

# **LABORATORY MEDICINE PROGRAM**

## **ANNUAL REPORT**

**1997/98**

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### **LABORATORY MEDICINE PROGRAM**

- ⇒ **Division of Anatomical Pathology**
- ⇒ **Division of Biochemical Pathology**
- ⇒ **Division of Cytopathology**
- ⇒ **Division of Haematological Pathology**
- ⇒ **Division of Immunology/Genetics**
- ⇒ **Division of Microbiology**
- ⇒ **Client Services**

## OVERVIEW

The Laboratory Program is one of three clinical support programs. Laboratory Medicine is a field of medical science that encompasses several specialized scientific disciplines. These disciplines determine the program divisions.

This past year many changes were attempted in the Laboratory Program. Many have done quite well and others have been significant learning experiences. There still exists barriers; people have comfort zones, strong cultural ties and resist change, but overall significant changes have occurred for the better.

These changes were the result of restructuring and consolidation. Each division implemented procedures that were required to achieve an overall budget reduction of \$700,000 from the previous year. For the year ending 98 03 31, this target was not only achieved but passed by \$205,000. In addition, revenue was increased by \$109,000.

The measures resulted in some limiting of new services, reduced educational activities, but overall the benefits are many with significant potential. Examples of these benefits are:

- 1) Improving Outcomes through
  - a) Standardization of testing
  - b) Improved reporting system
  - c) Improved working schedules
- 2) Financial Savings
  - a) Standardization of products
  - b) Consolidation of testing on one site
  - c) Reduction in numbers of site laboratories
- 3) Simplifying the Management Process
  - a) Consistent reports
  - b) Timely reports
  - c) Standard reports

New resources to further develop our Molecular and Cytogenetics Divisions were sought and obtained from government by Mr. George Tilley, Senior VP, Corporate Affairs. We are convinced that this will in the long run be money well spent.

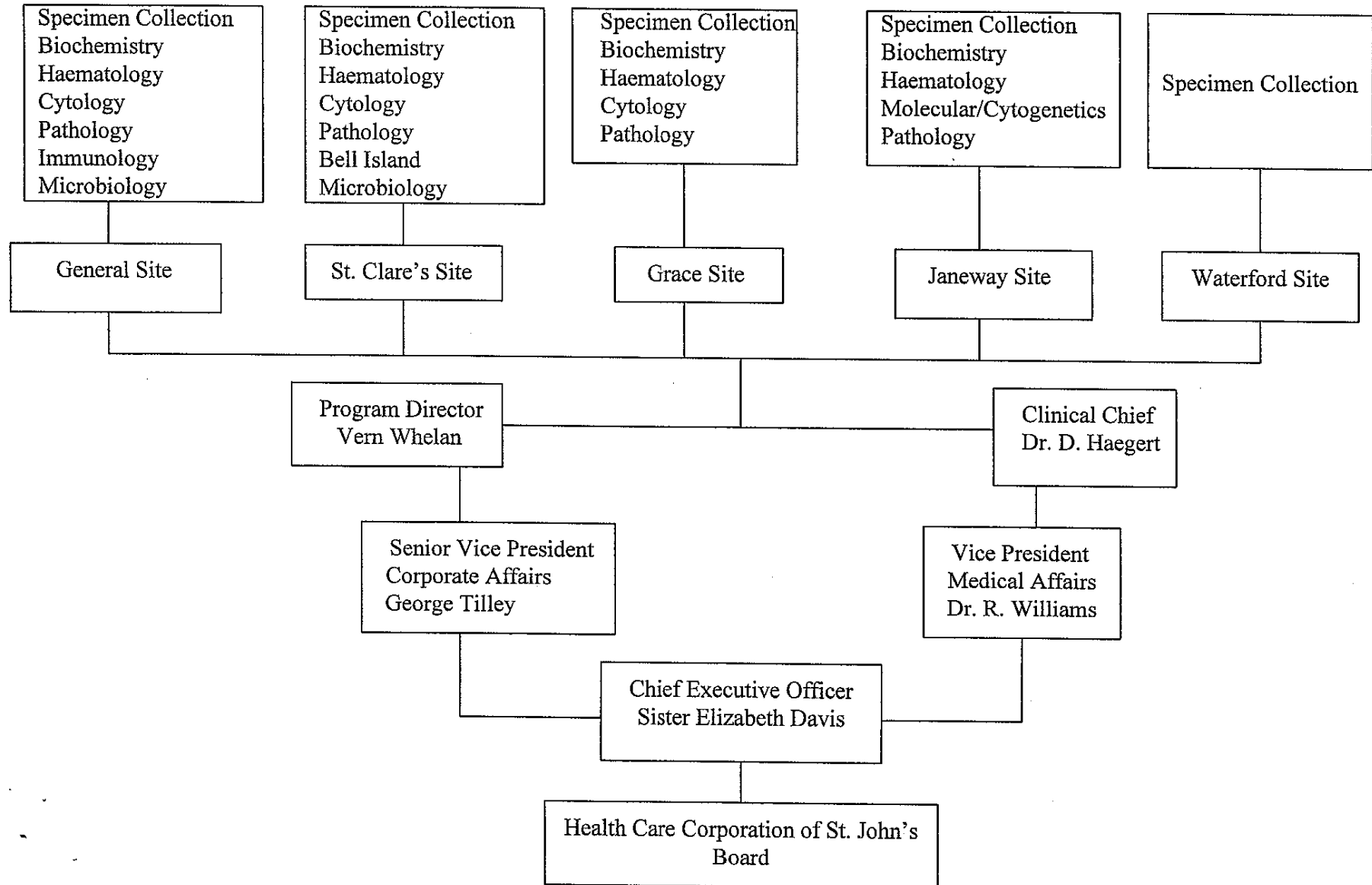
Most often resources invested in the Laboratory result in positive effects and long term savings in other areas of medicine resulting in improved patient care. Examples are:

- ▶ Genetic screening to detect disease earlier
- ▶ Drug monitoring to ensure optimal therapeutic drug levels
- ▶ Routine mass screening programs, such as pap smears

Several issues arose over the past year that depended entirely on Laboratory resources to resolve properly. These were all unplanned issues and had to be responded to immediately. Examples are:

- ▶ MRSA (Methicilin Resistant Staphylococcus Aureus)
- ▶ VRE (Vancomycin Resistant Enterococci)
- ▶ Salmonella Outbreak (food poisoning across Canada)
- ▶ A recent public donor recruitment program encouraging donors to be screened for the unrelated national bone marrow transplant registry resulted in huge workload increases in our Immunology Laboratory.

**LABORATORY PROGRAM  
ORGANIZATIONAL CHART  
HEALTH CARE CORPORATION OF ST. JOHN'S**



**ACTIVITIES AND ACCOMPLISHMENTS (1997-98)****Consolidation of Testing**

- ▶ Specialized testing was consolidated at The General Hospital Site
- ▶ Many routine non-time sensitive tests were consolidated at The General Hospital Site
- ▶ Microbiology at the Janeway transferred to The General Hospital
- ▶ Immunology at the Janeway transferred to The General Hospital - this resulted in vacated space and Immunology services now only offered at The General Hospital site
- ▶ Specialized paediatric pathology services only offered at the Janeway - all routine paediatric pathology performed at The General Hospital
- ▶ All routine gynaecological Cytology performed at the Miller Centre - no longer performed at Grace or St. Clare's. Only Cytology services offered at Grace and St. Clare's are specialized fine needle aspiration services.
- ▶ Standardized reporting for all sites
- ▶ Blood Culture collection procedure standardized for all sites
- ▶ New equipment purchases that are similar for all sites (standardization)
- ▶ Supplies contracts renegotiated resulting in significant savings and in permitting upgrading of laboratory equipment
- ▶ Evening shift instituted in Microbiology at The General Hospital and St. Clare's
- ▶ Microbiology reporting now on computer at the Grace and Janeway sites
- ▶ Refined and improved the process of specimen transfer

**Other achievements not related to consolidation which have led to improved quality and efficiency:**

- ▶ Extended hours for Blood Collection for Out Patients at The General Hospital
- ▶ Improved blood collection scheduling for in patients at Grace, St. Clare's, and Janeway
- ▶ Increased multisite reporting of lab tests on the Hospital Information System
- ▶ Laboratory assumed responsibility for quality control and training of Blood Glucose Point of Care Testing
- ▶ Capital equipment funds to replace some ancient laboratory equipment - Total \$102,000.00
- ▶ More instrumentation interfaced to the Hospital Information System
- ▶ Molecular Geneticist recruited - start date 98 07 01

- ▶ New technologist position in Cytogenetics
- ▶ Start of development of core Laboratory Model Hospital Information System

**Other significant achievements are:**

- ▶ Full six (6) year accreditation by the Conjoint Committee on Accreditation of Educational Programs for Medical Laboratory Technology, The Canadian Medical Association. This accredits the laboratory as a teaching organization for students from the College of the North Atlantic seeking registration with the CSMLS.
- ▶ Several research grants received by professional staff to conduct scientific studies in Laboratory Medicine.
- ▶ Dr. Khalifa was named Professor of the Year for MUN Medical School.
- ▶ Increased laboratory staff participation for site and corporate-wide committees.
- ▶ Classification review for management staff submitted
- ▶ Significant planning for the new Janeway and renovations at both The General Hospital and St. Clare's sites.
- ▶ Establishment of a Laboratory Utilization Committee with external representation
- ▶ Some mainland laboratories send specimens to our laboratory as a referral centre for specialized Biochemistry testing
- ▶ Commercial companies brought potential customers from the mainland to our laboratory to evaluate equipment
- ▶ Increase in the number of technologists applying for tuition reimbursement. This was due to the introduction of a new degree granting programs at Memorial University which recognizes registered technologists' credits.

**LABORATORY STRATEGIC DIRECTIONS 1998-2001**

The Laboratory Program supports the mission, vision, values and guiding principles established by the Health Care Corporation of St. John's (HCCSJ).

The Laboratory Strategic Plan is to consolidate and rationalize laboratory services under the jurisdiction of the HCCSJ. The key elements are the formation of a single program with essential lab services on each site and centralizing of procedures where possible.

The strategic directions are corporate wide with implications for all sites. The directions are cognizant of the laboratory's role as the major referral centre for the province as well as its role with the medical school and other training institutions.

The directions will be along the following guidelines.

- ▶ Providing the highest quality service possible within available resources, constantly seeking ways to be more efficient, reduce costs, and above all improve quality.

- ▶ Standardizing processes, products, and procedures is one of the basic practices in the initial stages of integration. This includes everything from purchasing supplies to a single computer system.
- ▶ Restructure, reorganize, and consolidate services. This will affect all sites with the aim to improve quality and efficiency in line with site development plans and schedules.
- ▶ Provide an environment that promotes and encourages research and development, education and learning, values individuality and diversity, ultimately leading to job satisfaction. Personal development which supports individual excellence in pursuit of team goals is encouraged.
- ▶ To provide a healthy safe working environment.
- ▶ To monitor our service with respect to outcomes and make adjustments as required.

**GOAL 1** To provide a comprehensive quality service of the highest standards within available resources.

OBJECTIVES	STRATEGIES
1. To offer the most appropriate test procedures	a) develop and implement clinical practice guidelines b) continuously educate clients c) offer latest technological advances d) minimize inappropriate testing
2. To provide results in a timely manner	a) provide appropriate lab coverage b) strive to improve turn around times c) continually upgrade Hospital Information System
3. To improve quality of service	a) maintain adequate staffing levels b) improve skill level of staff c) implement latest technological procedures d) participate in extensive internal and external quality control programs e) provide a healthy work safe environment
4. To provide service to meet health care needs of clients	a) serve as a provincial reference centre b) offer service for all clinical programs c) provide reliable efficient blood collection services

**GOAL 2** To restructure the service to improve the quality to meet changing conditions

OBJECTIVES	STRATEGIES
1. Consolidate services where possible	a) avoid duplication of services where possible b) conduct specialized testing on one site c) utilize highly automated instruments d) improve collection and transportation system
2. Standardize policies and procedures on all sites	a) develop one common procedure manual b) maintain identical equipment on all sites c) standardize requesting and reporting policies on all sites d) implement identical quality control procedures e) provide one common purchasing policy for all sites
3. Combine all laboratory Hospital Information System models to one corporate model	a) develop one corporate laboratory computer module b) standardize all operating procedures for all sites c) utilize one data base d) offer latest electronic communication



**GOAL 3** To support and encourage education and research activities

OBJECTIVES	STRATEGIES
1. Promote and encourage educational activities for staff	a) provide in house educational opportunities b) support workshops and scientific congress c) encourage and support staff to further their education through university credits
2. Support and encourage research activities	a) support research both internal and external to the program
3. Promote educational activities in the community	a) participate in health screening programs b) partner with colleges c) provide training to external clients where possible d) participate in health education e) prepare and circulate Lab Medicine Updates

**GOAL 4** To ensure optimal use of available resources

OBJECTIVES	STRATEGIES
1. To utilize staff in the most efficient manner	a) schedule staff to meet changing workload b) maintain staff levels to meet workloads
2. To maximize the equipment in the most efficient manner	a) avoid duplication of equipment where possible b) continue to upgrade current equipment and purchase the latest models within available resources c) standardize laboratory equipment
3. To provide the most efficient use of each site facility	a) avoid duplication of testing where possible b) centralize testing where possible

## **REVIEWS**

### **Internal Reviews**

#### **1. Air Quality at St. Clare's Laboratory**

Concerns over fumes in the air at the Laboratory on the St. Clare's site prompted review of the air quality. An investigation and analysis of the air was carried out by the Safety Officer.

Result: No indication of any significant air quality issue, but there were some concerns. These concerns are being addressed.

#### **2. Occupational Health & Safety**

Internal committee performs periodic inspections.

Result: No action required

#### **3. Radiation Levels**

Staff exposing radiation levels were monitored regularly

Result: No action required

#### **4. Air Quality - Fumes & Levels of Volatile Chemicals**

The air quality for fumes and levels of volatile chemicals are monitored regularly.

Result: No action required

#### **5. Equipment Maintenance**

Equipment maintenance is provided by two sources:

- a) Technical Services
- b) Commercial contracts with suppliers

### **External Reviews**

#### **1. Conjoint Committee of Educational Programs for Medical Laboratory Technology, The Canadian Medical Association**

This is an accreditation for the teaching of Medical Laboratory Technology.

#### **2. Hospital Accreditation - Canadian Council of Health Facilities Accreditation**

Result: Maximum accreditation

#### **3. Royal College of Physicians and Surgeons of Canada for Pathology Residents teaching**

Result: Full accreditation

## 4. Worksafe Audits and Department of Labour

The Laboratory was audited in the overall site audit. Minor deficiencies noted - being addressed.

## 5. Atomic Energy Control Board of Canada (98 08 18)

Minor deficiencies noted - corrected.

**CONSUMER FEEDBACK**

In its role as a clinical support program, the Laboratory is not a Program where clients readily have visual contact with its operations; our exposure is mainly in two areas.

- (1) Collection of specimens
- (2) Delivery of reports

Over the reporting period approximately 6 million tests were done and 12 unsolicited complaints/compliments were received.

**Compliments**

7 - Improved efficiency/service in Out Patient Blood Collection area

**Complaints**

- 2 - Delay in reporting
- 1 - Misplaced sample
- 2 - Request for increased out of hours service

**COMMITTEES**

Laboratory staff from all sites are involved in many committees (corporate, site, and external). Some of the committees are:

**Internal**

Patient Registration  
Program Directors  
Management Liaison  
Internal Communication  
Labour Management  
Disaster Planning  
Materials Management Service Contract  
Occupational Health & Safety  
Newsletter Committee  
Waste Management  
Infection Control  
Pharmacy and Therapeutic Committee  
Glucose Quality Assurance Committee  
Core Competencies Committee  
Unique Identifier Committee  
Various Care Teams for Accreditation  
Emergency Medicine, Cancer Care,  
Information Systems

**External**

Biotechnology Advisory Committee - Cabot  
Medical Laboratory Liaison - Cabot  
Medical Laboratory Advisory - Cabot  
Registry Advisory Committee - NCRTF  
Data Information Advisory - NCRTF  
Provincial Bone Bank  
MUN Biosafety Committee  
Newfoundland and Labrador Society of  
Laboratory Technologists  
Canadian Society for Medical Laboratory  
Science

**EDUCATIONAL ACTIVITIES**

The following are the types of educational activities that staff participated in over the past year:

- ▶ Workshops
- ▶ Correspondence Courses (individual)
- ▶ Newfoundland and Labrador Society of Laboratory Technologists Conference
- ▶ Teleconferences
- ▶ In house programs at the divisional level
- ▶ In house programs sponsored by Staff Development and Training
- ▶ Evening courses at MUN (individual)

**QUALITY CARE ISSUES**

Areas where the leadership team has concerns are:

- ▶ Reduced or Frozen Budgets
  - This limits the amount of new services we can offer
  - Will not be able to expand our off site blood collection until one present site closes and staff are available for transfer
  - Resources to research utilization trends and conduct education programs regarding appropriate laboratory utilization or best practice policies
  - Increased demands on laboratory services
- ▶ Reduced and Inadequate Education Budgets
  - Necessary to keep staff abreast of latest developments
  - Managers need to attend one national meeting per year
- ▶ Other
  - Increased movement of staff between divisions/sites
  - Increased sick leave
  - Decreased staff morale
  - Increased amount of time to get support from other corporate departments due to increased workload
  - School for Cytology Technologists closed due to lack of student enrolment. This could result in a shortage of Cytotechnologists in the years to come.
  - Increased number of retirements expected in the next two to four years
  - Extra demands and expectations exerted by public inquiries such as the Krever Inquiry and Occupational Workplace Reviews
    - Costs to accommodate recommendations
    - Amount of extra work and in many cases the ability to do look backs that could exceed 30 years
    - Work safe reviews and recommendations require funding, e.g. many people require ergonomic designed chairs and work stations

Several incidents occurred over the past year that required new policies to be developed for Risk Management purposes.

- A new policy for delivery of Pathology specimens from OR
- A refined policy for approving specialized work required out of hours. This is an area where increased demands are occurring.

Often times when other health care agencies experience budget cuts, it affects the Laboratory. Three areas that cause concern in the Laboratory are a result of reduced funding for the Newfoundland Cancer Treatment and Research Foundation.

- They have reduced their follow up service for a screening program and this has resulted in concern being expressed by pathologists.
- The NCTRF provided funding to our program to provide limited blood collection services for their patients in their own unit. This service was greatly appreciated by patients because these very sick out patients would not be required to line up with ambulatory out patients. This service was terminated by the NCTRF because of lack of funding, however, public pressure resulted in the service being reinstated.
- NCTRF cancelled funding for annual educational workshops in Cytology. This was the major educational session for all Cytology Laboratories in the province.

#### **COMPARISON OF LABORATORY SPENDING**

Attached as Appendix 1 is a chart that compares laboratory spending by province. Although these are provincial figures, since we are the provincial reference centre for Newfoundland, we feel they are applicable. This graph was presented at a national conference in October, 1997, show that Newfoundland spends the least of all provinces on the provision of Laboratory services expressed as a percentage of total health care costs and in dollars per capita.

#### **DIMENSIONS OF QUALITY**

With the implementation of the corporate Hospital Information System, it will be possible to collect more indicators than we presently have.

<b>SAFETY</b>	<b>3rd Q 97</b>	<b>4th Q 97</b>	<b>1st Q 98</b>	<b>2nd Q 98</b>	<b>97-98</b>	<b>96-97</b>	<b>95-96</b>
Occurrences	30	23	17	22		27	42
Staff Injuries					NA		
WCC Claims					\$24,200		
Fire Safety Training					NA		

<b>APPROPRIATENESS</b>	<b>3rd Q 97</b>	<b>4th Q 97</b>	<b>1st Q 98</b>	<b>2nd Q 98</b>	<b>97-98</b>	<b>96-97</b>	<b>95-96</b>
% of Workload Stat							
% of Workload In Patient					23	30	
% of Workload Out Patient					61	60	
# of Autopsies					139	159	

ACCEPTABILITY	3rd Q 97	4th Q 97	1st Q 98	2nd Q 98	97-98	96-97	95-96
Grievances					15	19	
Complaints					4	5	
Compliments					7		
Patient Satisfaction Survey - on a scale of 1 to 5 (1 = very unsatisfactory, 5 = very satisfactory) The summary of results are as follows for 97-98:							
Patient Satisfaction Survey* - Overall rating for all Sites - 4							
Nursing Satisfaction Survey - Overall rating for all sites - 3.9 (no returns from Janeway)							
Physician Satisfaction Survey* - Overall rating for all sites - 4.4							
*Satisfaction surveys were distributed on all sites and recommendations were suggested.							

COMPETENCY	3rd Q 97	4th Q 97	1st Q 98	2nd Q 98	97-98	96-97	95-96
Continuing Education Hours/FTE					NA		
External (CAP) Proficiency Survey	1	1	1	1	4		
% of Proficiency Survey Passed	99	99	99	99	99		
# of Tests in Proficiency Survey	268	268	268	268	1,072		
Performance Appraisals - waiting for new corporate wide forms							
Staff Credentials - all technologists registered for CSMLS							

ACCESSIBILITY	3rd Q 97	4th Q 97	1st Q 98	2nd Q 98	97-98	96-97	95-96
Total Blood Tests					306,482		
In Patient Blood Tests					126,817		
Out Patient Blood Tests					176,509		

EFFICIENCY	3rd Q 97	4th Q 97	1st Q 98	2nd Q 98	97-98	96-97	95-96
Total Tests					5,968,824		
Total Units					22,385,642	21,747,193	
Cost/Test					\$2.47		
Cost/Unit					\$0.66	\$0.76	
FTE					252.5	262.4	320
Total Paid Hours			129,200	136,929	492,283		
Total Budget					\$14,763,617	\$16,218,340	
Total Salary Budget (%)					60.4% \$8,676,216	62% \$9,998,272	
Total Fringe Budget					11.5% \$1,637,376	12% \$1,832,507	
Total Supplies Budget					27.1% \$4,450,025	26% \$4,387,565	
Total Revenue					\$245,988		
Average Salary Plus Benefits/FTE					37,419	39,829	
Average Salary Plus Benefits/Worked Hour					24.11	25.89	

Other indicators are also being monitored, but are falling within expected parameters, so for the sake of brevity are not included in this report.