapted from ASTPHLD-CDC Relative Value Structure).	2.61/ Relative Value Unit	180,000.00	Receipts now to be part of budgeted operating revenue.
Ariz.	Immunology Clinical Microbiology Environmental Health	Various fees	120,000.00	To the State General Fund.- does not come back to support lab services.
Colo.	Urinalysis for drugs of abuse (rate based upon previous year's utilization by methadone maintenance clinics).	1.25/spec.	66,610	Appropriated as a Cash Fund by Legislature for salaries or personnel doing the work.
Wash.	Water chemistry tests (individual tests - complete analyses)	fee depends upon test requested	75-85,000.00	State General Fund.
Ore.	1. Metabolic Disorders 2. Water Bacteriology - Federal Agency samples	2.00/spec. 2.00/samp.	37,048.00	1. Used to fund Metabolic Disorders Program. 2. Goes into Miscellaneous Receipts.

SECTION IV

WORKLOAD REPORTING CATEGORIES

SECTION IV

WORKLOAD REPORTING CATEGORIES

Workload Reporting is divided into the 15 Categories and Sub-Categories listed below:

- I. Diagnostic Bacteriology
  - A. Nasopharyngeal Specimens
  - B. Mycobacteria Specimens
  - C. Enteric Specimens
  - D. Gonococcus Specimens
  - E. Other Bacteriology Specimens
- II. Mycology
- III. Parasitology
  - A. Intestinal Specimens
  - B. Other Parasitology Specimens
- IV. Virology
  - A. Rabies Specimens
  - B. Viral Isolation Specimens
- V. Immunology
  - A. Syphilis Serology Specimens
  - B. Bacterial Serology Specimens
  - C. Fungal Serology Specimens
  - D. Parasitological Serology Specimens
  - E. Viral & Rickettsial Serology Specimens
  - F. Other Serology Specimens
- VI. Hematology
  - A. Hematology Specimens
  - B. Immunohematology Specimens
  - C. Hemoglobinopathy Specimens
- VII. Clinical Chemistry
  - A. Clinical Chemistry Specimens
  - B. Urinalysis Specimens
  - C. Inborn Errors of Metabolism Specimens
  - D. Multiphasic Screening Specimens
  - E. Other Clinical Chemistry Specimens
- VIII. Pathology
  - A. Exfoliative Cytology Specimens
  - B. Cytogenetics Specimens
  - C. Other Specimens
- IX. Environmental Microbiology
  - A. Water Samples
  - B. Dairy Product Samples
  - C. Food & Beverage Samples
  - D. Other Samples
- X. Environmental Chemistry
  - A. Water Samples
  - B. Dairy Products and Food Samples
  - C. Pesticide Samples
  - D. Air Pollution Samples
  - E. Radiological Analysis
  - F. Other Samples
- XI. Occupational Health and Safety
  - A. Environmental Samples
  - B. Biological Samples
- XII. Toxicology
  - A. Physical Samples
  - B. Biological Samples
- XIII. Laboratory Improvement Program
  - A. Clinical Laboratories
  - B. Dairy/Food Laboratories
  - C. Water Laboratories
  - D. Other
- XIV. Biologics, Reagents, and Media Produced for Distribution
  - A. Biologics
  - B. Reagents
  - C. Media
- XV. Research and Development
  - A. Basic Research
  - B. Applied Research
  - C. Technical Development



## DIAGNOSTIC WORKLOAD SECTION

### THE FOLLOWING DEFINITIONS APPLY TO CATEGORIES I THROUGH XII:

Workload is reported by the number of specimens in each category or sub-category. Types of procedures routinely\* used in your laboratory are to be indicated by checking the appropriate box. The Association (ASTPHLD) is interested in the type of procedures routinely followed in your laboratory. Therefore, do not check those procedures that you have the capability of performing but do not do so on a routine basis.

\*Definition of Routine - Those tests performed as part of your standard operating procedures on a specimen or sample.

### Specimen/Sample

Any material received in the lab for testing in a workload category or sub-category or a material which is divided into aliquots for testing in multiple categories or sub-categories is counted as one specimen for each category or sub-category. Specimens collected from the same site on the same patient (or same environmental source) at the same time, are to be counted as one specimen in each category or sub-category in which it is tested.

TABLE 4-1.  
DIAGNOSTIC BACTERIOLOGY SPECIMENS BY CATEGORY AND SUB-CATEGORY

	TOTAL Diagnostic Bacteriology Specimens	Nasophar- yngeal Specimens	Mycobacterial Specimens	Enteric Specimens	Gonococcus Specimens	Other Bacteriology Specimens
Me.	46,916	8,802	3,741	738	32,898	737
N.H.	63,949	35,544	2,343	1,590	22,896	1,576
Vt.	46,215	28,461	1,660	633	15,317	144
Mass.	171,875	106,201	-	10,357	54,071	1,246
R.I.	108,389	69,405	1,078	3,146	34,760	-
Conn.	286,577	224,370	8,480	11,643	29,628	12,456
N.Y.	161,716	2,695	10,236	3,803	140,112	4,870
N.J.	213,229	25	22,213	10,594	180,397	-
Pa.	25,181	980	14,054	9,691	53	403
Ohio	331,322	223,621	7,821	2,232	93,587	4,061
Ind.	8,591	-	4,816	2,170	694	911
Ill.	232,443	61,845	6,482	8,335	152,139	3,642
Mich.	362,806	136,776	17,185	17,852	165,027	25,966
Wisc.	81,880	46,584	7,976	8,147	19,158	15
Minn.	145,387	65	15,796	11,640	117,669	217
Iowa	106,235	49,504	4,429	2,167	47,970	2,165
Mo.	86,388	51,837	-	2,424	31,145	982
N.D.	44,795	23,183	3,913	2,443	4,384	10,872
S.D.	42,906	29,402	4,358	1,560	5,900	1,686
Nebr.	25,343	4,912	1,480	649	17,078	1,224
Kans.	74,793	20,350	7,244	5,453	38,806	2,940
Del.	31,272	604	-	614	29,162	892
Md.	472,307	90,454	23,988	9,369	321,467	27,029
D.C.	106,271	11,632	3,534	2,626	88,479	-
Va.	207,959	81,886	25,001	8,573	88,491	4,008
W. Va.	81,878	30,121	9,933	317	41,507	-
N.C.	23,076	822	15,517	3,316	1,383	2,038
S.C.	221,266	6,740	13,733	687	195,300	4,806
Ga.	327,725	18,571	31,051	11,626	262,133	4,364
Fla.	656,631	29,963	59,934	24,995	537,775	3,964
Ky.	25,701	5,332	2,479	1,449	14,624	1,817
Tenn.	415,561	161,707	36,559	7,250	207,064	2,981
Ala.	413,508	56,861	47,748	4,525	300,251	4,123
Miss.	248,215	51,397	22,663	6,300	165,206	2,649
Ark.	111,392	14,009	21,966	3,128	72,289	-
La.	180,283	13,044	41,102	13,829	112,303	5
Okla.	115,261	24,269	8,185	1,612	80,652	543
Tex.	132,769	16,126	42,446	19,957	54,240	-
Mont.	21,379	5,724	4,077	548	11,030	-
Ida.	51,442	15,827	1,564	1,152	31,004	1,895
Wyom.	195,424	172,072	371	151	22,830	-
Colo.	227,262	167,985	1,958	1,977	54,919	423
N.M.	86,846	15,719	7,063	3,123	55,980	4,961
Ariz.	21,893	1,360	8,792	2,240	8,343	1,158
Utah	68,554	38,434	2,228	2,801	24,936	155
Nev.	68,335	322	1,719	545	65,358	391
Wash.	38,389	4,400	10,267	3,049	19,949	724
Ore.	15,225	5,754	3,838	1,947	3,043	643
Calif.	42,503	13	2,298	5,376	33,557	1,259
Alaska	74,802	12,610	9,929	2,604	49,659	-
Hawaii	213,503	62,789	8,210	8,455	128,024	6,025
Guam	5,151	167	1,815	369	2,440	360
P.R.	51,089	3,595	-	116	36,522	10,856
Total	7,619,808	2,244,871	615,273	271,893	4,323,589	164,182
Average	143,770	43,171	12,557	5,130	81,577	3,731

TABLE 4-2.

## I. DIAGNOSTIC BACTERIOLOGY

## A. Nasopharyngeal Specimens

		1. Strept., Beta Hemolytic, Group A			2. Diphtheria						
		Procedures Used			Procedures Used						
# of Specimens		Culture	FA	Serogrouping	Other	# of Specimens	Direct Smear	Culture	Confirm. Sugars	Toxigenicity	Other
Maine	8,729	X	X			3	X	X	X	X	
N.H.	34,970	X	X			574	X	X			
Vt.	27,974	X		X		15*	X	X	X	X	
Mass.	106,187	X	X			7	X	X	X	X	FA
R.I.	69,257	X	X			48	X	X	X	X	
Conn.	224,343	X	X		Bacitracin Meth.	24	X	X	X	X	
N.Y.	2,158	X	X	X		10	X	X	X	X	
N.J.	9		X			16		X		X	
Pa.	160	X	X			4		X	X	X	
Ohio	218,734	X	X	X		325		X	X	X	
Ind.	-					-					
Ill.	58,617	X		X		303		X	X	X	
Mich.	136,438	X			Bacitracin Meth.	27		X		X	
Wisc.	37,279	X	X			8	X	X	X	X	
Minn.	-					65		X		X	Smear/18 hr. cul.
Ia.	49,481	X	X			4	X	X		X	
Mo.	51,719	X	X	X		6	X	X	X	X	
N.D.	23,158	X	X	X		20	X	X	X	X	
S.D.	21,016	X	X			8,386	X	X	X		
Nebr.	4,889	X	X	X		15	X	X	X	X	
Kans.	20,060	X	X			25	X	X	X	X	
Del.	604	X	X			-					
Md.	45,214	X		X	Serotyping	45,214		X	X		
D.C.	6,877	X		X	Bacitracin Meth.	-					
Va.	69,469	X	X	X	Biochemicals	99	X	X		X	
W.Va.	29,202	X	X	X		-					
N.C.	810	X	X	X		6*	X	X	X		
S.C.	6,720	X	X	X	Serotyping	1	X	X	X	X	
Ga.	18,535	X	X	X		31	X	X	X	X	
Fla.	12,571	X			Drug Suscept.	12,571	X	X	X	X	

\*Estimated figure.

TABLE 4-2.

I. DIAGNOSTIC BACTERIOLOGY  
(Continued)

## A. Nasopharyngeal Specimens

		1. Strept., Beta Hemolytic, Group A				2. Diphtheria					
		Procedures Used				Procedures Used					
# of Specimens		Culture	FA	Serogrouping	Other	# of Specimens	Direct Smear	Culture	Confirm. Sugars	Toxicogenicity	Other
Ky.	5,311	X	X	X		12	X	X	X	X	
Tenn.	161,481		X			32	X	X	X	X	
Ala.	56,774	X	X			42	X	X		X	
Miss.	51,337	X	X			4		X	X	X	
Ark.	12,627	X	X	X		7	X	X	X		
La.	11,610	X	X	X		15		X			
Okla.	21,200	X	X	X		493	X	X	X	X	
Tex.	9,289	X	X	X		498		X	X	X	Biochem. Analysis
Mont.	4,865	X		X		407	X	X	X	X	Biochem. Analysis
Idaho	15,819	X	X			8		X			FA
Wyo.	172,072	X	X			-					
Colo.	167,854	X	X			125	X	X	X	X	
N.M.	15,255	X	X		Bacitracin Meth.	464	X	X	X	X	
Ariz.	1,129	X	X	X	Serotyping	219	X	X	X	X	
Utah	38,394	X	X	X	Biochemicals	5	X	X	X	X	
Nev.	322	X				-					
Wash.	1,795	X	X			2,353	X	X	X	X	
Ore.	5,473	X	X			28	X	X	X	X	
Calif.	-					13	X	X	X	X	
Alas.	11,565	X	X	X		1,021	X	X	X	X	
Hawaii	62,684	X	X			16	X	X	X	X	
Guam	162	X			Bacitracin Meth.	-					
P.R.	3,595		X			-					
Total	2,115,793					73,569					
Average	42,316					1,635					

TABLE 4-3.

## 3. Pertussis

	# of Specimens	Culture	FA	Other
Me.	9	X		Slide agglutination
Vt.	15*	X	X	
Mass.	7	X	X	Smears
Conn.	3	X	X	
N.Y.	527	X	X	
Ill.	14	X	X	Slide agglutination
Mich.	197	X	X	Slide agglutination
Wisc.	272	X	X	
Iowa	19	X	X	
Mo.	112	X	X	
N.D.	5	X		
Nebr.	8	X		
Kans.	3	X		
Md.	26	X	X	
W.Va.	27	X	X	
N.C.	6*	X		
S.C.	19*	X	X	Biochemical
Ga.	5	X		
Ky.	9	X	X	
Tenn.	194	X	X	Agglutination; biochemical
Miss.	56		X	
Ark.	45	X	X	
La.	222		X	
Okla.	103	X	X	
Mont.	45	X	X	Slide agglutination
Colo.	6	X	X	
Ariz.	12	X		
Wash.	130	X	X	
Ore.	139	X		
Alaska	18		X	
Hawaii	89	X		
Total	2,342			
Average	73			

\*Estimated figure.

TABLE 4-4.

## 4. Other Nasopharyngeal Specimens

	# of Specimens	Disease - Procedures Used
Me.	61	Staph carriers - coagulase (slide + tube)
Vt.	457	Reference cultures: smear, culture, biochemicals, grouping, typing, etc.
R.I.	100	Misc. cultures: smear, culture, biochemicals.
Pa.	816	Reference culture - variety of infections: smear, culture, biochemicals.
Ohio	4,562	Staphylococcus (includes lesion cultures): culture, coagulase, bacteriophage type.
Ill.	2,911	Meningococcus, other pathogens: cultures, biochemicals, serotyping.
Mich.	114	Vincent's angina - slide.
Wisc.	9,025	Staph, misc. cultures, reference cultures - identification, speciation.
Kans.	262	Pharyngitis - smear, culture, biochemicals, serogroupings, serotypings. Vincent's - smear.
D.C.	4,755	(Urine) urinary tract inf. (Cultures) misc. antibiotic susceptibility - culture.
Va.	12,318	Meningitis - serogrouping, biochemical; Pneumococci - typing; H. influenza - serotyping; Staph - phage typing, coagulase.
W.Va.	892	Miscellaneous - routine biomedical
Fla.	4,821	Wound & lesions inf. - aerobic and/or anaerobic cultures, dental caries - culture & counts; urinary tract inf. - culture & counts.
Ala.	45	Staphylococcus - culture coagulate test.
Ark.	1,330	Septicemia - Blood Culture; N. meningitidis - culture & FA; Staph - culture; Anaerobes - cultures; Hosp. infections - cultures
La.	1,197	Neisseria meningitidis - culture; Staphylococcus - culture.

TABLE 4-4 (continued)

## 4. Other Nasopharyngeal Specimens

	# of Specimens	Disease - Procedures Used
Okla.	2,473	Staph. - biochemical; Vincent's angina - smear
Tex.	6,339	Staphylococcus - phage typing
Mont.	407	Hemolytic strep - culture
Utah	35	ID of isolates from throat: cultural including blood plates, biochemical.
Wash.	122	N. meningitidis - culture; Staph aureus - culture.
Ore.	114	Misc. specimens for culture or ident.
Alaska	6	Meningitis - culture
Guam	5	Neisseria meningitidis - CA & TM.
Total	53,167	
Average	2,215	

TABLE 4-5.

## B. Mycobacteria Specimens

	# of Specimens	Procedures Used										
		Direct Smear	Concentrate Smear	Culture	Direct Suscept.	# of Drugs Indirect Suscept.	# of Drugs Biochemicals	# of Biochemicals Species Ident.	Other			
Maine *	3,741		X	X	X	6	X	6	X	9	X	
N.H.	2,343	X	X	X					X	4	X	
Vt.	1,660		X	X	X	6	X	6	X	6	X	
Mass.	--											
R.I.	1,078		X	X			X	7	X	12	X	
Conn.	8,480		X	X			X	12	X	11	X	
N.Y.	10,236		X	X			X	4	X	4	X	Animal Inoc.
N.J.	22,213		X	X	X	9	X	9	X	11	X	
Penn.	14,054	X	X	X	X	10	X	10	X	12	X	Fluorochrome Smear Secondary Drug Suscept.
Ohio	7,821		X	X	X	11	X	11	X	5	X	Animal Inoc.
Ind.	4,816		X	X	X	3	X	3	X	7	X	Secondary Drug Suscept.
Ill.	6,482		X	X			X	7	X	10	X	
Mich.	17,185		X	X			X	3	X	3	X	
Wisc.	7,976	X	X	X			X	5	X	11	X	Secondary Drug Suscept.
Minn.	15,796		X	X			X	3	X	15	X	
Iowa	4,429	X	X	X	X	5	X	5	X	14	X	
Mo.	--											
N.D.	3,913		X	X	X	4	X	4	X	4	X	
S.D.	4,358		X	X	X	5	X	5	X	10	X	
Nebr.	1,480		X	X	X	6	X	6	X	5	X	
Kans.	7,244		X	X	X	6	X	6	X	10	X	
Del.	--											
Md.	23,988	X	X	X	X	10	X	10	X	12	X	
D.C.	3,534	X	X	X			X	7	X	10	X	
Va.	25,001		X	X			X	4	X	10	X	
W. Va.	9,933		X	X	X	5	X	5	X	5	X	
N.C.	15,517		X	X	X	3	X	3	X	10	X	
S.C.	13,733		X	X	X	6	X	6	X	9	X	
Ga.	31,051	X	X	X	X	6	X	6	X	10	X	
Fla.	59,934		X	X			X	7	X	8	X	



TABLE 4-5 (continued)

## B. Mycobacteria Specimens

	# of Specimens	Procedures Used										
		Direct Smear	Concentrate Smear	Culture	Direct Suscept.	# of Drugs Indirect Suscept.	# of Drugs Biochemicals	# of Biochemicals Species Ident.	Other			
Ky.	2,479	X	X	X		9	X	9	X	9	X	Fluorochrome Smear
Tenn.	36,559	X	X	X			X	6	X	2	X	
Ala.	47,748		X	X	X	9	X	9	X	13	X	Animal Inoc. Serological Typing of Atypical Mycobacteria
Miss.	22,663		X	X			X	5	X	6	X	
Ark.	21,966		X	X	X	5	X	5	X	7	X	
La.	41,102	X	X	X	X	8	X	8	X	12	X	
Okla.	8,185		X	X			X	4	X	10	X	
Tex.	42,446		X	X	X	6	X	6	X	6	X	
Mont.	4,077		X	X	X	9	X	9	X	10	X	
Ida.	1,564	X	X	X	X	5	X	5	X	8	X	
Wyo.	371		X	X								
Colo.	1,958		X	X					X	2	X	
N.M.	7,063	X	X	X	X	3	X	3	X	6	X	
Ariz.	8,792	X	X	X	X	4	X	4	X	6	X	
Utah	2,228	X	X	X	X	8	X	8	X	13	X	
Nev.	1,719		X	X								
Wash.	10,267		X	X	X	5	X	5	X	8	X	
Ore.	3,838	X	X	X					X	13	X	
Calif.	2,298		X	X	X	5	X	5	X	10	X	
Alaska	9,929	X	X	X	X	3	X	3	X	4		
Hawaii	8,210	X	X	X	X	4			X	7	X	
Guam	1,815	X		X								
P.R.	--											
Total	615,273											
Average	43,171											

TABLE 4-6.

C. Enteric Specimens

	# of Specimens	Procedures Used						
		Primary Plating	Enrichment Plating	Biochemicals	FA	Serogrouping	Serotyping	Other
Maine	738	X	X	X		X		
N.H.	1,590	X	X	X		X		
Vt.	633	X	X	X		X	X	
Mass.	10,357	X	X	X		X	X	
R.I.	3,146	X	X	X		X		
Conn.	11,643	X	X	X	X	X	X	Sensitivity Testing
N.Y.	3,803	X	X	X	X	X		
N.J.	10,594	X	X	X		X	X	Sensitivity Testing
Penn.	9,691	X	X	X		X	X	Bacteriophage Typing
Ohio	2,232	X	X	X		X	X	
Ind.	2,170	X	X	X		X	X	
Ill.	8,335	X	X	X		X	X	Bacteriophage Typing
Mich.	17,852	X	X	X		X	X	
Wisc.	8,147	X	X	X		X	X	
Minn.	11,640	X	X	X		X	X	Bacteriophage Typing Microscopic Exam
Iowa	2,167	X	X	X	X	X	X	
Mo.	2,424	X	X	X		X	X	
N.D.	2,443	X	X	X		X	X	
S.D.	1,560	X	X	X		X		
Nebr.	649	X	X	X		X		
Kans.	5,453	X	X	X	X	X	X	
Del.	614	X	X	X		X		
Md.	9,369	X	X	X		X	X	
D.C.	2,626	X	X	X		X	X	
Va.	8,573	X	X	X		X	X	
W. Va.	317	X	X	X		X	X	
N.C.	3,316	X	X	X	X	X	X	
S.C.	687	X	X	X		X	X	
Ga.	11,626	X	X	X		X	X	Bacteriophage Typing
Fla.	24,995	X	X	X		X	X	

TABLE 4-6 (continued)

C. Enteric Specimens

	# of Specimens	Procedures Used						Other
		Primary Plating	Enrichment Plating	Biochemicals	FA	Serogrouping	Serotyping	
Ky.	1,449	X	X	X		X	X	
Tenn.	7,250	X	X	X		X	X	
Ala.	4,525	X	X	X		X	X	
Miss.	6,300	X	X	X	X	X	X	
Ark.	3,128	X	X	X		X	X	
La.	13,829	X	X	X			X	
Okla.	1,612	X	X	X		X	X	
Tex.	19,957	X	X	X		X	X	Bacteriophage Typing
Mont.	548	X	X	X		X	X	
Ida.	1,152	X	X	X	X	X	X	
Wyo.	151	X	X	X		X		
Colo.	1,977	X	X	X		X	X	
N.M.	3,123	X	X	X		X	X	
Ariz.	2,240	X	X	X	X	X	X	
Utah	2,801	X	X	X		X	X	
Nev.	545	X	X	X		X		
Wash.	3,049	X	X	X		X	X	
Ore.	1,947	X	X	X	X	X	X	
Calif.	5,376	X	X	X	X	X	X	Sensitivity Testing Bacteriophage Typing
Alaska	2,604	X	X	X	X	X		
Hawaii	8,455	X	X	X		X	X	
Guam	369	X	X	X		X		
P.R.	116	X	X	X		X		Sensitivity Testing
Total	271,893							
Average	5,130							

TABLE 4-7.

## D. Gonococcus Specimens

	# of Specimens	Procedures Used					
		Smear	Culture	Oxidase Reaction	FA	Biochemical	Other
Maine	32,898	X	X	X	X		
N.H.	22,896	X	X	X	X	X	
Vt.	15,317	X	X	X		X	
Mass.	54,071	X	X	X	X	X	
R. I.	34,760	X	X	X	X	X	
Conn.	29,628	X	X	X	X	X	
N.Y.	140,112	X	X	X	X	X	
N.J.	180,397	X	X	X		X	
Penn.	53	X	X	X		X	
Ohio	93,587	X	X	X	X	X	
Ind.	694	X	X	X	X	X	
Ill.	152,139	X	X	X	X	X	
Mich.	165,027	X	X	X		X	
Wisc.	19,158	X	X	X			
Minn.	117,669	X	X	X	X	X	
Iowa	47,970	X	X	X	X	X	
Mo.	31,145	X	X	X	X	X	
N.D.	4,384	X	X	X	X	X	
S.D.	5,900	X	X	X	X	X	
Nebr.	17,078	X	X	X	X	X	
Kans.	38,806	X	X	X	X	X	
Del.	29,162	X	X	X			
Md.	321,467	X	X	X	X		Sensitivity Tests for Test of Cure
D.C.	88,479	X	X	X	X	X	
Va.	88,491	X	X	X	X	X	
W. Va.	41,507	X	X	X	X	X	
N.C.	1,383	X	X	X		X	
S.C.	195,300	X	X	X	X	X	
Ga.	262,113	X	X	X		X	
Fla.	537,775	X	X	X		X	

TABLE 4-7 (continued)

## D. Gonococcus Specimens

	# of Specimens	Procedures Used					
		Smear	Culture	Oxidase Reaction	FA	Biochemical	Other
Ky.	14,624	X	X	X	X	X	Sensitivity Tests for Test of Cure
Tenn.	207,064	X	X	X	X	X	
Ala.	300,251	X	X	X	X	X	Gram Stain of Culture
Miss.	165,206	X	X	X		X	
Ark.	72,289	X	X	X	X	X	
La.	112,303	X	X	X	X	X	
Okla.	80,652	X	X	X	X	X	
Tex.	54,240	X	X	X	X	X	
Mont.	11,030	X	X	X		X	
Ida.	31,004	X	X	X	X	X	
Wyo.	22,830	X	X	X		X	
Colo.	54,919	X	X	X		X	
N.M.	55,980	X	X	X	X	X	
Ariz.	8,343	X	X	X	X	X	
Utah	24,936	X	X	X		X	
Nev.	65,358	X	X	X		X	
Wash.	19,949	X	X	X	X	X	
Ore.	3,043	X	X	X		X	
Calif.	33,557	X	X	X	X	X	
Alaska	49,659	X	X	X	X	X	
Hawaii	128,024	X	X	X	X	X	
Guam	2,440	X	X	X		X	
P.R.	36,522		X	X	X	X	
Total	4,323,589						
Average	81,577						

TABLE 4-8.

## E. Other Bacteriology Specimens

	# of Specimens	Disease - Procedures Used
Me.	737	Anaerobiosis, food poisoning, pneumonia - smear, culture, biochemicals; reference cultures - smear, culture, biochemicals, factors, grouping; meningitis - smear, culture, biochemicals; serogrouping; influenza (bact.) smear, culture, biochemicals, factors, grouping.
N.H.	1,576	Miscellaneous specimens - smear, culture, biochemicals for bacterial identification.
Vt.	144	Miscellaneous - smear, culture, biochemicals.
Mass.	1,246	Bacteremia - culture; bacterial infections - biochemical; meningitis - serogrouping; nosocomial infections - serotyping.
Conn.	12,456	Trichomonas/candida - microscopic; septicemias - blood culture; miscellaneous infections - culture; nosocomial - staph phage; Vincent's - microscopic; leptospirosis - culture.
N.Y.	4,870	Staph - coagulase, phage typing.
Pa.	403	Food poisoning, environmental and body material related to food poisoning - culture, biochemicals.
Ohio	4,061	Mycoplasmosis - culture miscellaneous, antibiotic sensitivity; leptospirosis culture miscellaneous, culture identification (referred).
Ind.	911	Miscellaneous cultures for identification - anaerobic, aerobic.
Ill.	3,642	Food poisoning - culture, biochemicals, phage, animal inoculation, serotyping; leptospirosis - culture; meningitis - culture, biochemicals, serotyping; atypical pneumonia - mycoplasma culture; Vincent's angina - smear; staph outbreaks - phage typing; syphilis - darkfield, stained smear; anaerobic and miscellaneous infections - culture, biochemicals, gas chromatography, animal inoculation.
Mich.	25,966	Bacteremia - blood culture; miscellaneous infections - culture and antibiotic sensitivity; dental caries - saliva culture for lactobacilli; urinary infections - culture and antibiotic sensitivity; staph disease - phage typing.
Wisc.	15	Vincent's - smear.
Minn.	217	Brucella - culture; botulism - culture, toxin test; Vincent's angina - smear; blood, CSF, tissues - aerobic and anaerobic cultures.
Ia.	2,165	Miscellaneous wounds, fluids, reference cultures - direct plating biochemicals, serotyping, serogrouping, FA.
Mo.	982	Miscellaneous reference cultures from a variety of diseases or conditions - microscopic, biochemical, serological tests.
N.D.	10,872	Wounds, urine and miscellaneous specimens.
S.D.	1,686	Wounds, ears, urines, superficial or deep infections - culture, biochemical sensitivities.
Nebr.	1,224	Miscellaneous as appropriate (includes referred specimens).
Kans.	2,940	Staph infections - culture, coagulase, phage typing (23); food bacteria/food poisoning, anaerobic infections, meningitis - culture, enrichment plating, biochemicals, serogrouping, serotyping, plate counts; bacterial pneumonias, blood cultures - smear, culture, biochemicals, mice toxogenicity tests (when necessary); other miscellaneous infections - smear, culture, biochemicals, serogrouping, serotyping, antibiotic sensitivities (when requested).

TABLE 4-8.  
(Continued)

E. Other Bacteriology Specimens

	# of Specimens	Disease - Procedures Used
Del.	892	Pathogens - primary plating, enrichment plating and biochemicals.
Md.	27,029	Genito-urinary, wounds, blood and spinal fluid - cultures.
Va.	4,008	Autopsy and anaerobic specimens - wound, urine, blood and other miscellaneous cultures.
N.C.	2,038	Anaerobes - culture, biochemistry, GLC analysis; reference identification - culture, biochemistry, serotyping.
S.C.	4,806	Sputum, spinal fluid, miscellaneous drug sensitivity, blood culture, urine, vaginal, urethra, skin, ear, eye - biochemical, serological.
Ga.	4,364	Bacteremia - smears; meningitis - cultures; osteomyelitis - biochemical; pulmonary diseases - serologic.
Fla.	3,964	Miscellaneous (septicemias, CNS disease, eye, ear, mouth, etc.) - infectious culture and/or smears.
Ky.	1,817	Anaerobes - smear, biochemicals; staph bacteriophage - gram stain, coagulase, phage typing; miscellaneous cultures - smear, biochemicals, coagulase and serogrouping.
Tenn.	2,981	Identification of any bacterial isolate of probable clinical significance - smear, culture, biochemical, serogrouping, serotyping; Staph. aureus - phage typing.
Ala.	4,123	H. ducreyi - culture; N. meningitidis - culture; pathogenic E. coli - FA; brucella, staph, Koch-Weeks bacilli, Vincent's - culture, smear, biochemical, serotyping, animal inoculation.
Miss.	2,649	Salmonella in water - primary and enrichment plating, biochemical, serogrouping, serotyping, subculture; miscellaneous cultures - primary and enrichment plating, biochemical, subculture; blood cultures - primary and enrichment plating, culture, biochemical; urine cultures - primary and enrichment plating, bacterial sensitivity testing, biochemical, subculture.
La.	5	Vincent's angina - smear.
Okla.	543	Urinary tract infections - culture; meningitis, bacteremia, cultures for identification - culture, serology; selected cases - antibiotic sensitivity.
Ida.	1,895	Anaerobes - culture and gas chromatography; miscellaneous (ear, eye, wounds) - culture; referral - culture; drug susceptibility - culture.
Colo.	423	Reference specimens (various) - culture, microscopic and biochemicals.
N.M.	4,961	Miscellaneous communicable diseases - smear, plating, biochemicals, sensitivity testing, serotyping, FA.
Ariz.	1,158	Anaerobe bacteriology, miscellaneous bacteriology - culture, isolation biopsy identification.
Utah	155	Identification of isolates from miscellaneous sources - cultural procedures as appropriate.
Nev.	391	Miscellaneous (urine, pus) - culture.
Wash.	724	Reference cultures for identification of aerobes and anaerobes - all bacteria culturing medias and procedures as needed to identify and determine antibiotic sensitivity as needed.

TABLE 4-8  
(Continued)

E. Other Bacteriology Specimens

	# of Specimens	Disease - Procedures Used
Ore.	643	Miscellaneous specimens for culture or identification.
Calif.	1,259	Plague - culture, animal inoculation, bacteriophage; miscellaneous aerobic and anaerobic bacteria - culture, FA, serology, GLC, animal inoculation; Aerobic, anaerobic cultures, and relapsing fever - stained smears, animal inoculation.
Hawaii	6,025	Leptospirosis - culture; Staph. - phage typing; antibiotic sensitivity; anaerobic.
Guam	360	Cervical, skin, eye, wound, ear, urine - no procedures listed.
P.R.	10,856	Pyelonephritis, otitis, abcess - ulcers wounds, culture - biochemicals - serology.
<b>Total</b>	<b>164,182</b>	
<b>Average</b>	<b>3,731</b>	



MYCOLOGY

TABLE 4-9.

## II. MYCOLOGY

State	# of Specimens	Procedures Used						
		Micro. Wet Mounts	Microscopic Stains	Culture	FA	Biochemicals	Animal Inoculation	Other
Maine	380	X	X	X		X		
N.H.	101	X	X	X		X		
Vt.	99	X	X	X		X		
Mass.	421	X	X	X		X		
R.I.	40	X	X	X		X		
Conn.	2,147	X	X	X		X		
N.Y.	3,107		X	X	X	X	X	Additional Tests
N.J.	940	X	X	X		X		
Penn.	277	X	X	X		X		
Ohio	1,189	X	X	X		X	X	
Ind.	1,453	X	X	X		X		
Ill.	1,276	X	X	X		X	X	
Mich.	2,651	X	X	X		X	X	
Wisc.	3,363	X		X		X	X	Drug Susceptibility Drug Bioassays
Minn.	4,568	X	X	X		X	X	
Iowa	1,028	X	X	X	X	X	X	
Mo.	272	X	X	X		X	X	
N.D.	338	X	X	X		X		
S.D.	76		X	X				
Nebr.	10	X	X	X		X		
Kans.	644	X	X	X		X	X	
Del.	35	X	X	X		X		
Md.	2,498	X	X	X	X	X		
D.C.	--							
Va.	568	X	X	X		X	X	
W. Va.	409	X	X	X	X	X	X	
N.C.	1,372	X	X	X		X		
S.C.	1,219	X	X	X	X	X	X	Drug Susceptibility Cell Wall Analysis
Ga.	1,631	X	X	X		X	X	
Fla.	3,893	X	X	X		X		

TABLE 4-9 (continued)

## II. MYCOLOGY

	# of Specimens	Procedures Used						Other
		Micro. Wet Mounts	Microscopic Stains	Culture	FA	Biochemicals	Animal Inoculation	
Ky.	249	X	X	X		X	X	Hair Culture
Tenn.	2,252	X	X	X		X	X	
Ala.	3,283	X	X	X		X		
Miss.	1,460	X	X	X		X		
Ark.	1,632	X	X	X		X		
La.	1,460	X	X	X		X	X	
Okla.	495	X	X	X		X	X	
Tex.	1,992	X	X	X	X	X	X	
Mont.	269	X	X	X		X	X	
Ida.	1,063	X	X	X		X		
Wyo.	--							
Colo.	22	X	X	X				
N.M.	583	X	X	X		X	X	
Ariz.	1,512	X	X	X		X	X	
Utah	62	X	X	X		X	X	
Nev.	41	X	X	X				
Wash.	450	X		X		X		
Ore.	329	X	X	X		X	X	
Calif.	630	X		X	X	X	X	
Alaska	352	X	X	X		X		
Hawaii	751	X	X	X		X		
Guam	201	X	X	X				
P.R.	159	X		X		X		
Total	55,252							
Average	1,083							

TABLE 4-10.

## PARASITOLOGY SPECIMENS BY CATEGORY AND SUB-CATEGORY

	TOTAL Parasitology Specimens	Intestinal Specimens	Other Specimens
Me.	143	143	-
N.H.	982	977	5
Vt.	736	726	10
Mass.	27	13	14
R.I.	1,297	1,297	-
Conn.	14,268	14,219	49
N.Y.	1,550	1,450	100
N.J.	3,382	3,361	21
Pa.	522	494	28
Ohio	1,687	1,679	8
Ind.	2,086	2,069	17
Ill.	1,213	1,201	12
Mich.	2,746	2,735	11
Wisc.	5,481	5,440	41
Minn.	11,246	10,996	250
Iowa	1,323	1,292	31
Mo.	998	987	11
N.D.	760	760	-
S.D.	420	420	-
Nebr.	233	218	15
Kans.	6,488	6,477	11
Del.	273	270	3
Md.	11,857	11,847	10
D.C.	1,409	1,409	-
Va.	22,562	22,560	2
W. Va.	2,375	2,375	-
N.C.	5,005	4,980	25
S.C.	21,225	21,225	-
Ga.	35,407	35,384	23
Fla.	74,665	74,643	22
Ky.	4,743	4,743	-
Tenn.	9,729	9,718	11
Ala.	55,976	55,965	11
Miss.	11,378	11,363	15
Ark.	1,803	1,748	55
La.	36,598	36,568	30
Okla.	3,276	2,432	844
Tex.	8,134	8,134	-
Mont.	349	349	-
Ida.	507	409	98
Wyom.	160	160	-
Colo.	1,206	1,206	-
N.M.	559	559	-
Ariz.	591	587	4
Utah	4,125	4,125	-
Nev.	64	64	-
Wash.	2,598	2,550	48
Ore.	719	669	50
Calif.	2,035	1,894	141
Alaska	1,000	1,000	-
Hawaii	3,924	3,924	-
Guam	2,197	2,197	-
P.R.	9,683	9,683	-
Total	393,720	391,694	2,026
Average	7,429	7,390	60

TABLE 4-11

## III. PARASITOLOGY

A. Intestinal Specimens					B. Other Parasitology Specimens						
Procedures Used					Types of Specimens						
# of Specimens	Gross	Direct (incl. Pinworms)	Concentr. Smear	Stained Smear	Other	# of Specimens	Malaria	Trichinosis	Toxoplasmosis	Other Blood Parasites	Other (Disease Entity - Procedures Used)
Me.	143		X	X	X	-					
N.H.	977	X	X	X	X	5	X				
Vt.	726	X	X	X	X	10*					
Mass.	13	X	X	X	X	14	X			X	Arthropods and other parasites - gross exam.
R.I.	1,297	X	X	X	X	-					
Conn.	14,219	X	X	X	X	49	X	X			Giardia entamoeba - (water) direct exam, centrifugation, memb. filtration, misc. materials - gross and direct microscopic.
N.Y.	1,450	X	X	X	X	100	X	X	X		Ectoparasites - gross exam; leishmaniasis - tissue sections, impression smears.
N.J.	3,361		X	X	X	21	X				
Pa.	494	X	X	X	X	28	X	X			Insect ident. - direct exam; giardiasis - (water) concentrate; anisakiasis - direct exam (fish).
Ohio	1,679	X	X	X	X	8	X	X			
Ind.	2,069	X	X	X	X	17	X				Arthropods, helminths - gross exam; parasites - (sputum) direct and conc. mount; schistosomiasis - (urine) direct and conc. mount.
Ill.	1,201	X	X	X	X	12	X			X	
Mich.	2,735	X	X	X	X	11	X				
Wisc.	5,440	X	X	X	X	41					Misc. identification - insects, etc.
Minn.	10,996	X	X	X		250					Blood and tissue parasites - stained smear; worms and insects - gross and microscopic. Non-medical parasites - gross.
Ia.	1,292	X	X	X	X	31					
Mo.	987	X	X	X	X	11	X	X			
N.D.	760	X	X	X	X	-					
S.D.	420	X	X			-					
Nebr.	218	X	X	X	X	15	X				
Kans.	6,477	X	X	X	X	11	X				Pediculosis - direct microscopic exam.
Del.	270		X			3	X				
Md.	11,847	X	X	X	X	10	X				
D.C.	1,409		X	X	X	-					
Va.	22,560	X	X	X	X	2	X				
W.Va.	2,375	X	X	X	X	-					
N.C.	4,980	X	X	X		25	X				Borrelia - stained smear; diptera larvae - gross.
S.C.	21,225	X	X	X	X	-					
Ga.	35,384	X	X	X	X	23	X				Filariasis - thick - thin film.
Fla.	74,643	X	X	X	X	22	X				

TABLE 4-11 (continued)

## III. PARASITOLOGY

A. Intestinal Specimens					B. Other Parasitology Specimens						
Procedures Used					Types of Specimens						
# of Specimens	Gross	Direct (incl. Pinworms)	Concentr. Smear	Stained Smear	Other	# of Specimens	Malaria	Trichinosis	Toxoplasmosis	Other Blood Parasites	Other (Disease Entity - Procedures Used)
Ky.	4,743	X	X	X	X	-					
Tenn.	9,718		X	X		11	X				Arthropod-borne diseases - taxonomic classification of vector.
Ala.	55,965	X	X	X	X	11	X				
Miss.	11,363		X	X	X	15	X				
Ark.	1,748	X	X	X	X	55	X				RMSF - tick hemolymph test (FA); lice - microscopic, macroscopic.
La.	36,568	X	X	X	X	30	X			X	
Okla.	2,432	X	X	X	X	844	X				Arthropods - direct exam for ident.
Tex.	8,134	X	X	X	X	-					
Mont.	349	X	X	X	X	-					
Ida.	409		X	X	X	98	X			X	Ectoparasites - external observation.
Wyo.	160		X	X	X	-					
Colo.	1,206	X		X	X	-					
N.M.	559	X	X	X	X	-					
Ariz.	587		X	X	X	4	X				
Utah	4,125	X	X	X	X	-					
Nev.	64	X	X	X		-					
Wash.	2,550	X	X	X	X	48					Ticks and other arthropods - direct exam.
Ore.	669	X	X	X	X	50*	X	X			
Calif.	1,894	X	X	X	X	141	X		X		Tissue parasites - animal inoc., culture
Alas.	1,000	X	X	X	X	-					
Hawaii	3,924	X	X	X	X	-					
Guam	2,197		X			-					
P.R.	9,683		X	X		-					
Total	391,694					2,026					
Average	7,390					60					

\*Estimated  
Figure.

TABLE 4-12.

## VIROLOGY SPECIMENS BY CATEGORY AND SUB-CATEGORY

	TOTAL Virology Specimens	Rabies Specimens	Viral Isolations
Me.	665	302	363
N.H.	255	255	-
Vt.	206	162	44
Mass.	5,379	650	4,729
R.I.	137	137	-
Conn.	10,854	664	10,190
N.Y.	12,189	2,837	9,352
N.J.	15,868	2,692	13,176
Pa.	1,222	316	906
Ohio	11,587	3,344	8,243
Ind.	3,579	2,791	788
Ill.	5,117	2,952	2,165
Mich.	2,942	1,171	1,771
Wisc.	6,027	2,342	3,685
Minn.	7,682	1,335	6,347
Iowa	2,894	737	2,157
Mo.	2,040	1,477	563
N.D.	501	501	-
S.D.	90	90	-
Nebr.	682	682	-
Kans.	2,481	1,787	694
Del.	303	303	-
Md.	3,570	1,307	2,263
D.C.	449	46	403
Va.	1,613	1,125	488
W.Va.	754	538	216
N.C.	2,369	1,373	996
S.C.	1,347	803	544
Ga.	3,664	2,005	1,659
Fla.	4,978	3,398	1,580
Ky.	2,065	1,613	452
Tenn.	2,917	2,130	787
Ala.	1,619	935	684
Miss.	673	673	-
Ark.	1,855	1,855	-
La.	5,161	5,151	10
Okla.	3,122	2,000	1,122
Tex.	11,946	8,716	3,230
Mont.	497	-	497
Ida.	376	172	204
Wyo.	293	293	-
Colo.	679	679	-
N.M.	1,493	1,478	15
Ariz.	2,634	1,553	1,081
Utah	1,250	172	1,078
Nev.	-	-	-
Wash.	772	344	428
Ore.	2,340	350	1,990
Cal.	6,924	1,059	5,865
Alaska	1,205	275	930
Hawaii	1,076	6	1,070
Guam	23	23	-
P.R.	192	192	-
Total	160,556	67,791	92,765
Average	3,088	1,330	2,319

TABLE 4-13.

## IV. VIROLOGY

## A. Rabies Specimens

	# of Specimens	Procedures Used			
		Stained Smear	FRA	Animal Inoculation	Other
Maine	302		X	X	
N.H.	255	X	X	X	
Vt.	162		X	X	
Mass.	650	X	X	X	
R.I.	137	X	X	X	
Conn.	664		X	X	
N.Y.	2,837		X	X	Tissue Culture Fluorescent Antibody Titer
N.J.	2,692		X	X	
Penn.	316		X	X	
Ohio	3,344	X	X	X	
Ind.	2,791	X	X		
Ill.	2,952		X		
Mich.	1,171		X	X	
Wisc.	2,342		X	X	
Minn.	1,335		X	X	
Iowa	737		X	X	
Mo.	1,477	X	X	X	
N.D.	501	X			
S.D.	90	X	X	X	
Nebr.	682		X		
Kans.	1,787		X	X	
Del.	303	X	X		
Md.	1,307	X	X	X	Fluorescent Antibody Titer
D.C.	46		X		
Va.	1,125	X	X	X	
W. Va.	538	X	X	X	
N.C.	1,373		X	X	
S.C.	803		X	X	
Ga.	2,005		X	X	
Fla.	3,398	X	X		



TABLE 4-13 (continued)

## IV. VIROLOGY

## A. Rabies Specimens

	# of Specimens	Procedures Used			
		Stained Smear	FRA	Animal Inoculation	Other
Ky.	1,613	X	X	X	
Tenn.	2,130	X	X	X	
Ala.	935	X	X	X	
Miss.	673	X	X		
Ark.	1,855	X	X		Rabies Titer
La.	5,151	X	X	X	
Okla.	2,000		X	X	
Tex.	8,716		X	X	
Mont.	--				
Ida.	172		X		
Wyo.	293		X		
Colo.	679		X	X	
N.M.	1,478		X	X	
Ariz.	1,553		X		
Utah	172	X	X	X	
Nev.	--				
Wash.	344		X	X	
Ore.	350	X	X		
Calif.	1,059		X	X	
Alaska	275		X	X	
Hawaii	6	X	X		
Guam	23		X		
P.R.	192		X	X	
Total	67,791				
Average	1,330				

TABLE 4-14.

## B. Viral Isolation Specimens\*

	# of Specimens	Types of Specimens						Procedures Used								Other		
		Enteric	Arbovirus Human Origin	Arbovirus Non-Human Origin	Respiratory	Exanthem	Other	Tissue Culture Hosts	Eggs	Animal Hosts	HI/HA	CF	Neutralization Tests	FA-Original Spec.	FA-Other		HA/I/HAD	
Me.	363	X	X		X	X		X	X									
Vt.	44	X	X	X	X		General.	X	X			X						
Mass.	4,729	X	X	X	X		Urine, plural fluid, autopsy tissue.	X	X	X	X	X						Interference; plaque formation, reduction.
Conn.	10,190	X	X		X	X	Urine.	X	X	X	X	X				X		
N.Y.	9,352	X	X	X	X			X	X	X	X	X				X		
N.J.	13,176	X	X	X	X			X	X	X	X	X				X	X	Interference.
Pa.	906	X	X	X	X		Urine, referred tissue cultures.	X	X	X	X	X				X	X	
Ohio	8,243	X	X		X	X		X	X	X	X	X	X	X	X			
Ind.	788	X	X		X	X		X			X	X						
Ill.	2,165	X	X	X	X		Bird pools.	X		X	X	X						
Mich.	1,771	X	X		X		Autopsy, blood, preferred viral isolates.	X	X	X	X	X						
Wisc.	3,685	X	X		X		Autopsy, biopsy.	X	X	X	X	X	X	X	X	X	X	
Minn.	6,347	X	X		X		Autopsy, biopsy.	X	X	X	X	X				X		
Iowa	2,157	X			X		Blood, SF, tissue.	X	X	X	X	X						
Mo.	563	X	X	X	X		Autopsy.	X	X	X	X	X						
Kans.	694	X	X	X	X	X	Urine, autopsy material.	X	X	X	X	X						
Md.	2,263	X	X		X		Environmental water & sludge.	X	X	X	X	X	X					
D.C.	403	X			X			X	X		X	X						Light microscopy.
Va.	488	X	X		X		Human tissue	X	X	X	X	X	X				X	
W.Va.	216	X	X		X			X	X	X	X	X					X	
N.C.	996	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	
S.C.	544	X	X	X	X		Tissue, urine, body fluids, blood clots.	X	X	X	X	X					X	
Ga.	1,659	X	X	X	X	X		X	X	X	X	X						IEM, Passive HI.
Fla.	1,580	X	X	X	X	X	Skin scrapings.	X	X	X	X	X	X					
Ky.	452	X	X		X	X	Autopsy material.	X	X		X	X					X	
Tenn.	787	X	X		X			X	X	X	X	X						
Ala.	684	X	X	X	X	X	Body tissue.	X	X	X	X	X				X	X	
La.	**10	X	X	X	X			X	X	X	X	X						
Okla.	1,122	X	X		X		Urine, lesions.	X	X	X	X	X					X	
Tex.	3,230	X	X	X	X			X	X	X	X	X						
Mont.	497	X	X		X	X	Tissue, urine	X	X		X	X						
Ida.	204	X	X		X			X	X		X							
N.M.	15				X			X										
Ariz.	1,081	X	X		X		Misc. sources	X	X			X						
Utah	1,078	X	X		X		Exudates, blood, urine, lesions.	X	X	X	X	X				X		

TABLE 4-14 (continued)

B. Viral Isolation Specimens

	# of Specimens	Types of Specimens						Procedures Used									
		Enteric	Arbovirus Human Origin	Arbovirus Non-Human Origin	Respiratory	Exanthem	Other	Tissue Culture Hosts	Eggs	Animal Hosts	HI/HA	CF	Neutralization Tests	FA-Original Spec.	FA-Other	HAdI/HAd	Other
Wash.	428	X	X	X	X		Birds for Chlamydia	X	X	X	X		X				
Ore.	1,990	X	X		X		Tissue - autopsy, biopsy, swabs & washings	X	X		X	X	X				X
Cal.	5,865	X	X	X	X		Birds, insects, ticks, virus isolates, body tissues & fluids.	X	X	X	X		X	X	X		Electron microscopy.
Alaska	930	X	X		X		Cervical, urethral.	X		X	X		X	X	X		
Hawaii	1,070	X	X		X	X	Animals	X	X		X		X		X		
Total	92,765																
Average	2,319																

\*See pages 86-87 for Viral Serology Workload.  
 \*\*Services transferred to Charity Hospital, New Orleans, La. in 1975.

TABLE 4-15.

## IMMUNOLOGY SPECIMENS BY CATEGORY AND SUB-CATEGORY

	TOTAL Immunology Specimens	Syphilis Serology	Bacterial Serology	Fungal Serology	Parasitological Serology	Viral Rickettsial Serology	Other
Me.	37,817	21,776	16	653	1,981	12,943	448
N.H.	39,820	39,820	-	-	-	-	-
Vt.	52,093	34,637	314	173	62	16,907	-
Mass.	229,602	221,953	89	-	1,037	6,523	-
R.I.	108,584	61,586	22,823	-	-	24,175	-
Conn.	122,681	101,157	524	-	2,704	18,149	147
N.Y.	186,734	122,701	1,539	10,391	679	47,192	4,232
N.J.	349,489	229,651	296	-	1,501	118,041	-
Pa.	10,934	4,683	21	-	40	6,190	-
Ohio	115,443	96,142	365	4,815	2,543	11,578	-
Ind.	85,505	77,139	1,031	2,059	509	4,767	-
Ill.	142,613	111,109	682	16,190	1,638	12,994	-
Mich.	362,102	311,173	609	6,000	1,563	42,757	-
Wisc.	186,713	146,713	1,338	2,007	2,767	25,337	8,551
Minn.	318,534	240,258	9,924	14,877	1,580	51,895	-
Iowa	228,332	164,769	6,291	1,614	1,939	52,767	952
Mo.	101,360	65,193	558	13,977	1,045	20,587	-
N.D.	78,190	55,768	1,915	-	-	20,507	-
S.D.	50,213	33,743	1,532	-	-	14,938	-
Nebr.	64,600	60,996	2,158	-	-	1,446	-
Kans.	127,485	106,809	269	1,485	-	18,922	-
Del.	36,750	34,759	-	-	-	1,991	-
Md.	351,056	241,274	12,874	2,278	8,293	72,925	13,412
D.C.	183,490	181,054	2	-	2	2,432	-
Va.	222,500	197,073	12,761	1,932	1,477	9,257	-
W.Va.	51,220	47,340	31	138	196	3,515	-
N.C.	376,831	306,865	1,587	2,184	2,419	63,054	722
S.C.	262,530	219,697	452	1,121	910	40,350	-
Ga.	506,360	490,836	847	2,256	4,897	7,524	-
Fla.	636,563	609,543	1,460	-	966	24,594	-
Ky.	157,517	136,852	136	3,534	1,061	15,934	-
Tenn.	357,826	320,625	652	5,610	-	30,939	-
Ala.	499,473	467,212	92	2,209	1,401	28,559	-
Miss.	267,796	259,056	1,462	2,215	-	5,063	-
Ark.	135,047	128,198	662	3,116	395	2,676	-
La.	247,621	195,976	323	6,207	470	44,645	-
Okla.	144,623	139,054	1,342	1,190	-	2,997	-
Tex.	969,842	918,792	3,660	9,014	2,410	35,966	-
Mont.	56,459	32,498	305	-	-	23,656	-
Ida.	27,355	22,413	73	-	530	4,339	-
Wyo.	22,831	14,578	182	-	-	8,071	-
Colo.	218,253	165,010	144	-	-	53,099	-
N.M.	78,553	68,296	696	-	-	9,561	-
Ariz.	67,896	47,056	45	12,677	1,418	6,700	-
Utah	74,213	60,271	849	-	2,210	10,883	-
Nev.	43,139	42,765	54	-	-	320	-
Wash.	58,895	38,063	157	-	-	20,675	-
Ore.	234,050	98,710	542	600	85,732	48,466	-
Cal.	63,424	23,698	913	22,712	3,001	13,100	-
Alaska	87,097	77,326	24	-	-	9,747	-
Hawaii	42,623	36,919	489	-	-	5,215	-
Guam	2,515	2,515	-	-	-	-	-
P. R.	114,746	112,868	1,567	19	-	292	-
Total	9,597,898	8,044,968	96,677	153,253	139,376	1,135,160	28,464
Average	181,092	151,792	1,934	5,108	4,224	22,258	4,066

TABLE 4-16.

## V. IMMUNOLOGY

## A. Syphilis Serology Specimens

	# of Specimens	Procedures Used									
		VDRL	RPR	ART	FTA-ABS	DEATP	FTA-ABS (IGM)	AFTA-ABS	MHA-TP	DARKFIELD	Other
Me.	21,776	X			X						
N.H.	39,820	X	X	X	X				X		
Vt.	34,637	X	X	X	X				X		
Mass.	221,953	X	X				X				
R.I.	61,586	X			X						
Conn.	101,157	X	X	X	X	X			X		
N.Y.	122,701	X	X	X	X		X	X		CF - Spinal fluid	
N.J.	229,651	X			X						
Pa.	4,683	X	X		X						
Ohio	96,142	X			X						
Ind.	77,139	X		X	X						
Ill.	111,109	X	X		X						
Mich.	311,173	X			X			X	X		
Wisc.	146,713	X			X		X	X	X		
Minn.	240,258	X			X				X		
Iowa	164,769	X			X	X	X		X		
Mo.	65,193	X	X		X			X	X		
N.D.	55,768	X			X				X		
S.D.	33,743	X			X						
Nebr.	60,996	X	X		X	X					
Kans.	106,809	X			X						
Del.	34,759	X	X		X				X		
Md.	241,274		X		X				X		
D.C.	181,054	X			X			X		USR	
Va.	197,073	X	X		X				X		
W.Va.	47,340	X	X	X	X						
N.C.	306,865	X			X	X					
S.C.	219,697	X	X		X		X				
Ga.	490,836	X			X						
Fla.	609,543	X	X		X	X					

TABLE 4-16 (continued)

## V. IMMUNOLOGY

## A. Syphilis Serology Specimens

	# of Specimens	Procedures Used									
		VDRL	RPR	ART	FTA-ABS	DFATP	FTA-ABS (Igm)	AFTA-ABS	MHA-TP	DARKFIELD	Other
Ky.	136,852	X	X		X					X	Total Protein
Tenn.	320,625	X	X		X						
Ala.	167,212	X	X		X			X	X		
Miss.	259,056	X	X	X	X						
Ark.	128,198	X			X			X			
La.	195,976	X			X						
Okla.	139,054	X			X						
Tex.	918,792	X	X		X				X		
Mont.	32,498	X			X						
Ida.	22,413	X			X				X		
Wyo.	14,578	X	X		X	X					
Colo.	165,010	X			X						
N.M.	68,296	X	X		X						
Ariz.	47,056	X	X		X						
Utah	60,271	X	X		X			X			
Nev.	42,765	X	X		X				X		
Wash.	38,063	X	X		X			X	X		
Ore.	98,710	X		X	X				X		
Cal.	23,698	X			X	X		X			
Alaska	77,326	X	X		X				X		
Hawaii	36,919	X	X		X				X	Gum Mastic	
Guam	2,515	X			X				X		
P.R.	112,868	X			X						
<b>Total</b>	<b>8,044,968</b>										
<b>Average</b>	<b>151,792</b>										

TABLE 4-17

B. Bacterial Serology Specimens						C. Fungal Serology Specimens								
# of Specimens	Types of Specimens					Other	# of Specimens	Types of Specimens					Other	
	Brucellosis	Tularemia	Strept. Antibodies	Leptospirosis	Salmonella			Blastomycosis	Coccidioidomycosis	Histoplasmosis	Cryptococcus	Aspergillus		Candidiasis
Me.	16	X					653	X	X	X	X	X		
Vt.	314	X	X				173	X	X	X				
Mass.	89	X					-							
R.I.	22,823	X		X	X		-							
Conn.	524	X	X	X	X		-							
N.Y.	1,539	X	X	X	X	Proteus	10,391	X	X	X	X	X	X	Sporotrichosis, Farmer's Lung, Bird Fancier's Disease, Pigeon Fancier's Disease, Actinomycosis, Nocardiosis, Phycomycosis, Mucor, Rhizopus, C. parapsilosis, Dermatophytic Actinosis.
N.J.	296	X	X		X		-							
Pa.	21	X					-							
Ohio	365	X	X		X		4,815	X	X	X				
Ind.	1,031	X	X		X		2,059	X	X	X	X			
Ill.	682	X	X				16,190	X	X	X				
Mich.	609	X	X	X	X	Pertussis	6,000	X	X	X				
Wisc.	1,338	X	X	X	X		2,007	X	X	X	X			
Minn.	9,924	X	X	X	X		14,877	X	X	X				
Ia.	6,291	X	X	X	X		1,614	X	X	X				
Mo.	558	X	X				13,977	X	X	X				
N.D.	1,915	X			X		-							
S.D.	1,532	X	X	X	X		-							
Nebr.	2,158	X	X		X		-							
Kans.	269	X	X		X		1,485	X	X	X				
Md.	12,874	X	X	X	X	Diphtheria, Influenza, Listeria, Pasteurella, Pertussis, Tetanus.	2,278	X	X	X	X	X	X	
D.C.	2	X					-							
Va.	12,761	X	X	X	X		1,932	X	X	X				
W.Va.	31			X			138	X	X	X				
N.C.	1,587	X	X	X	X		2,184	X	X	X				
S.C.	452	X	X	X	X		1,121	X	X	X	X	X	X	
Ga.	847	X	X		X		2,256	X	X	X				
Fla.	1,460	X			X		-							
Ky.	136	X	X		X		3,534	X	X	X				
Tenn.	652	X	X				5,610	X	X	X				
Ala.	92	X	X				2,209	X	X	X		X		
Miss.	1,462	X	X	X			2,215	X	X	X				

TABLE 4-17 (continued)

B. Bacterial Serology Specimens						C. Fungal Serology Specimens								
Types of Specimens						Types of Specimens								
# of Specimens	Brucellosis	Tularemia	Strept. Antibodies	Leptospirosis	Salmonella	Other	# of Specimens	Blastomycosis	Coccidioidomycosis	Histoplasmosis	Cryptococcus	Aspergillus	Candidiasis	Other
Ark.	662	X	X	X	X		3,116	X	X	X	X			
La.	323	X	X	X	X		6,207	X	X	X	X			
Oklā.	1,342	X	X	X	X		1,190	X	X	X	X	X		
Tex.	3,660	X	X	X	X		9,014	X	X	X				
Mont.	305	X	X				-							
Ida.	73	X	X				-							
Wyo.	182	X	X				-							
Colo.	144	X	X				-							
N.M.	696	X	X	X	X	X	-							
Ariz.	45	X	X				12,677	X	X	X				
Utah	849	X	X	X			-							
Nev.	54	X	X		X		-							
Wash.	157	X	X	X			-							
Ore.	542	X	X	X	X		600	X	X	X				
Calif.	913	X	X	X	X	Yersinia	22,712	X	X	X	X			
Alaska	24	X	X	X			-							
Hawaii	489	X	X	X	X		-							
P.R.	1,567	X	X				19		X					
Total	96,677						153,253							
Average	1,934						5,108							



TABLE 4-18

D. Parasitological Serol. Specimens					E. Viral and Rickettsial Serology Specimens																
Types of Specimens					Procedures Used																
# of Specimens	Trichinosis	Toxoplasmosis	Ambiasis	Echinococcus	Trypanosomiasis	# of Specimens	CF	HI	HdI	Immunodiffusion (Agar Gel)	Neut. (Tissue Cul.)	Neut. Rabies	FA	Radioimmunoassay	Passive Hemagglutination	Reverse Passive Hemagglutination	OX-Cell Hemolysin	Slide Agglutination	Heterophile Tests	Other	
Me.	1,981	X	X			12,943	X	X												X	Guinea Pig Titer, Monospot
Vt.	62	X	X			16,907	X	X												X	Rick. Agglutination
Mass.	1,037		X			6,523	X	X	X	X	X										Plaque Reduction
R.I.	-					24,175	X	X												X	
Conn.	2,704	X	X			18,149	X	X	X	X	X				X		X	X			
N.Y.	679	X				47,192	X	X			X		X	X	X		X				Mono. Test, HbG Ag Conf.,
N.J.	1,501	X	X			118,041	X	X		X	X		X	X	X		X				Inhibition
Pa.	40		X			6,190	X	X	X		X	X			X						Neut. - Animal
Ohio	2,543		X			11,578	X	X	X											X	
Ind.	509	X	X			4,767	X	X		X											
Ill.	1,638		X			12,994	X	X		X					X						Diagluto I.M. Kit - Mono.
Mich.	1,563	X	X			42,757	X	X	X		X		X		X		X	X			
Wisc.	2,767	X	X			25,337	X	X	X		X	X	X	X	X		X	X			
Minn.	1,580		X			51,895	X	X	X	X	X		X	X			X	X			
Ia.	1,939	X				52,767	X	X		X			X		X						Davidson Differential
Mo.	1,045		X			20,587	X	X	X		X		X				X				Microtiter.
N.D.	-					20,507	X	X													Capillary Agglutination
S.D.	-					14,938		X													Test.
Nebr.	-					1,446		X							X				X		Screen-Slide Test.
Kans.	-					18,922	X	X		X			X								Rapid Plate.
Del.	-					1,991		X													
Md.	8,293	X	X	X	X	72,925	X	X		X	X	X	X	X	X		X				
D.C.	2		X			2,432	X	X	X		X										
Va.	1,477	X	X			9,257	X	X	X		X		X						X		
W.Va.	196		X			3,515	X	X												X	
N.C.	2,419		X			63,054	X	X	X		X		X	X							
S.C.	910		X	X		40,350	X	X	X	X			X							X	Gimenez Stain.
Ga.	4,897		X			7,524	X	X	X		X				X					X	
Fla.	966		X			24,594	X	X	X		X										CEP-(HBS).
Ky.	1,061		X			15,934	X	X												X	
Tenn.	-					30,939	X	X			X										
Ala.	1,401		X	X		28,559	X	X			X										
Miss.	-					5,063	X	X													Weil Felix
Ark.	395		X			2,676	X	X					X	X					X	X	
La.	470	X	X			44,645	X	X													
Okla.	-					2,997	X	X		X	X	X	X						X	X	
Tex.	2,410		X			35,966	X	X			X		X								
Mont.	-					23,656			X											X	
Ida.	530		X			4,339	X	X													
Wyo.	-					8,071	X	X													Mono. Spot Test
Colo.	-					53,099	X	X	X											X	
N.M.	-					9,561	X	X					X		X						
Ariz.	1,418		X			6,700	X	X													
Utah	2,210		X			10,883	X	X	X		X	X	X		X						Cold Agglutinins
Nev.	-					320	X														

TABLE 4-18 (continued)

D. Parasitological Serol. Specimens					E. Viral and Rickettsial Serology Specimens																
Types of Specimens					Procedures Used																
# of Specimens	Trichinosis	Toxoplasmosis	Amiasis	Echinococcus	Trypanosomiasis	# of Specimens	CF	HI	HAdI	Immunodiffusion (Agar Gel)	Neut. (Tissue Cul.)	Neut. Rabies	FA	Radioimmunoassay	Passive Hemagglutination	Reverse Passive Hemagglutination	OX-Cell Hemolysin	Slide Agglutination	Heterophile Tests	Other	
Wash.	-					20,675	X	X	X												
Ore.	88,732	X	X			48,466	X	X	X		X	X	X								
Calif.	3,001	X	X			13,100	X	X	X	X	X	X	X	X	X		X		X		
Alaska	-					9,747		X	X												
Hawaii	-					5,215	X	X	X		X		X				X				
P.R.	-					292		X													Mono. Test
Total	139,376					1,135,160															
Average	4,224					22,258															

TABLE 4-19.

## F. Other Serology Specimens

	# of Specimens	Disease Entity - Procedures Used
Me. Conn.	448 147	Hepatitis B (RPHA) Strep. Antibody (ASO, AMT); GC (IFA)
N.Y.	4,232	Anti-Nuclear Antibody (FA/CF); Rheumatoid Factor (Latex Factor)
Wisc.	8,551	Serum Protein Quant. (RID, RIA); ANA (FA); Misc. (CRP, Cold Agglut., Thyroid Antibody); Rheumatoid Factor (IA)
Ia.	952	C-Reactive Protein; Strep.-Anti-DNAse; Rheumatoid Arthritis
Md.	13,412	Autoimmune Disease (IFA); Immunoglobulins (RID); Complement levels (CF); Agar Gel.
N.C.	722	Hepatitis (HAA, RIA)
Total	28,464	
Average	4,066	

TABLE 4-20

## HEMATOLOGY SPECIMENS BY CATEGORY AND SUB-CATEGORY

	TOTAL Hematology Specimens	Hematology Specimens	Immunoematology Specimens	Hemoglobinopathy Specimens
Me.	2,906	-	2,906	-
N.H.	4,885	4,885	-	-
Vt.	-	-	-	-
Mass.	-	-	-	-
R. I.	3,469	2,871	-	598
Conn.	16,645	4,010	12	12,623
N.Y.	7,606	140	1,583	5,883
N.J.	129	129	-	-
Pa.	356	247	109	-
Ohio	5,324	-	264	5,060
Ind.	-	-	-	-
Ill.	3,735	-	5	3,730
Mich.	25,111	17,407	7,704	-
Wisc.	27,146	1,794	24,642	710
Minn.	-	-	-	-
Iowa	-	-	-	-
Mo.	6,407	-	-	6,407
N.D.	21,780	-	21,780	-
S.D.	5,609	-	5,609	-
Nebr.	-	-	-	-
Kans.	-	-	-	-
Del.	5,332	2,377	-	2,955
Md.	99,787	51,571	20,416	27,800
D.C.	37,275	31,064	5,340	871
Va.	39,003	-	7,795	31,208
W. Va.	711	281	-	430
N.C.	50,634	2,654	-	47,980
S.C.	74,142	45,321	8,731	20,090
Ga.	59,908	-	10,956	48,952
Fla.	164,216	67,263	19,388	77,565
Ky.	17,523	3,495	7,765	6,263
Tenn.	13,748	-	11,579	2,169
Ala.	69,868	-	10,020	59,848
Miss.	171,092	98,218	17,780	55,094
Ark.	40,202	20,213	6,711	13,278
La.	39,565	-	-	39,565
Okla.	9,476	85	3,868	5,523
Tex.	210,169	104,214	-	105,955
Mont.	-	-	-	-
Ida.	3,830	3,830	-	-
Wyo.	-	-	-	-
Colo.	17,296	-	17,296	-
N.M.	3,609	-	1,539	2,070
Ariz.	8,157	-	-	8,157
Utah	-	-	-	-
Nev.	5,133	3,921	651	561
Wash.	8,463	2,450	-	6,013
Ore.	-	-	-	-
Cal.	144	144	-	-
Alaska	12,156	-	12,156	-
Hawaii	1,447	-	1,447	-
Guam	8,814	8,315	499	-
P. R.	46,634	36,884	9,312	438
Total	1,349,442	513,783	237,863	597,796
Average	32,130	19,761	8,202	20,614

TABLE 4-21

## VI. HEMATOLOGY

A. Hematology Specimens					B. Immunohematology Specimens				
# of Specimens	Hematocrit	Hemoglobin	Cell Counts	Other	# of Specimens	Blood Grouping		Other	
						Blood Typing			
Me.	-				2,906	X	X	Du	
N.H.	4,885	X	X	X	-				
R.I.	2,871	X	X		-				
Conn.	4,010	X	X	X	12	X	X	Du, indirect coombs	
N.Y.	140	X	X	X	1,583	X	X	Factors, Rh antibody, other antibody	
N.J.	129	X	X	X	-				
Pa.	247	X	X	X	109	X	X	Indirect coombs, reverse Rh & ABO typing	
Ohio	-				264	X	X		
Ill.	-				5			Rh antibodies	
Mich.	17,407	X	X	X	7,704	X	X		
Wisc.	1,794	X	X	X	24,642	X	X	Paternity exclusion	
N.D.	-				21,780	X	X	Rh Anti CD	
S.D.	-				5,609	X			
Del.	2,377	X	X	X	-				
Md.	51,571	X	X	X	20,416	X	X	Rh antibodies: identifications & titers	
D.C.	31,064	X	X	X	5,340	X		Blood factors, Rh antibody	
Va.	-				7,795	X	X	Antibody detection	
W.Va.	281	X	X	X	-				
N.C.	2,654	X	X	X	-				
S.C.	45,321	X	X	X	8,731	X	X	Indirect coombs, cross match	
Ga.	-				10,956			Antibody detection	
Fla.	67,263	X	X		19,388	X		Du, indirect coombs	
Ky.	3,495	X	X	X	7,765	X		Antibody identi- fication	

TABLE 4-21 (continued)

## VI. HEMATOLOGY

A. Hematology Specimens				B. Immunohematology Specimens				
# of Specimens	Hematocrit	Hemoglobin	Cell Counts	Other	# of Specimens	Blood Grouping	Blood Typing	Other
Ala.	-				10,020			Rh antibody
Miss.	98,218	X	X	X	17,780	X	X	Indirect coombs
Ark.	20,213	X	X	X	6,711	X	X	Indirect coombs, antibody titer
Okla.	85		X		3,868	X	X	
Tex.	104,214		X		-			
Ida.	3,830	X	X		-			
Colo.	-				17,296		X	Rh (D) typing
N.M.	-				1,539	X	X	Rh antibodies
Nev.	3,921	X	X	X	651	X	X	Blood cell differential count
Wash.	2,450	X			-			
Calif.	144	X	X	X	-			Blood cell differential count
Alaska	-				12,156	X	X	Du
Hawaii	-				1,447	X	X	
Guam	8,315	X	X	X	499	X	X	Retic. count, Indices, bleeding & clotting time, sed. rate
P.R.	36,884	X	X	X	9,312	X	X	Pro. time, L.E. prep., bleeding & clotting time, sed. rate
Total	513,783				237,863			
Average	19,761				8,202			

TABLE 4-22

## C. Hemoglobinopathy Specimens

	# of Specimens	Procedures Used						
		Hemoglobin Cellulose Acetate Electro.	Citrate Agar Electrophoresis	Solubility Testing	Fetal Hemoglobin Assay	Hemoglobin A <sub>2</sub> Quantitation	Densitometry	Other
R. I.	598	X		X				
Conn.	12,623	X	X	X		X		Serum Iron Assay
N. Y.	5,883	X	X	X	X	X	X	Globin Chain Electrophoresis Fluorescent Anti F.
Ohio	5,060	X	X	X				
Ill.	3,730	X	X	X	X	X		
Wisc.	710	X		X				
Mo.	6,407	X		X			X	
Del.	2,955	X					X	
Md.	27,800	X	X	X	X	X	X	
D. C.	871	X	X	X		X		
Va.	31,208	X		X			X	
W. Va.	430	X	X	X		X	X	
N. C.	47,980	X	X	X	X		X	
S. C.	20,090	X	X	X				
Ga.	48,952	X	X	X				
Fla.	77,565	X	X	X	X	X	X	Globin Chain Electrophoresis
Ky.	6,263	X	X	X	X	X	X	
Tenn.	2,169	X	X	X				
Ala.	59,848	X	X			X		Globin Chain Electrophoresis
Miss.	55,094	X						
Ark.	13,278	X		X				
La.	39,565	X	X	X	X	X	X	
Okla.	5,523	X	X	X			X	
Tex.	105,955	X	X	X	X	X	X	
N. M.	2,070	X						
Ariz	8,157	X	X				X	
Nev.	561			X				

TABLE 4-22 (continued)

C. Hemoglobinopathy Specimens

	# of Specimens	Procedures Used						
		Hemoglobin Cellulose Acetate Electro.	Citrate Agar Electrophoresis	Solubility Testing	Fetal Hemoglobin Assay	Hemoglobin A <sub>2</sub> Quantitation	Densitometry	Other
Wash.	6,013	X	X	X				
P.R.	438	X		X	X			
Total	597,796							
Average	20,614							



TABLE 4-23

## CLINICAL CHEMISTRY SPECIMENS BY CATEGORY AND SUB-CATEGORY

	TOTAL Clinical Chemistry Specimens	Clinical Chemistry Specimens	Urinalysis Specimens	Inborn Errors of Metabolism	Multiphasic Screening	Other Clinical Chemistry
Me.	15,198	-	-	15,198	-	-
N.H.	55,672	21,858	4,361	15,010	14,443	-
Vt.	-	-	-	-	-	-
Mass.	204,219	-	-	204,219	-	-
R. I.	24,731	12,428	-	12,303	-	-
Conn.	99,344	3,658	1,059	82,255	11,496	876
N.Y.	84,780	1,286	21	79,681	3,792	-
N.J.	87,488	1,080	-	85,957	451	-
Pa.	61,645	1,322	83	60,240	-	-
Ohio	164,492	-	-	151,485	13,007	-
Ind.	-	-	-	-	-	-
Ill.	-	-	-	-	-	-
Mich.	131,182	26,667	7,930	96,585	-	-
Wisc.	92,545	53,483	-	-	38,999	63
Minn.	72,000	-	-	72,000	-	-
Iowa	3,803	-	-	3,803	-	-
Mo.	63,069	21,916	-	41,153	-	-
N.D.	15,486	-	-	15,486	-	-
S.D.	-	-	-	-	-	-
Nebr.	2,440	-	-	2,440	-	-
Kans.	19,375	-	-	19,375	-	-
Del.	16,864	-	1,511	15,353	-	-
Md.	160,283	50,868	37,095	72,320	-	-
D.C.	45,839	45,839	-	(a)	(a)	-
Va.	78,283	47,798	-	30,485	-	-
W.Va.	39,319	5,414	476	24,346	9,083	-
N.C.	200,853	82,632	42	78,885	39,294	-
S.C.	95,358	2,954	41,500	39,678	11,226	-
Ga.	77,554	4,806	-	68,092	3,638	1,018
Fla.	258,026	49,645	1,609	72,783	133,989	-
Ky.	43,399	1,395	773	41,231	-	-
Tenn.	73,417	2,827	-	70,490	-	-
Ala.	89,750	5,829	3	83,918	-	-
Miss.	174,777	157,623	-	-	8,577	8,577
Ark.	26,164	3,455	1,111	21,598	-	-
La.	58,256	-	2,392	55,864	-	-
Okla.	43,211	3,339	193	39,679	-	-
Tex.	520,048	41,238	38,010	440,800	-	-
Mont.	12,535	-	-	12,534	-	1
Ida.	18,503	-	841	17,662	-	-
Wyo.	-	-	-	-	-	-
Colo.	14,825	-	-	14,825	-	-
N.M.	17,176	267	-	16,909	-	-
Ariz.	1,745	1,745	-	-	-	-
Utah	420	400	20	-	-	-
Nev.	15,097	-	351	14,746	-	-
Wash.	24,510	-	-	24,510	-	-
Ore.	121,487	-	-	121,487	-	-
Cal.	6,669	889	156	5,624	-	-
Alaska	2,210	-	-	2,210(a)	-	-
Hawaii	12,673	-	-	-	-	12,673
Guam	5,781	1,479	4,302	-	-	-
P.R.	69,495	51,677	16,063	-	1,755	-
Total	3,521,996	705,917	159,902	2,343,219	289,750	23,208
Average	73,375	23,531	6,952	58,580	22,288	3,868

TABLE 4-24

## VII. CLINICAL CHEMISTRY

## A. Clinical Chemistry Specimens

# of Specimens	Types of Tests															Other										
	Glucose	Cholesterol	BUN	Uric Acid	Transaminases	Alkaline Phosphatase	Total Proteins	Serum Iron	Iron Binding Capacity	Electrolytes	Triglycerides	Lactic Acid	Bilirubin	Thyroid Function	Sodium		Potassium	Phosphorous	Calcium	Creatinine	Acid Phosphate					
N.H.	21,858	X	X	X	X	X	X		X			X														
R.I.	12,428	X	X	X	X	X	X		X	X	X	X	X													
Conn.	3,658	X	X	X	X	X	X	X	X	X	X	X	X				X	X	X						Albumin	
N.Y.	1,286	X	X	X	X	X	X	X		X	X	X	X	X						X						
N.J.	1,080	X	X	X	X	X	X			X	X	X	X													
Penn.	1,322	X	X	X	X	X	X	X	X	X	X	X	X		X	X		X							Chloride	
Mich.	26,667	X	X	X	X	X	X			X	X	X	X				X	X	X						LDH	
Wisc.	53,483	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X						Protein Electro., Lipoprotein Pheno- typing, Lithium; Urine; 17 Ketosteroid, 17 Hydroxysteriod; 17 Ketogenicsteroid, Vanillylmandelic Acid, 5 Hydroxy - Indole - Acetic Acid	
Mo.	21,916	X																								
Md.	50,868	X	X	X	X	X	X	X	X	X	X	X	X				X	X							Lipoproteins, Lactic Dehydrogenase, Lithium, Phosphorous, Protoporphyrin, Cholinesterase	
D.C.	45,839	X	X	X																						
Va.	47,798	X																								
W. Va.	5,414	X					X			X									X							
N.C.	82,632	X						X	X		X		X													
S.C.	2,954	X	X	X	X	X	X			X							X	X	X						Amylase, LDH, CO <sub>2</sub>	
Ga.	4,806	X	X								X															
Fla.	49,645	X	X	X	X	X	X				X															

TABLE 4-24 (continued)

VII. CLINICAL CHEMISTRY

A. Clinical Chemistry Specimens

# of Specimens	Types of Tests														Other									
	Glucose	Cholesterol	BUN	Uric Acid	Transaminases	Alkaline Phosphatase	Total Proteins	Serum Iron	Iron Binding Capacity	Electrolytes	Triglycerides	Lactic Acid	Bilirubin	Thyroid Function		Sodium	Potassium	Phosphorous	Calcium	Creatinine	Acid Phosphate			
Ky.	1,395	X																						
Tenn.	2,927	X																						
Ala.	5,829	X																						
Miss.	157,623	X	X	X	X																			
Ark.	3,455	X	X	X	X	X	X			X	X													
Okla.	3,339	X		X		X	X																	
Tex.	41,238	X																						
N.M.	267																							
Ariz.	1,745		X																					
Utah	400	X	X	X	X	X	X			X														
Calif.	889	X	X	X	X								X		X	X		X	X					Chloride
Guam	1,479	X	X	X	X	X							X				X							Serum Acetone
P.R.	51,677	X	X	X	X	X	X			X	X	X	X											
Total	705,917																							
Average	23,531																							

TABLE 4-25

B. Urinalysis			C. Inborn Errors of Metabolism														
Procedures Used			Inborn Error Assays														
# of Specimens	Procedures Used		# of Spec.	PKU	Tyrosinemia	Galactosemia	MSUD	Hypothyroidism	Amino Acid Chromatography	Homocystinuria	Maternal PKU	Amino Acid Disorders	Organic Acid Disorders	Disulfidurias	Glucosurias	Histidinemia	Other
	Routine	Microscopic															
Maine	-		15,198	X	X	X	X										
N.H.	4,361	X X	15,010	X	X	X	X										
Mass.	-		204,219	X	X	X	X		X	X	X	X	X	X	X	X	
R.I.	-		12,303	X	X												
Conn.	1,059	X X	82,255	X	X			X									
N.Y.	21	X	79,681	X	X	X		X	X							X	Combined Immuno, Defic., Phenylalanine Microchemical, Histidine
N.J.	-		85,957	X													
Penn.	83	X X	60,240	X	X												
Ohio	-		151,485	X	X				X								
Mich.	7,930	X X	96,585	X													
Minn.	-		72,000	X	X												
Iowa	-		3,803	X													
Mo.	-		41,153	X													
N.D.	-		15,486	X													
Nebr.	-		2,440	X													
Kans.	-		19,375	X													
Del.	1,511	X X	15,353	X													
Md.	37,095	X X	72,320	X	X	X	X										Methionine; Histidine
D.C.	-		(a)														
Va.	-		30,485	X													
W. Va.	476	X X	24,346	X													Amino Acid Screening
N.C.	42	X X	78,885	X	X												
S.C.	41,500	X X	39,678	X													
Ca.	-		68,092	X	X	X			X								
Fla.	1,609	X X	72,783	X													
Ky.	773	X X	41,231	X	X												
Tenn.	-		70,490	X													
Ala.	3	X X	83,918	X													
Ark.	1,111	X X	21,598	X													
La.	2,392	X X	55,864	X													
Okla.	193	X X	39,679	X	X												
Tex.	38,010	X X	440,800	X													
Mont.	-		12,534	X	X	X	X		X								Congenital Hypothyroid
Ida.	841	X	17,662	X													
Colo.	-		14,825	X													
N.M.	-		16,909	X													
Utah	20	X X	-														
Nev.	351	X X	14,746	X													
Wash.	-		24,510	X													
Ore.	-		121,487	X	X	X	X	X	X								
Calif.	156	X	5,624	X													
Alaska	-		2,210	X	X												
Guam	4,302	X X	-														
B.R.	16,063	X X	-														
Total	159,902		2,343,219														
Average	6,952		58,580														

(a) Included in Clinical Chemistry Specimen #.

TABLE 4-26

D. Multiphasic Screening Specimens						E. Other Clinical Chemistry Specimens	
Procedures Used							
# of Specimens	Single or Discrete Analyz.	2 Channel Anal.	3-6 Chan. Anal.	7-12 Chan. Anal.	> 12 Chan. Anal.	# of Specimens	Type - Procedures Used
N.H.	14,443	X				-	
Conn.	11,496	X				876	Blood - Hexoaminidase A Assay - Leucocyte Hex A Assay
N.Y.	3,792			X	X	-	
N.J.	451	X				-	
Ohio	13,007	X			X	-	
Wisc.	38,999		X			63	Urinary Calculi-Calcium, Phosphates, Oxalates, Magnesium, Uric Acid Carbonates, Cystein, Ammonia
D.C.	(a)		X			-	
W. Va.	9,083				X	-	
N.C.	39,294			X	X	-	
S.C.	11,226	X				-	
Ga.	3,638	X				1,018	Unopette-blood - Glucose
Fla.	133,989		X			-	
Miss.	8,577			X		8,577	Electrolytes - Flame Photometer and Chloride Meter
Mont.	-					1	Blood - Lithium Level - Atomic Absorption
Hawaii	-					12,673	Urine - INH Serum Level Stool - Occult Blood
P.R.	1,755		X			-	
Total	289,750					23,208	
Average	22,288					3,868	

(a) Included in Clinical Chemistry Specimen #.

TABLE 4-27

## VIII. PATHOLOGY

	Exfoliative Cytology Specimens #	Cytogenetics Specimens #	Other Specimens #	Specify Types
Conn.	14,362	-	-	
N.Y.	14,580	-	3,067	Electron microscope embeddings, tissue.
Wisc.	137,467	853	106	Buccal for sex.
Minn.	-	166	-	
Del.	46,803	-	-	
Md.	70,208	-	-	
D.C.	22,013	15	-	
W.Va.	36,559	-	22	Oral, breast, sputum.
N.C.	188,509	-	-	
S.C.	4,425	73	-	
Ala.	9,528	-	-	
La.	4,012	-	-	
Ida.	980	217	-	
Guam	274	-	-	
Total	549,729	1,324	3,195	
Average	42,287	265	1,065	

TABLE 4-28

## ENVIRONMENTAL MICROBIOLOGY SAMPLES BY CATEGORY AND SUB-CATEGORY

	TOTAL Environmental Microbiology	Water Samples	Dairy Products Samples	Food and Beverage Samples	Other Micro Samples
Me.	26,461	26,355	-	-	106
N.H.	-	-	-	-	-
Vt.	23,425	23,395	-	30	-
Mass.	74	-	-	74	-
R.I.	15,757	5,272	5,164	5,246	75
Conn.	22,430	12,231	9,340	855	4
N.Y.	54,952	51,391	3,187	374	-
N.J.	35,544	32,862	2,322	360	-
Pa.	-	-	-	-	-
Ohio	74,484	73,649	42	793	-
Ind.	54,578	40,464	6,945	5,279	1,890
Ill.	68,643	49,397	16,558	2,688	-
Mich.	96,675	89,470	6,749	456	-
Wisc.	66,174	64,801	-	1,373	-
Minn.	50	-	-	50	-
Iowa	42,567	39,482	3,068	17	-
Mo.	69,525	64,194	1,408	306	3,617
N.D.	21,136	10,337	9,174	1,625	-
S.D.	19,836	18,855	957	24	-
Nebr.	21,663	21,663	-	-	-
Kans.	42,633	42,523	-	110	-
Del.	10,540	8,860	1,200	480	-
Md.	86,300	69,611	14,666	2,023	-
D.C.	3,178	1,356	382	1,395	45
Va.	109,064	85,556	10,425	13,083	-
W. Va.	28,814	24,837	3,901	73	3
N.C.	50,278	50,068	-	210	-
S.C.	16,347	-	15,934	413	-
Ga.	128	-	-	128	-
Fla.	215,102	202,411	9,334	3,357	-
Ky.	38,951	29,806	8,352	793	-
Tenn.	64,629	41,236	19,997	3,396	-
Ala.	108,890	62,714	43,556	2,514	106
Miss.	78,474	39,242	38,776	456	-
Ark.	53,185	46,811	4,894	1,451	29
La.	207,960	69,852	134,559	3,549	-
Okla.	63,959	51,457	11,863	639	-
Tex.	389,778	296,404	81,166	11,938	270
Mont.	14,831	14,445	-	386	-
Ida.	38,307	32,969	4,580	758	-
Wyom.	9,051	9,051	-	-	-
Colo.	22,684	19,093	3,301	290	-
N.M.	25,969	22,763	2,827	379	-
Ariz.	44,377	38,945	5,198	234	-
Utah	27,549	27,445	-	104	-
Nev.	25,868	21,627	3,839	342	60
Wash.	19,683	18,292	121	437	833
Ore.	40,526	40,441	-	41	44
Calif.	18,863	17,407	491	474	491
Alaska	12,080	11,677	2	110	291
Hawaii	12,308	9,235	1,359	1,714	-
Guam	571	125	70	186	190
P.R.	20,067	6,596	4,586	5,523	3,362
Total	2,614,918	2,036,673	490,293	76,536	11,416
Average	51,273	43,333	12,902	1,595	672

TABLE 4-29

## IX. ENVIRONMENTAL MICROBIOLOGY

	A. Water Samples				B. Dairy Product Samples							
	# of Samples	Type & Procedure				# of Samples	Type of Samples					Other
		Potable	Non-Potable	Swimming Pools	Sewage & Waste		Milk & Cream	Ice Cream	Cheese	Other Dairy Products	Frozen Desserts	
Me.	26,355	F	F	F	F	-						
Vt.	23,395	F-0		F		-						
R.I.	5,272	T	T	T	T	5,164	X	X	X			
Conn.	12,231	F-T-0	F-T-0	F-T-0	F-T-0	9,340	X		X	X		Bovine sera.
N.Y.	51,391	F	F	F	T	3,187	X			X		
N.J.	32,862	F	T	F	T	2,322	X	X		X		
Ohio	73,649	F-T	F	F	F	42	X	X	X	X		
Ind.	40,464	F-T	F	T-0	F	6,945	X					
Ill.	49,397	F-T	F-T	F	F-T	16,558	X			X		
Mich.	89,470	F	F	F	F	6,749	X					
Wisc.	64,801	F-T	F-T	F-T	F-T	-						
Iowa	39,482	T	F	T		3,068	X	X				
Mo.	64,194	F-0	F	F		1,408	X			X		Empty containers.
N.D.	10,337	F	F-T	F-0	F	9,174	X					
S.D.	18,855	F-T-0	F-T	F-T	F-T	957	X			X		Baby formula.
Nebr.	21,663	F-T				-						
Kans.	42,523	F	F	F		-						
Del.	8,860	F-T	T	F	T	1,200	X		X	X		
Md.	69,611	F-T	T	T	T	14,666	X				X	
D.C.	1,356	F	T	F-T	T	382	X	X		X		
Va.	85,556	F-T-0	F-T-0	F	F-T-0	10,425	X	X		X		Counter freezers:
W.Va.	24,837	F-T	F-T	T	F-T	3,901	X	X				
N.C.	50,068	T	T	T		-						
S.C.	-					15,934	X			X		
Fla.	202,411	F-T	T	F	T	9,334	X	X		X	X	



TABLE 4-29 (continued)

## IX. ENVIRONMENTAL MICROBIOLOGY

	A. Water Samples				B. Dairy Product Samples					Other		
	# of Samples	Type & Procedure				# of Samples	Type of Samples					
		Potable	Non-Potable	Swimming Pools	Sewage & Waste		Milk & Cream	Ice Cream	Cheese		Other Dairy Products	Frozen Desserts
Ky.	29,806	F-T -O	T-O			8,352	X	X		X		
Tenn.	41,236	F		F		19,997	X	X		X		
Ala.	62,714	F	F-T	F	T	43,556	X	X		X		
Miss.	39,242	F-T	T			38,776	X			X		
Ark.	46,811	F	F-T	F		4,894	X	X		X		Counter samples.
La.	69,852	F-T -O	T-O	F-T -O	T-O	134,559	X	X		X		
Okla.	51,457	F	F	F	F	11,863	X					
Tex.	296,404	F-T	F-T	F-T	F-T	81,166	X	X				
Mont.	14,445	F-T	F-T	T	F-T	-						
Ida.	32,969	F-T	F-T	F-T		4,580	X					
Wyo.	9,051	F	F	F		-						
Colo.	19,093	F-T	F-T	T	F-T	3,301	X	X		X		
N.M.	22,763	F	F-T	F	T	2,827	X					
Ariz.	38,945	F-T -O	F-T -O	T-O -O	F-T -O	5,198	X	X		X		
Utah	27,445	F-T -O	F-T -O	F-O	T-O	-						
Nev.	21,627	F-T	F-T	F-T	F-T	3,839	X	X		X		
Wash.	18,292	F-T	T	T-O	T	121	X					Empty containers.
Ore.	40,441	T	T	T		-						
Cal.	17,407	F-T -O	F-T -O	F-T -O	T-O	491	X					
Alaska	11,677	F-T	T	T	T	2				X		
Hawaii	9,235	F-T	F-T	F-T	F-T	1,359	X	X		X		
Guam	125	T-O		T		70	X					
P.R.	6,596	F-T -O	T-O	T		4,586	X			X	X	
Total	2,036,673					490,293						
Average	43,333					12,902						

F = Membrane Filter

T = Multiple Tube

O = Other

TABLE 4-30

	C. Food and Beverage Samples				D. Other Samples		
	# of Samples	Food Quality	Types			# of Samples	Types
Food Disease Outbreaks			Seafood	Environmental			
Me.	-					106	Toy samples - stuffing, sanitary quality.
Vt.	30*		X			-	
Mass.	74		X			-	
R.I.	5,246	X	X	X	X	75	Paralytic shellfish poisoning.
Conn.	855	X	X	X	X	4	Meat serology.
N.Y.	374	X			X	-	
N.J.	360	X	X			-	
Ohio	793	X	X		X	-	
Ind.	5,279	X	X	X	X	1,890	Meat products.
Ill.	2,688	X	X	X	X	-	
Mich.	456		X		X	-	
Wisc.	1,373		X		X	-	
Minn.	50		X		X	-	
Iowa	17		X			-	
Mo.	306	X	X		X	3,617	Beverages, syrup, empty bottles.
N.D.	1,625	X	X		X	-	
S.D.	24		X			-	
Kans.	110	X	X			-	
Del.	480	X	X	X	X	-	
Md.	2,023	X	X	X	X	-	
D.C.	1,395	X		X		45	Swabs.
Va.	13,083	X	X	X		-	
W.Va.	73	X	X			3	Food pH.
N.C.	210		X	X		-	
S.C.	413	X	X	X	X	-	
Ga.	128		X		X	-	
Fla.	3,357	X	X	X	X	-	
Ky.	793	X	X			-	
Tenn.	3,396		X		X	-	
Ala.	2,514	X	X	X	X	106	Dairy cartons.
Miss.	456		X	X	X	-	
Ark.	1,451	X	X	X	X	29	Antibiotics in meat.
La.	3,549	X	X	X	X	-	
Okla.	639	X	X		X	-	
Tex.	11,938	X	X	X	X	270	Laetobacillus counts.
Mont.	386	X	X		X	-	
Ida.	758	X	X		X	-	
Colo.	290		X			-	
N.M.	379	X	X		X	-	
Ariz.	234	X	X			-	
Utah	104		X			-	
Nev.	342		X			60	Feeds.
Wash.	437	X	X	X	X	833	Sterilization monitor(biological)
Ore.	41		X		X	44	Shellfish bioassay (toxicity).
Cal.	474	X	X	X	X	491	Drug surveillance.
Alaska	110	X	X	X	X	291	Paralytic shellfish poisoning.
Hawaii	1,714	X	X	X	X	-	
Guam	186				X	190	Food poisoning, food quality.
P.R.	5,523	X	X	X	X	3,362	Containers, proficiency testing of split samples(milk & food), control tests.
Total	76,536					11,416	
Average	1,594					671	

\*Estimated figure.

TABLE 4-31  
 ENVIRONMENTAL CHEMISTRY SAMPLES BY CATEGORY AND SUB-CATEGORY

	TOTAL Envir. Chem. Samples	Water Samples	Dairy Prod. and Food Samples	Pesticide Samples	Air Pollution Samples	Radiological Samples	Other Samples
Me.	14,951	14,351	-	-	-	600	-
N.H.	-	-	-	-	-	-	-
Vt.	7,150	7,150	-	-	-	-	-
Mass.	320	320	-	-	-	-	-
R.I.	25,288	5,270	13,187	335	6,000*	496	-
Conn.	26,244	12,199	5,063	74	7,480	1,428	-
N.Y.	26,348	12,620	73	-	8,147	3,687	1,824
N.J.	16,545	9,903	2,786	2,875	981	-	-
Pa.	-	-	-	-	-	-	-
Ohio	23,732	10,176	-	800	12,302	454	-
Ind.	22,988	9,109	12,724	1,155	-	-	-
Ill.	30,837	23,743	4,303	1,373	-	1,418	-
Mlch.	25,636	17,857	6,369	1,410	-	-	-
Wisc.	39,063	26,898	-	789	9,967	1,409	-
Minn.	-	-	-	-	-	-	-
Iowa	27,818	21,928	-	373	2,717	2,800	-
Mo.	8,699	3,313	4,934	-	-	452	-
N.D.	5,297	2,486	-	-	2,603	208	-
S.D.	2,977	1,883	-	8	1,084	2	-
Nebr.	11,122	11,122	-	-	-	-	-
Kans.	15,541	7,171	-	343	7,500	527	-
Del.	2,143	2,143	-	-	-	-	-
Md.	48,455	15,308	15,915	755	13,217	1,551	1,709
D.C.	1,469	143	1,326	-	-	-	-
Va.	54,596	24,240	10,000	8,609	10,807	940	-
W. Va.	-	-	-	-	-	-	-
N.C.	13,227	11,555	-	-	-	992	680
S.C.	18,272	-	16,347	1,925	-	-	-
Ga.	-	-	-	-	-	-	-
Fla.	4,749	4,063	178	98	388	-	22
Ky.	9,404	7,997	774	633	-	-	-
Tenn.	-	-	-	-	-	-	-
Ala.	36,046	27,520	8,526	-	-	-	-
Miss.	1,303	1,303	-	-	-	-	-
Ark.	-	-	-	-	-	-	-
La.	10,308	2,794	7,103	352	-	59	-
Okla.	-	-	-	-	-	-	-
Tex.	37,878	17,452	8,560	544	10,106	1,216	-
Mont.	7,448	2,687	305	242	4,208	-	6
Ida.	13,044	7,706	1,574	633	3,016	115	-
Wyom.	-	-	-	-	-	-	-
Colo.	17,645	4,062	1,712	1,016	8,455	2,400	-
N.M.	11,999	4,597	34	160	7,208	-	-
Ariz.	6,274	2,070	79	1,581	2,544	-	-
Utah	5,957	5,495	-	10	140	312	-
Nev.	7,910	3,219	2,544	-	2,008	-	139
Wash.	1,896	1,233	50	-	-	613	-
Ore.	-	-	-	-	-	-	-
Calif.	24,325	8,416	8,968	151	3,409	2,275	1,106
Alaska	1,145	1,145	-	-	-	-	-
Hawaii	19,483	1,361	1,850	44	16,228	-	-
Guam	-	-	-	-	-	-	-
P.R.	6,237	1,515	4,732	-	-	-	-
Total	691,769	355,523	140,006	26,288	140,515	23,954	5,483
Average	16,471	8,671	5,185	1,011	6,109	1,089	783

\*Estimated figure.

TABLE 4-32  
X. ENVIRONMENTAL CHEMISTRY

	A. Water Samples					B. Dairy Products and Food Samples		
	# of Samples	Types				# of Samples	Types	
		Potable	Non-Potable	Swimming Pools	Sewage & Waste		Milk & Cream	Foods
Me.	14,351	X	X		X	-		
Vt.	7,150	X				-		
Mass.	320	X				-		
R.I.	5,270	X	X	X	X	13,187	X	X
Conn.	12,199	X	X	X	X	5,063	X	X
N.Y.	12,620	X	X	X	X	73	X	
N.J.	9,903	X	X		X	2,786	X	X
Ohio	10,176	X	X		X	-		
Ind.	9,109	X	X	X	X	12,724	X	X
Ill.	23,743	X	X	X	X	4,303	X	X
Mich.	17,857	X	X		X	6,369	X	
Wisc.	26,898	X	X		X	-		
Iowa	21,928	X	X		X	-		
Mo.	3,313	X				4,934	X	X
N.D.	2,486	X	X		X	-		
S.D.	1,883	X	X		X	-		
Nebr.	11,122	X				-		
Kans.	7,171	X	X	X	X	-		
Del.	2,143	X				-		
Md.	15,308	X	X	X	X	15,915	X	X
D.C.	143	X	X			1,326	X	X
Va.	24,240	X	X		X	10,000*	X	
N.C.	11,555	X	X			-		
S.C.	-					16,347	X	X
Fla.	4,063	X	X			178		X
Ky.	7,997	X	X	X		774	X	X
Ala.	27,520	X	X	X	X	8,526	X	
Miss.	1,303	X	X			-		
La.	2,794	X	X		X	7,103	X	X
Tex.	17,452	X	X		X	8,560	X	X
Mont.	2,687	X	X		X	305		X
Ida.	7,706	X	X		X	1,574	X	
Colo.	4,062	X	X		X	1,712	X	X
N.M.	4,597	X	X	X	X	34		X
Ariz.	2,070	X	X	X	X	79	X	X
Utah	5,495	X			X	-		
Nev.	3,219	X	X	X	X	2,544	X	X
Wash.	1,233	X	X			50	X	X
Cal.	8,416	X	X	X	X	8,968	X	X
Alaska	1,145	X	X	X	X	-		
Hawaii	1,361	X	X	X	X	1,850	X	X
P.R.	1,515	X		X		4,722	X	X
Total	355,523					140,006		
Average	8,671					5,185		

\*Estimated figure.

TABLE 4-33

	C. Pesticide Samples						D. Air Pollution Samples						
	# of Samples	Types				Other	# of Samples	Types of Activity					Continuous Samp. Stations
		Human Source	Water	Milk	Foods			Discrete Sampling Stations			Other		
								Particulate	Gaseous	Other			
Solids	Metals	Organics	Other										
R.I.	335		X			Meat, poultry, milk, etc.	6,000*	X	X	X		X	X
Conn.	74	X	X		X		7,480	X	X	X		X	X
N.Y.	-						8,147	X	X	X		X	X
N.J.	2,875	X	X	X	X	Feed, soil, vegetables, air	981				X		
Ohio	800		X			Vegetables	12,302	X	X	X	X	X	
Ind.	1,155				X	Dairy prods.	-						
Ill.	1,373		X	X	X		-						
Mich.	1,410	X	X			Commercial formulations, soil	-						
Wisc.	789		X			Sewage/waste sediments	9,967	X	X		X	X	
Iowa	373	X	X		X	Fish, dust, air	2,717	X				X	X
N.D.	-						2,603	X			X	X	X
S.D.	8	X					1,084	X				X	X
Kans.	343	X	X			Grain, meat, veg., fish, sediment	7,500	X	X			X	X
Md.	755		X			Milk prods., beverages, seafood	13,217	X	X	X	X	X	X
Va.	8,609	X	X			Animal blood, tissue, animal & human foods, soil, water, air	10,807	X	X			X	
S.C.	1,925	X			X	Liquids	-						
Fla.	98				X	Bananas, seafood	388				X		
Ky.	633	X	X	X	X		-						

TABLE 4-33 (continued)

	C. Pesticide Samples						D. Air Pollution Samples									
	# of Samples	Types				Other	# of Samples	Types of Activity							Continuous Samp. Stations	
		Human Source	Water	Milk	Foods			Discrete Sampling Stations				Gaseous	Other			
								Particulate	Other	Solids	Metals			Organics		
La.	352	X	X	X	X	Feed, animals seafood	-									
Tex.	544					Environmental	10,106	X	X	X		X				
Mont.	242					Drum wedges, drum washings	4,208	X	X		X	X		X		X
Ida.	633	X					3,016	X	X		X	X				X
Colo.	1,016			X		Fresh vogs.	8,455	X	X	X		X				X
N.M.	160	X	X		X	Air, soils & sediments	7,208	X	X	X		X				X
Ariz.	1,581		X			Dairy, fish	2,544	X	X	X	X	X		X		X
Utah	10	X				Animal, plants, clothing	140					X				
Nev.	-						2,008	X	X	X	X					X
Cal.	151		X				3,409	X	X	X	X	X		X		X
Hawaii	44		X	X	X		16,228	X				X		X		X
Total	26,228						140,515									
Average	1,011						6,109									

\*Estimated figure.

TABLE 4-34

## E. Radiological Analysis Samples

	# of Samples	Types							Other
		Air	Water	Milk	Food	Silt	Soil	Wipes	
Maine	600	X	X	X	X	X		X	Seaweed
R.I.	496	X	X	X					
Conn.	1,428	X	X	X		X		X	Seaweed, Fish, Shellfish
N.Y.	3,687	X	X	X	X	X	X		Swipes, Silica Gels, Charcoal Traps, Cartridges
Ohio	454	X	X	X					
Ill.	1,418		X	X	X			X	
Wisc.	1,409	X	X	X	X	X	X	X	
Iowa	2,800	X	X	X					Precipitation
Mo.	452		X						
N.D.	208	X	X						
S.D.	2		X						
Kans.	527	X	X	X				X X	
Md.	1,551	X	X	X	X	X	X		
Va.	940	X	X	X	X	X		X	
N.C.	992	X	X	X	X	X		X	
La.	59		X						
Tex.	1,216		X	X				X	
Ida.	115	X	X						
Colo.	2,400	X	X	X				X	
Utah	312		X						Coal Fly
Wash.	613	X	X	X	X	X	X	X	Thermal Luminescent Dosimeters Urine Vegetation
Calif.	2,275	X	X	X	X		X	X	Sewage, Occupational Exposure Materials
Total	23,954								
Average	1,089								

TABLE 4-35

## F. Other Samples

	# of Samples	Types
N.Y.	1,821	Reactor burial sites, quality control.
Md.	1,709	Pharmaceutical chemistry samples.
N.C.	680	Cyanide, sand sieve, heavy metals, thermometer calibrations.
Fla.	22	Bedding.
Mont.	6	Honey bees and pollen - especially for arsenic contamination.
Nev.	139	Meat, fish, other foods.
Cal.	1,106	Drugs, cosmetics and potentially hazardous household products; air monitoring instrument calibration.
Total	5,483	
Average	783	



TABLE 4-36

## XI. OCCUPATIONAL HEALTH AND SAFETY

	TOTAL Occup. Health & Safety Samples	Number of Environmental Samples	Number of Biological Samples
Me.	17	17	-
N.H.	-	-	-
Vt.	-	-	-
Mass.	-	-	-
R.I.	339	339	-
Conn.	1,117	1,117	-
N.Y.	1,360	-	1,360
N.J.	-	-	-
Pa.	-	-	-
Ohio	1,254	816	438
Ind.	-	-	-
Ill.	-	-	-
Mich.	-	-	-
Wisc.	3,317	3,212	105
Minn.	-	-	-
Iowa	1,341	1,341	-
Mo.	-	-	-
N.D.	-	-	-
S.D.	-	-	-
Nebr.	-	-	-
Kans.	395	395	-
Del.	-	-	-
Md.	1,616	1,616	-
D.C.	118	-	118
Va.	231	231	-
W. Va.	-	-	-
N.C.	3,966	3,966	-
S.C.	2,402	2,264	138
Ga.	-	-	-
Fla.	-	-	-
Ky.	1,600	1,168	432
Tenn.	-	-	-
Ala.	-	-	-
Miss.	-	-	-
Ark.	-	-	-
La.	-	-	-
Okla.	-	-	-
Tex.	-	-	-
Mont.	425	247	178
Idaho	-	-	-
Wyom.	-	-	-
Colo.	1,240	1,240	-
N.M.	6	6	-
Ariz.	518	518	-
Utah	2,439	1,495	944
Nev.	-	-	-
Wash.	-	-	-
Ore.	-	-	-
Calif.	8,509	8,509	-
Alaska	-	-	-
Hawaii	-	-	-
Guam	-	-	-
P.R.	-	-	-
Total	32,210	28,497	3,713
Average	1,611	1,583	464

TABLE 4-37

## TOXICOLOGY SAMPLES BY CATEGORY AND SUB-CATEGORY

	TOTAL Toxicology Samples	Physical Samples	Biological Samples
Me.	15,849	1,469	14,380
N.H.	-	-	-
Vt.	3,302	25*	3,277
Mass.	551,615	400,250	151,365
R.I.	10,174	-	10,174
Conn.	85,810	42,256	43,554
N.Y.	32,705	2,675	30,030
N.J.	-	-	-
Pa.	1,696	-	1,696
Ohio	16,515	179	16,336
Ind.	227	227	-
Ill.	13,980	663	13,317
Mich.	22,073	9,914	12,159
Wisc.	15,933	130	15,803
Minn.	-	-	-
Iowa	22,129	247	21,882
Mo.	351	34	317
N.D.	-	-	-
S.D.	-	-	-
Nebr.	17,613	11,069	6,544
Kans.	3,550	144	3,436
Del.	2,585	-	2,585
Md.	11,282	3,887	7,395
D.C.	21,464	-	21,464
Va.	110,743	44,500	66,243
W. Va.	-	-	-
N.C.	1,769	12	1,757
S.C.	8,896	338	8,558
Ga.	45,626	-	45,626
Fla.	32,193	1,120	31,073
Ky.	2,872	462	2,410
Tenn.	48,192	26,192	22,000
Ala.	5,339	-	5,339
Miss.	-	-	-
Ark.	-	-	-
La.	-	-	-
Okla.	17	11	6
Tex.	76,836	-	76,836
Mont.	3,362	2	3,360
Ida.	17,396	6,740	10,656
Wyom.	974	14	860
Colo.	51,860	-	51,860
N.M.	15,885	751	15,134
Ariz.	-	-	-
Utah	2,340	940	1,400
Nev.	-	-	-
Wash.	5,110	2,020	3,090
Ore.	-	-	-
Calif.	3,964	-	3,964
Alaska	-	-	-
Hawaii	122	83	39
Guam	-	-	-
P.R.	5,313	109	5,204
Total	1,287,662	556,533	731,129
Average	33,017	18,551	19,240

\*Estimated figure.

TABLE 4-38

## XII. TOXICOLOGY

## A. Physical Samples

	# of Samples	Types											Other	
		Liquids for Alcohol	Pesticides	PCB's	Plant and Plant Material	Drugs and Narcotics	Articles for Blood Stains	Paint--Comparison	Paint--Lead	Fibers and Hairs	Gunpowder Residues			
Maine	1,469	F	O	O	F	F			O					O/Soil, O/Arson Samples O/Fish Brain Cholinesterase
Vt.	25*					F	F		F/O					
Mass.	400,250								O					O/Pottery-lead, Toys, Print-lead, Soil-lead, In-site-paint
Conn.	42,256	F			F	F	F	F	O	F	F			F/Clay, Sand, Concrete, Fire Accelerants, Seminal Stains
N.Y.	2,675	F	O	O	O				O					
Ohio	179*	O												
Ind.	227		O	O	F	F/O			O					
Ill.	663	F/O	F/O	O	F/O	F/O			O					
Mich.	9,914	F				F	F	F		F	F			F/Fire debris for flammable residues, Suspected Sabotage
Wisc.	130				O	O			O					O/Soil, O/Pottery
Iowa	247					O			O					
Mo.	34	O							O					
Nebr.	11,069	F/O			F	F/O			O					
Kans.	114	F				F			F	F				
Md.	3,887			O					O					
Va.	44,500	F			F	F	F	F		F	F			
N.C.	12								O					
S.C.	338	O	O	O		O			O					O/Tablets/Powder
Fla.	1,120	O	O			F			O					
Ky.	462	F/O	F/O	F/O	F	F			O					
Tenn.	26,192	F	F		F	F								

\*Estimated Figure

TABLE 4-38 (continued)

## XII. TOXICOLOGY

## A. Physical Samples

	# of Samples	Types											Other	
		Liquids for Alcohol	Pesticides	PCB's	Plant and Plant Material	Drugs and Narcotics	Articles for Blood Stains	Paint-Comparison	Paint-- Lead	Fibers and Hairs	Gunpowder Residues			
Okla.	11		O			O								O/Pottery Lead
Mont.	2		O			F/O			O					
Ida.	6,740	F	F	F	F	F	F	F		F	F			O/Arson Samples
Wyo.	14	F				F								
N.M.	751					O			O					
Utah	940	F/O	O	O	F/O	F/O			O					
Wash.	2,020		O	O					O					O/Soil
Hawaii	83		O		O	O			O					
P.R.	109	O			O	O			O	O				O/Label Claim and Quality Control of Drug and Pharmaceutical Products
Total	556,533													
Average	18,551													

F = Forensic

O = Other

TABLE 4-39

## B. Biological Samples

	# of Samples	Blood							Other
		Ethyl Alcohol	Other Volatiles	Drugs and Narcotics	Lead	Other Metallic Poisons	Other Poisons	Insecticides	
Maine	14,380	F	F	F	O	F	F	O	O/Cholinesterase
Vt.	3,277	F		F	O				
Mass.	151,365				O				O/Erythrocyte Protoporphyrin
R.I.	10,174	F/O	F/O	F/O		F/O	F/O		
Conn.	43,554	F	F	F	O	F/O			F/Carboxyhemoglobin
N.Y.	30,030			O					O/PCB's
Penn.	1,696	O	O		O				
Ohio	16,336				O				
Ill.	13,317	F/O	F/O	F/O	F/O	F/O	F/O	F/O	
Mich.	12,159	F	F	F		F	F		F/Paternity Disputes
Wisc.	15,803	F/O		O	O	O	O		O/Cholinesterase O/Erythrocyte Protoporphyrin O/Morphine, Semi-Quantitative
Iowa	21,882				O				
Mo.	317	O			O				
Nebr.	6,544	F/O		O	O		O		
Kans.	3,436	F/O	F	F	F	F	F		
Del.	2,585				O				
Md.	7,395				O				
D.C.	21,464	F	O	F/O	O		O		
Va.	66,243	F			O				O/Erythrocyte Protoporphyrin
N.C.	1,757			O	O	O			
S.C.	8,558		O	O	O	O	O	O	
Ga.	45,626			O	O				
Fla.	31,073	F/O	F/O	F/O	F/O	F/O	F/O	F/O	
Ky.	2,410	F	F	F	F/O	F/O	F/O	F/O	
Tenn.	22,000	F	F	F	F	F	F	F	
Ala.	5,339				O				
Okla.	6							O	
Tex.	76,836				O				

TABLE 4-39 (continued)

## B. Biological Samples

		Blood								
# of Samples		Ethyl Alcohol	Other Volatiles	Drugs and Narcotics	Lead	Other Metallic Poisons	Other Poisons	Insecticides	Other	
Mont.	3,360	F/O	F/O	O	O					
Ida.	10,656	F	F	F	F	F	F		F/Cholinesterase F/Seminal Stains	
Wyo.	860	F/O	F/O	F/O	O		F/O			
Colo.	51,860	F							F/Carbon Monoxide	
N.M.	15,134	F		F	O			O	O/Cholinesterase	
Utah	1,400	F/O	F/O	F/O	F/O	F/O	F/O	F/O		
Wash.	3,090				O	O		O	O/Herbicides O/Fungicides	
Calif.	3,964	F			O					
Hawaii	39				O	O		O		
P.R.	5,204	O	O						O/Metal (Lithium-Lead)	
Total	731,129									
Average	19,240									

F = Forensic

O = Other

TABLE 4-39 (continued)

## B. Biological Samples

	Urine								Body Tissues							
	Ethyl Alcohol	Other Volatiles	Drugs and Narcotics	Lead	Other Metallic Poisons	Other Poisons	Insecticides	Other	Ethyl Alcohol	Other Volatiles	Drugs and Narcotics	Lead	Other Metallic Poisons	Other Poisons	Insecticides	
Maine			F	O	F	F	O	O/Racing Chemistry	F	F	F		F	F		
Vt.			F	F	F	F										
Mass.				O												
R.I.	F/O	F/O	F/O		F/O			O/Racing Chemistry	F/O	F/O	F/O		F/O			
Conn.	F	F	F	O	F				F	F	F		F			
N.Y.				O												
Penn.				O												
Ohio	O	O	O													
Ill.	F/O	F/O	F/O	F/O	F/O	F/O	F/O		F/O	F/O	F/O	F/O	F/O	F/O	F/O	
Mich.	F	F	F			F			F	F	F		F	F		
Wisc.	O		O	O	O						O	O	O	O		
Iowa			O	O												
Mo.					O			O/Heavy Metals								
Nebr.	F/O		F/O													
Kans.	F/O		F	F	F	F				F	F	F	F	F/O		
Md.				O								O				
D.C.	F/O	O	F/O	O		O			O	O	O	O		O		
Va.	F	F	F	F	F	F			F	F	F	F	F	F		
S.C.		O	O	O	O	O	O					O	O		O	
Ga.			O													
Fla.	F/O	F/O	F/O	F/O	F/O	F/O	F/O		F/O	F/O	F/O	F/O	F/O	F/O	F/O	
Ky.	F	F	F	F	F/O	F/O	F/O		F	F	F	F	F	F	F	
Tenn.	F	F	F	F	F	F			F	F	F	F	F	F	F	
Mont.	F/O	F/O	F/O	O												
Ida.	F	F	F			F			F	F	F	F	F	F		
Wyo.	F/O	F/O	F/O			F/O					F			F		
Colo.	F		F													
N.M.	F		F					O/Racing Chemistry								
Utah	F/O	F/O	F/O	F/O	F/O	F/O	F/O		F/O	F/O	F/O	F/O	F/O	F/O	F/O	

TABLE 4-39 (continued)

B. Biological Samples

	Urine							Body Tissues								
	Ethyl Alcohol	Other Volatiles	Drugs and Narcotics	Lead	Other Metallic Poisons	Other Poisons	Insecticides	Other	Ethyl Alcohol	Other Volatiles	Drugs and Narcotics	Lead	Other Metallic Poisons	Other Poisons	Insecticides	
Wash. Calif. Hawaii			F O		O		O							O		O

F = Forensic

O = Other



TABLE 4-39 (continued)

## B. Biological Samples

	Body Fluids							Breath	Other
	Ethyl Alcohol	Other Volatiles	Drugs and Narcotics	Lead	Other Metallic Poisons	Other Poisons	Insecticides		
Maine	F	F	F		F	F		F/Volatiles	
Vt.	F		F	F	F			F/Volatiles	
R.I.	F/O	F/O	F/O		F/O	F/O			
Conn.	F	F	F		F			F/Volatiles	
Ill.	F/O	F/O	F/O	F/O	F/O	F/O	F/O		
Mich.	F	F	F		F	F			
Wisc.	O		O	O	O	O			
Nebr.								F/O/Volatiles	
Kans.	F/O	F	F		F	F	F		
Md.							O		
D.C.								F/Volatiles	
Va.	F	F	F	F	F	F			
S.C.			O				O	O/Volatiles	O/Mother's Milk--PCB
Fla.	F/O	F/O	F/O	F/O	F/O	F/O	F/O		
Ky.	F	F	F	F	F	F	F		
Tenn.	F	F	F	F	F	F	F		
Mont.			F/O					F/Volatiles	
Ida.	F	F	F	F	F	F		F/Volatiles	
Wyo.	F	F	F			F		F/Volatiles	
N.M.								F/Volatiles	
Utah	F/O	F/O	F/O	F/O	F/O	F/O	F/O		
Wash.							O		
Hawaii									O/Fish--Heavy Metals

F = Forensic

O = Other

LABORATORY IMPROVEMENT PROGRAM

TABLE 4-40

## XIII. LABORATORY IMPROVEMENT PROGRAM

	# of Professional & Technical Budgeted Positions*	A. Clinical Laboratories							B. Dairy/Food Laboratories								
		# of Registered, Approved, Licensed Labs**	Activities						# of Registered, Approved, Licensed Labs**	Activities							
			Prof. Testing	Field Visits	Labs Under Own Program	Labs Under Other Program	Training	Consultation		Other	Prof. Testing	Field Visits	Labs Under Own Program	Labs Under Other Program	Training	Consultation	Other
Me.	1.0*	52	X	X		X	X	X	-								
N.H.	1.0	8		X		X	X	X	-								
Vt.	-*	12	X	X	X		X	X	-								
Mass.	7.0	316	X	X	X	X	X	X	48								X
R.I.	1.0	41	X	X	X	X	X	X	3	X	X	X	X	X	X	X	X
Conn.	8.0	157	X	X	X	X	X	X	8	X	X	X		X	X	X	X
N.Y.	9.0 (a)	601	X	X	X	X	X	X	53	X	X	X					
N.J.	10.0*	325	X	X	X	X	X	X	-					X			
Pa.	10.0*	420	X	X	X	X	X	X	-								
Ohio	3.5*	320	X	X	X	X	X	X	28	X	X	X			X	X	
Ind.	1.5	148	X	X	X	X	X	X	14	X	X	X			X	X	X
Ill.	5.0*	600	X	X	X	X	X	X	44	X	X	X			X	X	X
Mich.	6.0	430	X	X	X	X	X	X	-								
Wisc.	1.0 (b)	310	X	X	X	X	X	X	119	X	X	X	X	X	X	X	
Minn.	4.0*	320	X	X	X	X	X	X	-								
Ia.	2.5	186	X	X		X	X		-								
Mo.	2.0*	261	X	X	X	X	X	X	11	X	X	X	X	X	X	X	
N.D.	0.7	10	X				X	X	4	X							
S.D.	- (c)																
Nebr.	-																
Kans.	3.0	205	X	X	X	X		X	11	X	X	X					
Del.	0.4*	7	X	X	X	X	X	X	-								
Md.	3.0*	200	X	X	X	X	X	X	20	X	X	X	X	X	X	X	
D.C.	2.0	44	X	X	X	X	X	X	-								
Va.	0*	171	X						19	X	X	X			X	X	
W.Va.	4.0*	152	X	X	X	X	X	X	9	X	X	X	X	X	X	X	
N.C.	5.0	214	X	X	X		X	X	38	X	X	X				X	
S.C.	3.0	15	X				X	X	5	X	X	X			X	X	
Ga.	(d)	268	X	X	X	X	X	X	-								
Fla.	15.5	606	X	X	X	X	X	X	31	X	X	X			X	X	
Ky.	-*	192	X				X	X	30	X	X	X			X	X	
Tenn.	2.0	230	X	X	X		X	X	22	X	X	X	X	X	X	X	
Ala.	-*	90	X	X	X		X	X	9	X	X	X	X	X	X	X	
Miss.	0.3	135	X				X	X	5	X	X			X	X		
Ark.	2.0	118	X	X	X		X	X	3	X	X	X			X	X	
La.	(e)								(f)								
Okla.	2.0	186	X	X	X	X	X	X	6	X	X	X	X	X	X		
Tex.	5.0	1,500	X				X	X	24	X	X	X			X	X	
Mont.	0.9	109	X				X	X	(g)								
Ida.	0.5*	58	X	X	X	X	X	X	8	X	X	X			X	X	
Wyo.	1.0	26	X	X	X	X	X	X	(h)								
Colo.	2.0*	105	X	X	X	X	X	X	9	X	X	X			X	X	
N.M.	1.0	88	X	X	X	X	X	X	3	X	X	X			X	X	
Ariz.	4.0	159	X	X	X	X	X	X	5	X	X		X		X		
Utah	3.0*	67	X	X	X	X	X	X	(h)								
Nev.	0.3*	119	X	X	X	X	X	X	2	X	X	X			X		

## XIII. LABORATORY IMPROVEMENT PROGRAM

	# of Professional & Technical Budgeted Positions*	A. Clinical Laboratories							B. Dairy/Food Laboratories								
		# of Registered, Approved, Licensed Labs**	Activities						# of Registered, Approved, Licensed Labs**	Activities							
			Prof. Testing	Field Visits	Labs Under Own Program	Labs Under Other Program	Training	Consultation		Other	Prof. Testing	Field Visits	Labs Under Own Program	Labs Under Other Program	Training	Consultation	Other
Wash.	11.0	350	X	X	X	X	X	X	X	13 (i)	X	X	X				X
Ore.	2.0*	203	X	X	X	X	X	X	X	-							
Calif.	30.0*	1,917	X	X	X	X	X	X	X	-							
Alaska	0.5	14	X	X	X			X	X	-							
Hawaii	1.5	69	X	X	X	X	X	X	X	-							
Guam	-									-							
P.R.	3.0*	343	X	X	X			X	X	-							

\*Figures reported for professional and technical budgeted positions only. An asterisk by an entry indicates that a state reported more personnel than indicated in the professional and technical budgeted positions for this area. This inconsistency resulted from a confusion in the way the data was requested. Future editions will contain total personnel working in this area.

\*\*The numbers listed for registered, approved, and licensed laboratories may not reflect the total number of laboratories for each state. In the next edition we will further define these terms thus improving the accuracy of data in this area.

- (a) Additional 7 positions in Dairy and Water LIP.
- (b) Lab Certification Unit part of Dept. of Health and Social Services (18 positions).
- (c) Handled by Office of State Planning and Development.
- (d) Part of Epidemiology Section (21 positions).
- (e) Handled by State Department of Hospitals.
- (f) Handled by Division of Milk and Dairy Products.
- (g) Handled by Department of Livestock.
- (h) Responsibility of Dept. of Agriculture.
- (i) Program discontinued December 1975 by the State laboratory.

TABLE 4-41

## C. Water Laboratories

## D. Other Activities

	# of Registered, Approved, Licensed Labs*	Activities						Program and Activity
		Proficiency Testing	Field Visits		Training	Consultation	Other	
			Labs Under Own Program	Labs Under Other Program				
Me.	10	X	X		X			Training of med. tech. students, Univ. of Vt. microbiology students, Generalists.
Vt.	-					X		
Mass.	76						X	Seminars; Qualifying exams for lab director.
R.I.	3	X	X		X	X		
Conn.	72	X	X		X	X	X	
N.Y.	59	X	X					
Pa.	294		X		X	X		
Ohio	195	X	X		X	X		
Ind.	50		X	X	X	X		
Ill.	64		X		X	X	X	
Mich.	17			X		X		
Wisc.	92			X	X	X		
Iowa	24			X	X	X		Breath alcohol certification - Agencies; Operators: Field visits and training schools.
Mo.	35		X	X	X	X	X	
N.D.	15		X					
Kans.	7		X		X	X		
Del.	5		X		X	X		14 - Waste water labs - voluntary. On-site visits to blood bank- cert.
Md.	28	X	X	X	X	X		
Va.	32		X		X	X		
W.Va.	26	X	X	X	X	X		
N.C.	29		X		X	X		
Fla.	73		X		X	X		Approval of alcohol breath testing in 303 law enforcement agencies and training schools.

TABLE 4-41 (continued)

## C. Water Laboratories

## D. Other Activities

	# of Registered, Approved, Licensed Labs*	Activities					Program and Activity	
		Proficiency Testing	Field Visits		Training	Consultation		Other
			Labs Under Own Program	Labs Under Other Program				
Ky.	25		X		X	X		
Tenn.	29	X	X		X	X		
Ala.	15		X	X	X	X		
Miss.	10	X	X		X	X		
Ark.	16		X		X	X		
La.	14		X	X	X	X	X	
Okla	15		X	X	X	X		
Tex.	52		X		X	X		
Mont.	13		X	X	X	X	Conduct courses; publish lab bulletin.	
Ida.	6	X	X		X	X	Forensic alcohol testing - 11 labs.	
Wyo.	6		X			X		
Colo.	8			X				
N.M.	3	X	X		X			
Ariz.	-						Analyst permits - blood alcohol program: Proficiency test & field visit.	
Utah	26	X	X	X	X	X		
Wash.	28		X	X	X	X	Lab architect. plan review, microbiology cont. ed. prog., hemoglobin quality assurance prog., quarterly newsletter.	
Ore.	30	X	X		X	X		
Cal.	552	X	X		X	X	Occupational Health - proficiency testing, training, consultation.	
Hawaii	10		X		X	X		

\*The numbers listed for registered, approved, and licensed labs may not reflect total number of labs for each State. In the next edition we will further define these terms, thus improving the accuracy of data in this area.

TABLE 4-42

## XIV. BIOLOGICS, REAGENTS, AND MEDIA PRODUCED FOR DISTRIBUTION

State	Biologics		Reagents	Media	Materials Produced for Distribution
	Human Use	Lab Use			
Mass.	X	X	X		<u>Standard Human Serum Products:</u> Normal Albumin Immune Globulin Tetanus Immune Globulin Rh Immune Globulin <u>Standard Vaccines and Reagents:</u> Silver Nitrate Diphtheria, Tetanus, Pertussis Vaccine Diphtheria and Tetanus Toxoids Tetanus, Diphtheria Toxoids (Adult) Tetanus Toxoid Typhoid Vaccine <u>Special Serums, Vaccines, and Reagents:</u> Schick Test Outfit Diphtheria Antitoxin (Equine) Diphtheria Toxoid (Purified) Tetanus Toxoid (Purified) Horse Serum (Normal) Horse Blood (Defibrinated)
Conn.			X	X	VDRL Antigen Strep. Group A Conjugate Strep. Throat Culture Kits
Ohio				X	Thayer-Martin Media
Mich.	X		X	X	<u>Antigens:</u> Anthrax Vaccine Adsorbed Diphtheria Toxoid Adsorbed Diphtheria and Tetanus Toxoids Adsorbed Diphtheria and Tetanus Toxoids, and Pertussis Vaccine Adsorbed Diphtheria and Tetanus Toxoids, and Polio Vaccine Adsorbed Pertussis Vaccine Adsorbed Tetanus Toxoid Adsorbed Tetanus and Diphtheria Toxoids Adsorbed (Adult) Typhoid Vaccine Smallpox Vaccine <u>Antitoxins:</u> Diphtheria Antitoxin (Equine) <u>Human Blood Products:</u> Antihemophilic Factor (Human) Diphtheria Immune Globulin (Human) Dried Fibrinogen (Human) Immune Serum Globulin (Human) Normal Serum Globulin (Human) <u>Special Chemical Products:</u> Silver Nitrate PPD--Tuberculin Sodium Fluoride Sodium Dithionate (Sickle Cell Reagent) Transgrow
Minn.	X	X	X	X	Media Stains and Solutions Silver Nitrate

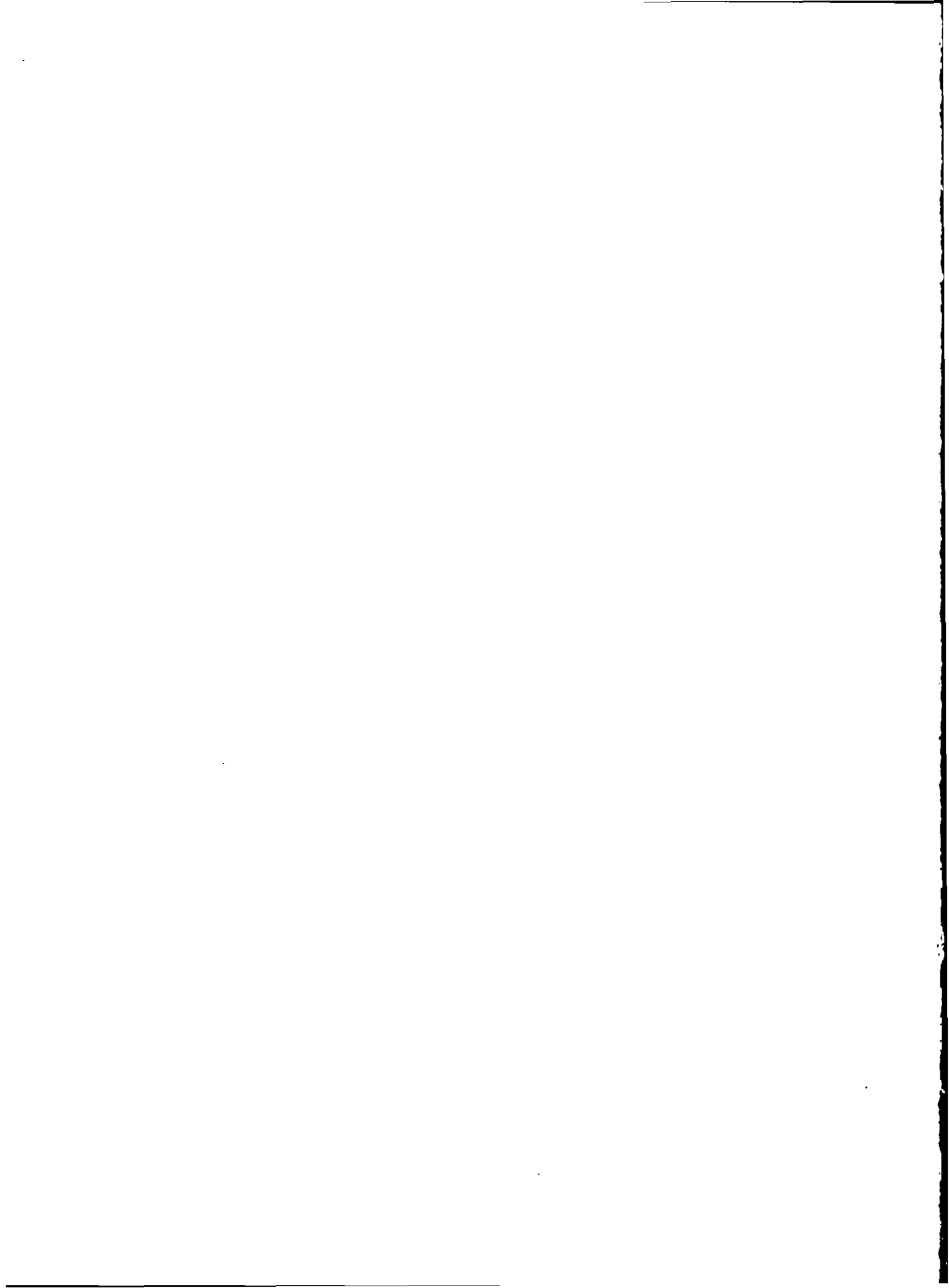
TABLE 4-42 (continued)

## XIV. BIOLOGICS, REAGENTS, AND MEDIA PRODUCED FOR DISTRIBUTION

State	Biologics		Reagents	Media	Materials Produced for Distribution
	Human Use	Lab Use			
Iowa				X	Media Produced for University of Iowa Hospital's Microbiology Laboratory
S.D.				X	Loeffler Medium
D.C.	X	X	X	X	<u>Biologics:</u> Autogenous Vaccines <u>Reagents:</u> Own Formula for SCA Solubility Test Cholesterol Color Reagent Various Reagents for Identification of Microbial Agents <u>Media:</u> Selenite Broth           BHI Broth McConkey                        BEA Tellurite                        Chocolate Agar Mueller Hinton                Decarboxylase Broths Stock Culture Media        Litmus Milk Thioglycollate                Hektoen Enteric Agar MSA                               OF Basal Media
W.Va.			X	X	Transgrow Media
S.C.			X	X	Supplied to Environmental Quality Control Laboratory for use in Their Water Testing Laboratory
Ga.			X	X	*
Ky.				X	Lowenstein-Jensen Media to State TB Hospitals Blood Agar Media to Bowling Green-Warren County Health Dept.
Tenn.				X	Various Kits, Bottles, and Mailers Thayer-Martin Plates
Ala.				X	Thayer-Martin Media
La.		X		X	Thayer-Martin Media Lowenstein-Jensen Media
Tex.	X	X	X	X	*
Colo.				X	Transgrow GC Media
N.M.			X	X	<u>Reagents:</u> Buffered Saline with Glycerol Polyvinal Alcohol (12%) Dibasic Sodium Phosphate (40%) Formalin (10%) <u>Media:</u> Thayer-Martin Modified Medium PAI Agar Slants Cary-Blair Transport Medium with Charcoal Swab + .85% NaCL Tryptose Phosphate Broth, Buffered, with Gelatin
Utah			X	X	*
Wash.			X	X	Concentrated Milk Buffer Lowenstein-Jensen Media TABCO

\*Not Specified





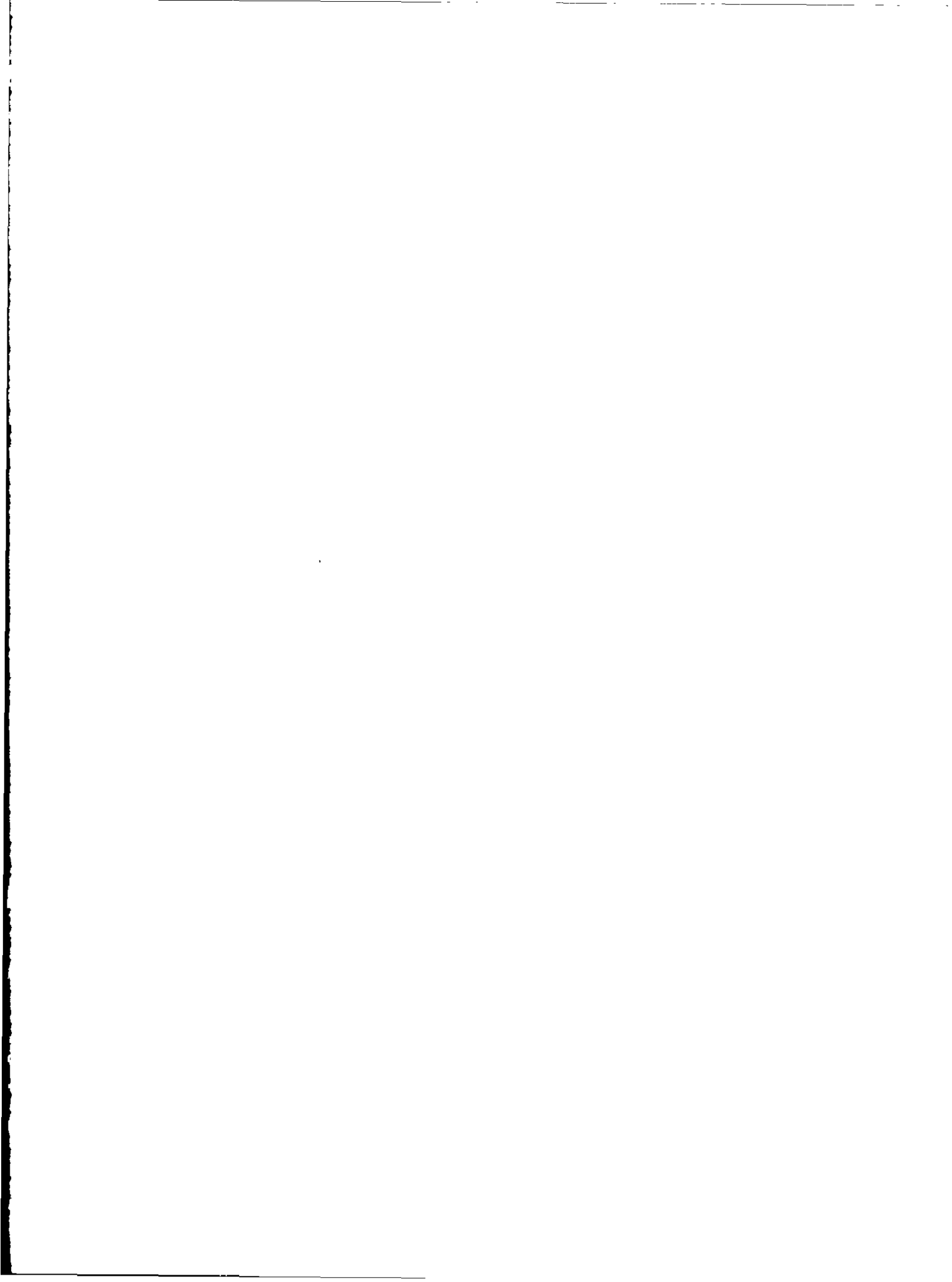


TABLE 4-44

## B. Applied Research

State	Titles of Research Projects	# of Positions	Funding Support			
			Federal Grant	Contract	State Funds	Other Funds
Conn.	<ol style="list-style-type: none"> <li>1. DOT Highway Construction Monitoring</li> <li>2. Hydrocarbon Quantitation</li> <li>3. Solid Waste Leaching</li> <li>4. Quality Control Chemical DPA</li> <li>5. Turbidity Testing</li> <li>6. XADL Resins for Drug Isolation</li> <li>7. Method for Cyanide Determination</li> <li>8. U.V. Spectrophotometry for Drugs in Organic Solvents</li> </ol>		X		X	
Penn.	<ol style="list-style-type: none"> <li>1. FA Test for Herpes Simplex</li> <li>2. RIA Test for Viruses</li> </ol>	<p>0.5</p> <p>1.0</p>			X	X
Ohio	<ol style="list-style-type: none"> <li>1. Encephalitis Epidemiology</li> </ol>	2.0	X		X	
Mich.	<ol style="list-style-type: none"> <li>1. Preparation for Clinical Use of Immune Serum Globulin for Intravenous Administration</li> <li>2. Development of Micromethods for Measurement of Diphtheria and Tetanus Antitoxins</li> <li>3. Development of a Brucellosis Vaccine</li> <li>4. The Testing of Antibiotic Beers and Purified Preparations by Means of Tissue Culture Assay Techniques</li> <li>5. Antibiotics and Anticancer Agents</li> </ol>	<p>2.0</p> <p>0.5</p> <p>2.0</p> <p>4.0</p> <p>20.0</p>		<p>107,000 1 year</p> <p>60,000/yr 2 years 57,873</p>	X	420,000
Wisc.	<ol style="list-style-type: none"> <li>1. Evaluation of the Basic Analyzer--Ortho Diagnostic Company</li> </ol>	1.0		30,000		
Iowa*	<ol style="list-style-type: none"> <li>1. Involvement in Collaborative Effort to Study Infant Lead Metabolism</li> <li>2. Investigation of the Presence of Toxic Factors in Dilution Blanks, and Practical Ways to Routinely Check for Toxicity</li> <li>3. Development of an Electronic Corrosion Tendency Test to Detect Current Flow Between Dissimilar Metals Suspended in Corrosive Waters</li> <li>4. Development of Head Space Analysis of Volatile Organics in Finished Waters to Eliminate Solvent Interference Effects</li> <li>5. Adaptation of the Radioimmunoassay (RIA) Technique for Arbovirus Detection in Mosquitoes</li> <li>6. Statistical Survey of Results of FEP vs Micro Lead Analysis in Childhood Lead Poisoning Control Program</li> </ol>					
Kans.	<ol style="list-style-type: none"> <li>1. Lead Analysis--Working on an Alternative to the Nitric Acid Soxhlet Extraction Method for Lead in Air Quality Samples</li> </ol>					

TABLE 4-44 (continued)

## B. Applied Research

State	Titles of Research Projects	# of Positions	Funding Support			
			Federal Grant	Contract	State Funds	Other Funds
D.C.	1. Cholesterol Extraction 2. Development of Standard for EP Test 3. GC Identification Test 4. Test for E. coli 5. Test for Influenza Virus					
Utah	1. An Automated Technique for the Sub-Microgram Determination of Selenium and Arsenic in Surface Waters by Atomic Absorption Spectroscopy	0			X	
Calif.	1. Development of Reference Method for Plasma and RBC Cholinesterase Activity	2.0			X	
	2. Development of Reference Method for Drug Screening in Uring	1.0			X	
	3. Methods for Airborne Sulfate	2.8		86,000		
	4. Identification of Airborne Carcinogens	0.5	20,000			

\*All of the above projects are performed with personnel time and funds contributed as time permits from the laboratory's service functions.

SECTION V

ORGANIZATIONAL CHANGES, SCREENING PROGRAMS,  
AND BRANCH LABORATORY INFORMATION

SECTION V

ORGANIZATIONAL CHANGES, SCREENING PROGRAMS,  
AND BRANCH LABORATORY INFORMATION

TABLE 5-1. STATES REPORTING CHANGES DURING THE REPORTING YEAR AFFECTING  
RELATIONSHIPS OF THE LABORATORY WITH OTHER UNITS OF GOVERNMENT.

STATE	REPORTED CHANGES
Mich.	As of July 1, 1975, the Bureau of Laboratories was combined with the Bureau of Community Health, containing the epidemiological services of the Department of Public Health, into the present Bureau of Disease Control and Laboratory Services. The Chief of the Bureau of Laboratories became Chief of the new Bureau and the position of Laboratory Director was created for the laboratory services, in parallel with a position of Disease Control Officer for the disease control activities. The laboratory activities under the Laboratory Director were organized into five programs, i.e., Laboratory Diagnosis, Antibiotic & Fermentation, Biologic Products, Crime Detection, and Laboratory Improvement.
Fla.	Reorganization of Department of Health and Rehabilitative Services was mandated by legislative action. Programs (including health) formerly supervised by eight divisions were decentralized to eleven districts. Public Health Laboratory Services will continue to be provided on a statewide basis through the existing system of a central and six branch laboratories under "Central Operations Services." It is anticipated that other laboratory functions will be relegated to this bureau in the near future as departmental reorganization progresses.
Tenn.	Administrative responsibility for the Toxicology laboratory system was transferred to the Division of Laboratory Services for fiscal year 1975-76. It is now (FY 77) under the management of the Tennessee Department of Safety.

TABLE 5-2 . LABORATORIES REPORTING SCREENING PROGRAMS

STATES	LIST OF PROGRAMS							OTHERS
	PKU	RUBELLA	GC	DIABETES	CHILDHOOD LEAD POISONING	GALACTOSEMIA	SICKLE CELL	
Me.	X	X	X		X	X		MSUD; Hypothyroidism
N.H.	X			X				
Mass.	X					X		Cord Blood; MSUD; Homocystinuria; Tyrosinosis; Amino Acid Disorders; Histidinemia; Organic Acid Disorders; Disulfidurias; Glucosurias.
R.I.	X	X			X		X	T <sub>4</sub> .
Conn.	X		X	X	X	X		Tyrosinemia; Hemoglobinopathies.
N.Y.					X			Newborn Metabolic Diseases; Venereal Diseases
N.J.	X				X			
Pa.	X			X	X			EP (Developmental).
Ohio	X					X		Homocystinuria.
Wisc.					X			Multiphasic Screening.
Minn.	X					X		
Iowa	X	X	X		X			
Mo.	X			X				
N.D.	X							
S.D.		X	X					Strep; Syphilis.
Kans.	X		X					
Md.	X					X		MSUD; Histidine; Methionine.
D.C.			X	X	X			Hemoglobinopathies; Elevated Cholesterol; PAP Smear;
Va.	X							Glucose.
W.Va.	X		X				X	Cytology; Triglycerides.
N.C.	X			X	X		X	Hypertension; Hemoglobinopathies; Chronic Disease Detection; EPSDT; Cervical Cancer.
S.C.	X		X		X			Hemoglobinopathies; Parasitology; Multiphasic Screening.
Ga.	X						X	
Fla.	X				X			Hemoglobinopathies; Coronary Heart Multiphasic Screening.
Ky.	X				X	X		
Tenn.	X		X				X	Syphilis; Group A Strep; Hyperglycemia.
Ala.	X				X			Hemoglobinopathies; Exfoliative Cytology; Intestinal Parasites.
Miss.				X				
Ark.	X						X	AFDC - Hematocrit; Hemoglobin.
La.	X		X				X	Group A Strep.
Okla.	X		X	X				Hemoglobinopathies.
Tex.	X			X				Hemoglobinopathies; Erythrocyte Protoporphyrin; Cyanomethemoglobin; Syphilis.
Mont.		X	X					MSUD; Tyrosinemia; Methionemia; Hypothyroidism; PKU; Galactosemia → Ore.
Idaho	X							Other Metabolic Diseases.
Colo.	X		X					
N.M.	X				X			EPSDT.
Ariz.								Cholesterol Screening.
Nev.	X						X	
Wash.	X						X	Cholinesterase; Pesticides in Urine - Occupational Exposure.
Ore.	X	X				X		Hypothyroidism; Homocystinuria; MSUD; Tyrosinemia; Toxoplasmosis; Syphilis.
Alaska	X	X	X					



TABLE 5-3. LABORATORIES REPORTING BRANCH LABORATORIES

STATE	LOCATION OF BRANCH LAB	# OF STAFF	SERVICES OFFERED									
			Diag. Bact. Spec.				MYCOLOGY SPECIMENS	Para. Spec.	Vir. Spec.	Immunology Spec.	Hematol. Spec.	Clin. Chem. Spec.
			Nasopharyngeal	Mycobacteria	Enteric	Gonococcus	Other Bact.	Intestinal Other Specimens	Rabies Viral Isolation	Syphilis Serology Bacterial Serology Fungal Serology Paras. Serology Viral & Rick. Serol. Other Serology	Hematology Immunohematology Hemoglobinopathy	Clinical Chemistry Urinalysis Inborn Errors Multiphasic Screen. Other Clin. Chem.
N.Y.	Syracuse	37										
	Alexandria Bay	1										
	Avon	2										
	Buffalo	2										
	Ray Brook	1										
	Stoney Brook	2										
	West Haverstraw	2										
Ohio	Logan	5	X	X	X				X			
	Cuyahoga Falls	12	X	X	X				X			
	Bowling Green	8	X	X	X				X			
	Dayton	5	X	X	X				X			
Ill.	Springfield	41	X	X	X	X	X	X	X	X		
	Carbondale	12	X	X	X	X	X	X	X	X		
Mich.	Grand Rapids	37	X	X	X	X	X	X		X	X	X
	Powers	9	X	X	X	X	X	X		X	X	X
	Houghton	6	X	X	X	X	X	X		X		X
	Holland	8										
	Bridgeport	6										
	Warren	8										
	Negaunee	4										
Ia.	Des Moines	21										
N.D.	Grand Forks	12	X	X	X	X	X	X	X	X	X	X
Nebr.	Scottsbluff	4.5	X	X	X		X			X		
Md.	Annapolis	6	X	X	X	X	X			X		X
	Cambridge	6	X	X	X	X	X			X		X
	Cheverly	10	X	X	X	X	X			X		X
	Cumberland	8	X	X	X	X	X			X		X
	Easton	5	X	X	X	X	X			X		X
	Frederick	7	X	X	X	X	X			X		X
	Rockville	6	X	X	X	X	X			X		X
	Salisbury	12	X	X	X	X	X			X		X
Va.	Abingdon	16	X	X	X	X	X	X	X	X	X	X
	Luray	8	X	X	X	X	X	X	X	X	X	X
S.C.	Anderson	2			X	X				X	X	X
	Charleston	4	X	X	X	X				X	X	X
	Florence	4			X					X		
	Greenville	5	X		X	X				X	X	
	Spartanburg	2								X		
	Sumter	3					X			X		

TABLE 5-3. LABORATORIES REPORTING BRANCH LABORATORIES  
(Continued)

STATE	LOCATION OF BRANCH LAB	# OF STAFF	SERVICES OFFERED									
			Exfoliative Cytology Cytogenetics Other Specimens	Water Dairy Products Food & Beverage Other Samples	Env. Micro. Samp.	Env. Chem. Samp.	Occup. Hlth. & Saf. Samp.	Tox. Samp.	Lab Improv. Program	Biol., Reagent, Media Prod.	R/D	
N.Y.	Syracuse	37		X X X		X X				X X		
	Alexandria Bay	1		X		X						
	Avon	2		X		X						
	Buffalo	2		X		X						
	Ray Brook	1		X		X						
	Stoney Brook	2		X		X						
	West Haverstraw	2		X		X						
Ohio	Logan	5		X		X X						
	Cuyahoga Falls	12		X		X X						
	Bowling Green	8		X X		X X						
	Dayton	5		X		X X						
Ill.	Springfield	41		X X X X		X X X X X	X	X X		X X		
	Carbondale	12		X X X X		X X X						
Mich.	Grand Rapids	37		X X X							X	
	Powers	9		X X X X		X X					X	
	Houghton	6		X X X X		X					X	
	Holland	8						X X				
	Bridgeport	6						X X				
	Warren	8						X X				
	Negaunee	4						X X				
Ia.	Des Moines	21		X		X X	X X	X		X		
N.D.	Grand Forks	12		X X X						X	X X	
Nebr.	Scottsbluff	4.5		X		X			X			
Md.	Annapolis	6		X X X		X						
	Cambridge	6		X X								
	Cheverly	10		X X X								
	Cumberland	8		X X		X X X						
	Easton	5		X X X								
	Frederick	7		X X		X						
	Rockville	6										
	Salisbury	12		X X		X X						
Va.	Abingdon	16		X X								
	Luray	8		X X								
S.C.	Anderson	2									X X X	
	Charleston	4									X X X	
	Florence	4		X							X X X	
	Greenville	5		X							X X	
	Spartanburg	2	X									X
	Sumter	3	X									

TABLE 5-3. LABORATORIES REPORTING BRANCH LABORATORIES  
(Continued)

STATE	LOCATION OF BRANCH LAB	# OF STAFF	SERVICES OFFERED						
			Diag. Bact. Spec.		MYCOLOGY SPECIMENS	Para. Spec.	Vir. Spec.	Immunology Spec.	Hematol. Spec.
			Nasopharyngeal Mycobacteria Enteric Conococcus Other Bact.			Intestinal Other Specimens	Rabies Viral Isolation	Syphilis Serology Bacterial Serology Fungal Serology Paras. Serology Viral & Rick. Serol. Other Serology	Hematology Immunohematology Hemoglobinopathy
Ga.	Albany	11	X X X X		X	X	X	X X	X
	Macon	12	X X X X		X	X	X	X X	X
	Waycross	11	X X X X		X	X	X	X X	X
Fla.	Miami	40	X X X X X	X	X X	X	X X	X X X	X X
	Tampa	35	X X X X X	X	X X	X	X	X X	X X
	West Palm Beach	10	X X X X X	X	X X	X	X	X X X	X X
	Orlando	11	X X X X	X	X X	X	X	X X X	X X
	Tallahassee	9	X X X X X	X	X	X	X	X X X	X
	Pensacola	11	X X X X X	X	X X	X	X	X X X	X X X X
Ky.	Paducah	4			X		X	X X	X X X
Tenn.	Chattanooga	16	X X X X		X X	X	X		
	Jackson	9	X X X		X	X	X		
	Johnson City	16	X X X		X	X	X		
	Knoxville	20	X X X		X	X	X		
	Memphis	18	X X X		X	X	X		
Ala.	Anniston	8			X	X	X		
	Birmingham	26	X X X X		X X	X X	X	X	X X
	Decatur	6			X X	X	X		
	Dothan	2	X						
	Huntsville	7	X X X		X	X	X		
	Mobile	15	X X		X X	X	X		
	Selma	6			X	X			
Tuscaloosa	5	X X X			X			X	
Miss.	Columbus	2			X				
	Gulfport	2			X				
	Magnolia	2			X				
	Tupelo	2			X				
La.	Shreveport	17	X X X X X	X	X X	X	X	X	
	Alexandria	12	X X X X X	X	X X	X	X	X	
	Monroe	9	X X X X X	X	X X	X	X	X	
	Lafayette	12	X X X X X	X	X X	X	X	X	
	Lake Charles	12	X X X X X	X	X X	X	X	X	
	Amite	5							
Tex.	Abilene	4			X X		X X	X X	X X
	Amarillo	4	X X X X X		X X		X	X	X X
	Brownwood	1			X		X		
	Bryan	1			X		X		
	Corpus Christi	13	X X X				X X	X X	X
	Dallas	22	X X X X		X X		X X	X	
	El Paso	15	X X X X X	X	X X	X	X X	X	X
	Ft. Worth	8	X X X X				X X		X

TABLE 5-3. LABORATORIES REPORTING BRANCH LABORATORIES  
(Continued)

STATE	LOCATION OF BRANCH LAB	# OF STAFF	SERVICES OFFERED							
			Path. Spec.	Env. Micro. Samp.	Env. Chem. Samp.	Occup. Hlth. & Saf. Samp.	Tox. Samp.	Lab Improv. Program	Biol., Reagent, Media Prod.	R/D
			Exfoliative Cytology Cytogenetics Other Specimens	Water Dairy Products Food & Beverage Other Samples	Water Dairy Products & Food Pesticide Air Pollution Radiological Analysis Other Samples	Environmental Biological	Physical Biological	Clinical Laboratories Dairy/Food Lab. Water Lab. Other	Biologics Reagents Media	Basic Research Applied Research Technical Development
Ga.	Albany	11								X X
	Macon	12								X X
	Waycross	11								X X
Fla.	Miami	40		X X X X	X					
	Tampa	35		X X X X	X		X			X
	West Palm Beach	10		X X						
	Orlando	11		X X X						
	Tallahassee	9		X X X X						
	Pensacola	11		X X X X		X				X
Ky.	Paducah	4		X X						
Tenn.	Chattanooga	16		X X X						X X
	Jackson	9		X X X						X X
	Johnson City	16		X X X						X X
	Knoxville	20		X X X						X X
	Memphis	18		X X X						
Ala.	Anniston	8		X X X X	X X					
	Birmingham	26		X X X	X					
	Decatur	6		X X X	X X					
	Dothan	2		X X						
	Huntsville	7		X X						X X
	Mobile	15		X X X X	X X					
	Selma	6		X X						
	Tuscaloosa	5		X X X	X X					
Miss.	Columbus	2		X X						
	Gulfport	2		X X X						
	Magnolia	2		X X						
	Tupelo	2		X X						
La.	Shreveport	17		X X X X	X X		X			X
	Alexandria	12		X X X X	X X		X			X
	Monroe	9		X X X X	X X		X			X
	Lafayette	12		X X X X	X X		X			X
	Lake Charles	12		X X X X	X X		X			X
	Amite	5		X X	X					
Tex.	Abilene	4		X X X	X					
	Amarillo	4		X X X						
	Brownwood	1			X					
	Bryan	1			X					
	Corpus Christi	13		X X X	X					X
	Dallas	22		X X X X	X					
	El Paso	15		X X X						X
	Ft. Worth	8		X X X						

TABLE 5-3. LABORATORIES REPORTING BRANCH LABORATORIES  
(Continued)

STATE	LOCATION OF BRANCH LAB	# OF STAFF	SERVICES OFFERED						
			Diag. Bact. Spec.				Para. Spec.	Vir. Spec.	Immunology Spec.
			Nasopharyngeal Mycobacteria Enteric Conococcus Other Bact.	MYCOLOGY SPECIMENS	Intestinal Other Specimens	Rabies Viral Isolation	Syphilis Serology Bacterial Serology Fungal Serology Paras. Serology Viral & Rick. Serol. Other Serology	Hematology Immunohematology Hemoglobinopathy	Clinical Chemistry Urinalysis Inborn Errors Multiphasic Screen. Other Clin. Chem.
Tex. (Cont.)	Greenville	1	X		X		X X		X
	Harlingen	10	X X X X X	X	X X		X X	X	X X
	Houston	70	X X X X X	X	X X	X X	X X X X	X X X	X X X
	La Marque	5	X X X X				X		
	Laredo	5	X X X X	X	X X		X X		X
	Lubbock	6	X X X				X X	X	X X
	Midland	3	X X		X X		X X	X X	X X
	Paris	1	X				X		
	Port Arthur	6	X X X X X	X	X X		X	X	X X
	San Angelo	2	X				X	X X	X X
	San Antonio	37	X X X X X			X	X X	X X X	X X
	Sweetwater	1	X				X	X	X
	Texarkana	3	X X		X		X X		
	Tyler	8	X X X X	X	X		X X		X
	Waco	9	X X X				X X		
Wichita Falls	5	X X X X X	X	X X		X X	X X	X X	
Ida.	Coeur d'Alene	5.5	X X X X X	X	X X		X	X	X
	Caldwell	1	X				X	X	X
	Idaho Falls	2	X X X X X	X	X X		X	X X	X
	Lewiston	2	X X X X X	X	X X		X	X	X
	Pocatello	3.5	X X X X X	X	X X		X	X	X
Twin Falls	4	X X X X X	X	X X		X	X	X	
Colo.	Alamosa	2	X X						
	Glenwood Springs	2	X X						
N.M.	Clovis	2	X X						
	Farmington	2	X X					X	
Ariz.	Tucson	6	X		X	X	X		
	Flagstaff	3	X				X		
Nev.	Las Vegas	6	X X X	X	X X			X X	X
Cal.	Los Angeles	37.5							
Alaska	Anchorage	11	X X X X X	X	X X		X X	X	
	Fairbanks	13	X X X X X	X	X X	X X	X X	X	X
	Juneau	6	X X X X X	X	X X		X X	X	
Hawaii	Hilo, Hawaii	6	X X X X X	X	X		X X	X	
	Wailuku, Maui	4	X X X X	X	X X		X X		
	Lihue, Kauai	3	X X X X	X	X X		X X		
Guam	Inarajan	1			X			X	X
P. R.	Ponce	2							
	Arecibo	3							
	Mayaguez	2							

TABLE 5-3. LABORATORIES REPORTING BRANCH LABORATORIES  
(Continued)

STATE	LOCATION OF BRANCH LAB	# OF STAFF	SERVICES OFFERED							
			Path. Spec.	Env. Micro. Samp.	Env. Chem. Samp.	Occup. Hlth. & Saf. Samp.	Tox. Samp.	Lab. Improv. Program	Biol., Reagent, Media Prod.	R/D
			Exfoliative Cytology Cytogenetics Other Specimens	Water Dairy Products Food & Beverage Other Samples	Water Dairy Products & Food Pesticide Air Pollution Radiological Analysis Other Samples	Environmental Biological	Physical Biological	Clinical Laboratories Dairy/Food Lab. Water Lab. Other	Biologics Reagents Media	Basic Research Applied Research Technical Development
Tex. (Cont.)	Greenville	1		X X						
	Harlingen	10		X X X						
	Houston	70		X X X	X X X				X	
	La Marque	5		X X X						
	Laredo	5		X X X						
	Lubbock	6		X X X						
	Midland	3		X X X						
	Paris	1		X X						
	Port Arthur	6		X X X						
	San Angelo	2		X X	X					
	San Antonio	37		X X X	X X X					
	Sweetwater	1		X X						
	Texarkana	3		X X						
	Tyler	8		X X X						
	Waco	9		X X						
Wichita Falls	5		X X X	X						
Ida.	Coeur d'Alene	5.5		X X X X	X					
	Caldwell	1	X							
	Idaho Falls	2		X X X X	X					
	Lewiston	2		X X X X	X					
	Pocatello	3.5		X X X X	X					
	Twin Falls	4		X X X X	X					
Colo.	Alamosa	2		X						
	Glenwood Springs	2		X						
N.M.	Clovis	2		X X X						
	Farmington	2		X X X						
Ariz.	Tucson	6		X X						
	Flagstaff	3		X X						
Nev.	Las Vegas	6		X X X	X			X		
Cal.	Los Angeles	37.5		X	X X X	X	X		X	X
Alaska	Anchorage	11		X X X X						
	Fairbanks	13		X X X X						
	Juneau	6		X X X X	X X			X	X	
Hawaii	Hilo, Hawaii	6		X X X	X					
	Wailuku, Maui	4		X X X	X					
	Lihue, Kauai	3		X X X	X					
Guam	Inarajan	1								
P.R.	Ponce	2		X X	X X					
	Arecibo	3			X X					
	Mayaguez	2		X X						

TABLE 5-3. LABORATORIES REPORTING BRANCH LABORATORIES  
(Continued)

STATE	LOCATION OF BRANCH LAB	# OF STAFF	SERVICES OFFERED					
			Diag. Bact. Spec.	MYCOLOGY SPECIMENS	Para. Spec.	Vir. Spec.	Immunology Spec.	Hematol. Spec.
			Nasopharyngeal Mycobacteria Enteric Gonococcus Other Bact.	Intestinal Other Specimens	Rabies Viral Isolation	Syphilis Serology Bacterial Serology Fungal Serology Paras. Serology Viral & Rick. Serol. Other Serology	Hematology Immunohematology Hemoglobinopathy	Clinical Chemistry Urinalysis Inborn Errors Multiphasic Screen. Other Clin. Chem.
Okla.	Lawton	3.5	X			X		
	Muskogee	4	X			X X	X	X
	Elk City	2	X			X X		
	Hugo	3	X			X X	X	

TABLE 5-3. LABORATORIES REPORTING BRANCH LABORATORIES  
(Continued)

STATE	LOCATION OF BRANCH LAB	# OF STAFF	SERVICES OFFERED							
			Path. Spec.	Env. Micro. Samp.	Env. Chem. Samp.	Occup. Hlth. & Saf. Samp.	Tex. Samp.	Lab Improv. Program	Biol., Reagent, Media Prod.	R/D
			Exfoliative Cytology Cytogenetics Other Specimens	Water Dairy Products Food & Beverage Other Samples	Water Dairy Products & Food Pesticide Air Pollution Radiological Analysis Other Samples	Environmental Biological	Physical Biological	Clinical Laboratories Dairy/Food Lab. Water Lab. Other	Biologics Reagents Media	Basic Research Applied Research Technical Development
Okla.	Lawton	3.5		X X	X					
	Muskogee	4		X X	X					
	Elk City	2		X X	X					
	Hugo	3		X X	X					

11