

Approved: February 16, 2000  
Date

MINUTES OF THE HOUSE COMMITTEE ON HEALTH AND HUMAN SERVICES.

The meeting was called to order by Chairperson Garry Boston at 1:15 p.m. on February 2, 2000 and the committee toured the Health and Environment Laboratories.

All members were present except: Representative Geraldine Flaharty, Excused  
Representative David Haley, Excused  
Representative Brenda Landwehr, Excused  
Representative Dale Swenson, Excused  
Representative Dixie Toelkes, Excused  
Representative Jonathan Wells, Excused

Committee staff present: June Evans, Secretary

Conferees appearing before the committee:

Roger H. Carlson, Ph.D., Director, Division of Health and Environmental Laboratories gave an overview of the laboratory and then the group broke up into small groups and toured four areas of the laboratory.  
(See Attachment #1)

The meeting was over at 3:45 p.m. and the next meeting will be February 7.



**KANSAS**  
**DEPARTMENT OF HEALTH & ENVIRONMENT**  
BILL GRAVES, GOVERNOR  
Clyde D. Graeber, Secretary

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**Health and Environmental Laboratories Overview**  
**presented to the**  
**House Health and Human Services Committee**  
**February 1, 2000**

Chairman Boston and members of the committee, I am pleased to appear before you today to provide an introduction to the Health and Environmental Laboratories within the Kansas Department of Health and Environment.

The **Health and Environmental Laboratories** (DHEL) provide comprehensive chemical and biological analyses on a large volume of samples received each year. These analyses provide diagnostic and assessment information necessary for the operation of public health and environmental programs. Certification and laboratory improvement efforts are performed for regulated health, environmental, and law enforcement laboratories.

DHEL program has five subprograms: 1) **Administration**; 2) **Reporting**; 3) **Microbiology**; 4) **Chemistry**; and 5) **Laboratory Improvement and Certification**.

The **Laboratory Administration and Reporting** subprogram provides overall laboratory direction and facilitates the acquisition of samples and specimens and the rapid return of data reports to public health clients each year.

The **Chemistry** subprogram consist of four chemistry laboratories conduct analyses used to evaluate environmental air and water quality, to define asbestos and radiological hazards, diagnose diseases of public health interest, and monitor the proper use and disposal of chemicals.

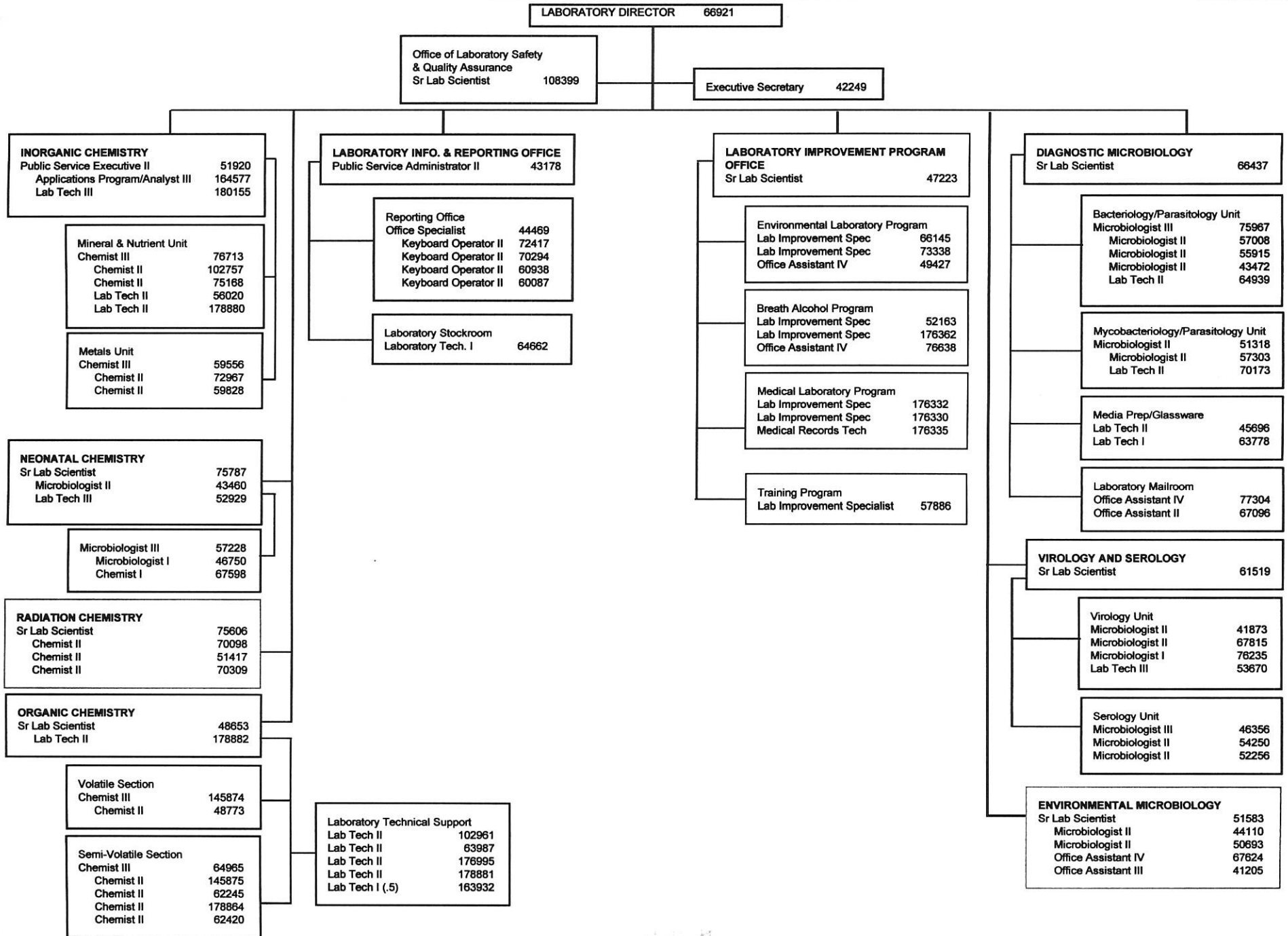
The Organic Chemistry laboratory performs analyses for volatile organic compounds (VOCs), pesticides, synthetic organic compounds (SOCs), and priority pollutants in support of public drinking water monitoring programs, routine ambient water monitoring programs, hazardous waste management programs and remedial cleanup activities of contaminated sites.

The Neonatal Chemistry laboratory is the central laboratory for screening approximately 39,000 newborns in Kansas for four metabolic deficiency diseases within 30 days after birth. Newborn screening includes neonatal blood tests for the early detection and treatment of diseases (galactosemia, hypothyroidism, phenylketinuria (PKU), and hemoglobinopathies) which could cause death during infancy, morbidity or

**DIVISION OF HEALTH & ENVIRONMENTAL LABORATORIES**

December 9, 1999

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# HEALTH AND ENVIRONMENTAL LABORATORIES OVERVIEW

## FY 00 PROJECTION



### HISTORY

- The first biological and chemical analyses were performed at the Kansas Board of Health in 1886.
- Laboratory analysis of waters and waste waters began in 1907.
- Certification of health laboratories began in 1947.
- Health laboratories destroyed by tornado of 1966.
- Health and environmental laboratories merged in 1974.

### MISSION

- Provide timely and accurate analytical data in support of Kansas public health programs.
- Assure the quality of statewide laboratory services through certification, and improvement programs.

### CURRENT STAFF LEVEL

- 84

### INSTRUMENT INVESTMENT

- \$4,400,052

### CURRENT BUDGET

- \$5.03 million

	SAMPLES	TESTS
CHEMISTRY	69,100	613,500
MICROBIOLOGY	171,170	273,655
<b>TOTAL FY00 SPECIMENS</b>	<b>240,270</b>	<b>887,155</b>

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CHEMISTRY - FY00			
			Staff Level 36
<u>Program</u>	<u>Explanation</u>	<u>Samples</u>	<u>Tests</u>
Air Quality	Ambient air standards, particulates, metals, ions	845	23,795
Public Water Supplies	U.S. and Kansas Safe Drinking Water requirements. (Organic, Inorganic, Radiologic).	7,330	80,245
Hazardous Waste	Health and environmental protection	175	4,015
Emergency Response	Identify spills, leaks and other acute problems	40	1,360
NPDES Major Discharge Compliance	Periodic checks to monitor discharges	110	2,450
Groundwater Monitoring Network	Groundwater protection	470	7,680
Pollution Investigations	Monitor feedlot runoff, fish kills	110	1,080
Radiation Monitoring	Wolf Creek and elsewhere	2,000	11,800
Environmental Remediation	Investigate groundwater and soil contamination from past improper drilling/pumping/dumping practices	2,700	124,845
Ambient Water	Monitor water quality in streams and public reservoirs	5,700	130,465

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CHEMISTRY - FY00			Staff Level 36
<u>Program</u>	<u>Explanation</u>	<u>Samples</u>	<u>Tests</u>
Landfill Monitoring	Monitor leachate from landfill operations	110	4,425
Neonatal Screening	Neonatal Screen Kansas Statute: Hypothyroidism (T4/TSH) Galactosemia PKU Hemoglobinopathies	45,280	217,110
Blood Lead Screening	Prevent adverse health effects in children	4,030	4,030
Environmental Toxicology	Asbestos examination	200	200
CHEMISTRY TOTALS		69,100	613,500

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MICROBIOLOGY - FY00			
			Staff Level 26
<u>Program</u>	<u>Explanation</u>	<u>Samples</u>	<u>Tests</u>
Mycology	Identify fungi	630	9,900
Reference Bacteriology	Assist Kansas clinical and hospital labs, health depts.	550	10,595
TB Control	Decrease morbidity and mortality	3,700	27,900
Food borne Illness	Acute outbreaks	15	75
Enteric Diseases (Salmonella, Shigella, Campylobacter)	Disease control	900	17,800
Molecular Typing (Salmonella, Shigella, Campylobacter)	Disease control	650	10,265
Parasitology	Refugee populations, day care centers, physicians	3,600	7,300
Virus identification	Virus pathogen identifications not available elsewhere	2,500	10,000
Public Water Supplies	Prevent waterborne disease	39,325	39,325

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MICROBIOLOGY - FY00			Staff Level 26
Program	Explanation	Samples	Tests
Ambient Water	Stream monitoring studies--ambient water quality standards	1,715	10,280
	Reservoir monitoring studies--ambient water quality standards	565	2,625
Serology ID			
Mycoplasma	Respiratory disease control	50	50
Other virus	Viral disease control	600	1,500
RMSF	Diagnose infections	50	150
Rubella	Prevent infant retardation & death	5,670	6,200
Hepatitis B	Diagnosis and control	4,500	4,500
STD's			
HIV	AIDS-associated virus	14,000	15,500
Chlamydia	Non-Gonococcal urethritis and infant pneumonia	30,000	32,500
Syphilis	Disease control/morbidity	32,000	34,000
Gonorrhea (probe)	Disease control/morbidity	30,000	32,500
Gonorrhea (culture)	Disease control/morbidity	150	690
<b>MICROBIOLOGY TOTALS:</b>		<b>171,170</b>	<b>273,655</b>

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LABORATORY IMPROVEMENT PROGRAM - FY00		Staff Level 12
Program	Explanation	Facilities
Environmental Certification Program Office	Drinking water, NPDES and hazardous waste	290
Medical Laboratory Program Office	Medicare, CLIA, Kansas hospital licensure, drugs of abuse	2,075
Breath Alcohol Program Office	Breath Alcohol, DWI 3,475 certified operators 135 law enforcement agencies with instruments 195 instruments	

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Division of Health and Environmental Laboratories  
Neonatal Chemistry Laboratory

**Phenylketonuria (PKU):** The enzyme that converts the amino acid phenylalanine to the amino acid tyrosine is defective. The products produced as a result of this defective process is toxic to the rapidly growing brain cells. This toxic environment causes irreversible damage to the brain cells.

**Congenital Hypothyroidism:** A missing or defective thyroid gland is unable to produce the hormone *thyroxine* (also known as T4). The human cell energy production is dependent on the availability of this hormone (T4). Rapidly growing cells, as in the brain, are energy dependent. Low levels or no thyroxine (T4) will produce undeveloped brain cells.

**Galactosemia:** The enzyme that converts lactose in milk to a usable form of sugar for the body is defective. The conversion process is only partially completed. The products produced by the partial conversion is toxic to the liver, kidney and brain when elevated in the blood.

**Hemoglobin phenotype profile:** A hemoglobin consists of a large number of carbon, hydrogen and nitrogen atoms. The amount of each of the atoms and the order of the arrangement makes one hemoglobin different from another. The expected hemoglobin in infants is **F** (fetal) **A** (adult) **hemoglobin**. Variation of the expected arrangement may or may not be a medical problem. Sickle cell disease is one of the arrangements that has potential medical problems.

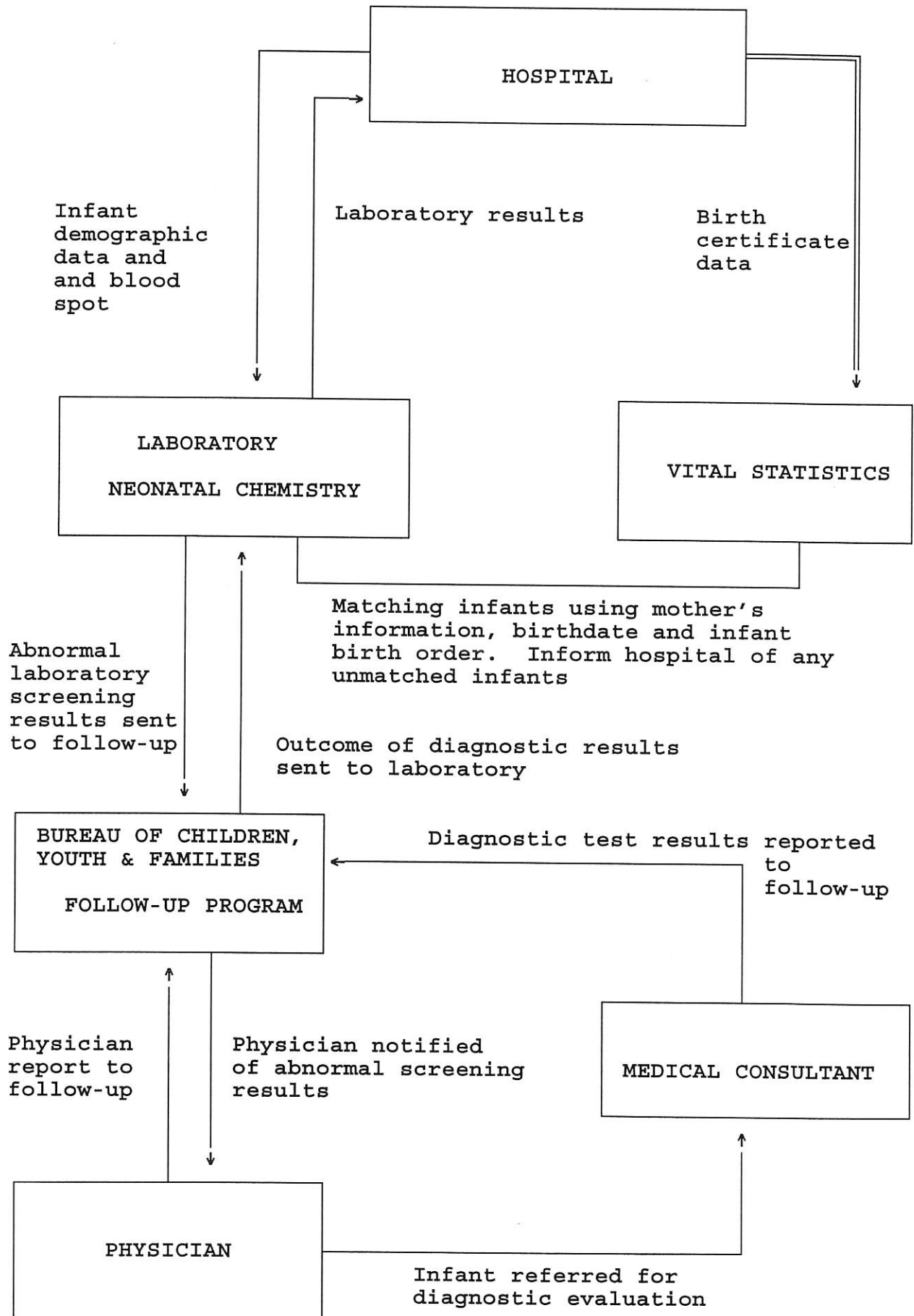
Confirmed positive from FY 99

phenylketonuria-2, hypothyroidism-14, galactosemia-3, hemoglobinopathies-9

None testing activities

Medicaid reimbursement, identification of infants not screened, monthly report for each submitter, and faxing of laboratory results to primary care providers.

Newborn Screening Program



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