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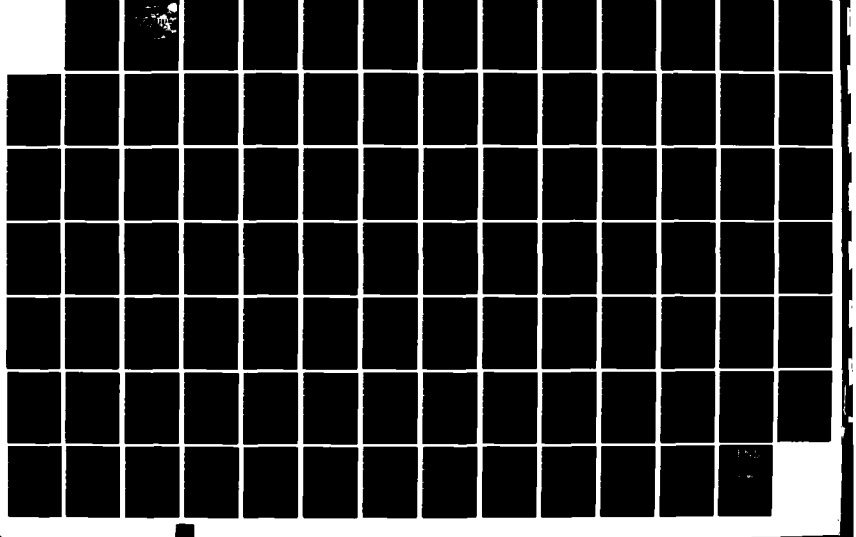

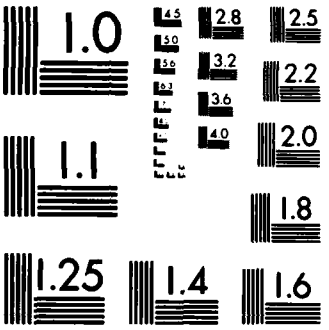

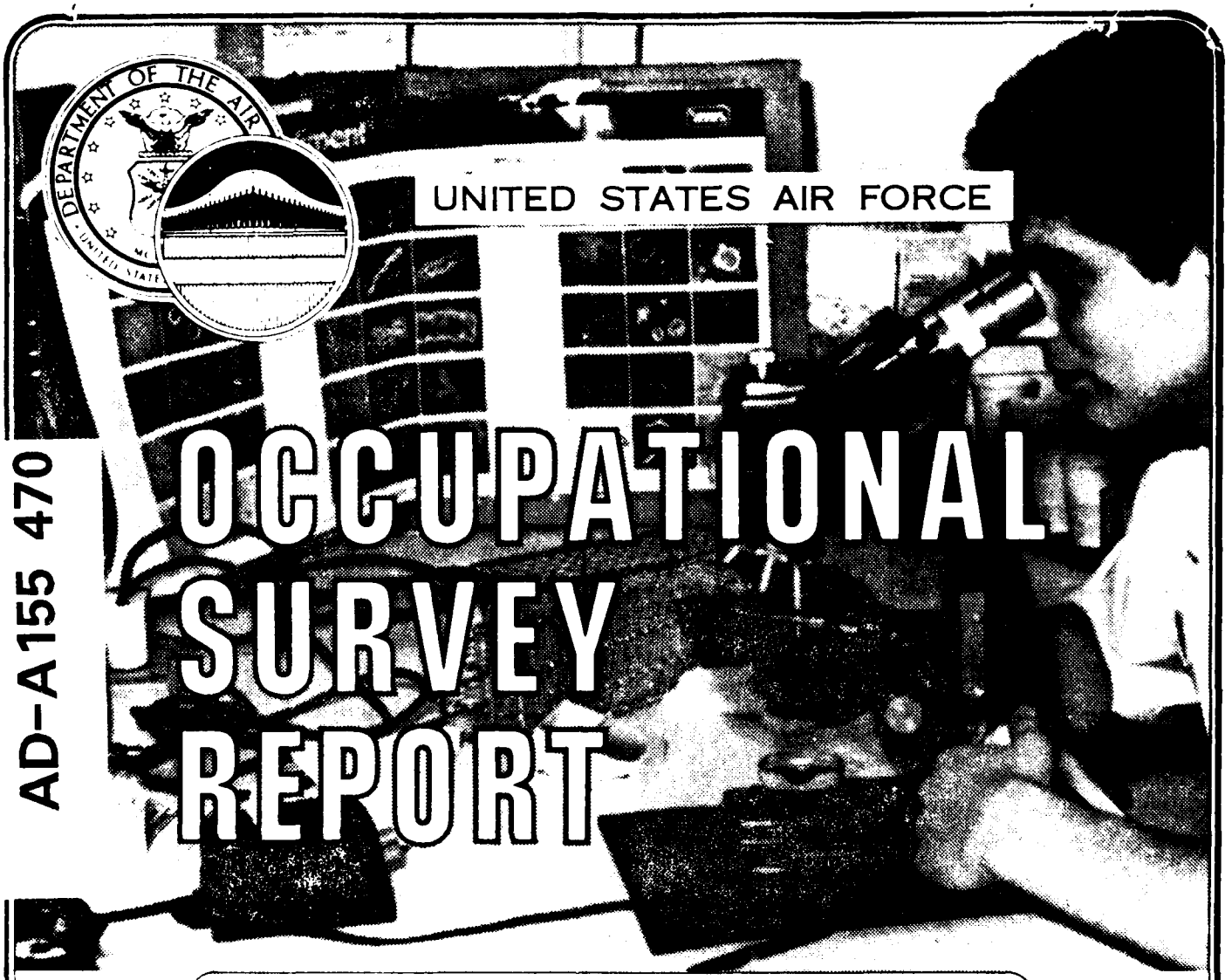

UNITED STATES AIR FORCE

OCCUPATIONAL SURVEY REPORT

MEDICAL LABORATORY CAREER LADDER
(AFSC 924X0)

AFPT 90-924-521

MARCH 1985

OCCUPATIONAL ANALYSIS PROGRAM
USAF OCCUPATIONAL MEASUREMENT CENTER
AIR TRAINING COMMAND
RANDOLPH AFB, TEXAS 78150

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PREFACE

This report presents the results of a detailed Air Force occupational survey of the Medical Laboratory career ladder (AFSCs 92450 and 92470). Authority for conducting occupational surveys is contained in AFR 35-2. Computer products from which this report was produced are available for use by operating and training officials.

The survey instrument was developed by Mrs. Terri Morris, Inventory Development Specialist, and computer programming support was furnished by Mrs. Olga Velez. Captain Larry E. Letcher, Occupational Analyst, analyzed the data and wrote the final report. This report has been reviewed and approved by Mr. J. S. Tartell, Chief, Management Applications Section, Occupational Analysis Branch, USAF Occupational Measurement Center.

Copies of this report are distributed to Air Staff sections, major commands, and other interested training and management personnel (see DISTRIBUTION on page i). Additional copies are available upon request to the USAF Occupational Measurement Center, Attention: Chief, Occupational Analysis Branch (OMY), Randolph AFB, Texas 78150-5000.

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SUMMARY OF RESULTS

1. Survey Coverage: The Medical Laboratory career ladder was surveyed to provide current data on new procedures being accomplished by medical laboratory personnel and to evaluate the impact of automation on tasks performed. Survey results are based on responses from 874 airmen (89 percent of all eligible 924X0 career ladder personnel).

2. Specialty Jobs: The study identified eight clusters, eight job types, and four job groups. The jobs within the survey were well defined and a good deal of diversity among the jobs was evident. The job structure essentially remained the same as the previous study, indicating stability.

3. Career Ladder Progression: The 5-skill level jobs were technical in nature and oriented toward the performance of general medical laboratory tasks, with little responsibility for supervision and management. Seven-skill level personnel spent the majority of their time performing supervisory and administrative functions. The data, therefore, showed a clear progression from worker to supervisor.

4. AFR 39-1 Specialty Descriptions: The 5- and 7-skill level descriptions accurately reflected the jobs of career ladder personnel in terms of duties and responsibilities, knowledge, education, experience, and training.

5. MAJCOM Analysis: For the most part, first-term personnel across MAJCOMs were quite similar, particularly in terms of time spent on duties and job satisfaction indicators. Some differences were noted on the percentage of first-term personnel who utilized various types of equipment.

6. Training Analysis: Both the Specialty Training Standard (STS) and Plan of Instruction (POI) require review. A number of elements in the STS were not matched with inventory tasks. Some of these elements entailed the performance of mathematical computations for which there were no inventory tasks. However, a number of elements pertained to the performance of qualitative chemistry procedures which possibly could be matched with inventory tasks. Areas within the Phase I and II POIs also require review. These include tasks with high TE ratings not matched to either POI, and the majority of the elements within each POI contain some tasks whose data indicate OJT or background training as more appropriate.

7. Implications: A 924X0 Utilization and Training Workshop should be held to review current training documents in terms of unmatched tasks and other inconsistencies or problems concerning these documents that were noted during the review.

OCCUPATIONAL SURVEY REPORT
MEDICAL LABORATORY CAREER LADDER
(AFSC 924X0)

INTRODUCTION

This is a report of an occupational survey of the Medical Laboratory career ladder (AFSC 924X0), completed by the Occupational Analysis Branch, USAF Occupational Measurement Center. The survey was requested by the Health, Education and Training Division of the Air Training Command (SGAT). The purpose of the survey was to determine the jobs and tasks performed by medical laboratory personnel, evaluate the impact of automation on tasks performed by medical laboratory technicians in terms of computers and modernization of equipment, and assess new procedures being accomplished in the medical laboratory. Previous occupational survey reports (OSR) on this career ladder were published in December 1978 and October 1973.

Background

Medical laboratory technicians perform a wide variety of test procedures. The jobs individuals perform differ, depending on the area of the lab in which they work. Additionally, clinical laboratory classification and workload determine laboratory procedures performed by the incumbent. For example, technicians in an "A" laboratory might be assigned to one section performing only one type of procedure in serology or microbiology; whereas technicians in a "D" laboratory could perform all types of laboratory work. The medical laboratory classification (by laboratory staffing and subsequent capability) is as follows:

"A" Laboratory - Chief of Pathology and staff of pathologists in a medical center
"B" Laboratory - Pathologist and Biomedical Officer in a regional hospital
"C" Laboratory - Biomedical Officer in a clinic
"D" Laboratory - Laboratory technicians and specialists in a clinic

In addition to the laboratory classification, there is a facility categorization which impacts the workload. The facility classification is as follows:

Medical Center	-	800-1,000 beds
Regional Hospital	-	100-400 beds. Regional Hospitals serve as referral hospitals and laboratories.
Hospital	-	60-100 beds
Clinic	-	None

The Medical Lab career field was created in 1951 as AFS 904X0. In 1981, the AFSC was changed to 924X0; however, the skill levels and specialty titles remained the same.

As outlined in the AFR 39-1 Specialty Description, Medical Laboratory personnel are responsible for analyzing specimens of human origin and other substances by established laboratory techniques to aid in diagnosis, treatment, and prevention of diseases or in support of medical research. These tests include hematological, microbiological, sereological, and chemical procedures. Additionally, the incumbents perform general medical laboratory duties which include quality assurance, preventive maintenance on laboratory equipment, and safety assurance.

Training for the 924X0 career ladder consists of two phases. Following completion of Basic Military Training School (BMTS), incumbents attend Phase I Medical Laboratory Training, which is a 17-week course at Sheppard AFB, Texas, consisting of formal classroom instruction covering basic theory and skills. Phase II training is a 37-week course located in a variety of medical treatment facilities. A Phase II facility is a medical center, regional hospital, or hospital which has the equipment and manpower to provide thorough and comprehensive instruction to the students. The Phase II course of instruction consists of on-the-job training in the fundamental techniques used in a medical laboratory. Incumbents are awarded their 5-skill level following completion of Phase II training.

SURVEY METHODOLOGY

Inventory Development

The data collection instrument for this occupational survey was USAF Job Inventory AFPT 90-924-521, dated October 1983. A tentative task list was prepared after reviewing pertinent career ladder publications and directives, tasks from previous survey instruments, and data from previous OSRs. The task list was then validated in the field through personal interviews with 85 subject-matter specialists from 14 bases. The resulting job inventory contained a comprehensive listing of 592 tasks grouped under 23 duty headings and a background section requesting information such as grade, duty title, time in service, job satisfaction, and the types of equipment used.

Survey Administration

From January through July 1984, Consolidated Base Personnel Offices (CBPO) in operational units worldwide administered the inventory to personnel holding the Medical Laboratory AFSC, DAFSC 924X0. These participants were selected from a computer-generated mailing list obtained from personnel data tapes maintained by the Air Force Human Resources Laboratory (AFHRL). To qualify as a participant, an individual must have held the AFSC for at least 6 weeks, and performed in their present job for the same period.

Each individual who completed the inventory first completed an identification and biographical information section and then checked each task performed in their current job. Each participant then rated the tasks checked on a 9-point scale showing relative time spent on each, as compared to all other tasks checked. The ratings ranged from one (very small amount of time spent) to nine (very large amount of time spent).

To determine relative time spent for each task checked by a respondent, all of an incumbent's ratings are assumed to account for 100 percent of his or her time spent on the job and are summed. Each task rating is then divided by the total task ratings and multiplied by 100 to provide a relative percentage of time for each task.

Survey Sample

The survey sample consisted of 874 DAFSC 924X0 personnel at the 5- and 7-skill level in grades E-2 through E-8. Three- and 9-skill level personnel were excluded from this study for two reasons. First, 3-skill level personnel are in a training status, and their inclusion in the sample would be inappropriate in terms of the purpose of the study. Second, the Medical Laboratory specialty (924X0) merges with the Histopathology specialty (924X1) at the 9-skill level, which creates problems concerning supervision in addition to other considerations. Nine hundred and eighty-one job inventory booklets were mailed to numerous MAJCOMs to ensure adequate representation. Of those, 929 (95 percent) were completed and returned. Table 1 illustrates the percentage distribution by MAJCOM of assigned personnel in the career ladder as of December 1983 and reflects the percentage distribution of respondents in the final survey sample. The 874 respondents in the final sample represent 89 percent of the total eligible 924X0 personnel. Paygrade group distributions are illustrated in Table 2 and total active federal military service (TAFMS) groups are shown in Table 3. These tables reflect an excellent representation of the survey sample in comparison to the assigned population.

TABLE 1

COMMAND REPRESENTATION OF 924XO SURVEY SAMPLE

	PERCENT OF ASSIGNED	PERCENT OF SAMPLE
AFSC	19	21
SAC	18	16
TAC	14	13
ATC	12	13
USAFE	10	11
MAC	10	9
PACAF	6	6
AFLC	6	5
OTHER	3	3
AAC	1	2
USAFA	1	1
AU	*	*
SPACECMD	*	*

Total Assigned - 1,092
Total Eligible for Survey - 981**
Total in Sample - 874
Percent of Assigned in Sample - 80%
Percent of Eligible in Sample - 89%

\+ Manning Figures as of December 1983
* Denotes less than 1 Percent
** Excludes personnel in PCS status, in hospital, or with less than 6 weeks on the job

TABLE 2

PAYGRADE REPRESENTATION OF 924X0 SURVEY SAMPLE

PAYGRADE	PERCENT OF ASSIGNED	PERCENT OF SAMPLE
E-2	*	*
E-3	8	8
E-4	30	28
E-5	38	40
E-6	16	16
E-7	8	8
E-8	*	*
	100	100

* Denotes less than 1 percent

TABLE 3

TAFMS REPRESENTATION OF 924X0 SURVEY SAMPLE

TAFMS (MONTHS)	PERCENT OF ASSIGNED	PERCENT OF SAMPLE
1-48	32	23
49-96	33	37
97+	35	40
	100	100

Data Processing and Analysis

Once job inventories are returned from the CBPOs, the background information and task responses are checked for proper completion. The data are then entered into the computer. A series of related computer programs, called the Comprehensive Occupational Data Analysis Programs (CODAP), are then applied to the data to aid in analysis. CODAP aggregates groups of survey respondents based on the time spent performing tasks or based on some selected background item.

The basic identifying group used in the hierarchical job structuring process is called a job type. A job type is a group of individuals who perform many of the same tasks and spend similar amounts of time performing them. When there is a substantial degree of similarity between different job types, they are grouped together and labeled as a cluster. If a specialized job type is too dissimilar to others to be grouped into a cluster, it is labeled an independent job type. A group of individuals who perform related tasks, but contains several specific job types that differ from one another, usually in minor ways, is called a subcluster. A job variation is defined as a job type which is not specifically discussed in the report, but is mentioned as one of several within a cluster or subcluster.

These groups are then analyzed to determine current utilization patterns and to examine the accuracy and completeness of career ladder documents.

Task Factor Administration

In addition to completing the job inventory, selected senior 924X0 personnel completed a second booklet for either training emphasis (TE) or task difficulty (TD). The TE and TD booklets were processed separately from the job inventories.

Task Difficulty. Each individual completing a TD booklet was asked to rate all of the tasks on a 9-point scale (from extremely low to extremely high) as to the relative difficulty of each task in the inventory. Difficulty is defined as the length of time required by the average member to learn to do the task. Task difficulty data were independently collected from 47 experienced senior-level personnel stationed worldwide. The interrater reliability (as assessed through components of variance of standard group means) of .94 for these 924X0 raters suggests a high agreement among raters. Ratings were adjusted so tasks of average difficulty have ratings of 5.00. The resulting data are essentially a rank-ordering of tasks indicating the degree of difficulty for each task in the inventory.

Training Emphasis. Individuals completing TE booklets were asked to rate tasks on a 10-point scale (from no training required to extremely heavy training required). Training emphasis is a rating of which tasks require structured training for first-term personnel. Structured training is defined as training provided at resident technical schools, field training detachments (FTD),

mobile training teams (MTT), formal OJT, or any other organized training method. Training emphasis data were independently collected from 54 experienced senior-level personnel stationed worldwide. These personnel, like the task difficulty raters discussed earlier, also have a high interrater reliability (.97). Tasks high in training emphasis had ratings of 4.60 or higher, while the average rating was 2.61.

Job Difficulty Index (JDI). After computing a TD rating for each task item, it is then possible to also compute a JDI for the job groups identified in the survey analysis. This index provides a relative measure of which jobs, when compared to other jobs, are more or less difficult. The number of tasks performed and the average difficulty per unit time spent (ADPUTS) are used as variables in an equation used to calculate the JDI. The index ranges from 1.0 for very easy jobs to 25.0 for very difficult jobs. The indices are adjusted so the average job difficulty index is 13.0. Thus, the more time a group spends on difficult tasks, and the more tasks they perform, the higher their job difficulty index.

SPECIALTY JOBS
(Career Ladder Structure)

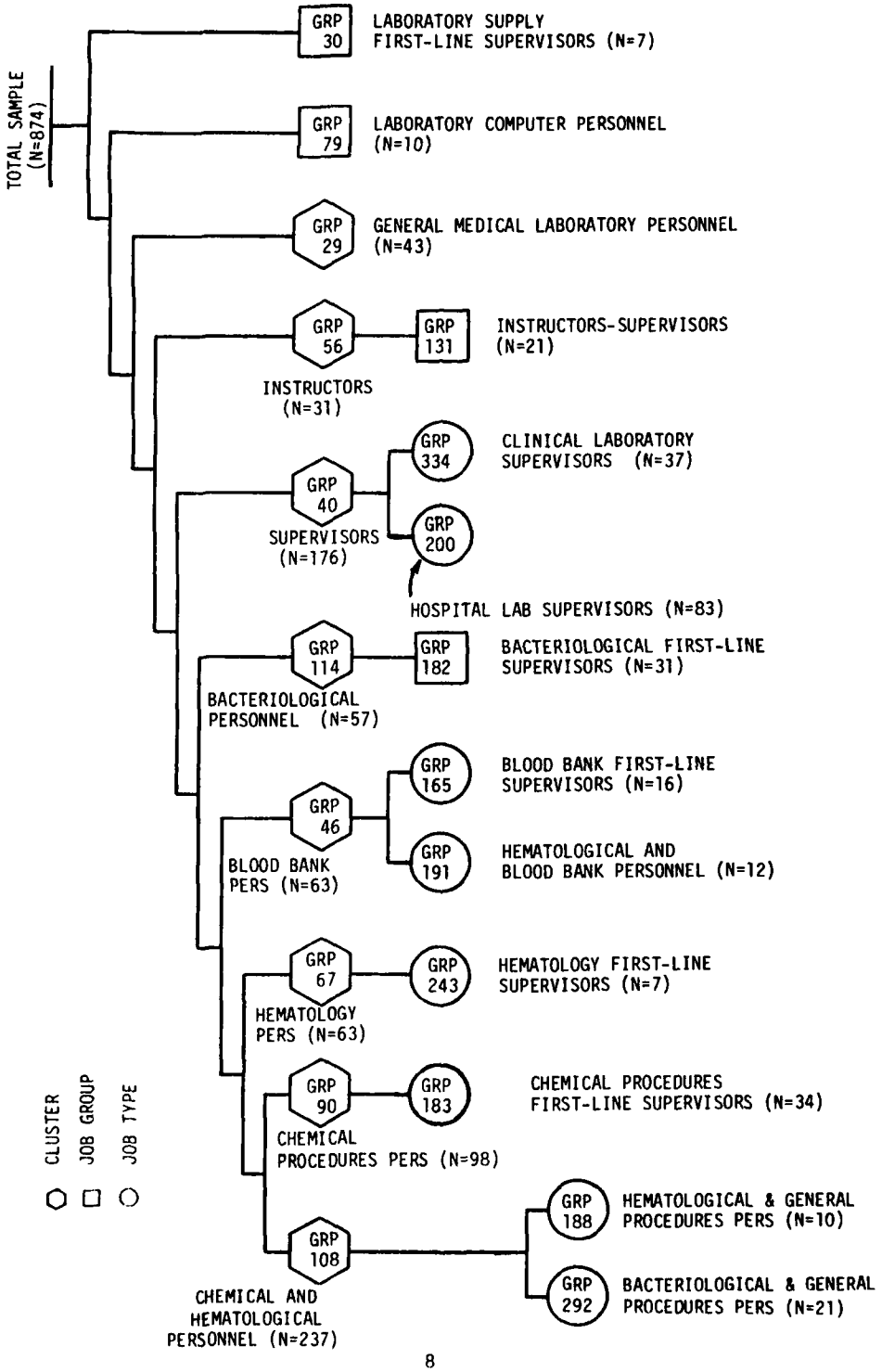
A vital function of the USAF Occupational Analysis Program is to identify jobs performed within a career ladder and how those jobs relate to each other. The career ladder structure, which is the resulting display of this analysis, is utilized in a number of ways: to formulate an understanding of current utilization patterns and identify job satisfaction problems, trends, and issues requiring management attention; to analyze the diversity of specialization within a career ladder which might require merging, shredding, or dividing the ladder; to examine the accuracy and completeness of career ladder documents (AFR 39-1 Specialty Descriptions, Specialty Training Standards, the basic course Plan of Instruction, etc.).

Overview

The analysis of the Medical Laboratory career field resulted in the identification of 8 clusters, 8 job types, and 4 job groups. The division of jobs performed by DAFSC 924X0 personnel is illustrated in Figure 1, based on the similarity of tasks performed and the relative time spent on these tasks. These clusters, job types, and job groups are listed below. The group number (GRP) shown beside each title is a reference to the computer-generated data. The number of personnel in the various groups (N) is also shown. The number of persons in the job types and job groups which combine to form a cluster may not equal the total number of personnel in the cluster. In these cases, the job of the remaining personnel in the cluster is described in the cluster description.

FIGURE 1

924X0 CAREER LADDER STRUCTURE



I. CHEMICAL AND HEMATOLOGICAL PERSONNEL (GRP108, N=237)

A. Bacteriological and General Procedures Personnel (GRP292, N=21)

B. Hematological and General Procedures Personnel (GRP188, N=10)

II. CHEMICAL PROCEDURES PERSONNEL (GRP90, N=98)

A. Chemical Procedures First-Line Supervisors (GRP183, N=34)

III. HEMATOLOGY PERSONNEL (GRP67, N=63)

A. Hematology First-Line Supervisors (GRP243, N=7)

IV. BLOOD BANK PERSONNEL (GRP46, N=63)

A. Blood Bank First-Line Supervisors (GRP165, N=16)

B. Hematological and Blood Bank Personnel (GRP191, N=12)

V. BACTERIOLOGICAL PERSONNEL (GRP114, N=57)

A. Bacteriological First-Line Supervisors (GRP182, N=31)

VI. SUPERVISORS (GRP40, N=176)

A. Hospital Laboratory Supervisors (GRP200, N=83)

B. Clinical Laboratory Supervisors (GRP334, N=37)

VII. INSTRUCTORS (GRP56, N=31)

A. Instructors-Supervisors (GRP131, N=21)

VIII. GENERAL MEDICAL LABORATORY PERSONNEL (GRP29, N=43)

IX. LABORATORY COMPUTER PERSONNEL (GRP79, N=10)

X. LABORATORY SUPPLY NCOICs (GRP30, N=7)

Eighty-eight percent of the survey respondents are grouped within the clusters and job descriptions listed above. The remaining 12 percent, which do not group with any of the defined jobs, perform jobs diverse enough to warrant their omission from identified jobs. These ungrouped respondents provided such job titles as research lab technician, night duty technician, and research lab specialist.

Group Descriptions

The following paragraphs contain brief job descriptions of the clusters, job types, and job groups identified through the career ladder structure analysis. Tables 4 and 5 illustrate the selected background data. Representative tasks for all the above groups are contained in Appendix A.

I. CHEMICAL AND HEMATOLOGICAL PERSONNEL (GRP108, N=237). This cluster, which is the largest of eight clusters, contains 27 percent of the survey sample. The primary responsibility of personnel within this cluster involves performing chemical and hematological procedures which account for 30 percent of their relative job time. The remaining time is spent on bacteriological tasks in conjunction with administrative and supply responsibilities. Tasks representative of the jobs performed by personnel in this cluster include:

Perform blood cell morphology, manual
Perform white blood cell counts, automated
Perform red blood cell counts, automated
Perform glucose tests on blood, urine, or CSF, automated
Perform blood urea nitrogen (BUN) tests, automated
Perform colony counts of bacteria

The majority of personnel within this cluster (70 percent) are distributed across operational MAJCOMs, with SAC accounting for 24 percent of the personnel, TAC with 19 percent, USAFE with 17 percent, and MAC with 10 percent. Over 50 percent of these respondents are assigned to a USAF hospital while 44 percent work in a Class C laboratory. Between 50 and 70 percent of the personnel use mathematical formulas in accomplishing their duties. Some equipment utilized by 50 percent or more of the personnel within this cluster includes: anaerobic jars, autoclaves, autodilutors, automatic complete blood count systems, and bilirubinometers. These personnel average nearly 7 years in the career field; however, over one-third are in their first enlistment. Most respondents (68 percent or more) find their jobs interesting, their talents and training well utilized, and are satisfied with the sense of accomplishment their jobs yield.

Two job types within this cluster are sufficiently diverse to warrant further discussion. These specialized jobs are:

A. Bacteriological and General Procedures Personnel (GRP292, N=21). This job type contains 21 airmen who spend nearly 40 percent of their time on general and bacteriological laboratory duties. These personnel perform an average of 91 tasks, average nearly 7 years time in service, and 34 percent are in their first enlistment. Tasks representative of personnel within this job type include:

Collect biological specimens directly from patients or subjects
Perform staining procedures, such as Gram's stain or methylene blue
Instruct patients on proper collection or submission of specimens
Perform disk diffusion susceptability tests
Perform bacteriological quality control procedures
Process specimens for laboratory examinations

The average grade of these airmen is E-4 and 86 percent hold a 5-skill level. Over one-half of this job type is assigned to USAFE and more than 70 percent are assigned overseas. Ninety-five percent of these personnel work in a USAF clinic, while the same percentage are assigned to a Class D laboratory. They represent 35 percent of the subcluster. All job satisfaction indicators are relatively high.

B. Hematological and General Procedures Personnel (GRP188, N=10). This job type represents 4 percent of the cluster. Personnel spend over 40 percent of their relative job time on hematological and general medical laboratory duties. The remaining time is spent on bacteriological procedures (16 percent) and various laboratory tasks. Airmen within this job type perform an average of 55 tasks. Representative tasks include:

Perform blood cell morphology, manual
Perform white blood cell counts, automated
Remove and dispose of trash, waste, or waste materials
Calculate erythrocyte indices, using mathematical formulas
Perform blood hemoglobin tests, automated
Perform operator maintenance of laboratory equipment

Personnel within this job type hold an average grade of E-4 and 80 percent hold a 5-skill level. The majority of these personnel (80 percent) are distributed evenly across four MAJCOMs (AFLC, AFSC, ATC, and MAC). Eighty percent of these personnel are assigned to a USAF clinic, while 60 percent are assigned to a Class D laboratory. Forty percent of the airmen are in their first enlistment, with the job type as a whole averaging nearly 7 years time in service. A majority of the personnel expressed a relatively high degree of job satisfaction.

II. CHEMICAL PROCEDURES PERSONNEL (GRP90, N=98). This cluster accounts for 11 percent of the survey sample. Personnel in this cluster spend 43 percent of their relative job time performing chemical procedures, with the remaining time divided between general laboratory tasks and some supervisory duties. The members perform an average of 99 tasks. Tasks representative of the jobs performed by personnel in this cluster include:

Perform glucose tests on blood, urine, or CSF, automated
Perform alkaline phosphatase tests, automated
Perform bilirubin tests, automated
Perform uric acid tests, automated
Perform cholesterol tests, automated
Perform triglyceride studies, automated

The average grade of these personnel is E-5, with slightly over 7 years time in service. The majority of personnel are distributed relatively evenly across six MAJCOMs (AFLC, AFSC, MAC, PACAF, SAC, and TAC), with SAC containing the highest percentage (17 percent). Twenty percent of the personnel in this cluster are in their first enlistment and personnel indicate a high degree of job satisfaction. Nearly one-third of the personnel in this cluster are assigned to a USAF medical center, while 38 percent work in a Class A laboratory. Up to 75 percent of these incumbents use mathematical formulas (spectrophotometer, general, or titration formulas) in their jobs. Some equipment used by 50 percent or more of these personnel include microcomputers, autodilutors, blood collecting equipment, computers, and electronic calculators.

The cluster contains incumbents who spend the majority of their relative time performing chemical procedures. These chemical specialists perform considerably fewer tasks than the other members of the cluster, which indicates they are doing a more specialized job. A variation among the chemistry specialists indicates some of these personnel spend nearly 20 percent of their relative job time performing radio assay procedures in addition to chemical procedures. Tasks which are representative of these personnel include:

Perform thyroid procedures, such as T3, T4, or T7
Perform chronic gonadotropin human beta subunit (HCG-B) tests
Perform follicle stimulating hormone (FSH) tests
Perform free thyroxine (FT4) tests
Perform iron-binding capacity procedures
Perform serum cortisol tests

A job within this cluster that merits further discussion is described below.

A. Chemical Procedures First-Line Supervisors (GRP183, N=34). This job type contains 34 personnel who spend two-thirds of their relative job time performing chemical and supervisory duties. The respondents perform an average of 136 tasks. Tasks representative of the jobs these personnel perform are:

Perform blood urea nitrogen (BUN) tests, automated
Perform creatine kinase (CK) tests, automated
Supervise Medical Laboratory Specialists (AFSC 92450)
Assign duties to subordinates
Determine work priorities
Resolve medical laboratory technical problems

These personnel average nearly 10 years in the service and have achieved an average grade of E-5. Two MAJCOMs (MAC and SAC) account for nearly 40 percent of the members of this job, with AFSC and ATC having 15 percent each and TAC having 12 percent. On the average, the members of this job supervise five personnel. Over one-half of these personnel hold a 7-skill level. Reenlistment intentions and job satisfaction indicators are high.

III. HEMATOLOGY PERSONNEL (GRP67, N=63). This cluster contains 7 percent of the survey sample. Nearly 40 percent of the personnel's relative job time is spent on hematological procedures, with the remaining divided between general medical tasks, coagulation procedures, and other duties. These personnel perform an average of 62 tasks. Tasks which represent the jobs performed by members of this cluster include:

Perform red blood cell counts, automated
Perform blood hemoglobin tests, automated
Perform erythrocyte indices, automated
Perform eosinophile counts on nasal smears
Perform differentials on other body fluids
such as joint fluids or pleural fluids
Perform eosinophiles counts

Personnel within the cluster average grade E-5 and over 6 years in the service. Seventy-six percent hold a 5-skill level and over 70 percent are assigned to four MAJCOMs (AFSC, TAC, SAC, and ATC). Nearly one-half of the incumbents in this cluster are assigned to a USAF hospital, while 31 percent are assigned to a USAF medical center and 38 percent are assigned to a Class A laboratory. The majority (67 percent) do not use mathematical formulas. Equipment utilized by 50 percent or more of the personnel in the cluster includes: automated complete blood count systems, blood collecting equipment, capillary collection tubes, and automated coagulation instrumentation. More than one-quarter of these personnel are in their first enlistment and job satisfaction indicators are relatively high.

A job variation within this cluster involves personnel who spend over 50 percent of their relative job time performing hematological duties. These respondents are essentially performing the same tasks as the cluster incumbents, however, they are performing fewer tasks (54), which indicates they are in a more homogeneous, specialized job.

A. Hematology First-Line Supervisors (GRP243, N=7). This job type of supervisors represents 11 percent of the cluster. These personnel spend over 40 percent of their relative job time on administrative and supervisory duties, while the remaining time is spent on hematological duties. Personnel within this job type perform more tasks (122) than any other job within the cluster. Some tasks representative of these incumbents are:

Supervise Medical Laboratory Specialists (AFSC 92450)
Resolve medical laboratory technical problems
Assign duties to subordinates
Demonstrate use of laboratory equipment
Evaluate duty performance
Perform hematocrit determinations, automated

The average grade of these personnel is E-5; they average nearly 8 years in service. Over half of these personnel hold a 7-skill level and supervise an average of five persons. Fifty-eight percent are assigned to AFSC and TAC. Three additional MAJCOMs (USAFE, AFLC, and ATC) constitute 42 percent of this group, each with 14 percent. Personnel are in their second or subsequent enlistment and job satisfaction indicators are relatively high.

IV. BLOOD BANK PERSONNEL (GRP46, N=63). The 63 personnel within this cluster represent 7 percent of the total sample. Forty percent of the incumbent's relative job time is devoted to blood banking duties. These personnel perform an average of 77 tasks. Some representative tasks are as follow:

Perform ABO groupings and Rh typings, including Rh variants (DU)
Perform major side crossmatching (compatibility) tests
Perform crossmatch (compatibility) certifications
Perform indirect Coombs procedures
Maintain blood inventories
Store blood components for transfusion

The average grade of personnel in this cluster, who average 7 years time in the service, is E-5. Three-quarters of these personnel hold a 5-skill level. Over 50 percent of these personnel are assigned to four MAJCOMs: AFSC (14 percent),

ATC (11 percent), SAC (18 percent), and TAC (13 percent). More than 70 percent of the cluster personnel work in a USAF hospital or medical center. Over 40 percent are assigned to a Class A laboratory. Approximately one-quarter of these respondents use mathematical formulas while accomplishing their duties. The majority of the personnel within this cluster use some of the following equipment: automatic cell washers, blood bank refrigerators, blood collecting balances, electronic calculators, and bright field microscopes. Nearly one-quarter of the incumbents are in their first enlistment and indicators pertaining to job satisfaction are high.

A job variation within this cluster consists of personnel who spend 54 percent of their relative job time performing blood banking duties. These incumbents, as a group, perform virtually the same tasks as other members of the cluster, yet individually they perform fewer tasks which are more technically-oriented. A job within this cluster that warrants further discussion is described below.

A. Blood Bank First-Line Supervisors (GRP165, N=16). This job type of 16 individuals accounts for 25 percent of personnel within the cluster. Over 60 percent of these persons' relative job time is spent on supervisory-administrative and blood bank duties. Personnel within this job type perform an average of 115 tasks, which is greater than the number of tasks performed by others in the cluster. Some tasks which characterize this job type are:

Maintain blood inventories
Maintain log of laboratory procedures
Determine work priorities
Perform quality control inspections
Assign duties to subordinates
Perform direct Coombs procedures

The average grade of these personnel is E-5. They average over 7 years in service. One-quarter of these respondents are assigned overseas. The members of this job type supervise an average of three persons and 75 percent hold a 5-skill level. Nearly 70 percent are assigned to operational MAJCOMs (TAC, SAC, PACAF, and AAC). Job satisfaction indicators are high.

B. Hematological and Blood Bank Personnel (GRP191, N=12). This job type accounts for 19 percent of the cluster. These personnel spend nearly 50 percent of their relative job time performing blood banking and hematological procedures. Personnel perform an average of 83 tasks. Some tasks which are characteristic of incumbents wthin this job type include:

Perform elution studies
Perform major side crossmatching (compatibility) tests
Perform reticulocyte counts
Perform blood bank reagent quality control
Perform blood hemoglobin tests, automated
Perform red blood cell counts, automated

These personnel average grade E-5, with slightly over 8 years in service. Over two-thirds hold a 5-skill level, while 33 percent are assigned to SAC and 51 percent are assigned to USAFA, USAFE, and MAC, each with 17 percent. All of these incumbents are assigned to USAF hospitals and regional hospitals, each with 50 percent. Two-thirds are assigned to a Class B laboratory. Job satisfaction indicators are relatively high.

V. BACTERIOLOGICAL PERSONNEL (GRP114, N=57). The personnel within this cluster represent 7 percent of the total sample. Responsibilities of these respondents include performing bacteriological laboratory procedures on which personnel spend nearly 40 percent of their relative job time. These personnel perform an average of 69 tasks. Representative tasks include:

Perform Taxo-A procedures
Perform colony counts of bacteria
Perform biochemical tests of bacteria
Perform primary cultures on biological specimens
Identify and record colony characteristics
Perform disk diffusion susceptability tests

Personnel within this cluster hold an average grade of E-4, with over 6 years time in service. More than one-third are in their first enlistment. Nearly 90 percent of these incumbents hold a 5-skill level, with over three-quarters assigned to five MAJCOMs (USAFE, AFSC, ATC, SAC, and TAC). Over 60 percent of these personnel are assigned to USAF hospitals and medical centers, while 60 percent work in a Class A or B laboratory. Most (61 percent) of these incumbents indicated they do not use mathematical formulas on the job. The majority of these personnel use some of the following types of equipment: bacteriological safety hoods, bunsen burners, dispensers-sensitivity discs, electric bacteriological incinerators, bacteriological incubators, and miniaturized micro-organism differentiation systems. Job satisfaction indicators are relatively high.

The cluster contains personnel who devote more than one-half of their relative job time to bacteriological duties. These specialists perform an average of 47 tasks which is considerably fewer than those performed by the cluster as a whole. Described below is a specialized job description which requires further discussion:

A. Bacteriological First-Line Supervisors GRP182, N=31). This job group of 31 people accounts for 54 percent of the cluster. Over 30 percent of their relative job time is devoted to supervisory-administrative tasks; however, over one-quarter of their time is spent on bacteriological duties. These individuals perform an average of 84 tasks. Some tasks which are characteristic of these personnel include:

Compile or maintain workload data
Demonstrate use of laboratory equipment
Perform bacteriological quality control procedures
Advise superiors on status of medical laboratory operators
Resolve medical laboratory technical problems
Perform bacteriological sterilization

These incumbents hold an average grade of E-5, with over 7 years in service. Eighty-four percent hold a 5-skill level and the incumbents supervise two persons on the average. Personnel express a relatively high degree of job satisfaction.

VI. SUPERVISORS (GRP40, N=176). This cluster, which consists of 176 personnel, represents 20 percent of the survey sample. These personnel perform supervisory-administrative duties and spend over two-thirds of their relative job time doing so. Supervisory cluster personnel perform more tasks (133) than any other cluster of respondents in the survey. Some tasks representative of these respondents include:

Plan work assignments
Inspect laboratory personnel for compliance with military standards
Evaluate duty performance
Write APRs or special awards
Prepare monthly, bimonthly, quarterly, or annual reports
Establish work schedules

These incumbents average grade E-6, with more than 14 years in the service, while over 80 percent hold a 7-skill level. Personnel within the cluster supervise an average of six people. Nearly one-quarter are assigned to AFSC, while 45 percent are assigned to USAFE, ATC, and SAC, with 15 percent, 11 percent, and 19 percent, respectively. Nearly 60 percent of the personnel within this cluster are assigned to a USAF hospital or clinic. One-half of these incumbents work in a Class A or C laboratory. As high as 40 percent of the respondents use mathematical formulas while performing their duties. The majority of these personnel use some of the following types of equipment: electric or mechanical timers, vortex mixers, refractometers, mixer or rotator

shaking machines, pipette bulbs, and bright field microscopes. Job satisfaction indicators and reenlistment intentions are high.

A job variation within the supervisory cluster entails a group of individuals who spend over 40 percent of their relative job time on supervisory-administrative duties; however, 36 percent of their time is devoted to drug rehabilitation procedures. These procedures involve collecting specimens for shipment, observing specimens, and maintaining security on specimens.

A. Hospital Laboratory Supervisors (GRP200, N=83). The 83 individuals within this job type account for 47 percent of the cluster. These respondents spend three-quarters of their relative job time on supervisory-administrative duties. The incumbents perform an average of 134 tasks. Representative tasks include:

Evaluate job or position descriptions
Plan security programs
Assign OJT trainers
Conduct staff meetings
Implement cost-reduction programs
Evaluate safety programs

The personnel average grade E-6, with 16 years time in service. Job satisfaction indicators are quite high:

A variation within this job type consists of personnel who spend nearly 90 percent of their relative job time performing supervisory-administrative duties. Tasks representative of these highly specialized personnel include:

Coordinate medical laboratory activities with other agencies or organizations
Participate in staff or unit meetings
Establish organizational policies, office instructions (OI), or standing operating procedures (SOP)
Draft budget or financial requirements
Draft local medical laboratory policies or regulations
Review budget requirements

These personnel hold the highest grade of any group of respondents within the job structure analysis, averaging a grade of E-7.

B. Clinical Laboratory Supervisor (GRP334, N=37). This job type contains 37 persons who account for 21 percent of the cluster. These personnel spend nearly one-half of their relative job time performing supervisory-

administrative duties. Unlike the Hospital Supervisors discussed previously, these respondents spend substantially more time performing technical duties in addition to their supervisory function. The incumbents perform an average of 203 tasks, which is the largest number of tasks of any job identified in the survey. Representative tasks include:

Perform occult blood tests
Perform Taxo-A procedures
Prepare for medical laboratory inspections, such as internal or outside agencies
Review laboratory procedures
Perform self-inspections
Maintain supply stock levels

The average grade of the incumbents is E-6 and they average 13 years in service. Nearly three-quarters of these respondents hold a 7-skill level and they supervise an average of four subordinates. One-half of these personnel are assigned overseas. Over two-thirds of these respondents are assigned to a Class D laboratory. Job satisfaction indicators are relatively high.

VII. INSTRUCTORS (GRP56, N=31). This cluster of 31 personnel represents 4 percent of the total survey sample. Over 40 percent of the personnel's relative job time is spent on training duties. The members of the cluster perform an average of 66 tasks. Representative tasks include:

Administer tests
Score tests
Arrange for training aids or training materials
Maintain training records
Evaluate individual training needs, such as remedial or qualification recycles
Conduct formal technical course training in Air Force Specialty (AFS) 924X0

These respondents hold an averge grade of E-5, with 10 years time in service. Over 40 percent of these personnel hold a 7-skill level. One-third of these individuals are assigned to ATC, while 13 percent are assigned to AFSC. The remaining personnel are spread rather thinly across four other MAJCOMs. Fifty-eight percent are assigned to The School of Health Care Sciences. One-quarter of the respondents work in a Class A laboratory. Over 60 percent of these personnel use various types of mathematical computations in their jobs. A sample of the kinds of equipment used by the majority of these incumbents includes: blood collecting equipment, electronic calculators, centrifuges, laboratory glassware, and bright field microscopes. Job satisfaction indicators are relatively high.

A. Instructors-Supervisors (GRP131, N=21). The 21 personnel within this job group represent 68 percent of the cluster. They spend 85 percent of their relative job time performing supervisory-administrative and training duties (37 percent of their relative job time is devoted to training tasks). These personnel perform an average of 78 tasks. Some representative tasks include:

Construct or fabricate training aids, such as slides
Prepare lesson plans
Counsel personnel on training or other problems, such as Airman Performance Reports (APR)
Prepare duty rosters
Interpret policies, directives, or procedures for subordinates
Prepare training literature

Both Phase I and Phase II personnel are included in this job group due to the similiarity of tasks performed by both. The incumbents average grade E-6, with 10 years time in service. More than 50 percent hold a 7-skill level, while they supervise an average of 13 persons. Nearly 60 percent of the persons are assigned to ATC, with 14 percent assigned to AFSC, and 10 percent are assigned to both MAC and SAC. The respondents express favorable inputs in terms of job satisfaction.

VIII. GENERAL MEDICAL LABORATORY PERSONNEL (GRP29, N=43). This cluster contains 43 persons who represent 5 percent of the survey sample. The personnel spend more than 30 percent of their relative job time performing general laboratory tasks. These personnel perform an average of 42 tasks. Some tasks which are characteristic of personnel within this cluster include:

Perform preventive maintenance on facilities or equipment
Clean laboratory facilities or immediate work area
Process specimens for laboratory examinations
Handle or store hazardous biological specimens
Instruct patients on proper collection or submission of specimens
Process specimens from other laboratories

These personnel hold a mean grade of E-5, averaging over 7 years in service, while nearly one-quarter are in their first enlistment. Eighty percent hold a 5-skill level, while one-half are assigned to AFSC and 11 percent are within ATC. One-quarter of these incumbents are assigned to a USAF medical center, while nearly 40 percent work in a Class A laboratory. As high as 30 percent of the personnel use some type of mathematical computation in their duties. Some

equipment used by the majority of these personnel includes: blood collecting equipment, electronic calculators, centrifuges, and bright field microscopes. Personnel are relatively positive in terms of job satisfaction and reenlistment intentions.

A variation within this cluster includes personnel who spend 40 percent of their relative job time on supervisory-administrative duties, with 29 percent of their time devoted to general medical laboratory tasks.

IX. LABORATORY COMPUTER PERSONNEL (GRP79, N=10). This job represents 1 percent of the survey sample. These personnel are responsible for performing medical laboratory computer procedures on which they spend over 50 percent of their relative job time. The respondents spend 30 percent of their relative job time on supervisory-administrative duties. They perform an average of 31 tasks. Representative tasks include:

Change or align paper in printers
Distribute or deliver output products
Address or call system via console to request information
Isolate problems on production runs
Determine cause of faulty output products
Correct stoppages on printers

These incumbents hold an average grade of E-5. Additionally, these individuals average 9 years in service, with 40 percent in their first enlistment. Sixty percent hold a 5-skill level. The majority (80 percent) are assigned to AFSC and the remainder are with MAC. All of these incumbents are assigned to USAF medical centers and similarly all work in Class A laboratories. The majority (70 percent) do not use mathematical computations. Most of these personnel use some of the following types of equipment: computers, centrifuges, and manual lancets. All personnel in this job group are assigned within CONUS. Generally, job satisfaction indicators are lower than the other groups and will be discussed further in the Comparison of Specialty Jobs Section.

X. LABORATORY SUPPLY NCOICs (GRP30, N=7). The seven persons in this job group account for 1 percent of the survey sample. They spend nearly 40 percent of their relative job time performing medical laboratory materiel functions, while 40 percent of their time is devoted to supervisory-administrative duties. These respondents perform an average of 26 tasks from 9 duties, which suggests they are working in a more specialized area than some of the other jobs discussed earlier. Representative tasks include:

Prepare requisitions for standard or nonstandard materiel items, medical or nonmedical supplies
Maintain supply stock levels
Prepare requisitions for equipment
Maintain supply or equipment catalogues
Write APRs or special awards
Participate in staff or unit meetings

These personnel average grade E-6 and 13 years in the service. Nearly 90 percent hold a 7-skill level and they supervise an average of two persons. More than 70 percent are assigned to AFSC, while 28 percent are within TAC and USAFE, both with 14 percent. Over 40 percent of the respondents are assigned to a USAF hospital, while 57 percent work in a Class A laboratory. The majority (85 percent) do not use mathematical computation formulas in their job. Adding machines are utilized by 50 percent of these personnel, while 40 percent use electronic calculators and typewriters. Job satisfaction indicators are high.

Comparison of Specialty Jobs

Within this career ladder, there were few tasks performed by a majority of the personnel. Only 21 tasks from an inventory of 592 tasks were performed by 50 percent or more of all respondents. The majority of these 21 tasks entailed the performance of general medical laboratory tasks (see Table 6). This is due to the diversity among jobs in the career ladder. Each cluster contained personnel who spent a considerable amount of their relative job time performing supervisory and technical duties. For the most part, the specialty jobs did not differentiate from one another based on laboratory classification or facility; however, in two cases (Hospital and Clinical Laboratory Supervisors), facility classification was a basis for diversification.

In addition to reviewing the functions of each job, it is useful to compare job groups in terms of background information and attitudes. Table 4 shows selected background job group data, such as average grade, average number of tasks performed, and average TAFMS. Table 5 illustrates career ladder job group data in reference to job satisfaction indicators, such as expressed job interest, perceived utilization of talents and training, and reenlistment intentions.

In terms of job interest, the majority of respondents in all groups found their jobs interesting, with over 60 percent of the members within most groups responding favorably. An exception is Hematology Supervisors, in which 57 percent of the members responded positively.

Similarly, the majority of the members in most groups felt their talents were well utilized. One group, Laboratory Computer Personnel, did not feel their talents were being as well utilized as personnel in other jobs, with only 50 percent responding favorably.

Only 40 percent of the Laboratory Computer Personnel indicated their training was well utilized. This may be due, in part, to the training these personnel receive during Phase I and Phase II training. Neither phase has a section devoted to use of the computer; however, Phase II does show students how to enter information in the automated system. Both training phases emphasize the clinical chemistry of laboratory work and, consequently, Computer Personnel may feel they are not doing the job for which they were trained.

Less than half (40 percent) of the Laboratory Computer Personnel indicated they were satisfied with their jobs. As mentioned previously, these personnel may feel they are not being properly utilized.

All groups reported favorable reenlistment intentions, with over 90 percent of the personnel within the Blood Bank Supervisors and Laboratory Supply Personnel groups indicating probable to definite intentions for reenlisting.

The career ladder classfication structure appears to be well defined. Job satisfaction indicators generally are favorable, suggesting that training and the manner in which this training relates to jobs is quite appropriate.

TABLE 4

SELECTED BACKGROUND DATA FOR SPECIALTY JOB GROUPS

		JOB TYPES	
	CHEMICAL AND HEMATOLOGICAL PERSONNEL CLUSTER	BACTERIOLOGICAL AND GENERAL PROCEDURES PERSONNEL	HEMATOLOGICAL AND GENERAL PROCEDURES PERSONNEL
NUMBER IN GROUP	237	21	10
PERCENT OF SAMPLE	27%	2%	1%
PERCENT IN CONUS	74%	29%	90%
DAFSC DISTRIBUTION:			
92450	80%	86%	79%
92470	20%	14%	9%
OTHER	-	-	2%*
AVERAGE GRADE	E-4	E-4	E-4
AVERGE TICF (MOS)	69	63	76
AVERAGE TAFMS (MOS)	78	69	83
PERCENT IN FIRST-ENLISTMENT	35%	34%	40%
AVERAGE NUMBER OF TASKS PERFORMED	121	91	55
JOB DIFFICULTY INDEX	12	9	4

* Personnel completed their job inventories incorrectly or were ineligible for this survey

TABLE 4 (Continued)

SELECTED BACKGROUND DATA FOR SPECIALTY JOB GROUPS

	CHEMICAL PROCEDURES PERSONNEL CLUSTER	CHEMICAL PROCEDURES FIRST-LINE SUPERVISORS JOB TYPE	HEMATOLOGY PERSONNEL CLUSTER	HEMATOLOGY FIRST-LINE SUPERVISORS JOB TYPE
NUMBER IN GROUP	98	34	63	7
PERCENT OF SAMPLE	11%	4%	7%	1%
PERCENT IN CONUS	81%	88%	87%	86%
DAFSC DISTRIBUTION:				
92450	74%	47%	76%	43%
92470	26%	53%	24%	57%
AVERAGE GRADE	E-5	E-5	E-5	E-5
AVERAGE TICF (MOS)	79	107	67	85
AVERAGE TAFMS (MOS)	87	119	77	93
PERCENT IN FIRST-ENLISTMENT	20%	0%	29%	0%
AVERAGE NUMBER OF TASKS PERFORMED	99	136	62	122
JOB DIFFICULTY INDEX	10	15	7	14

TABLE 4 (Continued)

SELECTED BACKGROUND DATA FOR SPECIALTY JOB GROUPS

	BLOOD BANK PERSONNEL CLUSTER	BLOOD BANK FIRST-LINE SUPERVISOR JOB TYPE	HEMATOLOGICAL AND BLOOD BANK PERSONNEL JOB TYPE
NUMBER IN GROUP	63	16	12
PERCENT OF SAMPLE	7%	2%	1%
PERCENT IN CONUS	81%	75%	83%
DAFSC DISTRIBUTION:			
92450	75%	75%	67%
92470	24%	25%	25%
OTHER	1%*		8%*
AVERAGE GRADE	E-5	E-5	E-5
AVERGE TICF (MOS)	72	71	91
AVERAGE TAFMS (MOS)	82	87	97
PERCENT IN FIRST-ENLISTMENT	23%	25%	8%
AVERAGE NUMBER OF TASKS PERFORMED	77	115	83
JOB DIFFICULTY INDEX	10	14	10

* Personnel completed their job inventories incorrectly or were ineligible for this survey

TABLE 4 (Continued)

SELECTED BACKGROUND DATA FOR SPECIALTY JOB GROUPS

	BACTERIOLOGICAL PERSONNEL CLUSTER	BACTERIOLOGICAL FIRST-LINE SUPERVISORS	SUPERVISOR CLUSTER	HOSPITAL LAB SUPERVISOR JOB TYPE
NUMBER IN GROUP	57	31	176	83
PERCENT OF SAMPLE	7%	4%	20%	9%
PERCENT IN CONUS	79%	77%	77%	84%
DAFSC DISTRIBUTION:				
92450	88%	84%	19%	7%
92470	12%	16%	81%	93%
AVERAGE GRADE	E-4	E-5	E-6	E-6
AVERAGE TICF (MOS)	61	69	134	149
AVERAGE TAFMS (MOS)	74	88	172	197
PERCENT IN FIRST-ENLISTMENT	35%	23%	2%	2%
AVERAGE NUMBER OF TASKS PERFORMED	69	84	134	154
JOB DIFFICULTY INDEX	9	11	[illegible]	17

TABLE 4 (Continued)

SELECTED BACKGROUND DATA FOR SPECIALTY JOB GROUPS

	CLINICAL LAB SUPERVISOR JOB TYPE	INSTRUCTOR CLUSTER	INSTRUCTORS-SUPERVISORS	GENERAL MEDICAL LAB PERSONNEL CLUSTER	MEDICAL LAB COMPUTER CLUSTER	MEDICAL LAB SUPPLY PERSONNEL
NUMBER IN GROUP	37	3	21	43	10	7
PERCENT OF SAMPLE	4%	4%	2%	5%	1%	1%
PERCENT IN CONUS	51%	97%	95%	86%	100%	86%
DAFSC DISTRIBUTION:						
92450	27%	58%	48%	79%	60%	14%
92470	73%	42 0%	52%	21%	40%	86%
AVERAGE GRADE	E-6	E-5	E-6	E-5	E-5	E-6
AVERAGE TICF (MOS)	127	100	97	75	72	140
AVERAGE TAFMS (MOS)	157	117	116	85	108	157
PERCENT IN FIRST-ENLISTMENT	3%	0%	0%	24%	40%	0%
AVERAGE NUMBER OF TASKS PERFORMED	203	66	78	42	31	26
JOB DIFFICULTY INDEX	20	12	13	5	3	6

TABLE 5

JOB SATISFACTION INDICATORS BY SPECIALTY JOB GROUPS (PERCENT RESPONDING)*

	CHEMICAL AND HEMATOLOGICAL PERSONNEL CLUSTER	JOB TYPES	
		BACTERIOLOGICAL AND GENERAL PROCEDURES PERSONNEL	HEMATOLOGICAL AND GENERAL PROCEDURES PERSONNEL
EXPRESSED JOB INTEREST:			
INTERESTING	79	67	60
SO-SO	14	10	40
DULL	7	24	0
PERCEIVED USE OF TALENTS:			
FAIRLY WELL TO PERFECTLY	86	67	70
LITTLE OR NOT AT ALL	14	33	30
PERCEIVED USE OF TRAINING:			
FAIRLY WELL TO PERFECTLY	87	67	60
LITTLE OR NOT AT ALL	12	33	40
SENSE OF ACCOMPLISHMENT:			
SATISFIED	59	57	50
AMBIVALENT	9	5	20
DISSATISFIED	22	29	30
REENLISTMENT INTENTIONS:			
WILL/PROBABLY WILL REENLIST	68	62	70
WILL NOT/PROBABLY WILL NOT REENLIST	29	33	30
WILL RETIRE	2	5	0

* Columns may not equal 100 percent due to nonresponse or rounding

TABLE 5 (Continued)

JOB SATISFACTION INDICATORS BY SPECIALTY JOB GROUPS
(PERCENT RESPONDING)*

	CHEMICAL PROCEDURES PERSONNEL CLUSTER	CHEMICAL PROCEDURES FIRST-LINE SUPERVISOR JOB TYPE	HEMATOLOGY PERSONNEL CLUSTER	HEMATOLOGY FIRST-LINE SUPERVISORS JOB TYPE
EXPRESSED JOB INTEREST:				
INTERESTING	85	85	71	57
SO-SO	11	9	13	29
DULL	4	6	16	14
PERCEIVED USE OF TALENTS:				
FAIRLY WELL TO PERFECTLY	87	97	78	86
LITTLE OR NOT AT ALL	13	3	22	14
PERCEIVED USE OF TRAINING:				
FAIRLY WELL TO PERFECTLY	96	94	89	86
LITTLE OR NOT AT ALL	4	6	11	14
SENSE OF ACCOMPLISHMENT:				
SATISFIED	68	68	58	57
AMBIVALENT	11	12	6	0
DISSATISFIED	19	21	27	43
REENLISTMENT INTENTIONS:				
WILL/PROBABLY WILL REENLIST	68	88	62	71
WILL NOT/PROBABLY WILL NOT REENLIST	31	12	37	29
WILL RETIRE	1	0	2	0

* Columns may not equal 100 percent due to nonresponse or rounding

TABLE 5 (Continued)

JOB SATISFACTION INDICATORS BY SPECIALTY JOB GROUPS
(PERCENT RESPONDING)*

	BLOOD BANK PERSONNEL CLUSTER	BLOOD BANK FIRST-LINE SUPERVISOR JOB TYPE	HEMATOLOGICAL AND BLOOD BANK PERSONNEL JOB TYPE
EXPRESSED JOB INTEREST:			
INTERESTING	84	94	58
SO-SO	11	0	33
DULL	3	6	8
PERCEIVED USE OF TALENTS:			
FAIRLY WELL TO PERFECTLY	92	100	75
LITTLE OR NOT AT ALL	6	0	25
PERCEIVED USE OF TRAINING:			
FAIRLY WELL TO PERFECTLY	89	81	92
LITTLE OR NOT AT ALL	11	19	8
SENSE OF ACCOMPLISHMENT:			
SATISFIED	79	95	50
AMBIVALENT	5	6	8
DISSATISFIED	15	0	42
REENLISTMENT INTENTIONS:			
WILL/PROBABLY WILL REENLIST	75	94	67
WILL NOT/PROBABLY WILL NOT REENLIST	24	6	33
WILL RETIRE	2	0	0

* Columns may not equal 100 percent due to nonresponse or rounding

TABLE 5 (Continued)

JOB SATISFACTION INDICATORS BY SPECIALTY JOB GROUPS
(PERCENT RESPONDING)*

	BACTERIOLOGICAL PERSONNEL CLUSTER	BACTERIOLOGICAL FIRST-LINE SUPERVISORS	SUPERVISOR CLUSTER	HOSPITAL LAB SUPERVISOR JOB TYPE
EXPRESSED JOB INTEREST:				
INTERESTING	95	90	82	83
SO-SO	4	7	10	8
DULL	2	3	7	7
PERCEIVED USE OF TALENTS:				
FAIRLY WELL TO PERFECTLY	98	97	87	89
LITTLE OR NOT AT ALL	2	3	13	11
PERCEIVED USE OF TRAINING:				
FAIRLY WELL TO PERFECTLY	97	97	85	90
LITTLE OR NOT AT ALL	4	3	15	10
SENSE OF ACCOMPLISHMENT:				
SATISFIED	88	84	73	72
AMBIVALENT	5	3	7	6
DISSATISFIED	8	13	21	23
REENLISTMENT INTENTIONS:				
WILL/PROBABLY WILL REENLIST	77	77	72	65
WILL NOT/PROBABLY WILL NOT REENLIST	21	19	10	10
WILL RETIRE	2	3	18	25

* Columns may not equal 100 percent due to nonresponse or rounding

TABLE 5 (Continued)

JOB SATISFACTION INDICATORS BY SPECIALTY JOB GROUPS
(PERCENT RESPONDING)*

	CLINICAL LAB SUPERVISOR JOB TYPE	INSTRUCTOR CLUSTER	INSTRUCTORS-SUPERVISORS	GENERAL MEDICAL LAB PERSONNEL CLUSTER	MEDICAL LAB COMPUTER PERSONNEL	MEDICAL LAB SUPPLY PERSONNEL
EXPRESSED JOB INTEREST:						
INTERESTING	78	94	91	74	70	100
SO-SO	11	7	10	14	30	0
DULL	8	0	0	12	0	0
PERCEIVED USE OF TALENTS:						
FAIRLY WELL TO PERFECTLY	87	90	91	72	50	100
LITTLE OR NOT AT ALL	14	7	5	28	50	0
PERCEIVED USE OF TRAINING:						
FAIRLY WELL TO PERFECTLY	95	94	100	61	40	71
LITTLE OR NOT AT ALL	5	7	0	37	60	29
SENSE OF ACCOMPLISHMENT:						
SATISFIED	73	84	96	73	30	71
AMBIVALENT	5	3	0	9	20	0
DISSATISFIED	22	13	5	19	50	29
REENLISTMENT INTENTIONS:						
WILL/PROBABLY WILL REENLIST	81	81	81	61	60	100
WILL NOT/PROBABLY WILL NOT REENLIST	11	10	10	35	40	0
WILL RETIRE	8	10	10	5	0	0

* Columns may not equal 100 percent due to nonresponse or rounding

[illegible] PERSONNEL

TASKS		PERCENT MEMBERS PERFORMING (N=874)
H206	CLEAN [illegible]	86
H211	INST[illegible] SPECIMEN	68
H223	PROCESS [illegible]	66
H208	COLLECT [illegible] SUBJECTS	65
H210	HANDLE OR STORE [illegible]	64
H225	REMOVE AND [illegible]	64
H209	HANDLE OR STORE [illegible]	63
A1	ADVISE SUPERIORS ON STATUS OF MEDICAL LABORATORY OPERATIONS	61
B40	ASSIGN DUTIES TO SUBORDINATES	60
A7	DETERMINE WORK PRIORITIES	58
H215	PERFORM OPERATOR MAINTENANCE OF LABORATORY EQUIPMENT	57
H226	STORE MEDIA AND REAGENTS	57
H217	PERFORM PREVENTIVE MAINTENANCE OF FACILITIES OR EQUIPMENT	55
H207	CLEAN OR INSPECT LABORATORY GLASSWARE FOR SPOTS, CHEMICAL RESIDUES, SCRATCHES, AND CRACKS	54
B68	ORIENT NEWLY ASSIGNED PERSONNEL	54
H221	PREPARE SPECIMENS FOR SHIPMENT	53
B78	SUPERVISE MEDICAL LABORATORY SPECIALISTS (AFSC 92450)	52
H220	PREPARE MEDIA, REAGENTS, STANDARDS, OR QUALITY CONTROL SAMPLES	51
F179	MAINTAIN SUPPLY STOCK LEVELS	50
0461	PERFORM MACROSCOPIC EXAMINATIONS, INCLUDING COLOR, APPEARANCE, PH, OR SPECIFIC GRAVITY	50
K288	PERFORM BLOOD CELL MORPHOLOGY, MANUAL	50

ANALYSIS OF DAFSC GROUPS

A part of each occupational analysis involves the analysis of responses within DAFSC groups. The DAFSC analysis allows identification of differences in tasks performed by respondents at various skill levels. Further, this analysis serves as a tool in determining how well career ladder documents, such as AFR 39-1 Specialty Descriptions and the Specialty Training Standard (STS), reflect what career ladder personnel are doing in the field.

The jobs performed by 5- and 7-skill level personnel are very similar in terms of the technical laboratory tasks they perform; however, the 7-skill level personnel clearly perform more supervisory tasks. For this reason, the 5- and 7-skill level personnel will be discussed separately.

Table 7 displays the distribution of skill-level groups across the career ladder jobs. Table 8 illustrates the relative time spent on each duty by personnel at each skill level. Personnel at the 7-skill level spend more of their relative time on duties entailing supervisory, administrative, and training tasks (Duties A, B, C, D, E, and F). This represents a typical pattern of career progression from the 5- to the 7-skill level.

Skill-Level Descriptions

DAFSC 92450. The 559 5-skill level personnel (64 percent of the survey sample) perform an average of 88 tasks. Within this skill level, the incumbents' time is devoted primarily to general medical laboratory tasks, chemical procedures, and hematological duties. These duties account for approximately 40 percent of their total job time. Supervisory duties (Duties A, B, C, D) account for 22 percent of their relative time. Table 9 depicts the representative tasks performed by this group. The majority of these individuals process specimens for laboratory examinations, instruct patients on the proper procedures for collecting or submitting specimens, and clean laboratory facilities. Forty-two percent of the respondents with a 5-skill level are in their first enlistment, while 44 percent are in their second. Indicators of job satisfaction, talent and training utilization, and sense of accomplishment are high.

DAFSC 92470. The 7-skill level group is composed of 315 airmen (36 percent of the survey sample) who perform an average of 112 tasks. Nearly two-thirds of this group's relative time is spent performing supervisory, administrative, and supply duties. Within this group, 80 percent supervise other personnel, and 31 percent supervise five or more people. Table 10 shows the representative tasks of this group. Over 80 percent of the 7-skill level personnel are in their third or subsequent enlistment. The members of this group provided highly favorable indicators pertaining to job satisfaction, utilization of talents and training, and sense of accomplishment.

Summary

The career ladder progression from a 5-skill level to a 7-skill level is well defined. Personnel at the 5-skill level are spending the majority of their relative time performing technical tasks which include general medical laboratory tasks and numerous laboratory procedures. Personnel at the 7-skill level perform some technical tasks; however, their time is spent predominantly on supervisory and administrative tasks. Representative differences between the DAFSC 92450 and 92470 groups are shown in Table 11.

TABLE 7

DISTRIBUTION OF DAFSC GROUP MEMBERS ACROSS CAREER LADDER CLUSTERS AND JOB GROUPS (PERCENT MEMBERS RESPONDING)

JOB DESCRIPTIONS	DAFSC 92450 (N=559)	DAFSC 92470 (N=315)
I. CHEMICAL AND HEMATOLOGICAL PERSONNEL (N=237)	35	12
II. CHEMICAL PROCEDURES PERSONNEL (N=98)	13	8
III. HEMATOLOGY PERSONNEL (N=63)	9	5
IV. BLOOD BANK PERSONNEL (N=63)	8	5
V. BACTERIOLOGICAL PERSONNEL (N=57)	9	2
VI. SUPERVISORS (N=176)	6	45
VII. INSTRUCTORS (N=31)	5	4
VIII. GENERAL MEDICAL LABORATORY PERSONNEL (N=43)	6	3
IX. LABORATORY COMPUTER PERSONNEL (N=10)	1	1
X. LABORATORY SUPPLY NCOICs (N=7)	*	2
PERCENT NOT GROUPED	8	13
	100	100

* Denotes less than .5 percent

TABLE 8

DISTRIBUTION OF TIME SPENT BY RESPONDENTS WITHIN SKILL LEVELS

	DUTIES	DAFSC 92450 (N=559)	DAFSC 92470 (N=315)
A	ORGANIZING AND PLANNING	6	14
B	DIRECTING AND IMPLEMENTING	7	16
C	EVALUATING AND INSPECTING	5	13
D	TRAINING	4	7
E	PERFORMING MEDICAL LABORATORY ADMINISTRATION FUNCTIONS	4	5
F	PERFORMING MEDICAL LABORATORY MATERIEL FUNCTIONS	3	6
G	PERFORMING MEDICAL LABORATORY COMPUTER PROCEDURES	3	4
H	PERFORMING GENERAL MEDICAL LABORATORY TASKS	16	10
I	PERFORMING SEROLOGY PROCEDURES	3	1
J	PERFORM BLOOD BANKING AND IMMUNOHEMATOLOGY PROCEDURES	8	4
K	PERFORMING HEMATOLOGICAL PROCEDURES	10	4
L	PERFORMING COAGULATION PROCEDURES	3	1
M	PERFORMING CHEMICAL PROCEDURES, AUTOMATED AND SEMIAUTOMATED	13	7
N	PERFORMING CHEMICAL PROCEDURES, MANUAL	1	*
O	PERFORMING URINALYSIS PROCEDURES	2	1
P	PERFORMING BACTERIOLOGICAL PROCEDURES	8	4
Q	PERFORMING CLINICAL MYCOLOGY, MYCOBACTERIA, AND VIROLOGY PROCEDURES	*	*
R	PERFORMING PARASITOLOGICAL PROCEDURES	2	*
S	PERFORMING RADIO ASSAY PROCEDURES	*	*
T	PERFORMING TOXICOLOGY PROCEDURES	*	*
U	PERFORMING OCCUPATIONAL CHEMISTRY PROCEDURES	*	*
V	PERFORMING WATER LABORATORY PROCEDURES	*	*
W	PERFORMING DRUG REHABILITATION PROCEDURES	2	3
		100	100

* Denotes less than 1 percent

TABLE 9

REPRESENTATIVE TASKS PERFORMED BY 92450 PERSONNEL

TASKS		PERCENT MEMBERS PERFORMING (N=559)
H206	CLEAN LABORATORY FACILITIES OR IMMEDIATE WORK AREA	91
H223	PROCESS SPECIMENS FOR LABORATORY EXAMINATION	71
H225	REMOVE AND DISPOSE OF TRASH, WASTE, OR WASTE MATERIALS	70
H211	INSTRUCT PATIENTS ON PROPER COLLECTION OR SUBMISSION OF SPECIMENS	70
H208	COLLECT BIOLOGICAL SPECIMENS DIRECTLY FROM PATIENTS	69
H210	HANDLE OR STORE HAZARDOUS BIOLOGICAL SPECIMENS	67
H209	HANDLE OR STORE DANGEROUS CHEMICALS	65
H226	STORE MEDIA AND REAGENTS	60
H215	PERFORM OPERATOR MAINTENANCE OF LABORATORY EQUIPMENT	58
H220	PREPARE MEDIA, REAGENTS, STANDARDS, OR QUALITY CONTROL SAMPLES	57
H221	PREPARE SPECIMENS FOR SHIPMENT	57
H207	CLEAN OR INSPECT LABORATORY GLASSWARE FOR SPOTS, CHEMICAL RESIDUES, SCRATCHES, AND CRACKS	57
H217	PERFORM PREVENTIVE MAINTENANCE ON FACILITIES OR EQUIPMENT	56
0461	PERFORM MACROSCOPIC EXAMINATIONS, INCLUDING COLOR, APPEARANCE, pH, OR SPECIFIC GRAVITY	55
K288	PERFORM BLOOD CELL MORPHOLOGY, MANUAL	55
0463	PERFORM MICROSCOPIC EXAMINATIONS WITH OR WITHOUT STAINS TO IDENTIFY CELLULAR OR CRYSTALLINE STRUCTURES	53
K307	PERFORM RED BLOOD CELL COUNTS, AUTOMATED	52
K299	PERFORM ERYTHROCYTE SEDIMENTATION RATE TESTS	52
A1	ADVISE SUPERIORS ON STATUS OF MEDICAL LABORATORY OPERATIONS	52
K312	PERFORM WHITE BLOOD CELL COUNTS, AUTOMATED	50
K309	PERFORM RETICULOCYTE COUNTS	50

TABLE 10

REPRESENTATIVE TASKS PERFORMED BY 92470 PERSONNEL

TASKS		PERCENT MEMBERS PERFORMING (N=315)
B40	ASSIGN DUTIES TO SUBORDINATES	83
B78	SUPERVISE MEDICAL LABORATORY SPECIALISTS (AFSC 92450)	77
H206	CLEAN LABORATORY FACILITIES OR IMMEDIATE WORK AREA	75
C119	WRITE APRs OR SPECIAL AWARDS	75
B47	COUNSEL PERSONNEL ON PERSONAL OR MILITARY-RELATED MATTERS	75
B68	ORIENT NEWLY ASSIGNED PERSONNEL	75
A7	DETERMINE WORK PRIORITIES	74
C84	EVALUATE DUTY PERFORMANCE	72
C105	INSPECT LABORATORY PERSONNEL FOR COMPLIANCE WITH MILITARY STANDARDS	70
A31	PLAN WORK ASSIGNMENTS	66
F179	MAINTAIN SUPPLY STOCK LEVELS	65
A23	ESTABLISH WORK SCHEDULES	65
E160	COMPILE OR MAINTAIN WORKLOAD DATA	64
E171	PREPARE MONTHLY, BIMONTHLY, QUARTERLY, OR ANNUAL REPORTS	64
C103	INSPECT LABORATORY EQUIPMENT	61
A6	DETERMINE REQUIREMENTS FOR SPACE, PERSONNEL, EQUIPMENT, OR SUPPLIES	61
B65	INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	59
H208	COLLECT BIOLOGICAL SPECIMENS DIRECTLY FROM PATIENTS OR SUBJECTS	58
A2	COORDINATE MEDICAL LABORATORY ACTIVITIES WITH OTHER AGENCIES OR ORGANIZATIONS	58
C86	EVALUATE INDIVIDUALS FOR RECOGNITION	58
H209	HANDLE OR STORE DANGEROUS CHEMICALS	58
B41	ASSIGN PERSONNEL TO DUTY POSITIONS	57
A35	PREPARE DUTY ROSTERS	55
A38	SCHEDULE TEMPORARY DUTY, LEAVES, OR PASSES	53
H214	PERFORM DESIGNATED EXTRA DUTIES, SUCH AS FIRE WARDEN, BUILDING CUSTODIAN, OR NONCOMMISSIONED OFFICER OF THE DAY	52
A21	ESTABLISH ORGANIZATIONAL POLICIES, OFFICE INSTRUCTIONS (OI), OR STANDING OPERATING PROCEDURES (SOP)	52
D150	MAINTAIN TRAINING RECORDS	51

TABLE 11

REPRESENTATIVE TASK DIFFERENCES BETWEEN 92450 AND 92470 PERSONNEL (PERCENT MEMBERS PERFORMING)

TASKS		DAFSC 92450 (N=559)	DAFSC 92470 (N=315)	DIFFERENCE
L316	PERFORM ACTIVATED PARTIAL THROMBOPLASTIN TIME (APTT) DETERMINATIONS, AUTOMATED OR SEMI-AUTOMATED	46	28	16
K299	PERFORM ERYTHROCYTE SEDIMENTATION RATE TESTS	52	37	15
J249	COMPLETE SF FORMS 518 (MEDICAL RECORD-BLOOD OR BLOOD COMPONENT TRANSFUSION)	33	18	15
H220	PREPARE MEDIA, REAGENTS, STANDARDS, OR QUALITY CONTROL SAMPLES	57	42	15
K293	PERFORM CEREBROSPINAL FLUID CELL COUNTS	44	30	14
P488	PERFORM STAINING PROCEDURES, SUCH AS GRAM'S STAIN, OR METHYLENE	49	35	14
K309	PERFORM RETICULOCYTE COUNTS	50	36	14
I239	PERFORM MONOTESTS	42	28	14
.		.	.	.
.		.	.	.
.		.	.	.
B40	ASSIGN DUTIES TO SUBORDINATES	47	83	-36
B41	ASSIGN PERSONNEL TO DUTY POSITIONS	19	57	-38
F180	PREPARE REQUISITIONS FOR EQUIPMENT	11	50	-39
B78	SUPERVISE MEDICAL LABORATORY SPECIALISTS (AFSC 92450)	38	77	-39
C84	EVALUATE DUTY PERFORMANCE	32	72	-40
A35	PREPARE DUTY ROSTERS	15	55	-40
A31	PLAN WORK ASSIGNMENTS	24	66	-42
A23	ESTABLISH WORK SCHEDULES	22	65	-43
D138	COUNSEL PERSONNEL ON TRAINING OR OTHER PROBLEMS, SUCH AS AIRMAN PERFORMANCE REPORTS (APR)	24	67	-43
C119	WRITE APRs OR SPECIAL AWARDS	29	75	-46

ANALYSIS OF AFR 39-1 SPECIALTY DESCRIPTIONS

The 5- and 7-skill level survey data were compared to the AFR 39-1 Specialty Descriptions for the Medical Laboratory Specialist (AFSC 92450) and the Medical Laboratory Technician (AFSC 92470), dated 1 January 1982. The purpose of the AFR 39-1 classification descriptions is to provide a panoramic view of the duties and tasks performed by each skill level within the career ladder.

The descriptions depict the range of duties and responsibilities in an accurate, concise manner. The 7-skill level description appears complete and accurate, not only in reflecting supervisory and administrative responsibilities, but some of the technical, nonsupervisory duties as well. Specialty qualifications, in relation to knowledge, education, experience, and training, appear complete and appropriate in both descriptions.

ANALYSIS OF TAFMS GROUPS

An analysis of total active federal military service (TAFMS) groups is accomplished to provide a description of how jobs and the perception of these jobs within a career ladder change over time. As time in service and experience increase, there is a correlational increase in performing duties entailing management, supervisory, and training tasks (see Table 12). Generally, an inverse relationship exists between time spent on supervisory tasks and technical tasks, in that, as time spent on supervisory and administrative tasks increases, performance time on tasks in the technical area decreases. These alterations in primary areas of responsibility are a reflection of the changes discussed previously in the DAFSC analysis section.

First-Enlistment Personnel

In this study, there are 196 (23 percent of survey sample) first-enlistment personnel (1-48 months). These persons spend the largest percentage of their relative job time (43 percent) performing general medical laboratory tasks, chemical procedures, and hematological procedures. Table 13 illustrates the 27 tasks which 50 percent or more of this group perform. Within this group, members perform an average of 85 tasks. As high as 50 percent of first-term personnel indicate they utilize various mathematical formulas in their jobs. Table 14 shows some types of equipment used by these personnel.

Figure 2 displays the distribution of first-enlistment personnel across specialty jobs and reflects fairly well the distribution of the career ladder. This figure indicates most first-enlistment personnel are assigned to the chemical and hematological area of the laboratory.

Job Satisfaction

Career field managers are able to increase their understanding of the factors which affect the job performance of today's airmen by utilizing data which reflect the perceptions individuals hold toward their jobs. These data were gathered through five inventory questions pertaining to job interest, perceived utilization of talents and training, sense of accomplishment, and reenlistment intentions. These data are presented in Table 15 in conjunction with the same information from comparative samples of all medical AFSCs surveyed in 1982 and 1983.

All job satisfaction indicators for the first-enlistment group are higher than, or comparable to, those for the comparative sample. Second-enlistment and career respondents show the same trend when viewed in conjunction with the comparative sample.

In view of the responses presented in Table 15, medical laboratory personnel are satisfied with their jobs. In addition, these data support the findings within the SPECIALTY JOBS section of this report.

FIGURE 2

DISTRIBUTION OF FIRST-ENLISTEMENT PERSONNEL
ACROSS JOB SPECIALTY GROUPS
(PERCENT MEMBERS RESPONDING)

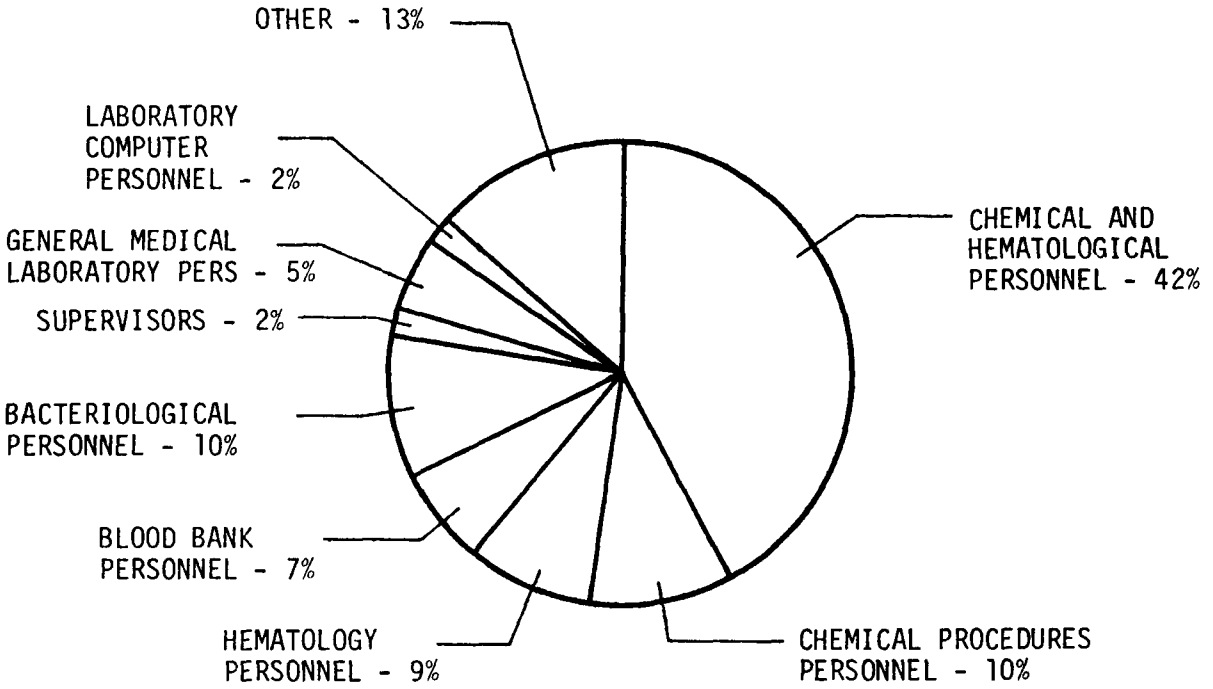


TABLE 12

RELATIVE PERCENT TIME SPENT ON DUTIES BY TAFMS GROUPS

DUTIES	TAFMS MONTHS 1-48 (N=196)	49-96 (N=326)	97+ (N=352)
A ORGANIZING AND PLANNING	4	6	12
B DIRECTING AND IMPLEMENTING	4	7	15
C EVALUATING AND INSPECTING	3	5	12
D TRAINING	2	5	7
E PERFORMING MEDICAL LABORATORY ADMINISTRATION FUNCTIONS	3	4	5
F PERFORMING MEDICAL LABORATORY MATERIEL FUNCTIONS	1	1	5
G PERFORMING MEDICAL LABORATORY COMPUTER PROCEDURES	4	3	4
H PERFORMING GENERAL MEDICAL LABORATORY TASKS	17	16	11
I PERFORMING SEROLOGY PROCEDURES	2	2	1
J PERFORMING BLOOD BANKING AND IMMUNOHEMATOLOGY PROCEDURES	9	8	4
K PERFORMING HEMATOLOGY PROCEDURES	11	9	5
L PERFORMING COAGULATION PROCEDURES	3	3	1
M PERFORMING CHEMICAL PROCEDURES, AUTOMATED AND SEMIAUTOMATED	15	14	6
N PERFORMING CHEMICAL PROCEDURES, MANUAL	2	1	1
O PERFORMING URINALYSIS PROCEDURES	3	2	1
P PERFORMING BACTERIOLOGICAL PROCEDURES	9	7	4
Q PERFORMING CLINICAL MYCOLOGY, MYCOBACTERIA, AND UROLOGY PROCEDURES	*	1	*
P PERFORMING PARASITOLOGICAL PROCEDURES	2	2	1
S PERFORMING RADIO ASSAY PROCEDURES	1	*	*
T PERFORMING TOXICOLOGY PROCEDURES	1	1	.5
U PERFORMING OCCUPATIONAL CHEMISTRY PROCEDURES	*	*	*
V PERFORMING WATER LABORATORY PROCEDURES	*	*	*
W PERFORMING DRUG REHABILITATION PROCEDURES	3	1	3

* Denotes less than .5 percent

TABLE 13

TASKS PERFORMED BY MAJORITY OF FIRST-ENLISTMENT PERSONNEL (1-48 MONTHS TAFMS)

TASKS		PERCENT MEMBERS PERFORMING (N=196)
H206	CLEAN LABORATORY FACILITIES OR IMMEDIATE WORK AREA	92
H225	REMOVE AND DISPOSE OF TRASH, WASTE, OR WASTE MATERIALS	75
H211	INSTRUCT PATIENTS ON PROPER COLLECTION OR SUBMISSION OF SPECIMENS	74
H223	PROCESS SPECIMENS FOR LABORATORY EXAMINATIONS	73
H208	COLLECT BIOLOGICAL SPECIMENS DIRECTLY FROM PATIENTS OR SUBJECTS	67
H210	HANDLE OR STORE HAZARDOUS BIOLOGICAL SPECIMENS	67
H209	HANDLE OR STORE DANGEROUS CHEMICALS	65
H226	STORE MEDIA AND REAGENTS	62
0461	PERFORM MACROSCOPIC EXAMINATIONS, INCLUDING COLOR, APPEARANCE, pH, OR SPECIFIC GRAVITY	60
K228	PERFORM BLOOD CELL MORPHOLOGY, MANUAL	60
H220	PREPARE MEDIA, REAGENTS, STANDARDS, OR QUALITY CONTROL SAMPLES	59
0463	PERFORM MICROSCOPIC EXAMINATIONS WITH OR WITHOUT STAINS TO IDENTIFY CELLULAR OR CRYSTALLINE STRUCTURES	58
K307	PERFORM RED BLOOD CELL COUNTS, AUTOMATED	58
K309	PERFORM RETICULOCYTE COUNTS	58
H215	PERFORM OPERATOR MAINTENANCE OF LABORATORY EQUIPMENT	57
K312	PERFORM WHITE BLOOD CELL COUNTS, AUTOMATED	57
H207	CLEAN OR INSPECT LABORATORY GLASSWARE FOR SPOTS, CHEMICAL RESIDUES, SCRATCHES, AND CRACKS	57
K299	PERFORM ERYTHROCYTE SEDIMENTATION RATE TESTS	57
H221	PREPARE SPECIMENS FOR SHIPMENT	56
K306	PERFORM QUALITATIVE SICKLE CELL SCREENS (SICKLEDEX)	54
K293	PERFORM CEREBROSPINAL FLUID CELL COUNTS	54
H217	PERFORM PREVENTIVE MAINTENANCE ON FACILITIES OR EQUIPMENT	53
K300	PERFORM HEMATOCRIT DETERMINATIONS, AUTOMATED	52
0464	PERFORM OCCULT BLOOD TESTS	52
J258	PERFORM ABO GROUPINGS AND Rh TYPINGS, INCLUDING VARIANTS (DU)	51
L316	PERFORM ACTIVATED PARTIAL THROMBOPLASTIN TIME (APTT) DETERMINATIONS, AUTOMATED OR SEMI-AUTOMATED	51
M347	PERFORM BLOOD UREA NITROGEN (BUN) TESTS, AUTOMATED	51

TABLE 14

EQUIPMENT USED BY FIRST-ENLISTMENT PERSONNEL

EQUIPMENT	PERCENT MEMBERS PERFORMING (N=196)
REFRIGERATORS OR FREEZERS	92
RACKS, TEST TUBES	85
MICROSCOPES, BRIGHT FIELD	77
LANCET, MANUAL	69
VORTEX MIXERS	68
CAPILLARY COLLECTION TUBES	63
HEMACYTOMETERS	61
LOOPS, CALIBRATED, INOCULATING	61
CALCULATORS, ELECTRONIC	59
AUTOMATED COMPLETE BLOOD COUNT SYSTEMS	54
INCUBATORS, BACTERIOLOGICAL	53
SLIDE STAINERS, AUTOMATED	51
PIPETTE, AUTOMATED	48
ELECTROLYTE ANALYZERS	47
CHEMISTRY ANALYZERS, SEMI-AUTOMATED	45
SPECTROPHOTOMETERS	45
COAGULATION INSTRUMENTATION, SEMI-AUTOMATED	42
AUTOMATED CHEMISTRY ANALYZER SYSTEMS, COMPUTER DIRECTED	39
COMPUTERS	38
BALANCES, ANALYTICAL, 1 PAN OR 2 PAN	38
MINI-MICROCOMPUTER	37
AUTODILUTERS	36
BILIRUBINOMETERS	35
ADDING MACHINES	34
AUTOMATED CHEMISTRY ANALYZER SYSTEMS, NON-COMPUTER DIRECTED	33
HEMOGLOBINOMETERS	31
BLOOD GAS APPARATUS	31
pH METERS	30

TABLE 15

JOB SATISFACTION INDICATORS BY TAFMS GROUPS (PERCENT MEMBERS PERFORMING)

	1-48 MONTHS TAFMS		49-96 MONTHS TAFMS		97+ MONTHS TAFMS	
	924X0 (N=196)	COMPARATIVE SAMPLE** (N=639)	924X0 (N=326)	COMPARATIVE SAMPLE** (N=285)	924X0 (N=352)	COMPARATIVE SAMPLE** (N=383)
EXPRESSED JOB INTEREST:						
INTERESTING	84	76	79	81	81	80
SO-SO	8	12	15	8	9	9
DULL	8	10	6	10	9	8
PERCEIVED USE OF TALENTS:						
FAIRLY WELL TO PERFECTLY	86	77	83	79	85	86
LITTLE OR NOT AT ALL	14	23	17	19	14	14
PERCEIVED USE OF TRAINING:						
FAIRLY WELL TO PERFECTLY	86	81	87	80	80	85
LITTLE OR NOT AT ALL	14	17	13	18	20	15
SENSE OF ACCOMPLISHMENT:						
SATISFIED	76	70	68	71	70	75
AMBIVALENT	7	9	11	8	8	8
DISSATISFIED	17	20	21	19	22	14
REENLISTMENT INTENTIONS:						
WILL/PROBABLY WILL REENLIST	64	65	68	73	77	71
WILL NOT/PROBABLY WILL NOT REENLIST	34	33	31	20	10	10
WILL RETIRE	1	1	1	7	13	19

* Columns may not equal 100 percent due to nonresponse or rounding

** Comparative sample of Medical career ladders surveyed in 1982 and 1983, including AFSCs 902X1, 918X0, 981X0, and 982X0

ANALYSIS OF MAJCOM GROUPS

The background data and tasks performed by first-enlistment personnel in eight MAJCOMs with populations over 5 percent--AFSC, SAC, TAC, USAFE, MAC, PACAF, ATC, and AFLC--were compared to determine whether job content varied as a function of MAJCOM assignment. Ninety-five percent of the first-enlistment personnel are assigned within these MAJCOMs. One of the major reasons for such a comparison is to detect differences in the jobs of first-enlistment personnel across MAJCOMs that might affect technical training. Table 16 compares duty differences across MAJCOMs for first-enlistment personnel, while Table 17 compares job satisfaction indicators across the same groups.

All MAJCOMs were fairly equal in terms of relative time spent on duties. First-enlistment personnel within each MAJCOM spend 14 percent or more of their relative job time performing general medical laboratory tasks, which is the most consistent duty performed across MAJCOMs in terms of relative time spent. One exception is AFSC, whose first-enlistment personnel spend 30 percent of their relative job time performing supervisory, administrative, and training tasks.

While AFSC first-enlistment personnel devoted the most time to supervisory and administrative duties, they performed fewer tasks (an average of 42) than personnel assigned to the other MAJCOMs. In fact, AFSC first-enlistment personnel performed 40 percent fewer tasks than AFLC personnel, who are next in sequence in terms of the average number of tasks performed. MAC first-term personnel perform the greatest number of tasks, with an average of 122.

The following display illustrates the average number of tasks performed by personnel within the various MAJCOM groups:

MAJCOMs (Average Number of Tasks Performed)

MAC	SAC	USAFE	PACAF	TAC	ATC	AFLC	AFSC
122	116	113	108	103	89	88	42

Over 45 percent of first-term ATC, MAC, AFLC, and AFSC personnel utilize computers and microcomputers in accomplishing their work. Considerably fewer of the remaining MAJCOM first-term personnel use computers. In addition, over 40 percent of first-term TAC, SAC, and ATC personnel use adding machines on the job, while the remainder of MAJCOM personnel use them very little. Table 18 shows some of the types of equipment utilized by at least 30 percent of the personnel within MAJCOMs.

Most first termers within the MAJCOM groups indicated favorable inputs in regard to job satisfaction indicators. One exception is first-enlistment SAC personnel, with less than half (47 percent) indicating their intention to reenlist.

Summary

Essentially, the first-enlistment MAJCOM groups were quite similar particularly in terms of tasks performed and job satisfaction. There were some differences, however, in regard to number of tasks performed and types of equipment used.

TABLE 16

RELATIVE TIME SPENT ON DUTIES BY FIRST-ENLISTMENT MAJCOM GROUPS (PERCENT TIME SPENT)

DUTIES	1-48 MONTHS TOTAL (N=196)	AFSC (N=31)	SAC (N=47)	TAC (N=24)	USAFE (N=18)	MAC (N=17)	PACAF (N=14)	ATC (N=24)	AFLC (N=11)
A ORGANIZING AND PLANNING	4	8	2	3	2	5	3	3	3
B DIRECTING AND IMPLEMENTING	4	8	3	3	1	6	5	4	2
C EVALUATING AND INSPECTING	3	7	2	2	2	4	3	3	2
D TRAINING	2	4	1	1	*	2	1	4	*
E PERFORMING MEDICAL LABORATORY ADMINISTRATION FUNCTIONS	3	3	3	2	3	3	3	4	2
F PERFORMING MEDICAL LABORATORY MATERIEL FUNCTIONS	1	1	1	1	1	1	*	1	1
G PERFORMING MEDICAL LABORATORY COMPUTER FUNCTIONS	4	9	2	3	1	11	*	4	7
H PERFORMING GENERAL MEDICAL LAB TASKS	17	19	17	15	14	16	19	16	18
I PERFORMING SEROLOGY PROCEDURES	2	*	3	2	3	1	2	1	2
J PERFORMING BLOOD BANKING AND IMMUNOHEMATOLOGY PROCEDURES	9	2	11	11	9	6	21	8	12
K PERFORMING HEMATOLOGY PROCEDURES	11	6	13	15	15	7	10	10	12
L PERFORMING COAGULATION PROCEDURES	3	2	4	4	3	1	4	3	2
M PERFORMING CHEMICAL PROCEDURES, AUTOMATED AND SEMIAUTOMATED	15	8	16	23	14	21	17	10	11
N PERFORMING CHEMICAL PROCEDURES, MANUAL	2	1	1	2	7	1	2	1	1
O PERFORMING URINALYSIS PROCEDURES	3	1	4	3	5	1	2	2	4
P PERFORMING BACTERIOLOGICAL PROCEDURES	9	5	10	5	12	9	2	18	13
Q PERFORMING CLINICAL MYCOLOGY, MYCOBACTERIA, AND VIROLOGY PROCEDURES	1	*	1	1	1	*	*	2	*
R PERFORMING PARASITOLOGICAL PROCEDURES	2	1	2	2	4	2	*	3	3
S PERFORMING RADIO ASSAY PROCEDURES	1	3	1	*	*	*	2	*	1
T PERFORMING TOXICOLOGY PROCEDURES	1	1	1	1	1	1	1	*	1
U PERFORMING OCCUPATIONAL CHEMISTRY PROCEDURES	*	*	*	*	*	*	*	*	*
V PERFORMING WATER LABORATORY PROCEDURES	*	*	*	*	*	*	*	*	*
W PERFORMING DRUG REHABILITATION PROCEDURES	3	9	2	2	2	1	2	2	2

* Less than 1 percent
Columns may not equal 100 percent due to nonresponse or rounding

TABLE 17

JOB SATISFACTION INDICATORS BY FIRST-ENLISTMENT MAJCOM GROUPS (PERCENT MEMBERS RESPONDING)

	1-48 MONTHS								
	TOTAL (N=196)	AFSC (N=31)	SAC (N=47)	TAC (N=24)	USAFE (N=18)	MAC (N=17)	PACAF (N=14)	ATC (N=24)	AFLC (N=11)
EXPRESSED JOB INTEREST:									
INTERESTING	84	71	79	83	83	94	86	96	91
SO-SO	8	16	6	13	6	6	14	0	9
DULL	8	13	13	4	11	0	14	4	0
PERCEIVED USE OF TALENTS:									
FAIRLY WELL TO PERFECTLY	86	77	85	92	89	88	79	92	91
LITTLE OR NOT AT ALL	14	23	15	8	11	12	21	8	9
PERCEIVED USE OF TRAINING:									
FAIRLY WELL TO PERFECTLY	86	61	92	92	78	88	93	96	100
LITTLE OR NOT AT ALL	14	39	6	8	22	12	7	4	0
SENSE OF ACCOMPLISHMENT:									
SATISFIED	76	65	67	80	83	82	85	88	82
AMBIVALENT	7	10	9	13	0	0	7	8	9
DISSATISFIED	17	27	24	8	17	18	7	4	9
REENLISTMENT INTENTIONS:									
WILL/PROBABLY WILL REENLIST	64	90	47	58	67	53	64	67	64
WILL NOT/PROBABLY WILL NOT REENLIST	34	10	51	38	33	47	29	33	27

* Columns may not equal 100 percent due to nonresponse or rounding

TABLE 18

EQUIPMENT USED BY 30 PERCENT OR MORE OF PERSONNEL ACROSS MAJCOMS

ADDING MACHINES

AUTOCLAVES

BLOOD COLLECTION EQUIPMENT (NEEDLE, SYRINGE VACUTAINER, ETC.)

CALCULATORS, ELECTRONIC

CENTRIFUGES, LAB, SIZE 1 OR 2

CENTRIFUGES, (SEROFUGE) (IMMUFUGE)

HEAT BLOCKS 37 DEGREES-100 DEGREES

LABORATORY GLASSWARE

LANCET, MANUAL

MICROSCOPES, BRIGHT FIELD

PIPETTE, AUTOMATED

PIPETTE, BULB

PIPETTE, MANUAL

RACKS, TEST TUBES

REFRIGERATORS OR FREEZERS

SHAKING MACHINES, MIXER OR ROTATOR

TIMERS, ELECTRIC OR MECHANICAL

TYPEWRITERS

VORTEX MIXERS

WATER BATHS

ANALYSIS OF CONUS/OVERSEAS GROUPS

A comparison is made between 5-skill level personnel assigned within the continental United States (CONUS) and overseas to determine if there are meaningful differences or similarities in terms of tasks performed, equipment used, and any other significant differentiating factor. Personnel in CONUS number 450, while 108 are assigned overseas. Both CONUS and overseas 5-skill level personnel combined represent 64 percent of the survey sample. Additionally, both are equal in terms of job difficulty and responses to job satisfaction indicators. Overseas personnel performed slightly more tasks (99 for overseas and 85 for CONUS). There are a higher number of first-enlistment personnel assigned to CONUS (36 percent) than assigned overseas (28 percent). There are few differences between CONUS and overseas personnel in relation to relative time spent on duties. The largest difference that does exist in that area concerns relative time spent on bacteriological duties (with CONUS personnel spending 7 percent of their relative time and overseas personnel spending 11 percent).

Both CONUS and overseas personnel basically use the same equipment, but to varying degrees. More CONUS personnel utilize computers - microcomputers (40 percent and 45 percent) than overseas personel (30 percent and 21 percent). This suggests that CONUS personnel have greater automation capabilities than their overseas counterparts. Table 19 shows some of the types of equipment used by CONUS and overseas personnel. The incumbents are virtually equal in terms of percentage of each utilizing mathematical formulas while performing their duties. In summary, CONUS-overseas differences were few and minor in nature. Table 20 illustrates task differences between personnel within both groups.

TABLE 19

EQUIPMENT USED BY CONUS AND OVERSEAS GROUPS

EQUIPMENT	TOTAL SAMPLE (N=874)	PERCENT MEMBERS PERFORMING	
		CONUS (N=450)	OVERSEAS (N=108)
BLOOD COLLECTION EQUIPMENT (NEEDLE, SYRINGE, VACUTAINER, ETC.)	67	69	78
CALCULATORS, ELECTRONIC	67	63	69
REFRACTOMETERS	58	58	78
CAPILLARY COLLECTION TUBES	56	56	74
CENTRIFUGES, MICROHEMATOCRIT	55	54	73
SHAKING MACHINES, MIXER OR ROTATOR	55	57	69
HEMACYTOMETERS	51	52	73
AUTOCLAVES	49	52	59
READERS, MICROHEMATOCRITS	48	48	68
INCUBATORS, BACTERIOLOGICAL	47	50	61
MINI-MICRO COMPUTER	46	45	30
AUTOMATED COMPLETE BLOOD COUNT SYSTEMS	45	51	43
ELECTRICAL BACTERIAL INCINERATORS (LOOP STERILIZERS)	41	42	57
ADDING MACHINES	40	36	35
COMPUTERS	40	40	21
SPECTROPHOMETERS, VISIBLE LIGHT	40	39	52
ANAEROBIC JARS	39	40	56
DISPENSERS, SENSITIVITY DISCS	38	36	59
DISTILLING APPARATUS	33	36	39
MAGNETIC STIRRER AND HOT PLATE COMBINATIONS	33	32	46
FLAME PHOTOMETERS	32	28	54
DRYING OVENS	31	33	36

TABLE 20

REPRESENTATIVE TASK DIFFERENCES BETWEEN CONUS/OVERSEAS PERSONNEL (PERCENT MEMBERS PERFORMING)

TASKS		CONUS 92450 (N=450)	OVERSEAS 92450 (N=108)	DIFF
B40	ASSIGN DUTIES TO SUBORDINATES	51	33	18
K298	PERFORM ERYTHROCYTE INDICES, AUTOMATED	42	26	16
J254	MAINTAIN BLOOD INVENTORIES	27	15	12
G198	NOTIFY SUPERVISORS OF MACHINE FAILURES, DOWNTIME, OR PROCESSING PROBLEMS	31	19	12
B47	COUNSEL PERSONNEL ON PERSONAL OR MILITARY-RELATED MATTERS	38	27	11
D157	SCORE TESTS	12	2	10
	.	.	.	.
	.	.	.	.
	.	.	.	.
	.	.	.	.
	.	.	.	.
W590	TRANSPORT COLLECTED SAMPLES TO COMMERCIAL AIR FREIGHT SERVICES OR FEDERAL POSTAL SERVICE	7	17	-10
P492	PREPARE BACTERIOLOGICAL STAINS OR INDICATORS	14	26	-12
N455	PERFORM URIC ACID TESTS, MANUAL	2	16	-14
0464	PERFORM OCCULT BLOOD TESTS	42	57	-15
N438	PERFORM CALCIUM TESTS, MANUAL	6	22	-16
K295	PERFORM EOSINOPHILE COUNTS ON NASAL SMEARS	38	56	-18
K301	PERFORM HEMATOCRIT DETERMINATIONS, MANUAL	41	61	-20
I240	PERFORM NONTREPONEMAL TESTS FOR SYPHILIS, SUCH AS VDRL OR RPR	33	55	-22

TRAINING ANALYSIS

Occupational survey data are used to assist in the development or review of training programs in terms of the needs of first-enlistment personnel within a career ladder. Some factors used in reviewing training relevance are: the percent of first-job (1-24 months TAFMS), the percent of first-enlistment (1-48 months TAFMS), or the percent of 5- and 7-skill level members performing tasks, along with training emphasis and task difficulty ratings. These factors were used in assessing the STS and POI for the 924X0 career ladder. Technical school personnel from the School of Health Care Sciences, USAF, Sheppard AFB, Texas, matched inventory tasks to appropriate sections of the STS and POI for Courses 3ABR92430 and J3ABR92450. Additionally, Laboratory Instructor personnel from Wilford Hall Medical Center, Lackland AFB, Texas, matched inventory tasks with performance and lecture documents that resulted in a Phase II POI. This is the first 924X0 study in which a match was accomplished on Phase II training. Comments and tables pertaining to questionable elements (or lack of elements) in the training documents presented in this section are intended only to highlight what appear to be possible problem areas.

Several areas of the specialty Training Standard (STS) and Plan of Instruction (POI) require review for possible adjustments, revisions, and additions. These areas will be discussed in detail within this section.

Training Emphasis

Table 21 lists 20 tasks which senior medical laboratory specialty raters indicated were most important for first-enlistment training (as indicated by TE ratings). These are displayed to provide the reader with a perspective on the types of tasks which are important for training. In all, 130 of the 592 inventory tasks were rated high in TE.

Specialty Training Standard

A comprehensive review of STS 924X0, dated January 1982, was made comparing STS items to survey data. STS paragraphs containing general information or subject-matter knowledge requirements were not reviewed. The STS generally provides comprehensive coverage of the jobs performed and equipment maintained by personnel in the field, with survey data supporting paragraphs or subparagraphs. A few areas of concern need to be reviewed.

Table 22 shows 17 elements of the STS with task performance proficiency codes which did not have inventory tasks matched to them. This could mean an applicable task has not been matched, the element is inappropriately coded as a performance item rather than a knowledge item, or there are no clearly defined inventory tasks appropriate to that element. Subject-matter specialists and training personnel should review these elements in detail to ascertain whether inclusion in the STS is justified. If inclusion is justified, the possible

reasons for unmatched elements discussed previously should be pursued and necessary adjustments made. If there are no tasks in the inventory which can be matched to a valid performance element, it is requested that subject-matter specialists draft the appropriate task statements and forward them to the Occupational Measurement Center for review and use in the next inventory review.

STS paragraph 16, entitled "Virology Procedures", should be reviewed in terms of the appropriateness of tasks matched. It is the only major paragraph in the STS matched with inventory tasks (all other matches are to subparagraphs). Furthermore, there are no proficiency codes provided for these tasks. None of the six inventory tasks matched under this paragraph have high TE ratings. Additionally, very few 5- and 7-skill level personnel are performing these six tasks. Based on this information, subject-matter specialists and training personnel should review this paragraph to determine if these tasks can be matched to an existing element in the paragraph, assess whether a new element must be created, or if inclusion in the STS is justified.

There were 143 tasks not matched to any element of the STS. These tasks are listed at the end of the STS computer format. No trend regarding the tasks was noted. Relatively few people performed these tasks and all but three had low TE ratings. However, a number of tasks with at least 20 percent members performing should be considered for inclusion in structured training. Most of the nonreferenced tasks probably do not warrant structured training. Subject-matter specialists and training personnel should evaluate these tasks and consider including those tasks whose data indicate inclusion in the STS is justified. Table 23 illustrates a listing of examples of the unmatched tasks.

Plan of Instruction

Based on the previously mentioned assistance from technical school subject-matter specialists and instructor personnel in matching inventory tasks to the POI, computer products were generated displaying the results of that matching process. Information furnished for consideration included TE and TD ratings, as well as percent members performing data for first-job (1-24 months TAFMS) and first-enlistment (1-48 months TAFMS) personnel.

Phase I POI

More than 40 percent of first-enlistment personnel perform chemical and hematological duties. In Phase I training, several hours of instruction are devoted to chemical and hematological procedures, indicating excellent compatability between utilization and training. Table 24 shows tasks with high TE ratings not referenced to the Phase I POI. It is important to note that some tasks not referenced in the Phase I POI are referenced in Phase II POI. Similarly, some tasks not referenced in the Phase II POI are included in the Phase I POI. The majority of the elements in the Phase I POI contain tasks whose data indicate training in an OJT capacity would be more appropriate. Further,

five elements (I20A, I20B, IIB, II6A, and III9A) are not matched with inventory tasks. Two inventory tasks (J268 and H205) which were not referenced in either POI should be considered for inclusion in either Phase I or II training, particularly in view of the high TE ratings. Subject-matter specialists and training personnel should review this document for possible revisions or changes.

Phase II POI

As discussed previously in the Background section of this report, incumbents are awarded their 5-skill level upon completion of Phase II training. More than one-third of the 5-skill level personnel perform chemical ad hematological duties. Several hours of instruction are also spent on chemical and hematological procedures in Phase II training. Therefore, training accurately reflects the jobs personnel are performing. Table 25 shows several elements to which no inventory tasks have been matched. Virtually every element contains tasks whose data indicate background or OJT training as more suitable. Table 26 displays tasks with high TE ratings not referenced to this POI but, as mentioned earlier, are covered in the Phase I POI. These areas should be reviewed by training personnel and subject-matter specialists.

Training managers and subject-matter specialists should review both POIs for possible duplication of sections. For example, Block II, Subsection 5c, in Phase I training is essentially the same as Block III, Section B, in Phase II training. With no proficiency codes provided within both POIs, it is difficult to assess whether duplication has occurred; however, this finding is merely an observation of the available documents.

The evaluation of subject matter, tasks, and issues discussed here is essential in an effort to determine the necessity for training and the most effective method to accomplish it.

TABLE 21

TASKS RATED HIGH IN TRAINING EMPHASIS BY MEDICAL LABORATORY RATERS

TASKS		TRAINING EMPHASIS*	PERCENT PERFORMING FIRST JOB	PERCENT PERFORMING FIRST ENLISTMENT	TASK DIFFICULTY+
K288	PERFORM BLOOD CELL MORPHOLOGY, MANUAL	7.28	75	60	5.69
K293	PERFORM CEREBROSPINAL FLUID CELL COUNTS	7.13	60	52	6.12
J274	PERFORM MAJOR SIDE CROSS-MATCHING (COMPATIBILITY) TESTS	6.81	40	42	5.47
J263	PERFORM BLOOD BANK REAGENT QUALITY CONTROL	6.61	35	40	5.17
P465	EXAMINE BACTERIAL STAINS, MICROSCOPICALLY	6.54	60	50	5.49
L336	PERFORM THROMBOCYTE COUNTS, MANUAL	6.50	40	36	5.72
J260	PERFORM ANTIBODY IDENTIFICATIONS	6.43	25	25	7.05
P473	PERFORM BIOCHEMICAL TESTS OF BACTERIA	6.35	50	38	5.24
R517	IDENTIFY PARASITES IN CLINICAL SPECIMENS, INCLUDING THE HELMINTHS, ARTHROPODS, OR PROTOZOA	6.19	40	33	6.50
J279	PERFORM TRANSFUSION REACTION INVESTIGATIONS	6.17	15	25	6.75
I239	PERFORM MONOTESTS	6.00	35	43	3.17
K310	PERFORM SEMEN ANALYSES	5.98	65	46	5.62
R519	PERFORM CONCENTRATION TECHNIQUES	5.98	30	27	4.76
M216	PERFORM PRENATAL BLOOD BANK STUDIES	5.93	10	34	5.27
0464	PERFORM OCCULT BLOOD TESTS	5.80	65	52	3.31
M404	PERFORM POTASSIUM DETERMINATIONS	5.78	40	47	4.04
L330	PERFORM PROTHROMBIN TIME DETERMINATIONS, AUTOMATED	5.72	25	22	4.29
I232	PERFORM COLD AGGLUTININS	5.69	45	34	4.47
M375	PERFORM GLUCOSE TOLERANCE TESTS	5.63	40	42	4.20
M348	PERFORM BLOOD-GAS ANALYSIS	5.50	40	31	5.46

* Tasks rated above 4.6 are high in Training Analysis
\+ Tasks rated 5.00 are average in Task Difficulty

TABLE 22

ELEMENTS OF STS NOT MATCHED WITH INVENTORY TASKS

STS ELEMENTS		PROFICIENCY CODES
2A(3)	TRANSFER LITTER PATIENTS	3c
2A(4)	LOAD AND UNLOAD PATIENTS INTO/OUT OF VEHICLES USED FOR TRANSPORTATION OF PATIENTS	3c
2A(5)	MAINTAIN SANITARY FIELD ENVIRONMENT	3c
2E(4)(A)	UTILIZE PERSONAL PROTECTIVE GROUND CREW MASK	3c
2E(4)(B)	UTILIZE PERSONAL PROTECTIVE GROUND CREW SUIT	3c
3A(1)	CLASSIFY INFORMATION AND USE MAJCOM/SOA EEFIS	3c
12B(3)(A)	PERFORM MATHEMATICAL COMPUTATIONS USING GENERAL CHEMICAL FORMULA FOR SOLUTIONS	2b, 3c, 4c
12B(3)(B)	PERFORM MATHEMATICAL COMPUTATIONS USING SPECTROPHOTOMETER FORMULA	2b, 3c, 4c
12B(3)(C)	PERFORM MATHEMATICAL COMPUTATIONS USING TITRATION FORMULA	2b, 3c, 4c
12D(1)	OPERATE ANALYTICAL BALANCE	2b, 3c, 4c
12E(42)	PERFORM AND CALCULATE RESULTS OF A CLINICAL CHEMISTRY SUCH AS HEMOGLOBIN	2b(b), 3c
13C(1)	PERFORM QUALITATIVE CHEMISTRY PROCEDURES ON REDUCING SUBSTANCES AND GLUCOSE	2b, 4c, 4c
13C(2)	PERFORM QUALITATIVE CHEMISTRY PROCEDURES ON KETONES	2b, 4c, 4c
13C(5)	PERFORM QUALITATIVE CHEMISTRY PROCEDURES ON CALCIUM	2b, 4c, 4c
13C(6)	PERFORM QUALITATIVE CHEMISTRY PROCEDURES ON BILIRUBIN	2b, 4c, 4c
14D(4)	PREPARE CULTURES OF PHENYLKETONEURIA TEST (PISU)	2b/b, 3c
17B(1)	PREPARE FECAL SMEARS	1a, 3b, 4c

TABLE 23

EXAMPLES OF TASKS NOT MATCHED TO STS 924X0

TASKS	TRAINING EMPHASIS*	FIRST JOB	FIRST ENLISTMENT	TASK DIFFICULTY+
P480 PERFORM GONORRHEA ISOLATION TESTS	5.93	45	37	5.40
P470 PERFORM ANAEROBIC PROCEDURES	5.37	50	40	6.21
H224 PROGRESS SPECIMENS FROM OTHER LABORATORIES	5.00	30	36	3.54
D139 DEMONSTRATE USE OF LABORATORY EQUIPMENT	3.65	25	37	5.08
P492 PREPARE BACTERIOLOGICAL STAINS OR INDICATORS	3.56	20	19	4.30
C103 INSPECT LABORATORY EQUIPMENT	3.52	20	26	5.07
I242 PERFORM RUBELLA TITERS	3.17	5	6	5.42
0459 PERFORM BENCE-JONES PROTEIN TESTS	3.06	25	14	5.38
W589 RECORD SPECIMEN COLLECTION	3.00	25	29	3.40
K297 PERFORM ERYTHROCYTE FRAGILITY TESTS, SUCH AS HAM'S TEST	2.81	0	4	6.21
W585 PREPARE AF FORMS 52 (EVIDENCE TAG)	2.74	15	14	3.64
P476 PERFORM ENVIRONMENTAL HEALTH BACTERIOLOGICAL SAMPLE CULTURES	2.61	10	16	4.52
I243 PERFORM SERUM CRYOPRECIPITATE TESTS	2.43	5	4	4.49
M342 PERFORM AMNIOTIC STUDIES	2.41	0	4	4.48
G198 NOTIFY SUPERVISORS OF MACHINE FAILURES, DOWNTIME, OR PROCESSING PROBLEMS	2.19	20	30	2.86

* Tasks rated above 4.60 are high in Training Emphasis
\+ Tasks rated 5.00 are average in Task Difficulty

TABLE 24

TASKS RATED HIGH IN TRAINING EMPHASIS NOT REFERENCED TO J3ABR92430 POI

TASKS		TRAINING EMPHASIS*	FIRST JOB	FIRST ENLISTMENT	TASK DIFFICULTY+
J268	-PERFORM CROSSMATCH (COMPATIBILITY) CERTIFICATIONS	6.76	30	36	5.44
K311	PERFORM WHITE BLOOD CELL COUNTS ON OTHER BODY FLUIDS, SUCH AS JOINT FLUIDS OR PLEURAL FLUIDS	6.04	55	44	5.49
P475	PERFORM DISK DIFFUSION SUSCEPTABILITY TESTS	6.00	45	36	4.63
P480	PERFORM GONORRHEA ISOLATION TESTS	5.93	45	37	5.40
P470	PERFORM ANAEROBIC PROCEDURES	5.37	50	40	6.21
M415	PERFORM TRICLYCERIDE STUDIES, AUTOMATED	5.09	30	29	4.02
H224	PROCESS SPECIMENS FROM OTHER LABORATORIES	5.00	30	36	3.54
H205	-ADMINISTER FIRST AID	4.98	30	28	4.29
M362	PERFORM CREATINE KINASE (CK) TESTS, AUTOMATED	4.94	30	35	4.06
M405	PERFORM PROTEIN TESTS ON SPINAL FLUID TOTAL QUANTITATIVE AUTOMATED	4.83	20	29	4.24
P486	PERFORM PRIMARY OR CONTINUOUS CULTURE PROPAGATIONS	4.80	20	19	4.11

- Not referenced in either Phase I or II training
* Tasks rated above 4.60 by this group are high in Training Emphasis
+ Tasks rated 5.00 are average in Task Difficulty

TABLE 25

PHASE II POI ELEMENTS UNMATCHED WITH INVENTORY TASKS

ELEMENTS

IF, II, I1, I2, I3, I4, I5, I6, I7, I8, I9
IIA, IIB, III0, III1, II12
III14,
IV9
V3, V6
V12
VIIA, VIIB, VIID, BIIJ, VIIK, VII2, VII7, VII8, VII9, VII11, VII12
IXA, IXB, IXC, IX1, IX2, IX3, IX4

TABLE 26

TASKS RATED HIGHEST IN TRAINING EMPHASIS NOT REFERENCED TO J3ABR92450 POI

TASKS		TRAINING EMPHASIS*	FIRST JOB	FIRST ENLISTMENT	TASK DIFFICULTY+
J268	-PERFORM CROSSMATCH (COMPATIBILITY) CERTIFICATIONS	6.76	30	36	5.44
H223	PROCESS SPECIMENS FOR LABORATORY EXAMINATIONS	6.57	50	74	3.59
P472	PERFORM BACTERIOLOGICAL QUALITY CONTROL PROCEDURES	6.19	45	38	5.04
H220	PREPARE MEDIA, REAGENTS, STANDARDS, OR QUALITY CONTROL SAMPLES	6.04	45	59	5.25
H206	CLEAN LABORATORY FACILITIES OR IMMEDIATE WORK AREA	5.93	90	92	2.81
H225	REMOVE AND DISPOSE OF TRASH, WASTE, OR WASTE MATERIALS	5.50	65	75	2.11
J281	PREPARE BLOOD FOR EXCHANGE TRANSFUSIONS	5.37	15	10	6.23
H226	STORE MEDIA AND REAGENTS	5.17	55	62	2.14
P483	PERFORM OPTICHIN PROCEDURES	5.15	50	42	3.87
H205	-ADMINISTER FIRST AID	4.98	30	28	4.29
M383	PERFORM INORGANIC PHOSPHATE TESTS, AUTOMATED	4.81	15	23	3.96
J257	PARTICIPATE IN BLOOD DRIVES	4.72	35	27	4.39
I244	PERFORM STREPTOZYME SCREENING TESTS	4.65	10	15	3.70

- Not referenced in either Phase I or II training
* Tasks rated above 4.60 by this group are high in Training Emphasis
+ Tasks rated 5.00 are average in Task Difficulty

COMPARISON TO PREVIOUS SURVEY

Results of this survey were compared to the results of OSR AFPT 90-904-091 (Medical Laboratory Specialist career ladder) dated December 1978. Comparisons were made between career ladder structures (Table 27) and job satisfaction indicators by TAFMS groups (Table 28). Three- and 9-skill level personnel were included in the 1978 survey; however, they are excluded in this study.

The career ladder has remained relatively stable since the last report. The most apparent change concerns the number of 5- and 7-skill level personnel assigned. In the 1978 survey, there were 1,491 5- and 7-skill level personnel within the 924X0 career field, while 1,092 persons (27 percent decrease) are assigned to these skill levels in the present study. Overall, 1,697 personnel were assigned to the career field in the 1978 study, while 1,788 are presently assigned. The percentage of personnel assigned to AFLC, PACAF, TAC, and USAFE dropped by 1 to 2 percent; the percentage of persons assigned to ATC, SAC, and USAFE has remained the same, while the percentage of personnel within AAC, AFSC, AU, and MAC increased by 1 or 2 percent.

Chemical Procedures NCOICs and General Medical Laboratory Supervisors were identified as independent job groups in the 1978 study. The current study shows these personnel were identified as a job group variation within two distinct clusters. Two job groups discussed in the current survey have no counterparts in the 1978 survey: Laboratory Computer personnel and Laboratory Supply personnel. With the exception of these differences, the specialty job clusters have remained essentially the same.

A comparison was made between the 1978 study and the current study in terms of job satisfaction indicators by TAFMS group. The job satisfaction indicators in the current study are somewhat higher than those in the previous study. Reenlistment intentions for first-enlistment personnel have nearly doubled since the earlier study.

TABLE 27

JOB SPECALTY COMPARISONS ACROSS PREVIOUS AND CURRENT SURVEYS

1978 OSR	1984 OSR
HEMATOLOGICAL AND CHEMICAL PROCEDURES PERSONNEL (N=505)	CHEMICAL AND HEMATOLOGICAL PERSONNEL (N=237)
HEMATOLOGICAL PROCEDURES PERSONNEL (N=100)	HEMATOLOGICAL PERSONNEL (N=63)
BLOOD BANK PERSONNEL (N=80)	BLOOD BANK PERSONNEL (N=63)
SUPERVISORY PERSONNEL (N=192)	SUPERVISORS (N=176)
CHEMICAL PROCEDURES NCOICs (N=18)	CHEMICAL PROCEDURES FIRST-LINE SUPERVISORS (N=34) WITHIN CHEMICAL PROCEDURES PERSONNEL CLUSTER
GENERAL MEDICAL LABORATORY SUPERVISORS (N=22)	VARIATION WITHIN GENERAL MEDICAL LABORATORY PERSONNEL CLUSTER
MEDICAL LABORATORY INSTRUCTORS (N=17)	INSTRUCTORS (N=31)
BACTERIOLOGICAL PROCEDURES PERSONNEL (N=99)	BACTERIOLOGICAL PERSONNEL (N=57)
CHEMICAL PROCEDURES PERSONNEL (N=104)	CHEMICAL PROCEDURES PERSONNEL (N=98)
GENERAL MEDICAL LABORATORY PERSONNEL (N=118)	GENERAL MEDICAL LABORATORY PERSONNEL (N=43)
*	MEDICAL LABORATORY COMPUTER PERSONNEL (N=10)
*	MEDICAL LABORATORY SUPPLY NCOICs (N=7)

* Not Identified

TABLE 28

JOB SATISFACTION INDICATORS BY TAFMS GROUPS AND PREVIOUS SURVEY

	1-48 MONTHS		49-96 MONTHS		97+ MONTHS	
	1978 (N=655)	1984 (N=196)	1978 (N=221)	1984 (N=326	1978 (N=396)	1984 (N=352)
EXPRESSED JOB INTEREST:						
INTERESTING	82	84	79	79	80	81
SO-SO	10	8	12	15	7	9
DULL	6	8	8	6	9	9
PERCEIVED USE OF TALENTS:						
FAIRLY WELL TO PERFECTLY	82	86	80	83	83	85
LITTLE OR NOT AT ALL	18	14	19	17	16	14
PERCEIVED USE OF TRAINING:						
FAIRLY WELL TO PERFECTLY	86	86	83	87	80	80
LITTLE OR NOT AT ALL	13	14	17	13	19	20
REENLISTMENT INTENTIONS:						
WILL/PROBABLY WILL REENLIST	33	64	57	68	72	77
WILL NOT/PROBABLY WILL NOT REENLIST	66	34	43	31	24	10

Columns may not equal 100 percent due to nonresponse or rounding

IMPLICATIONS

The career ladder structure has remained relatively stable since the 1978 study with few changes. The previous study implied that large infusions of new equipment or techniques would have an impact on the stability of the career ladder. The data indicate that the impact to date has been minor. It is likely that Laboratory Computer Personnel and Supply Personnel that appear as two separate jobs in this study are a result of updating equipment and the addition of new procedures; however, even with these two new jobs, the job structure has, in essence, remained the same.

Seven new duties-procedures included in the current study were not covered in the previous study. These procedures are: Laboratory Computer Procedures, Coagulation Procedures, Radio Assay Procedures, Toxicology Procedures, Occupational Chemistry Procedures, Water Laboratory Procedures, and Drug Rehabilitation Procedures. With the exception of Laboratory Computer Procedures, the remaining new procedures had no impact in terms of job structure. While the increased use of computers in medical facilities may enable various procedures and tests to be accomplished more rapidly and efficiently, the majority of Laboratory Computer Personnel in the current study did not feel their training or talents were well utilized. This may be attributed to this job being relatively new, particularly in terms of the new equipment involved, or the incumbents feel they are not doing the job for which they were trained. In either case, training managers should investigate this issue.

A review of the STS indicated a few areas which need to be examined. These include several elements with no tasks matched, and several tasks which were not referenced to the STS. Additionally, training personnel should review the STS to add or update areas where changes in the career ladder have occurred.

The review of the Phase I and II POIs also revealed a number of areas where further review by training personnel is required. These areas include two tasks with high training emphasis ratings which were not referenced to either POI, and an apparent duplication of training in various blocks of the POIs.

Based on the above information, a Utilization and Training Workshop should be held to review current training documents.

APPENDIX A

SELECTED REPRESENTATIVE TASKS FOR CAREER LADDER STRUCTURE GROUPS

TABLE I

CHEMICAL AND HEMATOLOGICAL PERSONNEL (GRP108)

TASKS		PERCENT MEMBERS PERFORMING (N=237)
K288	PERFORM BLOOD CELL MORPHOLOGY, MANUAL	97
H206	CLEAN LABORATORY FACILITIES OR IMMEDIATE WORK AREA	97
H211	INSTRUCT PATIENTS ON PROPER COLLECTION OR SUBMISSION OF SPECIMENS	95
K299	PERFORM ERYTHROCYTE SEDIMENTATION RATE TESTS	94
K309	PERFORM RETICULOCYTE COUNTS	92
K307	PERFORM RED BLOOD CELL COUNTS, AUTOMATED	92
K312	PERFORM WHITE BLOOD CELL COUNTS, AUTOMATED	90
H223	PROCESS SPECIMENTS FOR LABORATORY EXAMINATIONS	87
K306	PERFORM QUALITATIVE SICKLE CELL SCREENS (SICKLEDEX)	85
H221	PREPARE SPECIMENS FOR SHIPMENT	84
H208	COLLECT BIOLOGICAL SPECIMENS DIRECTLY FROM PATIENTS OR SUBJECTS	84
M374	PERFORM GLUCOSE TESTS ON BLOOD, URINE, OR CSF, AUTOMATED	81
H209	HANDLE OR STORE DANGEROUS CHEMICALS	81
H225	REMOVE AND DISPOSE OF TRASH, WASTE, OR WASTE MATERIALS	81
K301	PERFORM HEMATOCRIT DETERMINATIONS, MANUAL	81
M404	PERFORM POTASSIUM DETERMINATIONS	76
K290	PERFORM BLOOD HEMOGLOBIN TESTS, AUTOMATED	74
K295	PERFORM EOSINOPHILE COUNTS ON NASAL SMEARS	74
M410	PERFORM SODIUM DETERMINATIONS, AUTOMATED	73
M349	PERFORM CALCIUM TESTS, AUTOMATED	73
K311	PERFORM WHITE BLOOD CELL COUNTS ON OTHER BODY FLUIDS, SUCH AS JOINT FLUIDS OR PLEURAL FLUIDS	73
K294	PERFORM DIFFERENTIALS ON OTHER BODY FLUIDS, SUCH AS JOINT FLUIDS OR PLEURAL FLUIDS	72
K310	PERFORM SEMEN ANALYSIS	72
M343	PERFORM AMYLASE SCREENING OR QUANTITATIVE TESTS	69
K298	PERFORM ERYTHROCYTE INDICES, AUTOMATED	69
M353	PERFORM CARBON DIOXIDE (CO_2) CONTENT TESTS, AUTOMATED	68

TABLE IA

BACTERIOLOGICAL AND GENERAL PROCEDURES PERSONNEL (GRP292)

TASKS		PERCENT MEMBERS PERFORMING (N=21)
H208	COLLECT BIOLOGICAL SPECIMENS DIRECTLY FROM PATIENTS OR SUBJECTS	100
H206	CLEAN LABORATORY FACILITIES OR IMMEDIATE WORK AREA	100
H211	INSTRUCT PATIENTS ON PROPER COLLECTION OR SUBMISSION OF SPECIMENS	100
H221	PREPARE SPECIMENS FOR SHIPMENT	100
K288	PERFORM BLOOD CELL MORPHOLOGY, MANUAL	100
H210	HANDLE OR STORE HAZARDOUS BIOLOGICAL SPECIMENS	100
H225	REMOVE AND DISPOSE OF TRASH, WASTE, OR WASTE MATERIALS	100
P489	PERFORM TAXO-A PROCEDURES	100
P474	PERFORM COLONY COUNTS OF BACTERIA	100
P488	PERFORM STAINING PROCEDURES, SUCH AS GRAM'S STAIN, OR METHYLENE BLUE	100
P465	EXAMINE BACTERIAL STAINS, MICROSCOPICALLY	100
K299	PERFORM ERYTHROCYTE SEDIMENTATION RATE TESTS	100
P483	PERFORM OPTICHIN PROCEDURES	100
R522	PERFORM OCCULT BLOOD TESTS	95
H223	PROCESS SPECIMENS FOR LABORATORY EXAMINATIONS	95
K301	PERFORM HEMATOCRIT DETERMINATIONS, MANUAL	95
H226	STORE MEDIA AND REAGENTS	95
P473	PERFORM BIOCHEMICAL TESTS OF BACTERIA	95
H220	PREPARE MEDIA, REAGENTS, STANDARDS, OR QUALITY CONTROL SAMPLES	95
H207	CLEAN OR INSPECT LABORATORY GLASSWARE FOR SPOTS, CHEMICAL RESIDUES, SCRATCHES, AND CRACKS	95
I239	PERFORM MONOTESTS	95
H209	HANDLE OR STORE DANGEROUS CHEMICALS	95
K309	PERFORM RETICULOCYTE COUNTS	95
P485	PERFORM PRIMARY CULTURES ON BIOLOGICAL SPECIMENS	90
P475	PERFORM DISK DIFFUSION SUSCEPTABILITY TESTS	90
P472	PERFORM BACTERIOLOGICAL QUALITY CONTROL PROCEDURES	90
R520	PERFORM MACROSCOPIC EXAMINATIONS OF PARASITOLOGY SPECIMENS, SUCH AS COLOR, APPEARANCE, OR CONSISTENCY	90

TABLE IB

HEMATOLOGICAL AND GENERAL PROCEDURES PERSONNEL (GRP188)

TASKS		PERCENT MEMBERS PERFORMING (N=10)
H206	CLEAN LABORATORY FACILITIES OR IMMEDIATE WORK AREA	100
K288	PERFORM BLOOD CELL MORPHOLOGY, MANUAL	100
H221	PREPARE SPECIMENS FOR SHIPMENT	90
H211	INSTRUCT PATIENTS ON PROPER COLLECTION OR SUBMISSION OF SPECIMENS	90
K306	PERFORM QUALITATIVE SICKLE CELL SCREENS (SICKLEDEX)	90
K299	PERFORM ERYTHROCYTE SEDIMENTATION RATE TESTS	90
K295	PERFORM EOSINOPHILE COUNTS ON NASAL SMEARS	90
H223	PROCESS SPECIMENS FOR LABORATORY EXAMINATIONS	80
K312	PERFORM WHITE BLOOD CELL COUNTS, AUTOMATED	80
H225	REMOVE AND DISPOSE OF TRASH, WASTE, OR WASTE MATERIALS	80
H226	STORE MEDIA AND REAGENTS	80
K301	PERFORM HEMATOCRIT DETERMINATIONS, MANUAL	70
K307	PERFORM RED BLOOD COUNTS, AUTOMATED	70
H208	COLLECT BIOLOGICAL SPECIMENTS DIRECTLY FROM PATIENTS OR SUBJECTS	70
E168	MAINTAIN MEDICAL LABORATORY REPORT FILES	70
K309	PERFORM RETICULOCYTE COUNTS	70
H215	PERFORM OPERATOR MAINTENANCE OF LABORATORY EQUIPMENT	60
P473	PERFORM BIOCHEMICAL TESTS OF BACTERIA	60
K310	PERFORM SEMEN ANALYSES	60
E161	DESTROY OUTDATED MEDICAL LABORATORY RECORDS OR REPORTS	60
K286	CALCULATE ERYTHROCYTE INDICES, USING MATHEMATICAL FORMULAS	50
K290	PERFORM BLOOD HEMOGLOBIN TESTS, AUTOMATED	50

TABLE II

CHEMICAL PROCEDURES PERSONNEL (GRP90)

TASKS		PERCENT MEMBERS PERFORMING (N=98)
M374	PERFORM GLUCOSE TESTS ON BLOOD, URINE, OR CSF, AUTOMATED	100
M349	PERFORM CALCIUM TESTS, AUTOMATED	100
M347	PERFORM BLOOD UREA NITROGEN (BUN) TESTS, AUTOMATED	99
H206	CLEAN LABORATORY FACILITIES OR IMMEDIATE WORK AREA	97
M404	PERFORM POTASSIUM DETERMINATIONS	96
M366	PERFORM CREATININE TESTS, AUTOMATED	96
M410	PERFORM SODIUM DETERMINATIONS, AUTOMATED	94
M389	PERFORM LACTIC DEHYDROGENASE (LDH) TESTS, AUTOMATED	93
M362	PERFORM CREATINE KINASE (CK) TESTS, AUTOMATED	92
M340	PERFORM ALKALINE PHOSPHATASE TESTS, AUTOMATED	92
M417	PERFORM URIC ACID TESTS, AUTOMATED	91
M345	PERFORM BILIRUBIN TESTS, AUTOMATED	89
M343	PERFORM AMYLASE SCREENING OR QUANTITATIVE TESTS	89
M375	PERFORM GLUCOSE TOLERANCE TESTS	89
M416	PERFORM UREA NITROGEN TESTS, AUTOMATED	88
H223	PROCESS SPECIMENS FOR LABORATORY EXAMINATIONS	86
M357	PERFROM CHLORIDE TESTS ON BLOOD OR SPINAL FLUID (CSF), AUTOMATED	86
M358	PERFORM CHOLESTEROL TESTS, AUTOMATED	84
M353	PERFORM CARBON DIOXIDE (CO_2) CONTENT TESTS, AUTOMATED	83
M415	PERFORM TRIGLYCERIDE STUDIES, AUTOMATED	83
M364	PERFORM CREATININE CLEARANCE TESTS	81
H215	PERFORM OPERATOR MAINTENANCE OF LABORATORY EQUIPMENT	80
H209	HANDLE OR STORE DANGEROUS CHEMICALS	79
H217	PERFORM PREVENTIVE MAINTENANCE ON FACILITIES OR EQUIPMENT	78
M406	PERFORM PROTEIN TESTS, TOTAL OR ALBUMIN/GLOBULIN (A/G) RATIO AUTOMATED	78
H210	HANDLE OR STORE HAZARDOUS BIOLOGICAL SPECIMENS	78
M383	PERFORM INORGANIC PHOSPHATE TESTS, AUTOMATED	76
M344	PERFORM ASPARTATE AMINO TRANSFERASE (AST) TESTS, AUTOMATED	72

TABLE IIA

CHEMICAL PROCEDURES FIRST-LINE SUPERVISORS (GRP183)

TASKS		PERCENT MEMBERS PERFORMING (N=34)
M347	PERFORM BLOOD UREA NITROGEN (BUN) TESTS, AUTOMATED	100
M374	PERFORM GLUCOSE TESTS ON BLOOD, URINE, OR CSF, AUTOMATED	100
M366	PERFORM CREATININE TESTS, AUTOMATED	100
M349	PERFORM CALCIUM TESTS, AUTOMATED	100
M410	PERFORM SODIUM DETERMINATIONS, AUTOMATED	97
M389	PERFORM LACTIC DEHYDROGENASE (LDH) TESTS, AUTOMATED	97
B78	SUPERVISE MEDICAL LABORATORY SPECIALISTS (AFSC 92450)	94
B40	ASSIGN DUTIES TO SUBORDINATES	94
A7	DETERMINE WORK PRIORITIES	94
M340	PERFORM ALKALINE PHOSPHATASE TESTS, AUTOMATED	94
M353	PERFORM CARBON DIOXIDE (CO_2) CONTENT TESTS, AUTOMATED	94
M345	PERFORM BILIRUBIN TESTS, AUTOMATED	94
M417	PERFORM URIC ACID TESTS, AUTOMATED	94
M362	PERFORM CREATINE KINASE (CK) TESTS, AUTOMATED	94
M343	PERFORM AMYLASE SCREENING OR QUANTITATIVE TESTS	94
M404	PERFORM POTASSIUM DETERMINATIONS	91
M358	PERFORM CHOLESTEROL TESTS, AUTOMATED	91
M344	PERFORM ASPARTATE AMINO TRANSFERASE (AST) TESTS, AUTOMATED	91
M375	PERFORM GLUCOSE TOLERANCE TESTS	91
B47	COUNSEL PERSONNEL ON PERSONAL OR MILITARY-RELATED MATTERS	91
B73	RESOLVE MEDICAL LABORATORY TECHNICAL PROBLEMS	88
H223	PROCESS SPECIMENS FOR LABORATORY EXAMINATIONS	88
M416	PERFORM UREA NITROGEN TESTS, AUTOMATED	88
H210	HANDLE OR STORE HAZARDOUS BIOLOGICAL SPECIMENS	88
M357	PERFORM CHLORIDE TESTS ON BLOOD OR SPINAL FLUID (CSF), AUTOMATED	88
C119	WRITE APRs OR SPECIAL AWARDS	88
M364	PERFORM CREATININE CLEARANCE TESTS	88
H215	PERFORM OPERATOR MAINTENANCE OF LABORATORY EQUIPMENT	85
A31	PLAN WORK ASSIGNMENTS	85
A1	ADVISE SUPERIORS ON STATUS OF MEDICAL LABORATORY OPERATIONS	85

TABLE III

HEMATOLOGY PERSONNEL
(GRP067)

TASKS		PERCENT MEMBERS PERFORMING (N=63)
K309	PERFORM RETICULOCYTE COUNTS	100
K290	PERFORM BLOOD HEMOGLOBIN TESTS, AUTOMATED	97
K288	PERFORM BLOOD CELL MORPHOLOGY, MANUAL	97
K299	PERFORM ERYTHROCYTE SEDIMENTATION RATE TESTS	97
K293	PERFORM CEREBROSPINAL FLUID CELL COUNTS	94
K307	PERFORM RED BLOOD CELL COUNTS, AUTOMATED	92
K298	PERFORM ERYTHROCYTE INDICES, AUTOMATED	92
K300	PERFORM HEMATOCRIT DETERMINATIONS, AUTOMATED	92
L316	PERFORM ACTIVATED PARTIAL THROMBOPLASTIN TIME (APTT) DETERMINATIONS, AUTOMATED OR SEMI-AUTOMATED	92 92
H206	CLEAN LABORATORY FACILITIES OR IMMEDIATE WORK AREA	92
K311	PERFORM WHITE BLOOD CELL COUNTS ON OTHER BODY FLUIDS, SUCH AS JOINT FLUIDS OR PLEURAL FLUIDS	92
K295	PERFORM EOSINOPHILE COUNTS ON NASAL SMEARS	92
K312	PERFORM WHITE BLOOD CELL COUNTS, AUTOMATED	90
K306	PERFORM QUALITATIVE SICKLE CELL SCREENS (SICKLEDEX)	87
K294	PERFORM DIFFERENTIALS ON OTHER BODY FLUIDS, SUCH AS JOINT FLUIDS OR PLEURAL FLUIDS	87
K296	PERFORM EOSINOPHILE COUNTS	83
K301	PERFORM HEMATOCRIT DETERMINATIONS, MANUAL	79
H208	COLLECT BIOLOGICAL SPECIMENS DIRECTLY FROM PATIENTS OR SUBJECTS	73
H223	PROCESS SPECIMENS FOR LABORATORY EXAMINATIONS	70
H211	INSTRUCT PATIENTS ON PROPER COLLECTION OR SUBMISSION OF SPECIMENS	68
H225	REMOVE AND DISPOSE OF TRASH, WASTE, OR WASTE MATERIALS	68
L333	PERFORM TESTS FOR BLEEDING TIME	63
H217	PERFORM PREVENTIVE MAINTENANCE ON FACILITIES OR EQUIPMENT	62
L335	PERFORM THROMBOCYTE COUNTS, AUTOMATED	59
H215	PERFORM OPERATOR MAINTENANCE OF LABORATORY EQUIPMENT	59
K310	PERFORM SEMEN ANALYSES	59

TABLE IIIA

HEMATOLOGY FIRST-LINE SUPERVISORS (GRP243)

TASKS		PERCENT MEMBERS PERFORMING (N=7)
K307	PERFORM RED BLOOD CELL COUNTS, AUTOMATED	100
B78	SUPERVISE MEDICAL LABORATORY SPECIALISTS (AFSC 92450)	100
K299	PERFORM ERYTHROCYTE SEDIMENTATION RATE TESTS	100
H223	PROCESS SPECIMENS FOR LABORATORY EXAMINATIONS	100
K288	PERFORM BLOOD CELL MORPHOLOGY, MANUAL	100
K290	PERFORM BLOOD HEMOGLOBIN TESTS, AUTOMATED	100
H217	PERFORM PREVENTIVE MAINTENANCE ON FACILITIES OR EQUIPMENT	100
K309	PERFORM RETICULOCYTE COUNTS	100
B73	RESOLVE MEDICAL LABORATORY TECHNICAL PROBLEMS	100
B40	ASSIGN DUTIES TO SUBORDINATES	100
C103	INSPECT LABORATORY EQUIPMENT	100
H208	COLLECT BIOLOGICAL SPECIMENS DIRECTLY FROM PATIENTS OR SUBJECTS	100
H214	PERFORM DESIGNATED EXTRA DUTIES, SUCH AS FIRE WARDEN, BUILDING CUSTODIAN, OR NONCOMMISSIONED OFFICER OF THE DAY	100
K301	PERFORM HEMATOCRIT DETERMINATIONS, MANUAL	100
K293	PERFORM CEREBROSPINAL FLUID CELL COUNTS	100
K295	PERFORM EOSINOPHILE COUNTS ON NASAL SMEARS	100
K296	PERFORM EOSINOPHILE COUNTS	100
K312	PERFORM WHITE BLOOD CELL COUNTS, AUTOMATED	86
K300	PERFORM HEMATOCRIT DETERMINATIONS, AUTOMATED	86
E160	COMPILE OR MAINTAIN WORKLOAD DATA	86
H215	PERFORM OPERATOR MAINTENANCE OR LABORATORY EQUIPMENT	86
D139	DEMONSTRATE USE OF LABORATORY EQUIPMENT	86
E171	PREPARE MONTHLY, BIMONTHLY, QUARTERLY, OR ANNUAL REPORTS	86
B47	COUNSEL PERSONNEL ON PERSONAL OR MILITARY-RELATED MATTERS	86
H211	INSTRUCT PATIENTS ON PROPER COLLECTION OR SUBMISSION OF SPECIMENS	86
C84	EVALUATE DUTY PERFORMANCE	86
B65	INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	86

TABLE IV

BLOOD BANK PERSONNEL (GRP046)

TASKS		PERCENT MEMBERS PERFORMING (N=63)
J258	PERFORM ABO GROUPINGS AND RH TYPINGS, INCLUDING RH VARIANTS (DU)	98
H206	CLEAN LABORATORY FACILITIES OR IMMEDIATE WORK AREA	95
J274	PERFORM MAJOR SIDE CROSSMATCHING (COMPATIBILITY) TESTS	94
J273	PERFORM INDIRECT COOMBS PROCEDURES	94
J253	ISSUE BLOOD OR BLOOD COMPONENTS	94
J256	MONITOR OR MAINTAIN BLOOD BANK REFRIGERATION ALARM SYSTEMS	94
J269	PERFORM DIRECT COOMBS PROCEDURES	92
J263	PERFORM BLOOD BANK REAGENT QUALITY CONTROL	92
J268	PERFORM CROSSMATCH (COMPATIBILITY) CERTIFICATIONS	87
J254	MAINTAIN BLOOD INVENTORIES	87
J267	PERFORM COLLECTION OR IDENTIFICATION OF BLOOD BANK SPECIMENS	86
H216	PERFORM PRENATAL BLOOD BANK STUDIES	84
J284	STORE BLOOD COMPONENTS FOR TRANSFUSION	84
J262	PERFORM BLOOD BANK ADMINISTRATION QUALITY CONTROL	81
J280	PREPARE BLOOD COMPONENTS FOR TRANSFUSION	79
J279	PERFORM TRANSFUSION REACTION INVESTIGATIONS	79
J265	PERFORM BLOOD PROOF GROUPING PROCEDURES	78
J260	PERFORM ANTIBODY IDENTIFICATIONS	76
H218	PERFORM RHO IMMUNE GLOBIN ELIGIBILITY TESTS	71
J249	COMPLETE SF FORMS 518 (MEDICAL RECORD-BLOOD OR BLOOD COMPONENT TRANSFUSION)	70
H208	COLLECT BIOLOGICAL SPECIMENS DIRECTLY FROM PATIENTS OR SUBJECTS	68
H217	PERFORM PREVENTIVE MAINTENANCE ON FACILITIES OR EQUIPMENT	68
H223	PROCESS SPECIMENS FOR LABORATORY EXAMINATIONS	67
H219	PERFORM STUDIES FOR HEMOLYTIC DISEASE OF THE NEW BORN (HDN)	67
J277	PERFORM THERAPEUTIC PHLEBOTOMIES	65
J264	PERFORM BLOOD GROUP ANTIGEN TESTS OTHER THAN ABO OR RH	63
H225	REMOVE AND DISPOSE OF TRASH, WASTE, OR WASTE MATERIALS	63
J270	PERFORM ELUTION STUDIES	63

TABLE IVA

BLOOD BANK FIRST-LINE SUPERVISORS (GRP165)

TASKS		PERCENT MEMBERS PERFORMING (N=16)
J258	PERFORM ABO GROUPING AND RH TYPINGS, INCLUDING RH VARIANTS (DU)	100
J263	PERFORM BLOOD BANK REAGENT QUALITY CONTROL	100
J256	MONITOR OR MAINTAIN BLOOD BANK REFRIGERATION ALARM SYSTEMS	100
J284	STORE BLOOD COMPONENTS FOR TRANSFUSION	100
h223	PROCESS SPECIMENS FOR LABORATORY EXAMINATIONS	100
J254	MAINTAIN BLOOD INVENTORIES	94
J262	PERFORM BLOOD BANK ADMINISTRATION QUALITY CONTROL	94
H216	PERFORM PRENATAL BLOOD BANK STUDIES	94
J269	PERFORM DIRECT COOMBS PROCEDURES	94
J274	PERFORM MAJOR SIDE CROSSMATCHING (COMPATIBILITY) TESTS	94
J249	COMPLETE SF FORMS 518 (MEDICAL RECORD-BLOOD OR BLOOD COMPONENT TRANSFUSION)	94
J253	ISSUE BLOOD OR BLOOD COMPONENTS	94
J273	PERFORM INDIRECT COOMBS PROCEDURES	94
A7	DETERMINE WORK PRIORITIES	94
J267	PERFORM COLLECTION OR IDENTIFICATION OF BLOOD BANK SPECIMENS	94
J280	PREPARE BLOOD COMPONENTS FOR TRANSFUSION	94
J277	PERFORM THERAPEUTIC PHLEBOTOMIES	94
E166	MAINTAIN LOG OF LABORATORY PROCEDURES	88
E171	PREPARE MONTHLY, BIMONTHLY, QUARTERLY, OR ANNUAL REPORTS	88
B40	ASSIGN DUTIES TO SUBORDINATES	81
J282	PREPARE DD FORMS 573 (SHIPPING INVENTORY OF BLOOD PRODUCTS)	81
A26	PLAN FILING SYSTEMS	81
B68	ORIENT NEWLY ASSIGNED PERSONNEL	81
B69	PARTICIPATE IN STAFF OR UNIT MEETINGS	81
A1	ADVISE SUPERIORS ON STATUS OF MEDICAL LABORATORY OPERATIONS	81
E160	COMPILE OR MAINTAIN WORKLOAD DATA	75
E165	MAINTAIN DOCUMENTATION FILES	75

TABLE IVB

HEMATOLOGICAL AND BLOOD BANK PERSONNEL (GRP191)

TASKS		PERCENT MEMBERS PERFORMING (N=12)
K299	PERFORM ERYTHROCYTE SEDIMENTATION RATE TESTS	100
K290	PERFORM BLOOD HEMOGLOBIN TESTS, AUTOMTED	100
J258	PERFORM ABO GROUPING AND RH TYPINGS, INCLUDING RH VARIANTS (DU)	100
K307	PERFORM RED BLOOD COUNTS, AUTOMATED	100
K288	PERFORM BLOOD CELL MORPHOLOGY, MANUAL	100
K300	PERFORM HEMATOCRIT DETERMINATIONS, AUTOMATED	100
J253	ISSUE BLOOD OR BLOOD COMPONENTS	100
J274	PERFORM MAJOR SIDE CROSSMATCHING (COMPATIBILITY) TESTS	92
K312	PERFORM WHITE BLOOD CELL COUNTS, AUTOMATED	92
H216	PERFORM PRENATAL BLOOD BANK STUDIES	92
J263	PERFORM BLOOD BANK REAGENT QUALITY CONTROL	92
K309	PERFORM RETICULOCYTE COUNTS	92
J273	PERFORM INDIRECT COOMBS PROCEDURES	92
K306	PERFORM QUALITATIVE SICKLE CELLS SCREENS (SICKLEDEX)	92
J269	PERFORM DIRECT COOMBS PROCEDURES	92
H218	PERFORM RHO IMMUNE GLOBIN ELIGIBILITY TESTS	92
J262	PERFORM BLOOD BANK ADMINISTRATION QUALITY CONTROL	92
L316	PERFORM ACTIVATED PARTIAL THROMBOPLASTIN TIME (APTT) DETERMINATIONS, AUTOMATED OR SEMI-AUTOMATED	92
K293	PERFORM CEREBROSPINAL FLUID CELL COUNTS	92
K301	PERFORM HEMATOCRIT DETERMINATIONS, MANUAL	92
H215	PERFORM OPERATOR MAINTENANCE OF LABORATORY EQUIPMENT	83
H217	PERFORM PREVENTIVE MAINTENANCE ON FACILITIES OR EQUIPMENT	83
J254	MAINTAIN BLOOD INVENTORIES	83
J267	PERFORM COLLECTION OR IDENTIFICATION OF BLOOD BANK SPECIMENS	83
I239	PERFORM MONOTESTS	83
K298	PERFORM ERYTHROCYTE INDICES, AUTOMATED	83
K311	PERFORM WHITE BLOOD CELL COUNTS ON OTHER BODY FLUIDS, SUCH AS JOINT FLUIDS OR PLEURAL FLUIDS	83

TABLE V

BACTERIOLOGICAL PERSONNEL
(GRP114)

TASKS		PERCENT MEMBERS PERFORMING (N=57)
P488	PERFORM STAINING PROCEDURES, SUCH AS GRAM'S STAIN, OR METHYLENE BLUE	100
P474	PERFORM COLONY COUNTS OF BACTERIA	100
P465	EXAMINE BACTERIAL STAINS, MICROSCOPICALLY	98
P472	PERFORM BACTERIOLOGICAL QUALITY CONTROL PROCEDURES	98
P489	PERFORM TAXO-A PROCEDURES	96
P480	PERFORM GONORRHEA ISOLATION TESTS	95
P470	PERFORM ANAEROBIC PROCEDURES	95
P473	PERFORM BIOCHEMICAL TESTS OF BACTERIA	93
P485	PERFORM PRIMARY CULTURES OF BIOLOGICAL SPECIMENS	93
P468	IDENTIFY AND RECORD COLONY CHARACTERISTICS	93
P483	PERFORM OPTICHIN PROCEDURES	93
H206	CLEAN LABORATORY FACILITIES OR IMMEDIATE WORK AREA	91
P467	EXAMINE BIOLOGICAL MATERIALS USING WET MOUNT PROCEDURES	91
P475	PERFORM DISK DIFFUSION SUSCEPTABILITY TESTS	89
H225	REMOVE AND DISPOSE OF TRASH, WASTE, OR WASTE MATERIALS	86
H226	STORE MEDIA AND REAGENTS	84
P471	PERFORM BACTERIAL STERILIZATION	84
R522	PERFORM OCCULT BLOOD TESTS	82
R520	PERFORM MACROSCOPIC EXAMINATIONS OF PARASITOLOGY SPECIMENS, SUCH AS COLOR, APPEARANCE, OR CONSISTENCY	82
R517	IDENTIFY PARASITES IN CLINICAL SPECIMENS, INCLUDING THE HELMINTHS, ARTHROPODS, OR PROTOZOA	81
H210	HANDLE OR STORE HAZARDOUS BIOLOGICAL SPECIMENS	74
R519	PERFORM CONCENTRATION TECHNIQUES	74
H223	PROCESS SPECIMENS FOR LABORATORY EXAMINATIONS	72
P486	PERFORM PRIMARY OR CONTINUOUS CULTURE PROPAGATIONS	70
P492	PREPARE BACTERIOLOGICAL STAINS OR INDICATORS	70
P481	PERFORM LANCEFIELD GROUPINGS OF STREPTOCOCCUS	68

TABLE VA

BACTERIOLOGICAL FIRST-LINE SUPERVISORS (GRP182)

TASKS		PERCENT MEMBERS PERFORMING (N=31)
P472	PERFORM BACTERIOLOGICAL QUALITY CONTROL PROCEDURES	100
P474	PERFORM COLONY COUNTS OF BACTERIA	100
P488	PERFORM STAINING PROCEDURES, SUCH AS GRAM'S STAIN, OR METHYLENE BLUE	100
P489	PERFORM TAXO-A PROCEDURES	97
P468	IDENTIFY AND RECORD COLONY CHARACTERISTICS	97
P473	PERFORM BIOCHEMICAL TESTS OF BACTERIA	97
P465	EXAMINE BACTERIAL STAINS, MICROSCOPICALLY	97
P480	PERFORM GONORRHEA ISOLATION TESTS	97
P483	PERFORM OPTICHIN PROCEDURES	97
R520	PERFORM MACROSCOPIC EXAMINATIONS OF PARASITOLOGY SPECIMENS, SUCH AS COLOR, APPEARANCE, OR CONSISTENCY	97
P467	EXAMINE BIOLOGICAL MATERIALS USING WET MOUNT PROCEDURES	97
R517	IDENTIFY PARASITES IN CLINICAL SPECIMENS, INCLUDING THE HELMINTHS, ARTHOPODS, OR PROTOZOA	94
R522	PERFORM OCCULT BLOOD TESTS	94
P470	PERFORM ANAEROBIC PROCEDURES	94
P485	PERFORM PRIMARY CULTURES ON BIOLOGICAL SPECIMENS	90
H226	STORE MEDIA AND REAGENTS	90
P471	PERFORM BACTERIAL STERILIZATION	90
P475	PERFORM DISK DIFFUSION SUSCEPTABILTY TESTS	87
P466	EXAMINE BIOLOGICAL MATERIALS USING DARKFIELD PROCEDURES	71
P492	PREPARE BACTERIOLOGICAL STAINS OR INDICATORS	68
B40	ASSIGN DUTIES TO SUBORDINATES	68
P476	PERFORM ENVIRONMENTAL HEALTH BACTERIOLOGICAL SAMPLE CULTURES	68
H208	COLLECT BIOLOGICAL SPECIMENS DIRECTLY FROM PATIENTS OR SUBJECTS	65
B73	RESOLVE MEDICAL LABORATORY TECHNICAL PROBLEMS	65
D139	DEMONSTRATE USE OF LABORATORY EQUIPMENT	61
A1	ADVISE SUPERIORS ON STATUS OF MEDICAL LABORATORY OPERATIONS	61
B77	SUPERVISE MEDICAL LABORATORY SPECIALISTS (AFSC 92430)	58
P482	PERFORM MINIMUM INHIBITORS CONCENTRATION (MIC) SUSCEPTIBILITY TESTS BY MICRO QUANTITATION	58
A20	ESTABLISH OR PLAN QUALITY CONTROL PROGRAMS	58
A7	DETERMINE WORK PRIORITIES	58
B59	IMPLEMENT QUALITY CONTROL PROGRAMS	58

TABLE VI

SUPERVISORS
(GRP040)

TASKS		PERCENT MEMBERS PERFORMING (N=176)
B40	ASSIGN DUTIES TO SUBORDINATES	95
B47	COUNSEL PERSONNEL ON PERSONAL OR MILITARY-RELATED MATTERS	93
C105	INSPECT LABORATORY PERSONNEL FOR COMPLIANCE WITH MILITARY STANDARDS	91
A1	ADVISE SUPERIORS ON STATUS OF MEDICAL OPERATIONS	91
B78	SUPERVISE MEDICAL LABORATORY SPECIALISTS (AFSC 92450)	90
C84	EVALUATE DUTY PERFORMANCE	90
C119	WRITE APRs OR SPECIAL AWARDS	90
B68	ORIENT NEWLY ASSIGNED PERSONNEL	89
A7	DETERMINE WORK PRIORITIES	89
B69	PARTICIPATE IN STAFF OR UNIT MEETINGS	88
A31	PLAN WORK ASSIGNMENTS	86
A23	ESTABLISH WORK SCHEDULE	85
A37	PREPARE FOR MEDICAL LABORATORY INSPECTIONS, SUCH AS INTERNAL OR OUTSIDE AGENCIES	84
C103	INSPECT LABORATORY EQUIPMENT	84
D138	COUNSEL PERSONNEL ON TRAINING OR OTHER PROBLEMS, SUCH AS AIRMAN PERFORMANCE REPORTS (APR)	83
B73	RESOLVE MEDICAL LABORATORY TECHNICAL PROBLEMS	83
A38	SCHEDULE TEMPORARY DUTY, LEAVES, OR PASSES	83
E160	COMPILE OR MAINTAIN WORKLOAD DATA	82
B65	INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	81
E171	PREPARE MONTHLY, BIMONTHLY, QUARTERLY, OR ANNUAL REPORTS	81
F181	PREPARE REQUISITIONS FOR STANDARD OR NONSTANDARD MATERIEL ITEMS, MEDICAL OR NONMEDICAL SUPPLIES	81
B41	ASSIGN PERSONNEL TO DUTY POSITIONS	80
A2	COORDINATE MEDICAL LABORATORY ACTIVITIES WITH OTHER AGENCIES OR ORGANIZATIONS	80
F176	ISSUE OR TURN IN LABORATORY EQUIPMENT	80
A35	PREPARE DUTY ROSTERS	79
A6	DETERMINE REQUIREMENTS FOR SPACE, PERSONNEL, EQUIPMENT, OR SUPPLIES	79

TABLE VIA

HOSPITAL LABORATORY SUPERVISORS (GRP200)

TASKS		PERCENT MEMBERS PERFORMING (N=83)
B47	COUNSEL PERSONNEL ON PERSONAL OR MILITARY-RELATED MATTERS	99
B68	ORIENT NEWLY ASSIGNED PERSONNEL	99
B40	ASSIGN DUTIES TO SUBORDINATES	98
A1	ADVISE SUPERIORS ON STATUS OF MEDICAL LABORATORY OPERATIONS	98
A7	DETERMINE WORK PRIORITIES	96
C105	INSPECT LABORATORY PERSONNEL FOR COMPLIANCE WITH MILITARY STANDARDS	96
A37	PREPARE FOR MEDICAL LABORATORY INSPECTIONS, SUCH AS INTERNAL OR OUTSIDE AGENCIES	95
A31	PLAN WORK ASSIGNMENTS	94
C119	WRITE APRs OR SPECIAL AWARDS	94
C110	PERFORM SELF-INSPECTIONS	94
C84	EVALUATE DUTY PERFORMANCE	93
A6	DETERMINE REQUIREMENTS FOR SPACE, PERSONNEL, EQUIPMENT, OR SUPPLIES	93
E160	COMPILE OR MAINTAIN WORKLOAD DATA	92
B78	SUPERVISE MEDICAL LABORATORY SPECIALISTS (AFSC 92450)	92
D138	COUNSEL PERSONNEL ON TRAINING OR OTHER PROBLEMS, SUCH AS AIRMAN PERFORMANCE REPORTS (APR)	92
B73	RESOLVE MEDICAL LABORATORY TECHNICAL PROBLEMS	92
A23	ESTABLISH WORK SCHEDULES	92
A35	PREPARE DUTY ROSTERS	92
B74	SCHEDULE OR POST DUTY ROSTERS	92
A2	COORDINATE MEDICAL LABORATORY ACTIVITIES WITH OTHER AGENCIES OR ORGANIZATIONS	92
B69	PARTICIPATE IN STAFF OR UNIT MEETINGS	90
B65	INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	90
A38	SCHEDULE TEMPORARY DUTY, LEAVES, OR PASSES	90
F176	ISSUE OR TURN IN LABORATORY EQUIPMENT	90
B41	ASSIGN PERSONNEL TO DUTY POSITIONS	89
E171	PREPARE MONTHLY, BIMONTHLY, QUARTERLY, OR ANNUAL REPORTS	88
F180	PREPARE REQUISITIONS FOR EQUIPMENT	87

TABLE VIB

CLINICAL LABORATORY SUPERVISORS (GRP334)

TASKS		PERCENT MEMBERS PERFORMING (N=37)
H211	INSTRUCT PATIENTS ON PROPER COLLECTION OF SUBMISSION OF SPECIMENS	100
P488	PERFORM STAINING PROCEDURES, SUCH AS GRAM'S STAIN, OR METHYLENE BLUE	100
I240	PERFORM NONTREPONEMAL TESTS FOR SYPHILIS, SUCH AS VDRL OR RPR	100
K299	PERFORM ERYTHROCYTE SEDIMENTATION RATE TESTS	100
E171	PREPARE MONTHLY, BIMONTHLY, QUARTERLY, OR ANNUAL REPORTS	97
P485	PERFORM PRIMARY CULTURES ON BIOLOGICAL SPECIMENTS	97
C87	EVALUATE INSPECTION REPORTS OR PROCEDURES	97
0463	PERFORM MICROSCOPIC EXAMINATIONS WITH OR WITHOUT STAINS TO IDENTIFY CELLULAR OR CRYSTALLINE STRUCTURES	97
A1	ADVISE SUPERIORS ON STATUS OF MEDICAL LABORATORY OPERATIONS	97
P465	EXAMINE BACTERIAL STAINS, MICROSCOPICALLY	97
K288	PERFORM BLOOD CELL MORPHOLOGY, MANUAL	97
I239	PERFORM MONOTESTS	97
F176	ISSUE OR TURN IN LABORATORY EQUIPMENT	97
B73	RESOLVE MEDICAL LABORATORY TECHNICAL PROBLEMS	95
B59	IMPLEMENT QUALITY CONTROL PROGRAMS	95
A7	DETERMINE WORK PRIORITIES	95
P489	PERFORM TAXO-A PROCEDURES	95
C105	INSPECT LABORATORY PERSONNEL FOR COMPLIANCE WITH MILITARY STANDARDS	95
C103	INSPECT LABORATORY EQUIPMENT	95
B40	ASSIGN DUTIES TO SUBORDINATES	95
P472	PERFORM BACTERIOLOGICAL QUALITY CONTROL PROCEDURES	95
F174	INITIATE EQUIPMENT MAINTENANCE REQUESTS	95
K306	PERFORM QUALITATIVE SICKLE CELL SCREENS (SICKLEDEX)	95
F181	PREPARE REQUISITIONS FOR STANDARD OR NONSTANDARD MATERIEL ITEMS, MEDICAL OR NONMEDICAL SUPPLIES	92
F179	MAINTAIN SUPPLY STOCK LEVELS	92
B78	SUPERVISE MEDICAL LABORATORY SPECIALISTS (AFSC 92450)	92
C84	EVALUATE DUTY PERFORMANCE	92

TABLE VII

INSTRUCTORS
(GRP056)

TASKS		PERCENT MEMBERS PERFORMING (N=31)
D120	ADMINISTER TESTS	100
D157	SCORE TESTS	100
D143	PREPARE LESSON PLANS	97
D129	CONDUCT FORMAL TECHNICAL COURSE TRAINING IN AIR FORCE SPECIALTY AFS 924X0	94
D121	ARRANGE FOR TRAINING AIDS OR TRAINING MATERIALS	94
B47	COUNSEL PERSONNEL ON PERSONAL OR MILITARY-RELATED MATTERS	90
D150	MAINTAIN TRAINING RECORDS	90
D138	COUNSEL PERSONNEL ON TRAINING OR OTHER PROBLEMS, SUCH AS AIRMAN PERFORMANCE REPORTS (APR)	87
D136	CONSTRUCT OR FABRICATE TRAINING AIDS, SUCH AS SLIDES	84
D137	CONSTRUCT TEST OR EXAMINATION ITEMS	84
D159	WRITE TEST QUESTIONS	77
D139	DEMONSTRATE USE OF LABORATORY EQUIPMENT	74
D145	EVALUATE INDIVIDUAL TRAINING NEEDS, SUCH AS REMEDIAL OR QUALIFICATION RE-CYCLES	74
B72	RESEARCH REFERENCE MATERIALS	74
B40	ASSIGN DUTIES TO SUBORDINATES	74
B68	ORIENT NEWLY ASSIGNED PERSONNEL	74
D156	PREPARE TRAINING LITERATURE	71
C105	INSPECT LABORATORY PERSONNEL FOR COMPLIANCE WITH MILITARY STANDARDS	71
D125	ASSIGN TRAINING TASKS TO TRAINEES OR TRAINERS	68
D122	ARRANGE FOR TRAINING FACILITIES	68
C84	EVALUATE DUTY PERFORMANCE	61
A31	PLAN WORK ASSIGNMENTS	61
H209	HANDLE OR STORE DANGEROUS CHEMICALS	61
B69	PARTICIPATE IN STAFF OR UNIT MEETINGS	61
B77	SUPERVISE MEDICAL LABORATORY SPECIALISTS (AFSC 92430)	58
D146	EVALUATE INSTRUCTOR PERFORMANCE	58
D133	CONDUCT SAFETY TRAINING	58

TABLE VIIA

INSTRUCTORS-SUPERVISORS
(GRP131)

TASKS		PERCENT MEMBERS PERFORMING (N=21)
D150	MAINTAIN TRAINING RECORDS	100
D120	ADMINISTER TESTS	100
D121	ARRANGE FOR TRAINING AIDS OR TRAINING MATERIALS	100
D157	SCORE TESTS	100
D129	CONDUCT FORMAL TECHNICAL COURSE TRAINING IN AIR FORCE SPECIALTY AFS 924X0	95
D153	PREPARE LESSON PLANS	95
B47	COUNSEL PERSONNEL ON PERSONAL OR MILITARY-RELATED MATTERS	95
D138	COUNSEL PERSONNEL ON TRAINING OR OTHER PROBLEMS, SUCH AS AIRMAN PERFORMANCE REPORTS (APR)	90
D145	EVALUATE INDIVIDUAL TRAINING NEEDS, SUCH AS REMEDIAL OR QUALIFICATION RE-CYCLES	90
B68	ORIENT NEWLY ASSIGNED PERSONNEL	90
D136	CONSTRUCT OR FABRICATE TRAINING AIDS, SUCH AS SLIDES	90
D137	CONSTRUCT TEST OR EXAMINATION ITEMS	90
B72	RESEARCH REFERENCE MATERIALS	86
D159	WRITE TEST QUESTIONS	86
C105	INSPECT LABORATORY PERSONNEL FOR COMPLIANCE WITH MILITARY STANDARDS	86
C84	EVALUATE DUTY PERFORMANCE	81
A31	PLAN WORK ASSIGNMENTS	81
B40	ASSIGN DUTIES TO SUBORDINATES	81
D122	ARRANGE FOR TRAINING FACILITIES	81
D139	DEMONSTRATE USE OF LABORATORY EQUIPMENT	76
D156	PREPARE TRAINING LITERATURE	76
D125	ASSIGN TRAINING TASKS TO TRAINEES OR TRAINERS	71
D146	EVALUATE INSTRUCTOR PERFORMANCE	71
B69	PARTICIPATE IN STAFF OR UNIT MEETINGS	71
B48	DIRECT CONTINUOUS ORGANIZED LABORATORY TRAINING PROGRAMS OR OTHER INSERVICE TRAINING	67
B77	SUPERVISE MEDICAL LABORATORY SPECIALISTS (AFSC 92430)	67
C86	EVALUATE INDIVIDUALS FOR RECOGNITION	67
A23	ESTABLISH WORK SCHEDULES	62

TABLE VIII

GENERAL MEDICAL LABORATORY PERSONNEL (GRP029)

TASKS		PERCENT MEMBERS PERFORMING (N=43)
H206	CLEAN LABORATORY FACILITIES OR IMMEDIATE WORK AREA	98
H208	COLLECT BIOLOGICAL SPECIMENS DIRECTLY FROM PATIENTS OR SUBJECTS	81
H223	PROCESS SPECIMENS FOR LABORATORY EXAMINATIONS	79
H225	REMOVE AND DISPOSE OF TRASH, WASTE, OR WASTE MATERIALS	72
H210	HANDLE OR STORE HAZARDOUS BIOLOGICAL SPECIMENS	65
H207	CLEAN OR INSPECT LABORATORY GLASSWARE FOR SPOTS, CHEMICAL RESIDUES, SCRATCHES, AND CRACKS	63
H215	PERFORM OPERATOR MAINTENANCE OF LABORATORY EQUIPMENT	63
H209	HANDLE OR STORE DANGEROUS CHEMICALS	63
H217	PERFORM PREVENTIVE MAINTENANCE ON FACILITIES OR EQUIPMENT	63
A1	ADVISE SUPERIORS ON STATUS OF MEDICAL LABORATORY OPERATIONS	63
H211	INSTRUCT PATIENTS ON PROPER COLLECTION OR SUBMISSION OF SPECIMENS	60
H226	STORE MEDIA AND REAGENTS	56
F179	MAINTAIN SUPPLY STOCK LEVELS	53
E166	MAINTAIN LOG OF LABORATORY PROCEDURES	51
C103	INSPECT LABORATORY EQUIPMENT	47
A7	DETERMINE WORK PRIORITIES	44
B73	RESOLVE MEDICAL LABORATORY TECHNICAL PROBLEMS	44
H221	PREPARE SPECIMENS FOR SHIPMENT	42
C115	REVIEW LABORATORY PROCEDURES	42
B69	PARTICIPATE IN STAFF OR UNIT MEETINGS	42
A2	COORDINATE MEDICAL LABORATORY ACTIVITIES WITH OTHER AGENCIES OR ORGANIZATIONS	42

TABLE IX

LABORATORY COMPUTER PERSONNEL (GRP079)

TASKS		PERCENT MEMBERS PERFORMING (N=10)
G191	INPUT, UPDATE, OR RETRIEVE DATA USING REMOTE INQUIRY UNITS, SUCH AS CATHODE RAY TUBES (CRT) OR TELETYPES	100
G186	CHANGE OR ALIGN PAPER IN PRINTERS	100
G190	DISTRIBUTE OR DELIVER OUTPUT PRODUCTS	90
G188	CORRECT STOPPAGES ON PRINTERS	90
G198	NOTIFY SUPERVISORS OF MACHINE FAILURES, DOWNTIME, OR PROCESSING PROBLEMS	90
G202	REMOVE PRINTED DATA OUTPUT	80
G184	ADDRESS OR CALL SYSTEM VIA CONSOLE TO REQUEST INFORMATION	70
G192	ISOLATE CAUSES OF MACHINE STOPS OR MALFUNCTIONS	70
A1	ADVISE SUPERIORS ON STATUS OF MEDICAL LABORATORY OPERATIONS	70
B40	ASSIGN DUTIES TO SUBORDINATES	70
G204	RESPOND TO OR CORRECT ERRORS VIA CONSOLE OPERATION	60
H211	INSTRUCT PATIENTS ON PROPER COLLECTION OR SUBMISSION OF SPECIMENS	60
H225	REMOVE AND DISPOSE OF TRASH, WASTE, OR WASTE MATERIALS	60
B78	SUPERVISE MEDICAL LABORATORY SPECIALISTS (AFSC 92450)	50
G196	NOTIFY MEDICAL PROFESSIONALS OF JOB COMPLETION	50
G185	BATCH RUN REQUESTS	50
G189	DETERMINE CAUSE OF FAULTY OUTPUT PRODUCTS	50
H224	PROCESS SPECIMENS FROM OTHER LABORATORIES	50
H221	PREPARE SPECIMENS FOR SHIPMENT	50
H223	PROCESS SPECIMENS FOR LABORATORY EXAMINATIONS	40
G197	NOTIFY MEDICAL PROFESSIONALS OF PRODUCTION PROBLEMS	40
G195	NOTIFY CUSTOMER ENGINEERS OR TECHNICAL REPRESENTATIVES OF EQUIPMENT FAILURE	40

TABLE X

LABORATORY SUPPLY NCOICs (GRP030)

TASKS		PERCENT MEMBERS PERFORMING (N=7)
F181	PREPARE REQUISITIONS FOR STANDARD OR NONSTANDARD MATERIEL ITEMS, MEDICAL OR NONMEDICAL SUPPLIES	100
F179	MAINTAIN SUPPLY STOCK LEVELS	86
F178	MAINTAIN SUPPLY OR EQUIPMENT CATALOGUES	86
F180	PREPARE REQUISITIONS FOR EQUIPMENT	71
C119	WRITE APRs OR SPECIAL AWARDS	71
H214	PERFORM DESIGNATED EXTRA DUTIES, SUCH AS FIRE WARDEN, BUILDING CUSTODIAN, OR NONCOMMISSIONED OFFICER OF THE DAY	57
H206	CLEAN LABORATORY FACILITIES OR IMMEDIATE WORK AREA	57
F182	REVIEW AIR FORCE MEDICAL MATERIEL LETTERS (AFMML)	57
A6	DETERMINE REQUIREMENTS FOR SPACE, PERSONNEL, EQUIPMENT, OR SUPPLIES	57
H209	HANDLE OR STORE DANGEROUS CHEMICALS	57
F175	INVENTORY MEDICAL LABORATORY EQUIPMENT	57
B69	PARTICIPATE IN STAFF OR UNIT MEETINGS	57
C105	INSPECT LABORATORY PERSONNEL FOR COMPLIANCE WITH MILITARY STANDARDS	57
B47	COUNSEL PERSONNEL ON PERSONAL OR MILITARY-RELATED MATTERS	57
C95	EVALUATE PROCEDURES FOR STORAGE, INVENTORY, OR INSPECTION OF PROPERTY ITEMS	43
B56	DRAFT CORRESPONDENCE OR MESSAGES	43
C92	EVALUATE MAINTENANCE OR USE OF WORKSPACE, EQUIPMENT OR SUPPLIES	43
F173	ADVISE SUPERVISORS ON EQUIPMENT PURCHASES	43
A2	COORDINATE MEDICAL LABORATORY ACTIVITIES WITH OTHER AGENCIES OR ORGANIZATIONS	43
F176	ISSUE OR TURN IN LABORATORY EQUIPMENT	43
A12	DRAFT BUDGET OR FINANCIAL REQUIREMENTS	43
B68	ORIENT NEWLY ASSIGNED PERSONNEL	43
E171	PREPARE MONTHLY, BIMONTHLY, QUARTERLY, OR ANNUAL REPORTS	29

END

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