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THESIS

**ALIGNING SALARY EXPENSE AND WORKLOAD OUTPUT IN A
COMPLEX MILITARY MEDICAL SYSTEM**

by

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June 2004

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**ALIGNING SALARY EXPENSE AND WORKLOAD OUTPUT IN A COMPLEX
MILITARY MEDICAL SYSTEM**

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ABSTRACT

The National Naval Medical Center (NNMC), Bethesda, Maryland, set as a strategic goal the improvement of internal efficiency among its many clinical activities. Clinical services lacked the ability to improve their statistical process, which relied on workload and expense data. Since the data systems had removed provider identifiers, it was impossible to produce data on provider productivity and efficiency.

Numerous efforts to improve the clinical staff's efficiency were unsuccessful because of data integration limitations. Clinical service managers could not review their clinical service staff roster nor maintain the correct coding of personnel because they did not have access to the Standard Personnel Manpower System (SPMS).

The step-wise approach business plan described in this thesis outlines the steps taken to generate productivity and efficiency feedback reports. These reports provided the clinical managers the necessary performance metrics to determine on a monthly basis how effectively their clinical services were operating.

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LIST OF ACRONYMS

APV - Ambulatory Procedure Visit (Same-Day Surgery)

BUMED - Bureau of Medicine and Surgery

CHCS - Composite Health Care System
CCC - Configuration Control Committee

DTF - Dental Treatment Facility

EAS - Expense Assignment System

FAQs - Frequently Asked Questions
FTEs - Full-Time Equivalents
FY - Fiscal Year

GME - Graduate Medical Education

JON - Job Order Number

LPN - Licensed Practical Nurse
LVN - Licensed Vocational Nurse

MEPRS - Medical Expense and Performance Reporting System
MEQS - Medical Expense and Performance Reporting System
Executive Query System
MTF - Military Treatment Facility

NNMC - National Naval Medical Center, Bethesda, MD

OBD - Occupied Bed Days

PC - Primary Care
PRD - Projected Rotation Date

RVU - Relative Value Unit

SC - Specialty Care
SMART - Summarized Management Analysis Tool
SPMS - Standard Personnel Management System

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EXECUTIVE SUMMARY

A strategic goal of the National Naval Medical Center (NNMC), Bethesda, Maryland, was improving the efficiency of its many clinical activities. Unfortunately, when presented with available data regarding clinical production and efficiency, providers almost universally rejected the data as inaccurate, invalid or meaningless. They generally felt that no link existed between their input and the aggregated cost and visit data generated by the system output.

Clinical services could not improve their efficiency process, which relied on workload and expense data, because the available systems had collected the data but removed the providers' identity, making it impossible to produce output at the provider-level. Initially, the goal to improve the command's clinical effectiveness drew little attention. Numerous efforts to improve the clinical staff's efficiency were unsuccessful because of data integration limitations. Consequently, many of NNMC's clinical services' cost-per-visit data exceeded the normal range and several had no charges at all.

The situation was further confounded by the fact that the Clinical Service Managers could not review their clinical service staff roster nor maintain the correct coding of their personnel. Moreover, Clinical Service Managers had no access to the Standard Personnel Manpower System (SPMS) to ensure their staff was assigned to the appropriate Service Line and to ensure that their staff was correctly coded, according to Navy Manpower regulations.

In order for Navy Medicine to survive, a measurement of effectiveness was needed. To determine effectiveness, measurements of productivity and efficiency were mandatory. Productivity, measured in visits, was the only output, and dividing the cost of care by the number of visits calculated efficiency. The EAS system generated reports for the clinic level but no reports existed for productivity and efficiency at the provider level.

This thesis provides and implements a strategy for improving the data quality collection and for creating performance feedback reports on clinical provider productivity and efficiency, giving managers the metrics they need.

The first step toward fashioning this strategy was to create a data quality team known as the Configuration Control Committee (CCC). The CCC assembled at the NNMC was a multidisciplinary, collaborative, and cooperative team that had the full support of the Commanding Officer. Since this work would impact every member of the command, it was necessary to include advocates from every corps on the CCC. Aside from their professional expertise, all these members possessed skill in such areas as Financial Management, Data Analysis, Manpower, or Strategic Planning. The team's composition and their secondary skills are discussed further in detail in Chapter II.

The second and more rigorous goal was to reach a common consensus on how to establish an effective Military Treatment Facility (MTF). The leaders unanimously agreed on mission-essential elements. The mission elements were categories of work that defined the type of activity

performed. Each of the categories defined were associated with workload and expenses and consumed significant resources. Clinical and non-clinical members of the CCC agreed on five primary and two secondary mission-essential elements that reflected the responsibilities of the MTF.

The next step was to assess the current personnel expense and workload data at the MTF. This provided the cost-per-visit statistics across all fourth-digit MEPRS codes in the MTF. The statistics, in turn, show the MEPRS data's variability accuracy. It reveals mismatches between the workload and personnel expenses if those expenses were allocated incorrectly across fourth-digit MEPRS codes in the MEPR and CHCS systems. It also reveals where personnel were assigned erroneously in the SPMS PERS File, and where the MEPRS time-allocation hours were distributed incorrectly.

Another step was to align the organization with the NNMC's vision and mission statement and to coordinate the CHCS and SPMS systems.

It was necessary to revise the organizational codes and MEPRS Codes thoroughly in order to align and ensure consistency between the data collection systems. The cumbersome command structure at the NNMC had 973 organization codes. Thus the data tables had to be synchronized to reduce the number of organizational codes.

A vital step was assessing and correcting the accuracy of personnel data in the SPMS database (manpower module). A command-wide verification process was initiated to reorganize the SPMS Personnel File. Service Lines Managers were given their entire personnel reports that included

such pertinent data as Skill type, Service code, MEPRS Code, Personnel Type, and Rank. The NNMCM's hierarchical structure is described in Appendix A, Section B. The Service Line Managers verified each staff member's personnel record to ensure the coding was correct.

The Check-In/Check-Out Process was revised because the SPMS PERS File data was considered inadequate. A vital revision of the Check-In/Check-Out process was implemented so that the incoming staff members at the command could be added to the PERS File with the correct coding and so staff members leaving the command were removed from the file.

The next step was creating an Access Database onto which to import the SPMS data tables and to export the personnel reports to individual Service Lines for verification. The Access database had to link all the codes to their respective descriptive tables and to subset the personnel according to the Service Line. Following this step, the Access database would automatically export the individual service line personnel reports to a secure network and access privileges would be granted to all authorized service leaders. Finally, the Service Line Managers would review the reports weekly to certify that the data was accurate.

Another step was assessing the accuracy of the personnel time-allocation data. With the labor data processed, a baseline assessment on the accuracy of the personnel labor data could quickly answer some basic questions, such as "Is there clinical time associated with all workload with MEPRS codes beginning with the characters "A" and "B"? Which providers are producing the mismatches

between workload and labor hours? Does all military staff complete monthly time-allocation labor reports? Does distributing Full-Time-Equivalents (FTEs) by MEPRS code in MEQS reflect the assignment of personnel at the MTF?"

A MEPRS template was designed to collect and to report monthly MEPRS time allocation for all personnel. The MEPRS time-allocation template also eliminated the collection of inaccurate personnel expense data. The template simplified data collection and provided valuable feedback to each Service Line team. The Service Line leaders would now know that the labor data they reported about their staff was identical to the data in the MEPRS module in SPMS because the data would be returned to the template managers the following month. With these templates, the Service Line leaders could compare their staff's labor allocation to the benchmarks established for each mission.

An integrated automated database was created to store the template data and to verify the coordination of the table structures and organizational codes. This integrated Access database was called the FlashReport.

After the database was made able to store the MEPRS data, another integrated database was created to produce provider productivity and efficiency reports for the Service Line leaders. This Access database was called the Dashboard database. By collecting accurate workload and personnel expense data, the Dashboard database became the focal resource that allowed the NNMC to measure provider productivity and efficiency. The Dashboard database informed the clinical managers on provider productivity and

efficiency so they could make informed decisions. These reports were generated at the Service Level, the Service Line level, and at the Directorate level.

The business steps described in this thesis significantly increased the accuracy of the collecting and reporting of monthly MEPRS labor hours. In return, the processed MEPRS data provided two essential monthly reports.

I. INTRODUCTION

A. BACKGROUND

The National Naval Medical Center (NNMC), Bethesda, Maryland, needed to heighten the efficiency of its numerous clinical activities. When presented with available data regarding clinical production and efficiency, providers almost universally rejected the data as inaccurate, invalid or meaningless. They requested a linkage between their input and the aggregated cost-per-visit data shown, and this was not feasible.

The NNMC recognized that improving the data collection and data processing techniques had to be a priority. The available systems had aggregated the data and removed provider identifiers making it impossible to produce provider-level data. Numerous efforts to engage the providers and the clinical management staff were unsuccessful because of data integration limitations. Furthermore, few personnel at the clinic level took the MEPRS process and MEPRS data output seriously. Many of NNMC's clinical service cost per visit values exceeded normal ranges and several had no charges at all.

Clinical Service Managers could not review their clinical service staff roster nor maintain the correct coding of personnel. Clinical Service Managers did not have access to the Standard Personnel Manpower System (SPMS) to ensure their staff was assigned to the appropriate Service Line and that their staff was correctly coded, according to Navy Manpower regulations.

Additionally, Clinical Service Managers did not receive any formal training on the Medical Expense Performance Reports System (MEPRS). Most staff members either did not know or did not know how to fill out their monthly MEPRS labor time-allocation sheets properly and many did not understand the importance or relevance of this data or how their reported MEPRS hours would impact their MTFs performance metrics.

B. WHAT WAS THE PROBLEM?

The NNMC, as well as all other Navy MTFs, is tasked to provide health care to service members. Remarkably, many clinical managers do not focus on productivity and efficiency while operating their clinical service, and clinical managers are often unable to improve the collection of workload and expense data. Furthermore, the Bureau of Medicine and Surgery (BUMED) cannot compare worksites in terms of efficiency because it lacks accurate workload and personnel expense data. Finally, NNMC has begun to experience staffing inequities because staffing requirements are not based on monthly workload and expense data; therefore, support staff cannot be redistributed because the current data reports are not trustworthy.

C. WHY WAS THE PROBLEM IMPORTANT?

The BUMED is constantly monitoring the cost-per-visit data of the MTFs for each specific clinical service. The BUMED supervises the cost of maintaining health care for service members by comparing its Navy hospitals with their civilian counterparts by using cost-per-visit data. The BUMED also evaluates the cost of care by each clinical service, across all the MTFs in the Navy. The cost of care

for a specific visit at the NNMC should be comparable to the cost of care at Portsmouth, Virginia, or at any other Navy MTF.

Utilization rates provide the BUMED important workload data, which impact MTFs requirements and authorizations for medical billets. The MTF clinical services that are not meeting the required patient visits or that do not accrue the minimum clinical expenses for that service may lose medical billets. For instance, in any given month, the NNMC Optometry service may accumulate 700 patient visits and accrue \$85,000 in clinical expenses to operate; therefore, the cost per visit would be \$121. Based on the NNMC Optometry's cost-per-visit data and future provider productivity reports, the BUMED may decide to authorize additional providers and support staff billets to reduce the workload of the existing staff.

1. SPMS Personnel File

Numerous problems at the NNMC resulted from the state of the SPMS Personnel File (PERS file). First, the PERS file was not accessible to the clinical managers to help them review and to maintain their staff. The PERS file data had numerous errors in the coding of personnel type, including, for example, employees who left, incorrect skill types, incorrect organizational codes, and so on.

2. SPMS Organizational File

The SPMS database contains a dynamic organization file that lists the NNMC's organizational structure along with the accounting codes. The organization file consisted of over 900 separate services that had up to 26 different Job Order Numbers (JONs) assigned to each service. The NNMC's organizational services are a "stovepipe" structure. Many

services were redundant and existed primarily because many civilian positions required a supervisory role to receive promotions. Many existed because a telephone number was already listed for that service and the recall roster required a service to be associated with a telephone number. The redundancy might best be addressed by a Configuration Control Committee (CCC), which oversees the entire transformation process and is the approving authority for governing local MTF policies.

3. Lack of Standardized Coding

The lack of the standard naming of organizations in the organization file across MTFs was a considerable problem, not only for the BUMED, but also for the claimant MTFs. At the NNMC, the outpatient cardiology service was called "Cardiology Outpatient BE," and had organizational code 2414780 and MEPRS code of BACA. For the MTF in Portsmouth, Virginia, the cardiology outpatient service was called "CARDIOVASCULAR OP DMS," and had a different service code and a fourth-digit MEPRS code. When the NNMC had no standard coding scheme, the organization had no structural hierarchy between its levels, meaning comparisons with other MTFs were extremely difficult. This deficiency unquestionably increased errors in accounting for man-hours and workload. The accounting code structure used by the NNMC is shown in Appendix A.

4. MEPRS Time-Allocation Process

The MEPRS time-allocation data collection process was ill-designed. Three data collection systems were required to calculate cost-per-visit data. The MEPRS time-allocation data system collected the labor hours based on the work locations of the staff members. The SPMS data

collection system maintained two important files, the PERS File and the Organizational File (ORG File). The PERS File stored the personnel data (such as rank, years of service, skill type, and status), and the ORG File maintained the constantly changing accounting data variables (such as organizational code, MEPRS code, and JONs). The Composite Health Care System (CHCS) captured workload in the form of visits at the work centers where the visits were performed.

Several process breakdowns contributed to the failure to collect accurate MEPRS labor hours. A problem with the MEPRS' data collection was that the staff members recorded their MEPRS labor hours on a single sheet of paper, which they returned every month by a specific day. The MEPRS sheet had only one work center to which staff could allocate their hours. If staff members worked in multiple work centers that month, they could only report hours for one service and the other services were not allocated any man-hours.

Another crucial process that still remains problematic is how data is entered into the MEPRS Module of the SPMS system and how the data is processed in the EAS system. The problem surfaces when the reported MEPRS time-allocation data is entered into the MEPRS Module and then merged with the SPMS PERS File data, producing a monthly MEPRS time-allocation labor file. The MEPRS data is manually entered into the MEPRS Module, and the data enterers must select the appropriate work centers and the correct JONS corresponding to those work centers. The data entering process allows too many decisions to be made by the data enterers.

The data entering process must eliminate decision-making on the part the data enterers. The data entry individuals must focus on entering the correct data regarding work centers to assure the expenses are allocated accurately.

The MEPRS labor file is eventually imported into the Expense Assignment Module (EAS), which link the workload captured from CHCS to the personnel expenses in the MEPRS labor file. The EAS system trims the individual providers who perform the workload and aggregates all the workload and personnel expenses for each work center. Because provider identity is lost during the EAS processing, individual provider productivity cannot be measured.

This EAS report provides an estimated cost-per-visit value for all clinical services form the processed workload and personnel expense data. An analysis of the EAS cost-per-visit data shows a wide variation (\$0 dollars/visit to \$95,000/visit) and reveals clinical services without workload or allocated manpower expenses and vice versa. For example, in one month there was only one Psychiatry visit at NNMC. Psychiatry at NNMC has a MEPR code BFDA. The Psychiatry monthly personnel expenses associated with that one visit to BFDA amounted to \$95,000. The estimate for the cost per visit for Psychiatry at the NNMC would be \$95,000.

The Navy's Deputy Chief, Resource Management, Comptroller uses an application called SMART to review and compare average cost-per-visit data, across all the MTFs in the Navy. When the Comptroller compares the Psychiatry

Clinic at NNMC to other Psychiatry Clinics in the Navy, NNMC's Psychiatry Clinic falls outside the range of average cost per visit for psychiatry visits.

5. Feedback Reports Did Not Exist

Another problem, perhaps the most important for clinical managers, was that the reports produced from the MEPRS and EAS systems were not beneficial. Clinical managers trying to manage their services as a business did not have the proper tools and most lacked knowledge of the Navy's MEPRS process and policy regulations.

Clinical managers had no means to show how efficiently or inefficiently their staff was operating. Since the legacy data collection systems referred to above lack the ability to integrate, import or export data, or to edit output or create new output, creating reports on efficiency was impossible.

The sources of the problems existed in the data collection and data processing techniques formerly in place. As for the data collection troubles, the MEPRS data collection process was not automated or in a format that allowed staff members to record their labor hours simply. Regarding the data processing problems, when the workload data was merged with the MEPRS data the EAS systems trimmed off the fourth-digit of the MEPR code. The problem with this data processing technique was that it severed the link to the individual providers and their associated workload. Reports on individual provider productivity and efficiency could not be measured until the providers' workload and MEPRS data were linked.

In conclusion, in order for the NNMC to improve its effectiveness, it had to correct numerous data collection and data processing techniques. Many of the NNMC's problems originated from the PERS File in the SPMS database. SPMS data errors were extremely costly. The cost of running the MEPRS service at NNMC produced no added benefit. The mistrust of the SPMS data made the MEPRS team reports deemed worthless.

Many of the clinical services created their own databases to maintain and to keep track of their staff. This was very time-consuming and raised the cost of care without directly supporting the provider. The data systems the NNMC used could not link the provider's labor hours to the provider's workload by the fourth-digit MEPRS code. Therefore, clinical managers did not receive the proper feedback to measure their staff's productivity and efficiency. A controlled Check-In/Check-Out process had to be implemented to ensure that the SPMS captured employees as they arrived and removed employees when they departed the NNMC.

D. HOW IS THE PROBLEM SOLVED WITH THIS WORK?

To tackle this problem, the first steps were to regain the trust of the clinical managers and allow them access to the personnel file. The CCC directs the MTF on how best to transform the services by using standardized coding, setting business rules for adding or deleting services, providing MEPRS education to managers, generating feedback to managers and providers, assuring data quality, and creating an onsite help desk. The creation of a secure network linked to the SPMS PERS file allowed the clinical

managers direct access to their staff's personnel roster. A modified check-in/check-out procedure ensured the SPMS database could be as current and as accurate as possible.

Implementing an automated MEPRS time-allocation process allowed clinical managers to fill out reports online. The automated process now has built-in validation rules and use referential integrity to keep data accurate. "Referential integrity ensures that the relationships between records in related tables remain valid and can prevent problems from occurring when you try to delete or change a record that's related to records in another table." [8]

Creating an integrated relational database gave the database managers the flexibility to create reports specific to the clinical managers. The integrated database produced reports that will help clinical managers to operate their individual services. It also allows the individual staff members to verify that the MEPRS data they reported for the previous month was correctly recorded and entered into the MEPRS automated database.

This database integrated clinical expenses, workload, productivity, and efficiency at the provider level. It also allows the staff members to allocate labor hours to any of the work centers provided on the MEPRS labor template.

The MEPRS section organized a MEPRS team that created a shortened version of the Navy Medical Expense and Performance Reporting System User Guide. The handbook includes guidelines that assist staff members on how to allocate their labor hours to the specific organizational

codes, business rules for adding and removing services, examples of allocating labor hours, monthly updates, and frequently asked questions.

Also implemented was a clinical manager's course that offers managers the necessary education and tools to operate their clinics. The course covers the importance of maintaining and reviewing the SPMS PERS file, education on the MEPRS guideline and the time-allocation process, training on the Provider Productivity and Clinical Managers' reports. This course also teaches the Clinical Managers how to establish benchmarks for productivity and labor distribution across clinical services.

II. BUSINESS PLAN - A STEP-WISE APPROACH

In order for Navy Medicine to prosper in the future, it is necessary to measure effectiveness, which is cost divided by the improvement in health care. The cost of producing a desired clinical outcome is the measure of effectiveness of a health care provider.

To measure and manage performance, it is essential to measure effectiveness. In order to measure effectiveness, measurements of productivity and efficiency are required. Productivity is measured in outpatient visits or inpatient Occupied Bed Days (OBD). Dividing the cost of care by visits calculates efficiency. Currently, it is not possible for Navy Medicine to measure productivity or efficiency due to poor data quality and the inability to integrate the needed variables to produce the measures.

A strategy for improving data quality in order to calculate clinical provider productivity and efficiency follows. The steps that are described were completed in sequence, but do not necessarily need to be done in any particular order.

A. STEP 1: BUILD A DATA QUALITY TEAM (CCC)

The NNMC began by implementing a data quality team, also known as the Configuration Control Committee (CCC). This team had to be multidisciplinary, collaborative, and cooperative and have the full support of the Commanding Officer. The CCC's decisions would affect every member of the command and support from every corps was necessary. The team must recognize that the success of the MTF hinges

on the availability of accurate and timely performance data. Table 1 shows the diverse team implemented at the NNMC to support the optimization.

CORPS/BODY	ADDITIONAL SKILL SET
Medical Corps	Financial Management Data Analysis Strategic Planning
Nurse Corps	Manpower Strategic Planning
Medical Service Corps	Clinical Care Database Development Operations Analysis
Senior Enlisted	Business Planning
Civilian	Strategic Planning Database Management Customer Service

Table 1. Data Quality Team Composition (Configuration Control Committee) (After: Ref. [6])

The main principle of establishing a data quality team was to create a system for configuration control with clear accountability and to ensure senior-level support for the transformation of the NNMC. The CCC administered standardized data and business rules. The CCC provided business rules that apply to all organizational codes. One such example of a CCC-implemented business rule entailed that an outpatient clinical service accomplish at least an average of 30 visits per month. If an outpatient clinical service, such as "PREVENTIVE MEDICINE DAHLGREN," does not

meet the average 30 visits per month quota, the CCC will vote to delete the service or to merge the service into a similar specialty, such as WELLNESS DAHLGREN.

The CCC is the approving authority for adding, deleting, or renaming any of the organizational codes in the command. The CCC recommended to the Command policy and process changes necessary to achieve data integrity. The Data Improvement Team is an example of a process improvement measure implemented by the CCC to begin collecting accurate and reliable data for future decision-making purposes. The CCC documented the workflow processes and the analysis of performance data and supervised education regarding data integrity, the rationale for business rules, and performance benchmarking. In order to educate the Service Managers on how to operate their Services as a business, the CCC has already developed a Clinical Managers' Course.

B. STEP 2: ACCOMPLISH STRATEGIC PLANNING WITH OBJECTIVE GOALS FOR EFFICIENCY

To achieve the goal of becoming an effective MTF, leaders had to agree unanimously on mission-essential elements. Mission elements are categories of work that define the type of activity performed. Each of the categories defined are associated with workload and expenses and require significant resources. Clinical and non-clinical members of the CCC agreed on five primary and two secondary mission essential elements that reflect the activities of the NNMC.

The mission elements are:

Primary	Secondary
Clinical Time	Administration
Loaned Labor	Leave/Liberty
Readiness	
GME	
Research	

The mission elements are all characterized in the MEPRS Template Guidelines in Appendix C.

With the mission essential elements defined, leaders must agree on straightforward performance metrics for each mission element. Services must set efficiency goals by setting quantitative goals to accomplish more work and for expenses distributed to each mission element.

For example, the mission element Clinical Time has visits and Occupied Bed Days (OBD), as an output productive measure and uses cost per visits or cost/OBD as an efficiency measure. It will be possible to measure effectiveness in the future as cost/clinical improvement.

C. STEP 3: CONDUCT A BASELINE DATA QUALITY ASSESSMENT OF PERSONNEL EXPENSE AND WORKLOAD DATA

In order to achieve a baseline assessment of the current data, an ad-hoc query was designed in the MEQS system to retrieve the cost per visit and cost/OBD data for all fourth-digit MEPR codes, across three different MTFs. Table 2 provides the cost per visit and cost/OBD descriptive statistics data over all fourth-digit MEPRS codes, across three MTFs.

Cost per visit FY99	Average Cost per visit	Standard Deviation	Minimum Cost per visit	Maximum Cost per visit
NNMC	\$1,900	\$9,816	\$0	\$95,022
NH San Diego	\$626	\$2,206	\$0	\$19,290
Jacksonville	\$308	\$849	\$0	\$6,097
Cost/OBD	Average Cost per visit	Standard Deviation	Minimum Cost per visit	Maximum Cost per visit
NNMC	\$3,416	\$2883	\$1,007	\$11,070
NH San Diego	\$2,260	\$3126	\$0	\$15,280
Jacksonville	\$2,752	\$6759	\$0	\$34,945

Table 2. Cost per visit and Cost/OBD Descriptive Data over All Fourth-Digit MEPR Codes, across Three MTFs (From: MEQS Reports FY99)

The results shown in Table 2 provide an unpleasant picture of the inaccuracy and variation in the data collected. The average cost per visit for the NNMC is an astounding \$1,900, with a standard deviation of \$9,816. The minimum and maximum cost per visit values for a visit at the NNMC were \$0 and \$95,022 respectively.

Only a single visit was captured in CHCS for the Behavioral Health Service, with \$95,022 of allocated expenses contributing to that visit. It is obvious that the CHCS system had a MEPR code mismatch.

1. Real Variations

One source of this spread is real variations in efficiency. Without clinical services setting benchmarks to define how they intend to operate, it will never be possible for them to know how efficiently their service is operating.

2. Incorrect Distribution of Expenses and Workload in the MEPRS Module and CHCS

Another source of variation is the incorrect distribution of expenses and workload. Stated differently, MEPR codes that have allocated personnel expenses in the MEPRS module of SPMS are linked to service codes. MEPR codes that capture workload in the CHCS system are linked to service codes as well. The MEPR codes linked to the service codes in the MEPRS module may differ from the MEPR codes linked to the service codes in the CHCS system and vice versa. Therefore, the workload and personnel expenses will be distributed incorrectly.

As an example, a provider along with the support staff works in the Emergency Medicine service. CHCS captures the provider's workload for the visits accomplished in Emergency Medicine, but the provider and support staff are allocating their labor hours to a different service. Therefore, the cost-per-visit amount for Emergency Medicine will be artificially low. A similar problem occurs when the staff report labor hours accurately to Emergency Medicine, but the MEPR code for Emergency Medicine in CHCS is incorrect. This problem causes the expenses to be very high in Emergency Medicine without any workload to support the costs.

3. Incorrect Coding of Personnel

Incorrect coding of personnel data constitutes another source of variation. The SPMS PERS File contains incorrect codes for some personnel. The SPMS PERS presently has residents and interns coded as physicians and clinical executives coded as administrative, rather than being coded for their actual profession. For example, a resident

should be coded as "1R," in the PERS File, within the SPMS Manpower Module, but is actually coded as a Physician or "1P."

As another example, the Director of Restorative Care of the NNMC was coded as a "5A," which is an administrative skill type. The Director of Restorative Care is a practicing general surgeon and should be coded as a "1P." The reason the Director needs to be coded a staff physician is that when she visits patients in a specific work center, the visit should be credited to her and to the services where the visits were performed. In the current system, only providers who are coded as skill type 1 may perform visits. In this case, the Director of Restorative Care and the services where she was performing the workload would not be credited with any captured visits. The Director and the support staff would report MEPRS labor hours for the workload performed and consequently personnel expenses would be allocated for visits not captured.

The SPMS PERS File also does not accurately account for borrowed personnel, volunteers, and contractors. Several of the NNMC's staff are borrowed from neighboring MTFs, such as Walter Reed Medical Center. The borrowed personnel's labor expenses are included in the calculation of the cost-per-visit data. Countless personnel expenses are being unaccounted for to calculate an accurate cost per visit ratio because numerous borrowed personnel are not included in the PERS File.

4. Inaccurate Distribution of Expenses from MEPRS Time Allocation Reporting

Another source of inefficiency ensues from the monthly MEPRS labor-time allocation distributions. The MEPRS

monthly time-allocation process distributes labor expenses according to where staff members report their labor hours during a given month. Unfortunately, many staff members are not educated in the MEPRS time-allocation process. Therefore, many inflate, underestimate, or do not report any labor hours for a particular month.

The distribution of the indirect expenses is another inadequacy that is not discussed in detail in this thesis because the so-called "step-down" process of accounting is so obscure. The step-down process is defined in Appendix B. Indirect expenses at the NNMC include utilities, laundry, pharmacy, supplies, square footage, and so on. Square footage is the performance factor most relevant; the accurate accounting of the square footage at a facility is important because it drives a considerable amount of the costs allocated to the work centers by the step-down process. Since there are a number of expenses allocated by the performance factor (e.g. square footage), it is important that this information be as accurate as possible.

D. STEP 4: ALIGN ORGANIZATION WITH VISION AND MISSION AND ASSURE AGREEMENT BETWEEN CHCS (WORKLOAD) AND SPMS (EXPENSE) NAMES FOR ORGANIZATIONAL COMPONENTS

A thorough review and revision of the organizational codes and MEPRS Codes was necessary to achieve alignment and consistency between the data collection systems. As stated before, the old command structure at the NNMC had 973 organization codes. It was necessary to synchronize data tables to align work centers with the cost centers. The steps used to devise a strategy appear below.

- 1) Devise naming conventions, business rules, and review organizational structure.
- 2) Ensure that Parent Command and Child Clinics are named and coded correctly.
- 3) Revise organizational codes and align with accounting system.
 - a) Define purpose of organizational codes.
 - b) Agree on uniform naming strategy.
 - c) Delete redundant codes.
 - d) Rename using standard naming conventions.
 - e) Create new organization codes to meet structural requirements (Chief of Clinical Staff, Chief Nursing Services).
 - f) Check names against MEPRS manual and ensure consistency.
 - g) Obtain budget approval and create new Job Order Numbers as necessary.
 - h) Ensure that new organizational codes allow placement of all MTF billets.
 - i) Align MEPRS, Organization Codes, and Cost Account Dictionary.
- 4) Revise CHCS Tables to ensure synchronization of naming in CHCS with naming in SPMS and that both sets of names reflect organizational structure.
 - a) Align SPMS cost center designations (Organizational Codes) with CHCS Location Names
 1. Link CHCS location names with Organization Codes using MEPRS Codes.
 2. Correct mismatched codes and ensure that all location names agree with MEPRS code definitions.
 3. Eliminate CHCS locations that do not have sufficient workload to justify inclusion.

[7]

1. Review and Rebuild Command Structure

The NNMC's original command structure did not have a simple or well-designed classification coding system that included any command echelon. Appendix A, Section B describes the NNMC's reorganization structure. The reorganization of the NNMC reconfigured the old structure levels from (Directorates, Departments, Divisions) to the

new ordered echelon (Directorates, Service Lines, Services). The differences between Directorates and Service Lines will be explained later in this section. The service code was a seven-character code and only the fourth character denoted structure. It was possible to assign personnel to any of the service codes in the command. The Department Heads created the service codes and could assign any character they desired to the last three spaces of the service code.

The newly adopted seven-digit service code, illustrated in Figure 1, consists three leading filled zeros, followed by four characters each representing a structure of the command echelon. A service code can only be added, changed, or deleted by the CCC. As an example, service code 000112A is "EMERGENCY MEDICINE." The first three characters are all "0's." The fourth character, which is a "1," represents the Directorate. The fifth character, which is also a "1," represents the Service Line, and the sixth character, which is a "2," represents the Service. The last character can be numeric or alphabetic. If the service code ends in a letter, no significance is associated with that character. If the last character is numeric, it can only be a "0" or a "5." If the service code ends with a "0," then it signifies a Service Line or Directorate. Directorates and Service Lines are the only level to which personnel can be assigned. If the service code ends with a "5," then it signifies a same day surgery service.

Service Code: 000112A

Code Character(s)	Significance
1-3	No meaning, padded with zeros
4	Directorate
5	Service Line
6	Service
7	A letter has no meaning at current time.

Figure 1. Service Code Organization Example

Directorates are the highest echelon of command and Service Lines, the second highest. Services fall under the Service Lines and have no echelon priority. An example of a Directorate, Service Line, and Service is as follows:

Directorate: 0001000 Prevention and Wellness

Service Line: 0001200 Primary Care

Service: 000121A Emergency Medicine

It is possible to assign a person to service code 0001200 Primary Care, but not to 000121A Emergency Medicine. This coding scheme simplifies the accounting codes significantly and reduces time and money in accounting for personnel. Service codes ending in "5" or a letter are codes for labor time-allocation only.

2. Devise Naming Conventions

In order for the command re-structuring to be effective, the service codes required a standard naming convention based on the type of medical service, level of care, and MTF or clinic location.

Previous naming conventions contained abbreviations or complex coding descriptions that neither the NNMC's patients nor the accounting personnel could follow. An example is PULM OP BE, which stood for Pulmonary Outpatient

Bethesda. The new naming strategy allowed complete and comprehensible coding descriptions. The lack of a clinic location in the description implies the work is being performed at the NNMCC. An example demonstrates how the improved naming convention makes matters simpler. PULM OP BE is now Pulmonology Medicine. RADIOLOGY BCE is now Radiology Earle and defines the work performed at the location, Branch Clinic Earle, New Jersey.

3. Routinely Check Accuracy of Command Structure in All Data Files

The SPMS organizational file is a dynamic file that includes all the approved organizational codes that the MTF uses to capture labor expenses and workload. The organization codes are also stored in many other data collection systems, which cannot communicate with each other because there is no way to import or export data. A routine verification query must be in place to verify that codes in one system are aligned with the codes in another system. Integrating all the data files from the various data collection systems to validate the data requires the creation of an Access database. The next chapter of this thesis discusses this Access databases.

4. Agree on Business Rules for Organizational Codes

The first business rule implemented eliminated all service codes with a function similar to another service code. For example, Cardiology Thoracic Outpatient and Cardiology Outpatient became a single service and were assigned one service code.

Another rule assigned a single MEPR code to a service code. It is possible to assign a MEPR code for one service to another service as long as the functions of the services

were similar. This assignment was similar to the deletion of redundant codes, with a major distinction. A one-to-many relationship would no longer exist between work centers and service codes. For all services, one organizational code would be tied to a single manpower JON and a single MEPRS code. For example, all B**5 codes that accomplish same-day surgery in one place would be associated with MEPRS code DGA*.

Creating business rules prevents the formation of extraneous service codes and forces attrition of service codes that fail to meet the business rule guidelines. Examples of some implemented business rules appear below:

- 1) Attempt to eliminate organizational codes with fewer than ten personnel assigned.
- 2) Eliminate codes that are used infrequently:
 - A. If fewer than 30 visits per month, then code is eliminated.
 - B. If fewer than 30 admissions per year, then code is eliminated.
- 3) All department code names must agree with MEPRS definitions in the BUMED guidance.

E. STEP 5: ASSESS EXPENSE DISTRIBUTION BY STANDARD EXPENSE ELEMENT CODE (SEEC) TO DETERMINE FOCI

The MEPRS Executive Querying System (MEQS) which, is defined in Appendix B, was used to create an ad hoc query that provided the total direct expenses by SEEC. The SEEC is linked to a JON and the JON is linked to a MEPRS code.

The MEQS system allows the user to export the data into an Excel spreadsheet, from which descriptive statistics on the FY99 data were completed.

A pie chart was created to illustrate how the expenses were distributed at the NNMC. Alarminglly, personnel costs account for 62% of the total cost at the NNMC. Personnel expenses account for the largest percentage share at most hospitals. This holds true at the NNMC. Civilians and military staff account for 14% and 48% respectively of the total expenses at the NNMC. A breakdown, by SEEC, of the NNMCs total expenses for FY99 is shown in Figure 2. Dr. Michael Dinneen of the NNMC stated, "Many people thought our budget was about \$150 million, but it is really \$316 million, when the military personnel cost is included. The \$316 million sum is used to calculate total cost per visit." [6]

SEEC Breakdown of Total NNMC Budget FY99

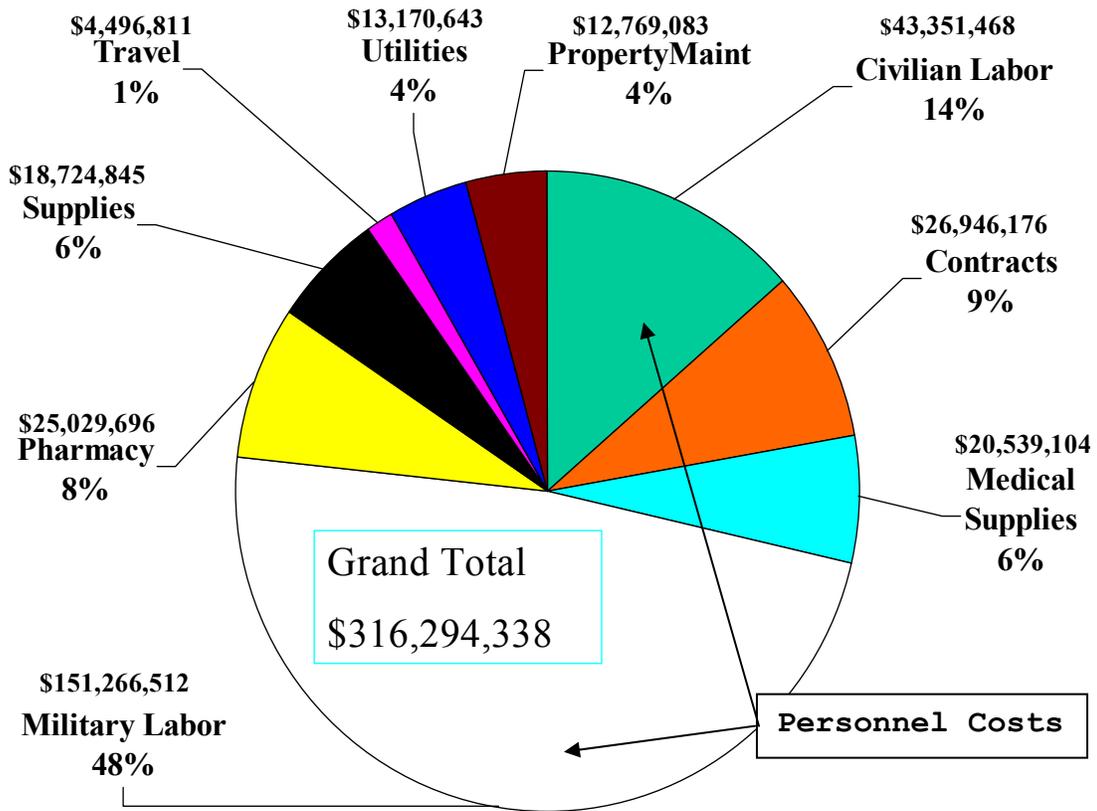


Figure 2. A Breakdown of the NNMC's FY99 Budget Expenses by SEEC (From: MEQS Query Report, 2000 (Ref. [6]))

F. STEP 6: SUBDIVIDE THE PERSONNEL COSTS OF THE BUDGET TO DETERMINE IF DATA ACCURATELY REFLECTS PERSONNEL RESOURCE DISTRIBUTION

1. Assess Personnel Expenses

To improve the accuracy of the expense data, the costs that accounted for the largest percent of the total expenses were examined first. In the NNMC's circumstance, personnel expenses accounted for 62% of the total expenses, as mentioned earlier.

A crucial question is "Why focus on personnel expenses?" The answer is that there is much controversy about the available time for military providers. If this

data were accurate, then it would be possible to calculate the actual available time for the clinical provider. The Provider FTE/Military Provider Clinical Time is a metric that is included in the optimization business plan. The ratio represents the percent of a military provider FTE that the physician spends performing clinical work. Current estimates for availability of a military physician range from 0.22 - 1.2. [6]. The percent of time dedicated to the clinical mission could also be calculated, which would allow managers to set benchmarks for each mission element, for every service in the entire command.

With a practical MEPRS labor time-allocation process that collects useful and accurate expense data in place, one can measure the percentages of labor allocated to the established mission elements.

2. Subset the Personnel Expenses by Expense Category and by Fourth-Digit MEPRS Code

The next juncture was to subset the expense data in the Excel spreadsheet data exported from MEQS, according to the personnel expense category and by the fourth-digit MEPRS code. This step shows how the personnel expenses are distributed across work centers.

3. Assign a Mission Element to each Personnel Expense after Sub-setting by Category and Fourth-Digit MEPRS Code

After the personnel expenses were broken down by category and by the fourth-digit MEPRS code, a Mission Element was assigned to each of the work centers, according to its function. As an example, MEPRS Code AAAA, which is Inpatient Care, was assigned a Clinical Care Mission Element.

4. Look at the Personnel Expense Breakdown, by Mission Element

The next stage was to look at the breakdown of the Mission Elements exclusively for personnel expense data. Figure 2 shows the two pie slices that comprise the personnel expense data and Figure 3 shows the personnel expenses distributed by Mission Element.

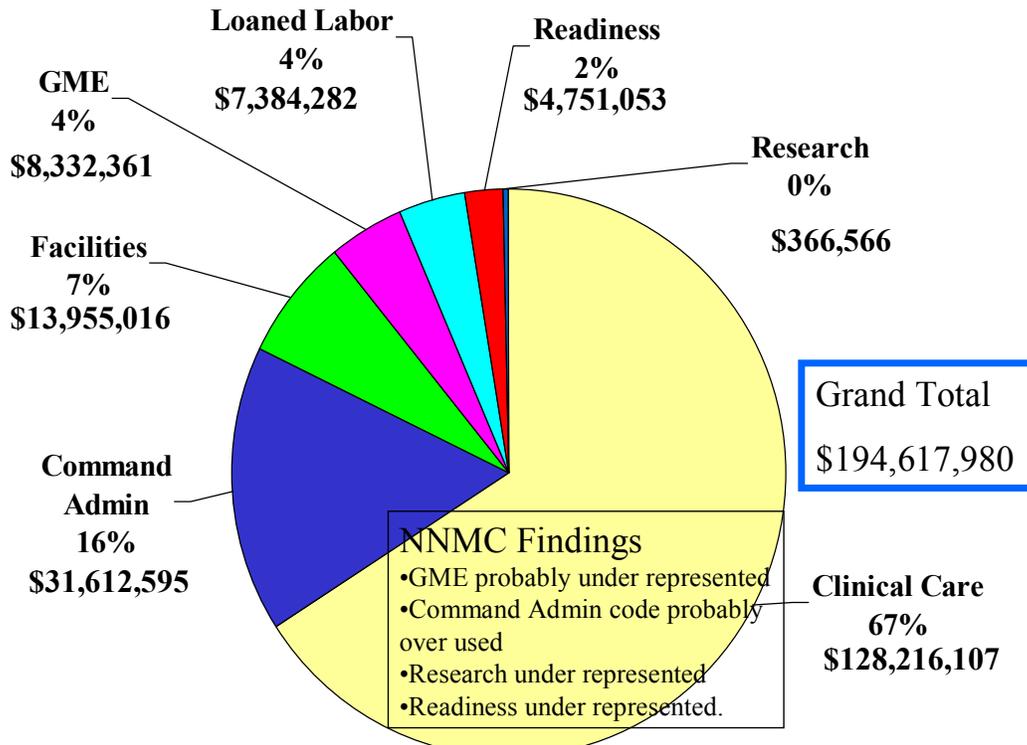


Figure 3. Breakdown of Total Personnel Expenses by MEPRS/Mission Element (From: MEQS Query Report, 2000 (Ref. [6]))

G. STEP 7: ASSESS AND CORRECT THE ACCURACY OF PERSONNEL DATA IN THE SPMS DATABASE (MANPOWER MODULE)

1. SPMS Personnel File Data Verification Process

A command-wide verification process was initiated to assist with the SPMS Personnel File clean-up. Service Lines Managers were given their entire personnel reports

that included many of the pertinent data variables such as Skill type, Service code, MEPRS Code, Personnel Type, and Rank. Service Line Managers were instructed to verify each staff member's personnel record and to ensure that the coding was correct. A problem identified with the personnel report output from SPMS was that it only listed the codes for each data variable with no description of the codes. To help the managers with the verification process, an SPMS Access database (discussed in detail in Chapter 3) was created to link all data variable codes to their respective description tables.

2. Findings from the Verification Process

The verification process took over a month. The SPMS data clean-up corrected all sorts of errors. Staff members who were in the Personnel File but who no longer worked at the MTF were removed. Staff members who were not in the Personnel file but did work at the NNMC were added. Many of the personnel codes were changed to reflect the staff member's true skill type, personnel type, and rank.

The findings from the SPMS Personnel File data verification process were as follows:

- The Occupational Code table was obsolete
- Skill Types were incorrect 18% of the time
- Occupational Codes were incorrect 32% of the time
- Service Code was incorrect 11% of time
- Rank was missing in 5% of the records

Personnel are assigned to a Service Line and when the service code in the SPMS Personnel File is incorrect, personnel are assigned inaccurately. The findings listed above revealed that 11% of the staff members were assigned

incorrectly to a Service Line. Rank for military staff was missing 5% of the time. This caused a calculation error when the MEPRS time-allocation data was processed in EAS because a staff's composite hourly wage value is based on the rank or grade for civilians. The home phone number was another variable that had a majority of missing values. The home phone number is the foundation of the data that creates the recall roster in case of an emergency. Skill type was miscoded in 18% of the records. The skill type code describes the professional duty a staff member practices. The skill type codes are listed in Appendix G, Table 15.

3. Relevance of Coding Skill Type Correctly

Coding the clinical providers skill type correctly impacts the annual productivity baseline, which the BUMED implemented to use as the minimum productivity standard for staff physicians. The BUMED requires that a staff physician's annual workload total 1,500 visits. If a resident is coded as a physician, this increases the annual workload an MTF must achieve by 1,500 visits, to correspond with the number of physicians on board. Figure 4 shows a before-and-after representation of the clinical providers that were miscoded in the SPMS Personnel File.

Resident and intern trainees were coded as staff physicians, which created an over reporting of the number of staff physicians

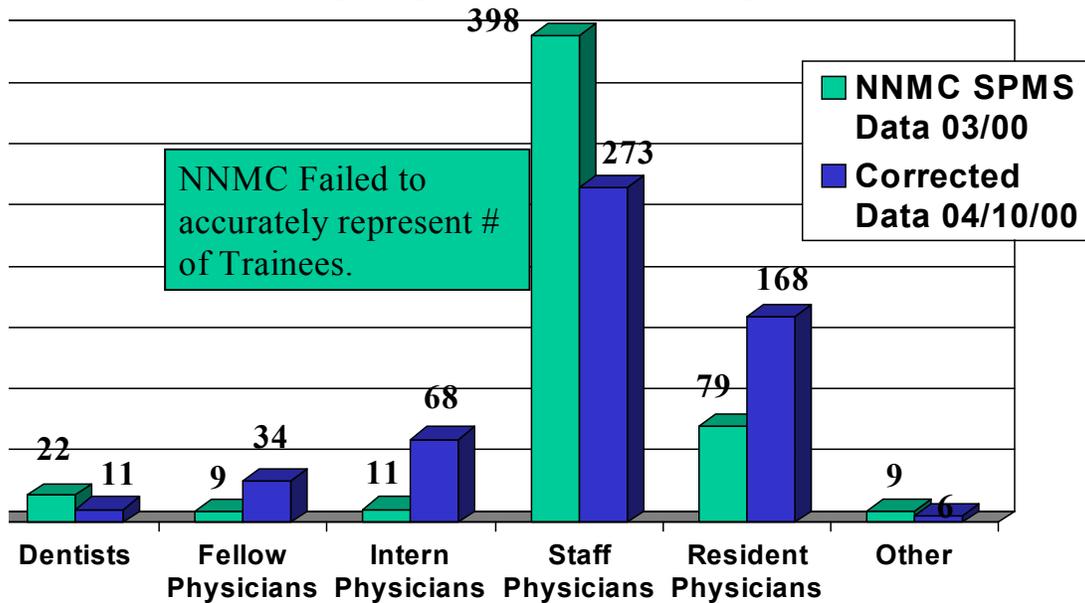


Figure 4. Before-and-after View of the Clinical Providers Miscoded in the SPMS Pers File (From: Ref. [6])

As Figure 4 shows, 125 Staff Physicians were improperly coded, 89 resident physicians were miscoded, and 57 interns were incorrectly coded. According to the BUMED, the NNMC's workload should be based on 398 staff physicians, each accomplishing 1,500 annual visits. After considerable verification of the SPMS Personnel File, our team found that the NNMC had only 273 staff physicians.

4. Check-In/Check-Out Process Revised

A vital revision of the Check-In/Check-Out process was implemented to ensure that the incoming staff members at the command were added to the personnel file and staff members leaving the command are removed from the file. The Check-In/Check-Out process improvement plan is shown in Appendix F.

5. Create an Access Data to Integrate the SPMS Tables and to Export Personnel Reports to Individual Service Lines for Verification

An Access database was created to link all codes to their respective descriptive tables and to subset personnel according to the Service Line. The Access database automatically exports the individual service line personnel reports to a secure network; access privileges were granted to all authorized service leaders. The Service Line Managers would review the reports weekly and certify that the personnel data was accurate.

H. STEP 8: ASSESS THE ACCURACY OF PERSONNEL TIME ALLOCATION

The personnel time-allocation data is processed within the SPMS MEPRS Module. The data is collected on a monthly basis for each staff member and reported back to the MEPRS department on a single MEPRS sheet. The staff member's reported labor hours are then entered into the SPMS MEPRS Module. The data is then merged with the SPMS Personnel File data, and finally processed. The processed data resembles the data shown in Table 3 but also includes other important variables such as SSN, Skill Type, Personnel Type, and Rank.

1. Assessing the Processed Labor Data

With the labor data processed, a baseline assessment on the accuracy of the personnel labor data can provide quick answers to some basic questions. Is there clinical time associated with all workload-producing Inpatient "A" or Outpatient "B" MEPRS codes? Which providers are erroneously producing the mismatches between workload and labor hours? Does all military staff complete monthly

time-allocation labor reports? Does the distribution of FTEs by MEPRS code in MEQS reflect the assignment of personnel at the MTF?

2. Is There Clinical Time Associated with All Workload Producing Clinical MEPRS Codes?

The work centers with MEPRS codes beginning with the letters "A" or "B" have providers and support staff working there. Therefore, labor hours should be allocated to these work centers. Workload should be captured in every work center, and when workload is captured for a specific work center and there are no associated labor hours, a \$0 cost per visit value is the outcome. The same \$0 cost per visit result occurs when there are clinical labor hours allocated to a specific work center, but there is no associated workload. The problem arises either because the MEPRS Codes in the CHCS system are not assigned properly or because the providers do not properly fill out their Ambulatory Data Module (ADM) worksheets that report where the visit occurred.

Within the Dashboard Access Database, described in detail in Chapter III, error safeguard queries are built to show exactly where problems exist. One such query makes it possible to find mismatches where work centers had no associated provider clinical hours and, conversely, clinical provider labor time, but no associated workload. The results are shown in Figure 5.

Site	# Of MEPRS codes with Inpatient OBD but no clinician expense	# Of Inpatient OBD with no clinician expense	# Of MEPRS codes with Outpatient visits but no clinician expense	# Of Outpatient visits with no clinician expense
NNMC	10	7,525	70	129,177
San Diego	4	1,599	44	421,361
Jacksonville	2	253	31	90,142

Figure 5. Workload and Provider Clinical Labor Time Mismatches (From: Dashboard Access Database (Ref.[6]))

Figure 5 results for the NNMC show 70 "B" and 10 "A" MEPRS Code work centers that have no provider labor hours associated with workload. This figure also shows the total number of Outpatient visits, 129,177, and the total of Inpatient OBD that had no related provider labor hours. At the database's inception, the NNMC was able to identify 70 outpatient and 10 inpatient work centers in the MEQS system with inaccurate cost-per-visit data.

3. Which Providers Are Producing the Mismatches Between Workload and Labor Hours?

A more complicated query in the Dashboard Access Database was built to identify exactly which providers not allocating labor hours that coincided with their workload and vice versa. Table 3 shows where providers did not allocate any labor hours that equaled the workload.

<u>RANK</u>	<u>MEPRS</u>	<u>Description</u>	<u>Workload</u>	<u>Labor Hours</u>	<u>Service Line</u>	<u>SL Description</u>
LCDR	BBCA	NEUROSURGERY OP	84	0	2300	NEUROSCIENCES SERVICE
LT	BHAW	PRIMARY CARE WILLOW GROVE	92	0	11W0	PRIMARY CARE WILLOW GROVE
HM3	BHAT	PRIMARY CARE WNY	22	0	11T0	PRIMARY CARE WNY
GS10	BHAM	PRIMARY CARE INDIAN HEAD	34	0	11M0	PRIMARY CARE INDIAN HEAD
HN	BHAK	PRIMARY CARE NAF	9	0	11K0	PRIMARY CARE NAF
HM3	BHAY	PRIMARY CARE MECHANICSBURG	15	0	11Y0	PRIMARY CARE MECHANICSBURG

Table 3. Providers with Captured Workload, but without Any Labor Hours Reported (From: Dashboard Access Database)

Table 3 shows six providers who had captured workload in the CHCS system, but did not have any reported labor hours associated with the work center where the workload was performed. As an example, the second observation in Table 3 with the rank of LT is a provider which accomplished 92 visits in the Primary Care Willow Grove, PA, work center for that given month, but failed to allocate any clinical labor hours to that work center. The problem is significant because 92 visits were added to the total number of visits in Primary Care Willow Grove, PA. The provider who accomplished the 92 visits failed to report any clinical labor hours to Primary Care Willow Grove and the outcome was a decreased cost per visit value for Primary Care Willow Grove.

A query built with the Dashboard Access Database checks for this type of error. A team can easily contact Primary Care Willow Grove's Service Line Manager or the provider who is creating the mismatches to inform him or her of the error and to explain the reason it is occurring.

4. Do All Military Staff Complete Monthly Labor Allocation Time Reports?

Another query built in the Dashboard Access Database was to ensure that all staff members, not only the providers, report labor hours. The query was designed to catch all staff members reporting zero hours. A query executed in June 2001 showed 220 staff members not reporting any labor hours.

A list of staff members by Service Line would be sent to the Service Line Manager to correct the non-reporting of labor hours and to ensure that those members allocated hours the following month.

The same query was run in April 2002 and revealed 33 personnel not reporting any labor hours. This is a significant reduction of personnel not reporting labor hours and should provide a more accurate representation of the personnel expenses distributed at the MTF.

5. Does the Distribution of FTEs by MEPRS Code in MEQS Reflect the Assignment of Personnel at the MTF?

a. Adding Important Data Variables to the SPMS Personnel File

Personnel are billeted at an MTF by function. The SPMS Personnel File only stores the Service Line to which a member is assigned. At the NNMC, a decision was made to use an unassigned data variable in the SPMS Personnel File to provide the flexibility to classify a staff member to a particular Service within the Service Line. For example, a radiologist would be assigned to the Radiology Service Line, which is service code 0003700, and further assigned to the Radiation Therapy Service, which is Service Code 000374A. The Service Line Managers determine

where to assign the incoming staff members within the Service Line. The additional data variable now used helped the NNMC to subset the personnel by Service Line and Service and significantly decreased the time to locate staff members.

b. Assigned FTEs versus Available FTEs

With the added data variable in the SPMS Personnel File, Service Line Managers can now examine staff members by Service as mentioned earlier. The total assigned FTEs can be calculated and compared with the total available FTEs for any particular Service. The BUMED standard available FTEs' value is calculated from taking the monthly-allocated labor hours from each staff member and dividing that figure by 168. The assigned FTEs' value is calculated by counting of all assigned staff members by Service.

As an example, Table 4 compares the assigned and available FTEs for the providers and support staff in the Radiation Therapy Service.

Radiation Therapy Service			
	Assigned FTEs	Total Hours Allocated	Available FTEs
Providers	2	398	2.37
Support Staff	5	668	3.98

Table 4. Assigned vs. Available FTEs for Providers and Support Staff (From: Access Dashboard Database)

The results in Table 4 show there are two providers and five support staff assigned to the Radiation Therapy Service for that month. Therefore, the service assigned 7 FTEs. The total labor hours for that month

allocated to the Radiation Therapy Service were 398 and 668 for providers and support staff respectfully. Dividing 398 by 168 for the providers, and dividing 668 by 168 for the support staff, calculates the available FTEs. The comparisons between the ratio of assigned and available FTEs for providers in the Radiation Therapy Service show that each individual is working 118% of an FTE, on average. The support staff ratio for assigned FTEs/available FTEs show they are working 76.9% of an FTE, on average. With the results shown in Table 4, the NNMC may consider assigning fewer support staff to this Service or for the Radiation Therapy to redistribute some of their support staff to other Services, which have a lower available support staff FTE/assigned support staff FTE ratio. The same strategy can be used with the providers as well.

c. The NNMCs Method to Calculate the Assigned FTEs/Available FTEs Ratio

The NNMCs method by which to calculate the available FTEs for providers and for support staff was to compute two averages of the total monthly labor hours, one for each group across all services. The provider and support staff's labor-hour averages are used in the denominator for the assigned FTEs/Available FTEs ratio. This method was used because there is no standard definition of a provider FTE in terms of hours per month.

The NNMC set as a target for the assigned FTEs/available FTEs ratio a value close to 100%, with a standard error of 25%. If the ratio is much higher or lower, this could indicate an allocation error, an improper assignment of personnel, or staff performing non-essential duties.

Table 5 shows the comparison between the assigned and available FTEs for the providers and support staff, in the Radiation Therapy Service, using the NNMC's definition of an FTE.

Radiation Therapy Service			
	Assigned FTEs	Total Hours Allocated	Available FTEs
Providers	2	398	2.08
Support Staff	5	668	5.28

Table 5. Assigned vs. Available FTEs for Providers and Support Staff, the NNMC's FTE (From: Access Dashboard Database)

The monthly average total labor hours reported for the providers and support staff are 191.67 and 126.37 respectfully. The comparisons between the assigned FTEs and the available FTEs for the Radiation Therapy Service are almost equal. In this case, the available FTEs for the support staff exceed the assigned FTEs by 5.6%, which is within the standard error limit of 25%. If the ratio were outside the acceptable range, the NNMC could redistribute personnel into or from Radiation Therapy to achieve an acceptable value. Overall, the available FTEs calculated for Radiation Therapy seems to correspond with the number of assigned FTEs.

Inspection of the assigned FTEs versus the available FTEs by Service also provides a simple way to determine when staff members are reporting their monthly labor hours inaccurately. If a service encounters an anomalous ratio of the available FTEs and the assigned FTEs, inaccurate allocation of the personnel expenses is the usual cause. Occasionally, the problem arises when the

staff members are performing duties not essential to that service. Such duties are command functions, such as Officer of the Day, physical readiness training, TAD, and so on. For example, a provider who is assigned to Primary Care may have elected to accept too many collateral duties that occupy much of his or her time. When the provider reports his or her MEPRS labor hours, the time will be allocated to command functions because collateral duties are considered a command function duty. The provider is measured as an assigned FTE to the Primary Care Service, but the provider's labor hours, which are used to calculate the Available FTEs, will be much lower because the provider is not performing more Service essential duties.

I. STEP 9: IMPLEMENT TEMPLATES FOR REPORTING OF TIME ALLOCATION FOR ALL PERSONNEL

1. MEPRS Time-Allocation Template Justification and Purpose

A MEPRS time-allocation template was created and implemented at the NNMC to prevent the collection of inaccurate personnel expense data. A partial copy of a template for the Prevention and Wellness Service Line is provided in Table 6. The MEPRS time-allocation templates design and process is discussed in detail in Chapter III, in the FlashReport Access Database.

The template simplifies data collection and provides informative feedback reports to each Service Line leadership team. The Service Line leaders will be assured the labor data they report for their staff is the same processed into the MEPRS module in SPMS because the exact data will be returned to the template managers the following month. With the templates, Service Line leaders

can compare their staff's labor allocation to the benchmarks established for each mission element. The template also provides provider productivity and efficiency measures, which had not been available until the creation of the integrated Access FlashReport Database.

2. MEPRS Time-Allocation Template Data Components

The template lists all the personnel assigned to the Service Line, as well as the Service the staff members are assigned, together with their skill type, Projected Rotation Date (PRD), and rank. The variable PRD is included because it will allow the team to know ahead of time when one of their staff members is due to leave the command. Rank is an important data variable on the template because in the MEPRS module of SPMS produces an hourly composite wage associated with staff members' ranks. If the ranks are not correct, the personnel expenses allocated for that individual will not be accurate, and the system will not produce an accurate cost per visit value.

The template also includes all the MEPRS codes to which staff members assign their duties; Service Codes and the respective code description; and the mission element assigned to the MEPRS code. A summary sheet is provided as a separate sheet on the template and is discussed in Section 5 of this step. If a staff member works at a work center not listed on the template, the Service Leader informs the FlashReport database manager to add the MEPRS code to the template.

The MEPRS time-allocation template shown in Table 6 below shows the previous month's collected and processed data. The template is provided to the Service Line

Managers, so they can review the accuracy of the hours reported the previous month and report their staff's current monthly labor hours. The template shows an example of the Prevention and Wellness Service Line's MEPRS template. The template contains all staff assigned to the Cardiovascular Service Line. It sorts the staff by Service and then by Skill Type. To walk the reader through the template, we use CAPT Michael as an example.

PreventionandWellness	1000		Skill Type	1P	1P	4Z	4Z	5Z
			Last Name					
Distribution Date:			First Name	MICHAEL	TERRANCE	JAMI	RICK	MARY
ServiceLine/DateComp:			Rank	CAPT	CDR	HA	HMCS	GS08
Resources/Date:			PRD	7/31/2002	8/1/2003	8/31/2003	8/30/2002	
Manpower/Date:			PCS					
			Service Line	Prev Wellnes BE				
Short Name	MEPR	Code	Service	Prev Wellnes BE				
ADULT BEHAVIORAL HEALTHCARE OP	BFDA	151A	Clinical	12	0	0	0	0
GENERAL PEDIATRICS OP	BDAA	121A	Clinical	0	7	0	0	0
Support to other military activity	4FCDR	FCDA	905A	Loaned Labor	0	0	0	0
Readiness Training PeaceTime	4GBAR	GBAA	530I	Readiness	0	0	0	0
Readiness Training WarTime	4GBBR	GBBA	530E	Readiness	0	0	0	0
Physical Readiness Training	4GFAR	GFAA	111B	Readiness	15	15	0	15
Support to Non-Fed Activities		FCFA	907A	Readiness	0	0	0	0
Sup to Other Fed Agency (non-MEPRS)		FCEA	906A	Readiness	0	0	0	0
Student Role(Residents and Interns) Physician	FAMA	900A	GME	0	0	0	0	0
GME Fellowship Student Expenses	FAPA	900F	GME	0	0	0	0	0
GME Support Expenses - Physician	EBEA	901M	GME	0	0	0	0	0
Providing Staff Education and Training	EBFA	515A	GME	10	30	0	20	0
Prof cred/skills training- en/off (and TAD)	FALA	904A	GME	40	0	0	40	0
Research - Part Time	FAHA	001D	Research	0	0	0	0	0
Research - Fulltime, Residents/Fellows	FAOA	901A	Research	0	0	0	0	0
Command Functions	EBAA	000C	Command Functions	20	40	0	30	0
Specialty Advisor	EBDA	904S	Command Functions	0	0	0	0	0
PREVENTION AND WELLNESS	EBDA	1000	Command Functions	80	150	0	80	160
Lecture Consultant (for another command)	FCBA	000G	Command Functions	0	0	0	0	0
Leave and Liberty			Other Leave	60	20	0	20	0
Sick Call			Other Leave	0	0	0	4	0
Visits				3	7			
PT Care Time in CHCS (hours)				3.5	2.5			
Total Hours				237	262		209	160
Hours Time Available for Productive Work				177	242	0	185	160
Total OP/HP Clinical Hours				12	7	0	0	0
Total Outpatient Clinical Hours				12	7	0	0	0
PT Care time in CHCS / Total OP/HP Clinical Hours				0.291666667	0.357142857	#DIV/0!	#DIV/0!	#DIV/0!
Visits / Total Outpatient Clinical Hours				0.25	1	#DIV/0!	#DIV/0!	#DIV/0!
Visits / PT Care time in CHCS				0.857142857	2.8	#DIV/0!	#DIV/0!	#DIV/0!

Table 6. MEPRS Time-Allocation Template Example (Source: Excel and FlashReport Access Database)

CAPT Michael reported 12 hours to MEPR Code BFDA and 15 hours to GFAA. He also reported 10 hours and 40 hours to MEPRS codes EBFA and FALA respectively. He allocated 20 hours to EBAA, 80 hours to EBDA, and took 60 hours of leave the previous month.

CAPT Michael accomplished three visits the previous month and had 3.5 hours scheduled in CHCS. He reported a total of 237 hours for the entire month, of which 177 hours were classified as productive work. He allocated 12 hours to outpatient clinical time. His patient care time in CHCS/Patient Care Time Reported on MEPRS ratio shows a value of 29.16%.

The ratio we are using is the ratio of CHCS time to MEPRS time. If the number is accurate, it reflects the amount of time a provider is in the clinic in front of patients divided by the time that the provider is in the clinic seeing patients and performing other duties, such as paper work, attending meetings, etc.

If the reported data is accurate, it should provide evidence as to how efficiently the doctors are working in the clinic. Clearly, they cannot generate revenue for the clinic if they are not seeing patients. Thus a low number would reflect lower efficiency in provider utilization.

We are also now using the MEPRS templates to find allocation errors. A value of "#DIV/0!" for Patient CHCS time/Clinical Hours reported in Table 6 identifies that no MEPRS clinical labor-hours were reported for that physician. The converse is also a problem.

The Visits/CHCS Scheduled Hours ratio value was .8571. This signifies that 85.71% of his scheduled CHCS time was used seeing patients.

The difference between the two ratios indicates how accurately the providers are reporting their MEPRS labor hours.

3. Service Line and Service Accountability

Within each Service Line, a MEPRS template manager is selected for each Service. This manager is responsible for collecting and certifying his or her Service's personnel time-allocation data as accurate. When the first template was distributed to each Service Line, each Service Team, received mandatory MEPRS training, along with selected staff members who served as alternates.

4. MEPRS Template Training

The mandatory MEPRS training included the basic layout of the template, the schedule and manner for receiving and returning the templates, the MEPRS Template Guidelines, and contact numbers to call the MEPRS customer support. When additional training was required, Service Leaders called the MEPRS customer support to schedule additional training. The MEPRS Template Guidelines were attached to each template and also posted on the secure network for easy access.

5. MEPRS Time-Allocation Data Collection and Reporting Process

The template is delivered to each Service Line every month in a manner chosen by the Service Line Manager. The template can be delivered by e-mail, hardcopy, or accessed through a secure network. The templates are then further divided into their respective individual services with those pieces given to the particular Service leader. The

templates are completed in accordance with the MEPRS Template Guidelines and the DoD6010.13M manual. They are then returned to the MEPRS department so they can be entered into the MEPRS module in SPMS and entered into the FlashReport Database. A double entry data method is used to identify the errors and to track the identity of those making them. After the template is entered into the MEPRS module of SPMS and processed, it is exported to the EAS processing system which merges the labor data with the workload data. The template with the previous month's reported hours are returned the following month to help in the collection of the next month's personnel labor hours.

6. MEPRS Time-Allocation Summary Sheet

The template includes a summary sheet, which breaks down the Service Line's labor hours by MEPRS codes and further by their mission-essential elements. The summary sheet provides a quick assessment of the proportion of total labor hours allocated to each of the MEPRS Codes and the total proportion of time allocated to each mission element. Table 7 shows the summary-sheet breakdown of the Cardiovascular Service Line monthly labor hours.

The MEPRS time-allocation template serves as a vital tool for collecting and reporting accurate personnel expenses for the entire command. Service leaders can verify that the labor hours they report were entered and processed correctly. If Service leaders identify any error on their template, they can quickly contact the FlashReport Database Manager to correct the mistake.

Cardio Vascular			Total Hours	Total FTE's	Total Percent of Time
CARDIOLOGY OP	BACA	211A	2787	16.59	
CARDIAC CATH LAB	DDEA	211B	1513	9.01	
ELECTROCARDIOGRAPHY BETHESDA	DDAA	211C	210	1.25	
CARDIAC REHAB OP	BACB	211D	330	1.96	
CARDIOTELEMETRY	DGEA	211T	0	0.00	
CARDIOTHORACIC SURGERY OP	BBBA	212A	462	2.75	
CARDIOLOGY APV	BAC5	213S	81	0.48	
CARDIOLOGY/CT SURGERY IP	AABA	214A	5214	31.04	
CARDIOLOGY/CT SURGERY ICU	DJCA	214B	3274	19.49	
CRITICAL CARE MEDICINE /ICU	DJAA	215A	4376	26.05	
Clinical Time			18247	79.80	67.76%
CARDIOLOGY SUP TO ANNAPOLIS FROM BE	FCDA	211N	0	0.00	
CARDIOLOGY SUP TO PAX FROM BE	FCDA	211P	0	0.00	
CARDIOLOGY SUP TO QUANTICO FROM BE	FCDA	211Q	0	0.00	
Support to other military activity	FCDA	905A	163	0.97	
Loaned Labor			163	0.00	0.605%
Readiness Training PeaceTime	4GBAR	GBAA	530I	328	1.95
Readiness Training WarTime	4GBBR	GBBA	530E	872	5.19
Physical Readiness Training	4GFAR	GFAA	111B	1896	11.29
Support to Non-MEPR Activities		FCGA	907N	0	0.00
Sup to Other Fed Agency (non-MEPRS)		FCEA	906A	32	0.19
Readiness			3128	18.62	11.62%
Student Role(Residents and Interns) Physician	FAMA	900A	0	0.00	
GME Fellowship Student Expenses	FAPA	900F	0	0.00	
GME Support Expenses - Physician	EBEA	901M	36	0.21	
Providing Staff Education and Training	EBFA	515A	80	0.48	
Prof cred/skills training- en/off (and TAD)	FALA	904A	1308	7.79	
GME			1424	8.48	5.29%
Research - Part Time	FAHA	001D	16	0.10	
Research - Fulltime, Residents/Fellows	FAOA	901A	0	0.00	
Research			16	0.10	0.06%
Command Functions	EBAA	000C	361	2.15	
Specialty Advisor	EBDA	904S	0	0.00	
CARDIOVASCULAR AND CRITICAL CARE SE	EBDA	2100	1080	6.43	
Lecture Consultant (for another command)	FCBA	000G	8	0.05	
Command Functions			1449	8.63	5.38%
Leave and Liberty			1830	10.89	
Sick Leave			671	3.99	
Other Leave			2501	14.89	9.29%
Total Hours			26928		

Table 7. MEPRS Time Allocation Breakdown by MEPRS Code and Mission Element (From: Excel Cardiovascular MEPRS Template)

Table 7 shows that 67.76% of the monthly personnel expenses for the Cardiovascular Service Line are allocated to clinical time. The plurality of the labor hours for clinical time was allocated to MEPRS code AABA, which is Cardiology Surgery Inpatient.

Dr. Michael Dinneen from the NNMC stated "One can look at this time allocation breakdown and determine that the mission element for research should be higher than 0.06% because the NNMC is a training and research hospital." The

summary sheets are useful since the Service Line Managers can determine the percentage of total time allocated to each mission element within their Service Lines. In order to reach the established benchmarks, the Service Line Managers can quickly assess what activities occupy their staff's time and adjust their staff duties accordingly.

J. STEP 10: CREATE AN INTEGRATED AUTOMATED DATABASE TO STORE TEMPLATE DATA AND ENSURE COORDINATION OF TABLE STRUCTURES AND ORGANIZATIONAL CODES

The integrated Access database is called the FlashReport. The FlashReport was created to import all the necessary data tables into one location. This allows the database manager to construct error-checking queries to assess inconsistencies among SPMS, CHCS, SADR, and MEQS. For example, a query is run weekly to compare the Organizational File with ASD. This ensures that the MTF is using only the approved and updated MEPRS codes authorized by the BUMED.

Another reason the FlashReport was created was to import the CHCS workload and to merge the data with the personnel labor hours. The FlashReport was a significant accomplishment in terms of automating and verifying data collection. The FlashReport links the workload to the individual provider at the fourth-digit MEPRS code and allows the Service Line leaders to review the productivity of the provider. EAS processing deletes the fourth-digit MEPRS code, removes the individual provider identity, and merges all provider workload and personnel expenses into the third-digit MEPRS code level.

The FlashReport includes a table, a form, an action query, and a macro for each Service at the command. A form was designed for each Service and the staff's monthly labor hours are entered upon it. A copy of this form appears in Appendix D. In Microsoft Access, once the data is entered into a Service's form, the form automatically updates the table for that particular Service. The action query sorts the data and excludes any non-essential data variables. The macro was created to automate the action queries and to export all Service Line tables into an Excel workbook to a secure network within the Service Lines' respective folders.

K. STEP 11: AN INTEGRATED DATABASE THAT PROVIDES FEEDBACK REPORTS TO SERVICE LINE LEADERS

This Access database is called the Dashboard database because the output metrics from the reports generated functions similar to those of a dashboard in an automobile. A manager uses it to check and assess how the Service is operating.

The Dashboard database is the resource that allows the NNMC to reach its objective of measuring productivity and efficiency. The reports generated from the Dashboard database indicate productivity and efficiency and help the clinical managers make sound decisions. The reports are generated at the Service Level, the Service Line level, and at the Directorate level. An example of a clinical report produced by the Dashboard database appears in Appendix I.

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III. ACCESS INTEGRATED DATABASES

This chapter will describe in detail the three Access databases that were created to carry out three specific purposes. The three databases that will be examined are the SPMS Update, the FlashReport, and the DashBoard. The chapter will explain each database's purpose for being created, the process involved on how the database was created, and the maintenance that it requires to update the databases.

A. SPMS UPDATE ACCESS DATABASE

1. SPMS Update Purpose

The SPMS Update database was the first automated and integrated database designed to begin the sustained challenge of optimizing the NNMC. The purpose of creating this database was to allow the Service Line and Service Leadership Team leaders to review and to maintain their staff and to verify that personnel were coded and assigned correctly in the SPMS PERS File.

2. SPMS Update Process to Provide Exportable Personnel Data to a Secure Network

The first steps were to import the Personnel File from SPMS and to import all the data tables that stored the code descriptions. Initially, an attempt was made to link the file directly into the database, but a lack of trust and the unwillingness of the Manpower service to yield any control of SPMS data tables began to surface, so an import link was used to refresh the data daily.

After all the relevant data tables were imported, a make-table query was used to subset the Personnel File data by Service and to include the variables that affect the

cost per visit calculation. Three macros were created to automate the update process. The first macro deleted all current Service tables in the database. The second macro created new Service tables. The third macro exported the newly created Service tables to a secure network. The secure network contains a folder for each Service and access privileges are granted only to the Service Leadership team members or whomever the leaders designate. After the macros were created to refresh and export the personnel data automatically by service to their respective folders on the network, a splash screen was built.

The splash screen simplified the updating process. Command buttons were built using Visual Basic programming code to further automate and reduce the time to update and export the rosters. Figure 6 shows the splash screen with the command button that automates the updating process.

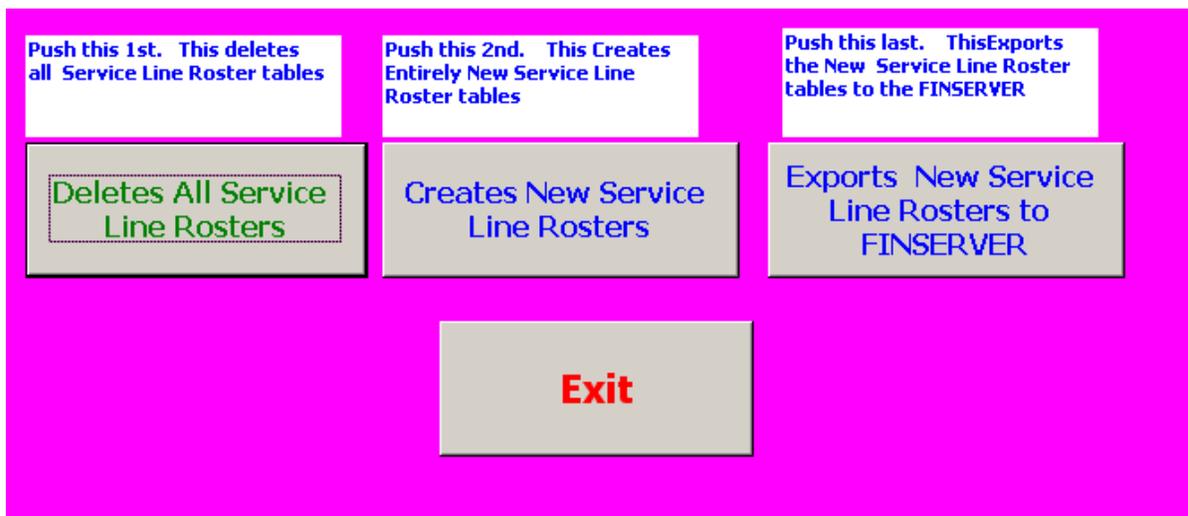


Figure 6. Splash Screen That Automates and Reduces Time to Update and to Export the Personnel Data (From: SPMS Update Access Database)

The steps to update the SPMS Update database are shown in Figure 6. The first step is to click on the "Deletes All Service Line Rosters" command button. This deletes all the current Service Line tables that exist in the database. The next step is to push the "Creates All New Service Line Rosters" button. This creates the newly updated personnel data by Service Line, which is maintained and certified by the respective team leaders. The third step is to click the button that states, "Exports New SERVICE Line Rosters to Finserver." This exports all the update Service Line rosters to the Finserver secure network. The Finserver is just an alias name for the server.

3. Maintenance of the SPMS Personnel Roster

To keep an accurate SPMS Personnel File, Service Line managers must maintain and certify that their personnel roster data is accurate. Service Line managers access their personnel rosters from their respective folders contained on a secure network called the Finserver. In the Service Line folders is an Excel spreadsheet that contains all the personnel data assigned to that Service Line.

A SPMS Update Guideline was created to assist managers on how to maintain and to request changes to the proper authority. The SPMS Update guidelines are shown in Appendix G, Section C.

The SPMS Update process took several months to debug the errors and several more months for the managers to feel comfortable and confident that the SPMS data was accurate and could be used to make decisions.

An instruction was created to provide the service line managers easy guidance to link their computers to the secure network. The instructions are provided in Appendix J.

B. FLASHREPORT ACCESS DATABASE

The FlashReport database was created and managed by one individual in the Resource Directorate. A Standard Operating Manual, shown in Appendix J, was written to provide assistance to a newly hired contractor for the maintenance and update of the FlashReport database.

1. FlashReport's Purpose

The FlashReport Access Database was created to store the MEPRS time-allocation hours and to find inconsistencies between the workload and expenses. Real-time information can now be delivered monthly from the integrated FlashReport database. It allows managers to assess the performance of individual providers and contains metrics for workload produced in each mission element. The FlashReport links the provider workload to the fourth-digit MEPRS codes, which could not be done using MEQS. Through monthly review and by updating personnel and utilization data, the FlashReport promotes continuous improvement.

2. FlashReport Access Database Process

The first step required to build the FlashReport database was to link or import the necessary data tables into the database. The personnel file, the only table not directly linked to the database, must be imported to refresh the data. After all the data tables are imported or linked into the database, a make-table query for each Service Line is created. The make-table query retrieves all the personnel data records from the personnel file and

separates them into their respective Service Lines. The table is never created again, and the only method on which to add, change, or delete staff from the table is by using three additional queries.

These queries were built to capture personnel who have left the command, personnel who recently checked on board, and personnel who have transferred from one Service Line to another. All three make-table queries are shown in Appendix G.

After all the queries were designed to handle the personnel shifts, six macros were created to execute all the queries automatically. A splash screen that contained command buttons with Visual Basic coding was designed to help automate the execution of the macros. Figure 26, in Appendix H, shows the splash screen with the command buttons that automate the process.

Having gained the ability to manage all the personnel adjustments, we could now focus on designing a form for each Service Line that captures the data entry of the MEPRS Time-Allocation hours.

The designed forms are Service Line-specific. The form is the entry point, from which, the Service Line tables capture the MEPRS time-allocation data. When MEPRS data is entered into the form, it is automatically captured in the table.

Each Service Line form includes all the services to which the staff assigns their work. The form sums the total allocated hours for each staff member. An example of a form is shown in Appendix H, Figure 27.

Referring back to Figure 26, if a user clicks on the command button with the caption, "Exports Data Tables to Excel," he or she will be taken to another switchboard, shown in Figure 30. This switchboard was created to automate the process of exporting each Directorate and their related Service Lines to the secure network.

The exported tables are transferred to their respective folders on the secure network. The tables are exported in an Excel format because several macros had to be written to format the templates, and the managers were more familiar with Microsoft Excel than with Microsoft Access. An example of one of the macros written in Visual Basic to format the template in Microsoft Excel is shown in Appendix H, Figure 31. Once the Service Line tables were exported and formatted properly, the last steps involved delivering and awaiting the return of the MEPRS templates.

C. DASHBOARD ACCESS DATABASE

The Dashboard Access database was the final of the three databases to be created. Three individual databases were created because of computer storage limitations, and so that computer run time could be reduced; further, each database had its own functionality.

The Dashboard database was the central processing center for all processed workload and expense data. The Dashboard database was designed specifically to produce the productivity and efficiency feedback reports that had never been available. Two sets of monthly reports were created to provide Service Line Managers the necessary output performance metrics.

The Dashboard database was created and managed completely by one Navy military staff member. The CCC instructed the MEPRS shop to train an additional staff member and to write an SOP manual on how to update the Dashboard database. The SOP manual is provided in Appendix J.

1. Monthly Provider Productivity and Efficiency Report

The first reports created were the Provider Productivity Reports. The Provider Productivity reports were created on all three levels: by Service level, by Service Line level, and by Directorate level.

Table 8 shows an example of a monthly Provider Productivity report for a clinical provider in the Prevention and Wellness Directorate. Table 8 shows four consecutive months of processed data for a particular provider. The monthly Provider Productivity reports are also appended into a single table that will warehouse the entire year of Provider Productivity. This format allows clinical managers to review an individual provider's monthly productivity and efficiency metrics, all in the same report. All the Provider Productivity reports by Service Line and Directorate are also appended into a single table within the Dashboard database.

Directorate	Prevention and Wellness	Prevention and Wellness	Prevention and Wellness	Prevention and Wellness
ServiceLine	0001000	0001000	0001000	0001000
SLName	PREVENTION AND WELLNESS	PREVENTION AND WELLNESS	PREVENTION AND WELLNESS	PREVENTION AND WELLNESS
FNAME	MICHAEL	MICHAEL	MICHAEL	MICHAEL
Month	12/1/2001	1/1/2002	2/2/2002	3/1/2002
PER_TYPE	O	O	O	O
SKILLTYPE	1P	1P	1P	1P
RANK	CAPT	CAPT	CAPT	CAPT

Directorate	Prevention and Wellness	Prevention and Wellness	Prevention and Wellness	Prevention and Wellness
ServiceLine	0001000	0001000	0001000	0001000
CHCSVisit	15	34	28	29
CHCSHours	14	33	23	27
CHCSVisits/Hour	1.071	1.030	1.217	1.074
PCVisits	0	0	0	0
PCHours	0	0	0	0
PCVisits/Hour				
SCVisits	15	34	28	29
SCHours	20	20	25	25
SpecialtyRVU's	59.145	122.125		44.21
SCVisit/Hour	0.75	1.7	1.12	1.16
APVVisits	0	0	0	0
APVHours	0	0	0	0
APVVisits/Hour				
APV RVU's				
IPHours	0	0	0	0
OtherClinHours	0	0	0	0
TotalClinical	20	20	25	25
ReadyHours	15	20	15	15
GMEHours	0	0	0	0
TOT_HOURS	225	260	240	240
FTE%PC				
FTE%Clinical	0.114	0.114	0.143	0.143
%BookableHours	0.7	1.65	0.92	1.08

Table 8. Provider Productivity Reports for Four Months for a Staff Physician at the NNMC Who Works in the Prevention and Wellness Directorate (From: Dashboard Access Database)

Table 8 shows that the data for March 2002 from a Navy Captain who is a staff physician and assigned to the Prevention and Wellness Directorate. He made 29 visits in March and had 27 scheduled appointment hours in CHCS. The CHCS Visit/CHCS Hours ratio shows that he achieved 1.074 patient visits per hour. All the visits were performed as Specialty Care. The physician reported 25 hours toward a specialty care work center on his MEPRS labor time-allocation template for March 2002. Based on his reported MEPRS clinical time, his specialty care visits/specialty

care hour ratio was 1.16 patients per hour. This value is higher than CHCS Visit/CHCS Hours ratio of 1.074. The two ratios differ because he had 27 hours scheduled in CHCS to visit patients and only reported 25 hours of patient clinical time on the MEPRS time-allocation templates. Thus he under-reported his clinical hours for that month.

The physician reported a total of 25 hours of clinical time and reported 15 hours to Graduate Medical Education (GME). The total number of hours he reported for the month on his MEPRS time-allocation template was 240 hours. This physician had 14.36% of his total time allocated to clinical time and had 1.08% bookable time. The percentage for bookable time is calculated by dividing the officer's CHCS Hours by the sum of the outpatient and the same-day surgery hours. In this example, the CHCS Hours are divided by the hours allocated to all "B" MEPRS codes. The percentage of bookable time indicates the total percent of clinical time the officer had scheduled appointments with patients.

The CHCS scheduled appointment hours are crucial in calculating the productivity and efficiency. If the physicians' appointment template in CHCS is scheduling the patients in one-hour segments, and the physicians are completing their patient visits in less time, they might consider scheduling 45-minute or 30-minute appointments in CHCS.

The MEPRS time-allocation templates allow the clinical managers to compare the effectiveness of similar providers. The partial MEPRS time-allocation template was shown in Chapter II, Table 6.

2. Provider Productivity Reports by Service Line

The Provider Productivity reports are created monthly and are produced in three different tiers: provider by Service, by Service Line, and by Directorate. A Provider Productivity report, by Service Line, is shown in Figure 7.

	Prevention and Wellness	Primary Care
Metrics		
# Of providers	2	46
CHCS Visits	2	7,362
CHCS Hours	1.50	6,189.30
Total Hours	529	6,667
PC Hours	7	3,303
SC Hours	12	1,334
APV Hours	0	5
IP Hours	0	249
GME Hours	70	363
Other Clinical Hours	19	4,792
Readiness Hours	30	236
PC Visits	0	5,674
SC Visits	2	1,637
APV Visits	0	0
PC Visits/Hour	0	1.72
SC Visits/Hour	0.17	1.23
APV Visits/Hour	0	0
CHCS Visits/Hour	1.33	1.19
FTE % PC	0.02	0.41
FTE % Clinical	0.11	1.21

Figure 7. Provider Productivity Report Provided to Clinical Managers to Review the Productivity and Efficiency of Their Providers (Source: Dashboard Access Database)

The Provider Productivity report example, shown in Figure 7, takes into account all the providers that are assigned to the respective Service Lines. The data elements listed on the Provider Productivity report are shown below in Table 9.

Data Variable	Significance
n	Number of providers assigned to Service Line
CHCS Visits	# of visits provider accomplished
CHCS Hours	# of hours scheduled in CHCS to visit patients
Total Hours	Total # of hours reported in MEPRS template
PC Hours	Primary Care Hours reported on MEPRS
SC Hours	Specialty Care Hours reported on MEPRS
APV Hours	Same Day Surgery Hours reported on MEPRS
IP Hours	Inpatient Care Hours reported on MEPRS
GME Hours	Graduate Medical Education hours reported in MEPRS
PC Visits	# of Primary Care visits
SC Visits	# of Specialty Care visits
APV Visits	# of Same-Day Surgery visits
Other Clinical Hours	Such as Neonatal ICU, Radiology
Readiness Hours	PRT, Training
PC Visits/Hour	Primary Care Visits/ Primary Care Hours
SC Visits/Hour	Specialty Care Visits/ Specialty Care Hours
APV Visits/Hour	Same Day Surgery Visits/ Same Day Surgery Hours
CHCS Visits/Hour	Visits/Hours scheduled in CHCS for appointments
FTE % PC	% of total time allocated for Primary Care
FTE % Clinical	% of total time allocated for Clinical Care

Table 9. Provider Productivity Report Data Variables and Descriptions

As Figure 7 shows, two providers were assigned to the Prevention and Wellness Service Line. The two providers accomplished two visits that month and had 1.5 hours scheduled in CHCS for the appointments. They had seven hours allocated to Primary Care and 12 hours allocated to

Specialty Care. They had a total of 70 hours allocated to GME, 19 hours allocated to Other Clinical Hours, and 30 hours reported to Readiness. The total number of hours reported in the MEPRS template for both physicians was 529.

The number of Specialty Care visits was two, meaning that both the visits were performed in Specialty Care clinics. The number of Primary Care visits was zero and this signals a problem. The issue is that two providers reported seven hours to Primary Care with no workload captured in any Primary Care clinic for either physician. For this example, the problem was that one of the providers had not been granted provider privileges in the CHCS system because he had improperly checked into the command.

The output metric SC Visits/Hours illustrates to a manager that on average 17% of a Specialty Care visit is accomplished in an hour for this Service Line. If the MEPRS labor data is accurate, this value does not reflect the efficiency the NNMC is striving to reach. The Primary Care Service Line is accomplishing 1.72 Primary Care visits per hour. This is a much better value than the result Prevention and Wellness had for Primary Care visits per hour, but a Primary Care visit usually takes less time than a Specialty Care visit.

The metric CHCS Visits/Hours shows that 1.33 visits are accomplished per CHCS scheduled appointment hour, which reflects that the providers are efficient, but it also indicates that one or both physicians are overestimating their Specialty Care MEPRS hours, or that their CHCS appointment schedule is not adjusted correctly. The visits were performed in a Specialty Care Service and the number

of Specialty Care hours reported was 12. The hours scheduled in CHCS to complete the appointments was only 2, therefore, the two providers overestimated their Specialty Care hours. The second incidence may have occurred because an average routine Specialty Care visit may take longer than the 45-minute appointment scheduled in CHCS. The two providers may want to increase the appointment to one-hour or more to complete the visit.

The total percentage of these physicians allocated for Primary Care was 2%. The total percentage of their time allocated for Clinical Care was 11%. The output measure of 11% reported for Clinical Care for the Prevention and Wellness Service Line seems to reveal that the two providers are not clinically productive and are very inefficient with their time. In reality, the physicians assigned to that Service Line are the Director and Assistant Director for the Prevention and Wellness Directorate. They do not have much time to see patients; therefore, their percent of clinical time, as well as their productivity, is low. The Clinical Managers should know their providers and what duties the providers are accomplishing. The Clinical Managers should be able to set a baseline of how much clinical time the Service Line is allocating toward their duties.

D. PROVIDER PRODUCTIVITY REPORTS BY DIRECTORATE

The Provider Productivity report by Directorate is shown in Figure 8. The report groups all the Service Lines within the Directorate and calculates the data variables for each Directorate. There are six Directorates within

the NNMC. There are also providers assigned to Service Lines that are within non-clinical Directorates, such as the Administration Directorate.

	Administration	Clinical Support	Commander	Managed Care	Prevention and Wellness	Pastoral Care
# Of providers	66	70	11	2	186	124
CHCS Visits	300	1,077	344	0	18,599	11,555
CHCS Hours	155.78	380.67	174.33	0	11,669.63	7,287.85
Total Hours	243	14,131	1,230	432	31,071	26,087
PC Hours	0	496	40	0	7,433	316
SC Hours	32	629	128	0	10,714	9,650
APV Hours	0	5	0	0	265	927
IP Hours	0	48	20	0	1,167	1,264
GME Hours	5	443	56	0	2,906	2,280
Other Clinical Hours	32	6,528	228	0	19,410	14,039
Readiness Hours	171	693	44	12	1,061	1,426
PC Visits	129	279	27	0	10,103	0
SC Visits	135	798	212	0	8,078	10,810
APV Visits	11	11	30	0	220	853
PC Visits/Hour	0	0.56	0.69	0	1.36	0
SC Visits/Hour	4.22	1.27	1.66	0	0.75	1.12
APV Visits/Hour	0	2.20	0	0	0.83	0.92
CHCS Visits/Hour	1.93	2.83	1.97	0	1.59	1.59
FTE % PC	0	0.04	0.02	0	0.23	0.01
FTE % Clinical	0.01	0.03	0.22	0	1.20	1.21

Figure 8. Provider Productivity Report by Directorate
(Source: Dashboard Access Database)

Figure 8 shows each Directorate's monthly productivity and efficiency output. The Prevention and Wellness Directorate had 186 assigned providers. The total number of accomplished visits for that month by all the assigned providers was 18,599. The number of hours scheduled in CHCS for appointments was 11,669.63. The total number of

MEPRS labor hours reported was 31,071. The number of Primary Care hours allocated for the Directorate was 7,433 and the %FTE Primary Care was 23%. This is significant because the Prevention and Wellness directorate focuses on Primary Care. The Primary Care visits/Primary Care hours allocated in MEPRS was 1.36. This means that a typical provider in the Prevention and Wellness Directorate accomplished 1.36 Primary Care visits per hour, or stated differently, a provider sees a Primary Care patient approximately every 44 minutes. The Prevention and Wellness Directorate's %FTE Clinical value was 120%. This suggests that a typical provider in the directorate is working 20% more than the average FTE.

1. Query to Create the Providers Productivity Report by Service

The query designed to create the Clinical Managers' Report by Provider and by Service is shown in Figure 33, Appendix I. The query includes many tables derived from other action queries that were necessary to reach this step. Many of the variables were created from other data variables already included in the tables. An example is the PC Visits/PC Hours. This variable is calculated by taking the PC Visits divided by the reported PC MEPRS hours.

The Dashboard database was created and managed by a military staff member in the Resource Directorate. A SOP manual was written to assist a newly hired contractor to maintain and update the Dashboard database. The SOP manual for the Dashboard is provided in Appendix J.

2. Dashboard Access Database Clinical Managers' Reports

The Clinical Managers' Report is the second report generated monthly from the Dashboard database. The monthly Clinical Managers' Reports were created by Service, but can be further grouped into Service Lines and by Directorates, if necessary.

The Clinical Managers' reports offer the clinical managers an overview of how effectively their service is operating. The data variables on the Clinical Managers' Report are described in Table 10.

Data Variable	Significance
CHCS Visits	Total Visits for all Providers in that Service
CHCS Hours	Total CHCS scheduled hours for all Providers in that Service
RVUs	Relative Value Units
ADM Encounters	# of encounters captured in ADM
ADM Completion %	% of completed ADM forms that result in a visit being captured
Skill Type 1 FTEs	FTEs for all Skill Type # 1's
Skill Type 2 FTEs	FTEs for all Skill Type # 2's
Skill Type 3 FTEs	FTEs for all Skill Type # 3's
Skill Type 4 FTEs	FTEs for all Skill Type # 4 s
Skill Type 5 FTEs	FTEs for all Skill Type # 5's
Total Hours	Total MEPRS labor hours reported for this Service
Total FTEs	Total FTEs for this Service
Visit / Provider FTEs	Visits per hour accomplished by using only the provider FTEs
Visits/ CHCS Hours	Visits per hour accomplished by using the CHCS Scheduled hours

Data Variable	Significance
Total Manpower Hours/ Visits	# of hours required to achieve a visit for all the manpower hours allocated that month
Support Staff / Provider	Support Staff to provider ratio, Support Staff are Skill Types 3, 4, and 5

Table 10. Data Variables Included in the Clinical Managers' Report

An example of a Clinical Managers' report for the Emergency Medicine Service is shown in Table 11. The report includes four months of data collected and processed for the Emergency Medicine Service.

Directorate	Prevention and Wellness Primary Care Service	Prevention and Wellness Primary Care Service	Prevention and Wellness Primary Care Service	Prevention and Wellness Primary Care Service
Service Line				
OPTCode	112A	112A	112A	112A
LNAME	EMERGENCY MEDICINE	EMERGENCY MEDICINE	EMERGENCY MEDICINE	EMERGENCY MEDICINE
UCA	BIAE	BIAE	BIAE	BIAE
Month	10/1/2001	11/1/2001	12/1/2001	1/1/2002
CHCSVisits	1682	1576	1640	1932
CHCSHours	4817.73	5344.98	4482.48	5591.27
RVU's	2502.45	2501.39	2442.94	2806.31
ADM Encounters	1599.00	1627.00	1647.00	1912.00
ADM Completion %	0.95	1.03	1.00	0.99
SkillType1FTEs	10.48	6.30	6.15	7.16
SkillType2FTEs	1.73	1.35	1.30	1.18
SkillType3FTEs	11.43	9.29	9.48	8.74
SkillType4FTEs	8.50	5.71	5.91	6.23
SkillType5FTEs	6.95	5.94	8.66	10.39
TotalHours	6569.00	4803.00	5292.00	5662.00
TotalFTEs	39.10	28.59	31.50	33.70
Visits/ProviderFTE	137.71	206.05	220.06	231.51
Visits/ProviderHour	0.82	1.23	1.31	1.38
Visit/CHCSProviderCHCSHours	0.35	0.29	0.37	0.35
TotalManpowerHours/Visit	3.91	3.05	3.23	2.93
SupportStaff to Provider Ratio	2.20	2.74	3.23	3.04

Table 11. An Example of Clinical Managers' Reports by Service (Source: Dashboard Access Database)

Table 11 shows that in October, 2001, the assigned providers in the Emergency Medicine Service conducted 1,682 visits. The assigned providers had 4,817.73 hours of scheduled appointments in CHCS. The RVU value was 2,502.45. The ADM encounters (see below) were 1,599 and the ADM completion rate was 95%.

When a provider visits a patient, the provider examines, prescribes for, or documents the care provided to that patient. This is called an "encounter." On finishing the appointment, the provider must complete an ADM form, identifying the procedure and the evaluation and management (E&M) codes. The ADM form is processed in CHCS and associates the encounter with a visit. If the provider fails to complete the form, the encounter will not be considered a visit; therefore, the time spent seeing that patient will go unaccounted for by the MTF and, more importantly, by the BUMED. The ADM Completion rate is simply the number of encounters divided by the number of ADM forms completed. The goal is for every Service to have a 100% ADM completion rate every month.

The FTEs by Skill type breaks down the FTEs calculated for each Skill Type. The skill type codes are defined in Appendix G, Table 15. The skill types are briefly described below.

Skill Type 1: Clinicians (Physicians, Dentists, Residents, Interns, Fellows) [1]

Skill Type 2: Direct Care Professionals (Nurse Anesthetists, Physician Assistants, Nurse Practitioners) [1]

Skill Type 3: Registered Nurses [1]

Skill Type 4: Direct Care Paraprofessionals (LPNs, LVNs, Hospital Corpsman) [1]

Skill Type 5: Administration, Logistics, or Clerical [1]

The FTEs for Skill Type 1 had 10.48 FTEs. This means that the reported monthly MEPRS hours for Emergency Medicine's clinical providers totaled 10.48 FTEs. Skill Type 3, which identifies the Registered Nurses, totaled 11.43 FTEs. Skill Type 4 includes the Navy Hospital Corpsman and Nursing Assistants and totaled 8.50 FTEs. Skill Type 5 includes the administration professionals, and they totaled 6.95 FTEs.

The total number of MEPRS hours reported for Emergency Medicine that month was 6,569 and the total number of FTEs calculated was 39.10. The Visits/Provider FTEs ratio is calculated by dividing the total visits by the sum of FTEs for Skill Type 1 and Skill Type 2. October's Visits/Provider FTEs ratio was 137.71, denoting that on average 137.7 visits were completed for every provider FTE.

The metric Visits/Provider Hour shows a value of .82. This indicates that for every provider hour reported in MEPRS, 82% of a visit was accomplished. This ratio is calculated by taking the total monthly visits for Emergency Medicine and dividing the visits by the total provider hours reported on the monthly MEPRS template.

The metric Total Manpower Hours/Visits suggests how many hours it takes to complete a single visit in Emergency Medicine. This is done by using all the assigned staff's reported MEPRS hours. The manpower hours include hours reported for all skill types. This ratio had a value of

3.91, which signifies that it takes 3.91 staff hours to accomplish one visit in the Emergency Medicine Service.

The variable support staff/provider ratio is a very important output metric used in all civilian hospitals. As stated previously, support staff includes all staff with skill types 3 to 5, and the providers are skill types 1 or 2. A general rule of thumb is that the higher number of support staff a provider has, the greater the number of visits. Table 11 shows a support staff/provider ratio of 2.20. This indicates that 2.2 support staff was assisting one provider. According to Table 11 1,682 visits were accomplished in October 2001. The number on December 2001 was comparable, but the ratio of support staff per provider was higher. This may reveal that having more support staff per provider increases the workload more so than assigning additional providers. Another observation from Table 11 is that December's number of visits was only 2.5% less than October's, and required 1,277 fewer labor hours than October's labor hours. This is significant because it may indicate that determining the optimal support staff/provider ratio will make the service more effective.

Like the Provider Productivity reports, the Clinical Managers' reports are appended into a table that warehouses the entire year's data. This table is updated monthly and exported to the secure network where Service Managers can readily access, review, and analyze their Service's performance.

IV. CONCLUSIONS, PROBLEMS, AND RECOMMENDATIONS

A. CONCLUSIONS

The business steps described in this thesis significantly increased the accuracy of collecting and reporting monthly MEPRS labor hours. These three databases automated the maintenance and updating of the data tables needed to generate the Provider Productivity and the Clinical Managers' reports. The business steps benefited the NNMC in numerous ways.

The CCC proved to be a vital instrument for optimizing the NNMC. The CCC's team-oriented process improvement plans helped transform the NNMC into a more well-organized and effective Navy MTF. The CCC implemented a Clinical Manager's Course, which trained clinical managers on how to read and use the Provider Productivity and the Clinical Manger Reports that were created from the Dashboard database.

An immediate benefit, according to the Service Line Leadership Team members, was that the SPMS personnel data was finally considered accurate and deemed trustworthy. The SPMS PERS File data is now seen as a dependable and official source of information to answer questions regarding personnel data at the NNMC. Another positive result was that almost all of the NNMC clinical service's cost-per-visit ratios occupied an acceptable range, according to the BUMED's SMART system. There were no outpatient or inpatient MEPRS codes that had a \$0 cost per

visit, unlike the 70 outpatient and 10 inpatient work centers at the beginning of the transformation shown in Figure 6.

The query created in the Dashboard database that checked for mismatches between provider workloads and personnel expenses showed only a few errors each month. This still does not reach the NNMC's goal for achieving zero errors in the data, but it proved that the business steps were crucial to improve the data quality.

The initial assessment on how personnel expenses were distributed showed where the NNMC was allocating its labor hours, in alignment with the established mission elements. The Clinical Managers could now determine their staff's proportion of time spent performing clinical duties, research, leave and liberty and so on.

The assessment of the percentage of total time distributed to the mission elements revealed several mission elements that were under-represented. The NNMC is a medical training and research hospital; therefore, many providers should be allocating time to the mission elements Research and GME. The annual assessment shown in Figure 3 revealed the NNMC had 0% and 4% respectively for the mission elements Research and GME. Readiness was also under-represented because only 2% of the entire commands time was allocated to the Readiness mission element. As mentioned earlier in the MEPRS Guidelines, the Readiness mission element includes deployment training exercises, platform training, and PRT. Physical Readiness is mandatory at the NNMC for all its military staff, and many

military staff are assigned to deployment platforms such as the MMART Team or the USNS Comfort. The 2% allocated toward Readiness in FY99 equates to a mere \$3,892.34.

According to Dr. Michael Dinneen and members of the CCC from the NNMC, "The mission element that was over-represented was Command Administration. Command Administration time should have been much less than the 16% reported for the NNMC." This signifies that it took \$31,612,595 to perform the NNMC's administration responsibilities, such as Officer of the Day, Board of Directors meetings, collateral duties, etc. The baseline assessment illustrated that the NNMC was not functioning as effectively as it could have and that the collection of MEPRS labor data was a vital instrument to verify how costly Command Administration duties are to perform.

The MEPRS time-allocation templates, along with the MEPRS Guidelines and the MEPRS customer-service hotline, helped simplify the collection of the MEPRS labor data. Service Leaders could assign their staff member's labor hours to any service at which the latter performed the work. The collection and distribution of the MEPRS time data was automated and in a format that the managers could easily use and correct. The MEPRS labor templates allowed the managers to survey how productive their providers were and also catalogued the total percent of time allocated to each mission element for their staff's monthly labor hours.

The processed labor hours and workload data from the MEPRS module and CHCS was imported into the Dashboard database to create the Provider Productivity and the Clinical Managers' reports. Except for the quick

illustration created on the MEPRS template shown in Table 6; the Provider Productivity report is the first report that showed individual provider productivity and efficiency. Service Line leaders could now compare each provider's productivity. The monthly Clinical Managers' report also reveals to managers how effectively their staff is operating. Moreover, it supplies performance metrics that are essential to conduct any type of optimization analysis, workload prediction, or workload forecast.

B. PROBLEMS ENCOUNTERED

Several problems were encountered while performing the described steps to support the NNMC to become more effective. The first problem, which required the longest time to resolve, was trying to convince the Service Line team leaders that the data was accurate and could be used to make sound business decisions. We needed to gain the trust of the managers and prove that the transformation could be achieved and that all their effort would vastly improve the MEPRS data, which would help them operate their services more effectively. Many Service leaders continued to distrust the output reports, even after being showed that the reported data was the same data that was processed.

Another problem was that the majority of the Data Quality Team was military staff. Consequently, by the time most of the board members were attuned to the business plan and fully supported the transformation of the NNMC, they had to depart the command. For example, the database manager who created and maintained the three databases was

reassigned. The replacement, a contractor, was not hired until two weeks before the database manager's departure date.

An SOP was written to give the contractor the proper guidance on how to maintain and update each database. The contractor lacked the required database development and programming skill to maintain and update the Dashboard database; therefore, the clinical managers did not receive the Provider Productivity or the Clinical Managers report from the collected MEPRS data. From the time the three databases were created until the departure of the database manager, only fourteen months of data were collected. Therefore, it might be difficult to perform statistical analysis on the performance metrics

As another example, the Commanding Officer will also depart the command and the incoming Commanding Officer may have his or her own priorities and strategies that may not coincide with the previous Commanding Officer's goal of improving data quality and performance.

A significant and continuous problem was the absence of consequences when staff or Service Line leaders did not report accurate MEPRS data. Frequently, during training sessions, a provider would ask, "What will happen if we do not report our MEPRS hours and just see patients?" The answer was that there would be no penalty to the individual staff members, but that the command would suffer consequences. The command may not receive adequate manpower billets or funding from the BUMED because the command failed to capture the correct workload and FTEs required to perform the duties.

The NNMC tried to prevent inaccurate reporting by mandating business rules created by the CCC. It also allowed the Service Line Managers to rate their staff's Fitness Reports based on their performance from the Provider Productivity reports. For example, the Director for Prevention and Wellness did not allow his staff to perform any collateral duties that would enhance their Fitness Reports unless they met minimum productivity and efficiency benchmarks.

A very difficult problem for the MEPRS team was that only one clinical provider and one registered nurse were assisting with the training of the MEPRS process. When the team went to clinical services to train them on how to collect and report their staff's labor hours, the provider or nurse on the MEPRS team was not usually present during the training. During the training meetings, medical providers were frequently reluctant to follow instructions from a lower ranking, non-clinical staff member.

The advantages and benefits that emerged from the business steps helped the NNMC become a more effective hospital and the benefits far surpassed the problems that arose during the process. The clinical managers greatly appreciated the performance feedback reports and were used to make business decisions. Effectiveness was significantly increased at the NNMC, but many goals have yet to be achieved. The NNMC must continue to strive for data quality and continue to make effective business decisions that will heighten patient care and enhance the command's efficiency.

C. RECOMMENDATIONS

Having completed the transformation, we can propose several recommendations that would eliminate or curtail some of the problems that surfaced.

The first recommendation is that the MEPRS team needs more appointed clinical providers to train the Service Line Managers operating their Service Lines. Clinical providers in the Service Lines will be more receptive to the MEPRS process if a fellow provider emphasizes the importance of collecting accurate MEPRS data. A provider assigned to the MEPRS team could also better answer the MEPRS clinical questions that the providers frequently ask.

Another recommendation would be to purchase an internal server and more advanced database software, such as Oracle, for the design and storage of the data. The databases defined in this thesis were created in Microsoft Access, and Microsoft Visual Basic programming was used to automate the events. A more sophisticated database package would allow the database manager to further automate the updating and generation of the performance reports. A server exclusively for MEPRS data would significantly decrease the time required to update and to generate the reports. The three databases are maintained on the FINSERVER, which frequently loses operability and lacks abundant storage capacity.

A quarterly MEPRS training class should be mandated to train new incoming staff and to answer or address any new issues. In 2001, the Navy Surgeon General informed MTF commanders that improving data quality must be a priority

if Navy Medicine is to survive. A MEPRS training class will distribute the responsibility for collecting more accurate data throughout the command.

Lastly, there must be some kind of consequence when personnel do not report accurate MEPRS data. Commanders must hold their Service Line managers accountable to collect and report accurate MEPRS data. Without accurate MEPRS data, business decisions based on the performance reports will be useless and wasteful, and this could threaten the future existence of Naval Medicine.

APPENDIX A. ACCOUNTING CODE STRUCTURE

A. ACCOUNTING CODE CLASSIFICATION

1. MEPR Codes

Fund accounting is a widely used method by which separate set of records are maintained for each specific medical service. Each service operates as its own entity and possesses its own accounts. [3]

In addition to fund accounting the American Hospital Association recommends that a hospital adopt a chart of accounts, that is, an account classification system uniform across the hospital's organizational departments. A chart of accounts is actually nothing more than a listing of the account titles, with numeric symbols, for all asset, liabilities, capital revenue, and expense accounts of the hospital.[3]

MEPR Codes identify work centers applicable to each MTF. The definition of a work center is contained in the Definition of Terms, Appendix B. The absence of these codes will prevent the input of workload and expense data, which are vital to EAS processing. For each work center established within a MTF, you must have a MEPRS code. Establishment of a work center is warranted if the work area in question has:

- a. *Identifiable expenses*
- b. *Allocated/assigned manpower*
- c. *Allocated physical space*
- d. *A meaningful work output*
- e. *A meaningful workload measure*
- f. *A uniqueness or service provided [3]*

All activities and associated costs within or relating to a military MTF fall into one of seven functional categories. Figure 9 below lists all seven of the first level functional categories. The MEPRS coding structure uses a four character alphabetical coding scheme. The first character signifies the first level. [2]

First Level Code	Category
A	Inpatient Care
B	Ambulatory Care
C	Dental Care
D	Ancillary Services
E	Support Services
F	Special Programs
G	Medical Readiness

Figure 9. First Level Functional Category MEPR Code Description (After: Ref. [2])

Each functional category contains a second level functional category called a summary account. Summary accounts expand the functional categories in more defined detail according to the general areas. See Figure 10 for the Inpatient Care Functional categories.

Functional Category First Level	Summary Account Second Level
A	AA - Medical Care
	AB - Surgical Care
	AC - OB/GYN Care
	AD - Pediatric Care
	AE - Orthopedic Care
	AF - Psychiatric Care
	AG - Family Practice

Figure 10. Second Level Summary Account MEPR Code Description (After: Ref. [2])

The third level of a MEPRS code is the sub-account, which further expands the second level summary account. The sub-accounts identify the actual work centers in a MTF, as shown in Figure 11. [2]

Functional Category	Summary Account	Sub account
<i>First Level</i>	<i>Second Level</i>	<i>Third Level</i>
A	AD - Psychiatry	ADA - Pediatrics ADB - Nursery

Figure 11. Third Level Sub-Account MEPRS Code Description (Source: After Ref. [2])

The fourth and final character of a MEPRS code is used locally by the MTF to enhance the usefulness and flexibility of the MEPRS output. Figure 12 shows the fourth level MEPRS code determined by the NNMC.

Fourth Level Code

- A-I Denote local work centers at the NNMC
- J-Z Denote work centers at the NNMC 's Branch Clinics
- 5 - Denotes a Same-Day Surgery work center

Figure 12. Fourth Level MEPRS Code Classification (Source: After Ref. [2])

B. ACCOUNTING CODE CLASSIFICATION EXAMPLE

1. MEPRS Codes Linked to JONS

In addition to MEPRS codes, MEPRS codes are further linked to the JONS to define the segment of work as productive or non-productive, the type of personnel performing the work (military, civilian or contractor), etc. As shown in Figure 13, having several JONS linked to a single MEPRS code is possible. This is to ensure the correct capture of the correct segment of work. Figure 13 shows an example of the numerous JONS associated with MEPRS code BHAA, which is the Primary Care Military Family Health service.

JOB ORDER	CUIC	CC	SCC	SAG	DESCRIPTION	MEPR	SEGT	CAC
0016814BHAA	00168	90	ZW	M9	WKLD BHAA	BHAA		4BHA
001681L139A	00168	70	ZP	M9	P CARE FHC CIVPA	BHAA	113A	4BHA
001681L139B	00168	70	ZP	M9	P CARE FHC AWD	BHAA	113A	1R10
001681L139C	00168	70	ZP	M9	P CARE FHC ANSCK	BHAA	113A	1RH0
001681L139D	00168	70	ZP	M9	P CARE FHC LVTRM	BHAA	113A	1RJ0
001681L139E	00168	70	ZP	M9	PR CARE FHC LVHO	BHAA	113A	1RK0
001681L139F	00168	70	ZP	M9	P CARE FHC LVOTH	BHAA	113A	1RL0
001681L139G	00168	70	ZP	M9	P CARE FHC CTUSE	BHAA	113A	1RM0
001681L139H	00168	70	ZP	M9	P CARE FHC CTERN	BHAA	113A	1RN0
001681L139I	00168	70	ZP	M9	P CARE FHC LVACR	BHAA	113A	1RP0
001681L139J	00168	70	ZP	M9	P CARE FHC LVINJ	BHAA	113A	1RV0
001681L139K	00168	70	ZP	M9	P CARE FHC FACCL	BHAA	113A	1X50
001681L139L	00168	70	ZP	M9	P CARE FHC FRING	BHAA	113A	1X50
001681L139M	00168	70	ZP	M9	P CARE FHC SUSPN	BHAA	113A	1X90
001681L139N	00168	70	ZP	M9	P CARE FHC SEPIN	BHAA	113A	4R00
001681L139O	00168	70	ZP	M9	P CARE FHC SEVPA	BHAA	113A	1R20
001681L139P	00168	70	ZP	M9	P CARE FHC RETAN	BHAA	113A	1R70
001681L139Q	00168	70	ZP	M9	P CARE FHC YADJ	BHAA	113A	1RD0
001681L139R	00168	90	ZL	M9	P CARE FHC MILPA	BHAA	113A	4BHA
001681L139S	00168	90	ZL	M9	P CARE FHC MILAB	BHAA	113A	4BX0
001681L139U	00168	11	PC	M9	P CARE FHC Q FTE	BHAA	113A	4BHA
001681L139Z	00168	70	ZP	M9	P CARE FHC RETAN	BHAA	113A	1R00
001681L1390	00168	70	ZP	M9	P CARE FHC CTP	BHAA	113A	1RN1
001681L1391	00168	11	PC	M9	P CARE FHC DMLSS	BHAA	113A	4BHA
001681L1392	00168	11	PC	M9	P CARE FHC EQ MT	BHAA	113A	4BHA
001681L1393	00168	11	PC	M9	P CARE FHC NODML	BHAA	113A	4BHA
001681L1395	00168	11	PC	M9	PR CARE FHC IT	BHAA	113A	1H60
001681L1396	00168	11	TM	M9	PR CARE FHC MTVL	BHAA	113A	4BHA

Figure 13. Accounting Code Classification Example of JONS Linked to MEPRS Codes (From: Query from SPMS Intranet Access Database)

In this example, the Primary Care Family Health Center has 28 JONS associated with the MEPR code BHAA. The number of JONS associated with some MEPR codes could be as high as 60.

The staff member's allocations of monthly labor hours results in the allocation of his or her expenses to one or several MEPR codes.

For example, a staff member reported his April 2001 MEPRS template to the MEPRS shop for entry into the MEPRS module in SPMS and the FlashReport database. The data was then processed and downloaded into the EAS system, which merges workload with labor by MEPRS code. Table 12 shows

the allocation of his or her labor hours to the various services. It also shows actual wages being distributed into the various services by JON.

ORGCODE	LNAME	MEPR	HOURS_ACT	WAGES	CAC	JON	SAG
0006000	RESOURCES	EBBA	145	5453.61	4EBB	1C10R	FF
0006000	PHYSICAL READINESS TRAINING	GFAA	12	451.33	4GFA	4GFAR	C2
0006000	OUT SERVICE TRAINING	FALA	5	188.06	4M40	F409R	MA
000000C	COMMAND ADMIN FOR PROVIDERS	EBAA	20	752.22	4EBA	L102R	FF
000001D	CLINICAL INVESTIGATION SERVICE	FAHA	3	112.83	4FAH	4FAHR	MA

Table 12. MEPRS Monthly Labor Hour Allocation Distribution Example (From: Query from Dashboard Access Database)

In table 12, the results reveal that he or she worked a total of 185 hours, of which, 145 hours were allocated in the Resource service, 12 hours were allocated to conduct PRT, 5 hours were reported to perform out service training, 20 hours were reported for Command Functions, and 3 hours allocated for the Internal Review Board meetings. The wages are calculated by taking the number of labor hours multiplied by the composite hourly pay wage associated with the service members' rank. The table shows that it cost approximately \$451.33 for the staff member to conduct PRT for that month.

2. MEPRS Codes Linked to SEEC

The linkage of accounting codes to the MEPR code is a complicated process. Figures 14 and 15 provide a brief example of how a Service Code links to SEEC. The EAS system processes the labor and workload. The processed EAS data is then file transfer protocol to the STARSFL system. The STARS/FL system captures all expenses and workload Navy-wide, including vendor payments, TAD costs,

acquisitions, etc. The JON is the vital link to the MEPR code, which is further linked to a Standard Expense Element Code (SEEC), which distributes the expenses into the appropriate mission element. The STARS/FL data can be retrieved using the MEQS system to query the data.

Accounting Code Hierarchy

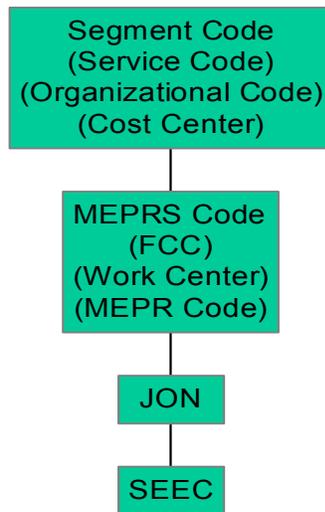


Figure 14. Accounting Code Hierarchy

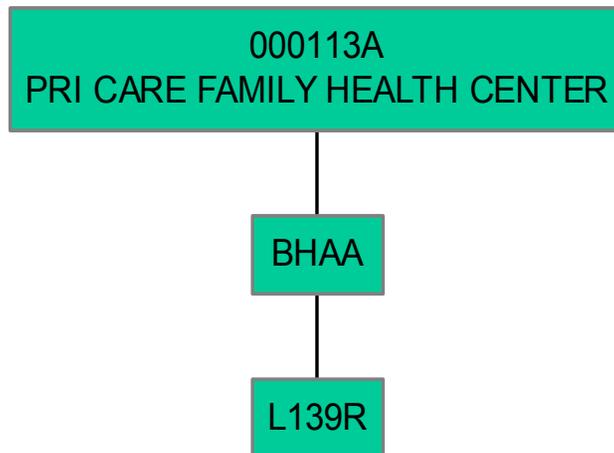


Figure 15. Accounting Code Hierarchy Example

C. COMMAND CODING STRUCTURE - OLD VS. NEW

1. Old Command Structure

Directorate: 0200000 Director for Medical Services

Department: 0203000 PEDIATRICS OP BETHESDA DMS

Division: None.

2. New Command Structure

Directorate: 0001000 PREVENTION AND WELLNESS

Service Line: 0001100 PRIMARY CARE SERVICE

Service: 000112A EMERGENCY MEDICINE

D. THE NNMCS COMMAND STRUCTURE

The NNMC's old command structure had 972 organizational codes to which staff members could be assigned and labor hours allocated. Deleting redundant codes, establishing business rules, and standardizing the names of organizational codes to reflect the service provided was completed with an organization alignment process. When an organizational code needs to be added, deleted or changed, the CCC will be the approving authority. The NNMCs command structure, sorted by Service code appears in Table 13. Upon completion, the alignment process made it possible to reduce the number of organizational codes to 492, which are listed below:

NNMC Command Structure

Directorate Commander

Service Line Commander

<i>Code</i>	<i>Description</i>	<i>ShortName</i>	<i>MEPR</i>
0000	COMMANDER	Commander/Dep	EBAA
000C	COMMAND ADMIN FOR PROVIDERS	Comm Admin Prov	EBAA
000E	SPECIAL ASST FOR CAREER DEV	SpecAst Car Dev	EBCA
000G	GUEST LECTURER PROGRAM	Guest Lect Prog	FCBA
000H	WHITE HOUSE	WhiteHouse	FCEA
000I	METU	METU	FCEA
0010	CHIEF OF CLINICAL STAFF	ChiefClin Staff	EBDA

001A	PROFESSIONAL AFFAIRS	Prof Affairs	EBEA
001B	INTERNS	Interns	FAMA
001C	OUT SERVICE TRAINING	Out Serv Train	FALA
001D	CLINICAL RESEARCH SERVICE	ClinResSrv BE	FAHA
0020	CHIEF OF NURSING STAFF	ChiefNurs Staff	EBDA
0030	CO USNS COMFORT	CO USNS Comfort	GAAA
0040	COMMAND MASTER CHIEF	Comm Mast Chief	EBAA
004A	COMMAND OMBUDSMAN	Comm Ombuds	EBBA
0050	EEO SPECIALIST	EEO Spec	EBBA
0060	MANAGER AMERICAN RED CROSS	Manager ARC	EBBA
0070	MANAGER NAVY-MC RELIEF SOCIETY	Mgr NavMar Relf	EBBA
0080	PASTORAL CARE	Pastoral Care	EBBA
0090	PERFORMANCE EVALUATION & IMPROVEMEN	PE&I	EBBA
009A	INSPECTION, MANAGEMENT AND CONTROL	InspeCMgmt Cont	EBBA
00B0	SAFETY DEPARTMENT	Safety	EBBA
00C0	STAFF JUDGE ADVOCATE	Staff JAG	EBBA
00D0	CHIEF OF STAFF for OPTIMIZATION	ChiefOptimiztion	EBAA
00P0	PUBLIC AFFAIRS	Public Affairs	EBBA
Service Line Deputy Commander			
<i>Code</i>	<i>Description</i>	<i>ShortName</i>	<i>MEPR</i>
0900	DEPUTY COMMANDER	Dep Commander	EBAA
090A	DRUG AND ALCOHOL PROGRAM	DrugAlcoholPGM	EBBA
Directorate Prevention and Wellness			
Service Line Prevention and Wellness			
<i>Code</i>	<i>Description</i>	<i>ShortName</i>	<i>MEPR</i>
1000	PREVENTION AND WELLNESS	Prev Wellnes BE	EBDA
Service Line Primary Care Service			
<i>Code</i>	<i>Description</i>	<i>ShortName</i>	<i>MEPR</i>
1100	PRIMARY CARE SERVICE	PrimCare Srv BE	EBDA
111A	HEALTH PROMOTIONS	Hlth Promo BE	EBBA
111B	PHYSICAL READINESS TRAINING	PRT BE	GFAA
112A	EMERGENCY MEDICINE	Emerg Med BE	BIAE
113A	PRIMARY CARE FAMILY HEALTH CENTER	Family Prac BE	BHAA
113B	MEDICAL ACUTE CARE CENTER	MACC BE	BHAE
113C	OCCUPATIONAL HEALTH BETHESDA	Occ Hlth BE	BHGA
113D	USUHS	USUHS	BGAB
113E	HEARING CONSERVATION BETHESDA	Hearing Cons BE	FBNA
113F	INDUSTRIAL HYGIENE BETHESDA	Indus Hyg BE	FBCA
113G	EKG FP BETHESDA	EKG Bethesda	DDAB
113I	IMMUNIZATIONS FP BETHESDA	Immuniza FP BE	FBIA
113L	LABORATORY FP BETHESDA	Lab FP BE	DBAC
113M	PREV MED BETHESDA	Prev Med BE	FBBA
113N	ENVIRONMENTAL HEALTH BETHESDA	Environ Hlth BE	FBEA
113P	PATIENT ADMIN/AD RECORDS FP	PtAdm/AD FP BE	EKAA
113R	READINESS IMMUN FP BETHESDA	Readi Imm FP BE	GAAA
113T	PATIENT TRANS/MEDEVAC BETHESDA	Pt Trans/Med BE	FEAA
113U	AUDIOLOGY FP BETHESDA	Audio FP BE	BHDB
113V	RESERVE IMMUN BETHESDA	Reserve Imm BE	GAAA
113W	WELLNESS FP BETHESDA	Wellness FP BE	EBBA
114A	PRIMARY CARE INTERNAL MEDICINE OP	InternMed OP BE	BAAA

114C	PRIMARY CARE INTERNAL MEDICINE APV	InternMedAPV BE	BAA5
114E	PRIMARY CARE INTERNAL MEDICINE IP	InternMed IP BE	AAAA
114F	GERIATRIC OP BETHESDA	GeriatricOP BE	BAB
11J0	PRIMARY CARE LAKEHURST	PrimCare Srv LH	BHAJ
11JB	INDUSTRIAL HYGIENE LAKEHURST	Indus Hyg LH	FBCJ
11JC	OCCUPATIONAL HEALTH LAKEHURST	Occ Hlth LH	BHGJ
11JD	RADIOLOGY LAKEHURST	Rad LH	DCAJ
11JE	HEARING CONSERVATION LAKEHURST	Hearing Con LH	FBNJ
11JG	SUP TO OTH MIL ACT LAKEHURST	SupOthMilAct LH	FCDJ
11JH	PHARMACY LAKEHURST	Pharm LH	DAAJ
11JI	IMMUNIZATIONS LAKEHURST	Immuniza LH	FBIJ
11JJ	BIOMEDICAL REPAIR LH	BioMedRepair LH	EGAJ
11JL	LABORATORY LAKEHURST	Lab LH	DBAJ
11JM	PREV MED LAKEHURST	Prev Med LH	FBBJ
11JO	OPTOMETRY LAKEHURST	Optometry LH	BHCJ
11JP	PATIENT ADMIN LAKEHURST	Pt Admin LH	EKAJ
11JR	READINESS IMMUN LAKEHURST	Readi Imm LH	GAAJ
11JW	WELLNESS LAKEHURST	Wellness LH	EBBJ
11K0	PRIMARY CARE NAF	Prim Care NAF	BHAK
11KB	INDUSTRIAL HYGIENE NAF	IndustHygNEAF	FBCK
11KC	OCCUPATIONAL HEALTH NAF	Occ Hlth NAF	BHGK
11KD	RADIOLOGY NAF	Rad NAF	DCAK
11KE	HEARING CONSERVATION NAF	Hearing Con NAF	FBNK
11KF	FLIGHT MEDICINE NAF	Flight Med NAF	BJAK
11KG	SUP TO OTH MIL ACT NAF	SupOthMila NAF	FCDK
11KH	PHARMACY NAF	Pharm NAF	DAAK
11KI	IMMUNIZATIONS NAF	Immuniza NAF	FBIK
11KL	LABORATORY NAF	Lab NAF	DBAK
11KM	PREV MED NAF	Prev Med NAF	FBBK
11KO	OPHTHALMOLOGY NAF	Ophthalmol NAF	BBDK
11KP	PATIENT ADMIN NAF	Pt Admin NAF	EKAK
11KR	READINESS IMMUN NAF	Readi Imm NAF	GAAK
11KW	WELLNESS NAF	Wellness NAF	EBBK
11L0	PRIMARY CARE SUGAR GROVE	PrimCare Srv SG	BHAL
11LB	INDUSTRIAL HYGIENE SUGAR GROVE	IndustHygNE SG	FBCL
11LC	OCCUPATIONAL HEALTH SUGAR GROVE	Occ Hlth SG	BHGL
11LD	RADIOLOGY SUGAR GROVE	Rad SG	DCAL
11LH	PHARMACY SUGAR GROVE	Pharm SG	DAAL
11LI	IMMUNIZATIONS SUGAR GROVE	Immuniza SG	FBIL
11LL	LABORATORY SUGAR GROVE	Lab SG	DBAL
11LM	PREV MED SUGAR GROVE	Prev Med SG	FBBL
11LR	READINESS IMMUN SUGAR GROVE	Readi Imm SG	GAAL
11LT	PATIENT TRANS/MEDEVAC SUGAR GROVE	Pt Trans/Med SG	FEAL
11LW	WELLNESS SUGAR GROVE	Wellness SG	EBBL
11M0	PRIMARY CARE INDIAN HEAD	PrimCare Srv IH	BHAM
11MB	INDUSTRIAL HYGIENE INDIAN HEAD	Indus Hyg IH	FBCM
11MC	OCCUPATIONAL HEALTH INDIAN HEAD	Occ Hlth IH	BHGM
11MD	RADIOLOGY INDIAN HEAD	Rad IH	DCAM
11ME	HEARING CONSERVATION INDIAN HEAD	Hearing Con IH	FBNM

11MH	PHARMACY INDIAN HEAD	Pharm IH	DAAM
11MI	IMMUNIZATIONS INDIAN HEAD	Immuniza IH	FBIM
11ML	LABORATORY INDIAN HEAD	Lab IH	DBAM
11MM	PREV MED INDIAN HEAD	Prev Med IH	FBBM
11MP	PATIENT ADMIN INDIAN HEAD	Pt Admin IH	EKAM
11MR	READINESS IMMUN INDIAN HEAD	Readi Imm IH	GAAM
11MT	WELLNESS INDIAN HEAD	Wellness IH	EBBM
11MW	PATIENT TRANS/MEDEVAC INDIAN HEAD	PtTrans/Med IH	FEAM
11N0	PRIMARY CARE OP SECSTA	PrimCaSrvSECST	BHAN
11NB	INDUSTRIAL HYGIENE SECTSTATION	IndustHygnSECT	FBCN
11NH	PHARMACY SECSTA	Pharm SECST	DAAN
11NI	IMMUNIZATIONS SECSTA	Immuniza SECST	FBIN
11NL	LABORATORY SECSTA	Lab SECST	DBAN
11NM	PREV MED SECTSTATION	PrevMed SECT	FBBN
11NR	READINESS IMMUN SECSTA	ReadiImm SECST	GAAN
11P0	OCCUPATIONAL HEALTH NRL	OccHlth NRL	BHGF
11PB	INDUSTRIAL HYGIENE NRL	Indus Hyg NRL	FBCF
11PE	HEARING CONSERVATION NRL	Hearing Con NRL	FBNF
11PI	IMMUNIZATIONS NRL	Immuniza NRL	FBIP
11PW	WELLNESS NRL	Wellness NRL	EBBF
11Q0	OCCUPATIONAL HEALTH NICP	OccHlthSrv NICP	BHQ
11QB	INDUSTRIAL HYGIENE NICP	IndustHygnNICP	FBCQ
11QE	HEARING CONSERVATION NAVICP	HearingCon NICP	FBNQ
11QI	IMMUNIZATION NICP	Immuniza NICP	FBIQ
11QM	PREV MED NICP	PrevMed NICP	FBBQ
11QP	PATIENT ADMIN NICP	PtAdmin NICP	EKAQ
11QW	WELLNESS NICP	Wellness NICP	EBBQ
11R0	OCCUPATIONAL HEALTH CARDEROCK	OccHlthSrv CARD	BHGR
11RB	INDUSTRIAL HYGIENE CARDEROCK	Indus Hyg CARD	FBCR
11RE	HEARING CONSERVATION CARDEROCK	HearingCon CARD	FBNR
11RI	IMMUNIZATION CARDEROCK	Immun Carderock	FBIR
11RM	PREV MED CARDEROCK	PrevMedCarderok	FBBR
11RW	WELLNESS CARDEROCK	Wellness CARD	EBBR
11S0	PRIMARY CARE DAHLGREN	PrimCarSrv DAHL	BHAS
11SB	INDUSTRIAL HYGIENE DAHLGREN	Indus Hyg DAHL	FBCS
11SC	OCCUPATIONAL HEALTH DAHLGREN	OccHlth DAHL	BHGS
11SD	RADIOLOGY DAHLGREN	Rad DAHL	DCAS
11SE	HEARING CONSERVATION DAHLGREN	HearingCon DAHL	FBNS
11SH	PHARMACY DAHLGREN	Pharm Dahl	DAAS
11SI	IMMUNIZATION DAHLGREN	Immuniza DAHL	FBIS
11SL	LABORATORY DAHLGREN	Lab DAHL	DBAS
11SM	PREV MED DAHLGREN	PrevMed DAHL	FBBS
11SO	OPTOMETRY DAHLGREN	Optometry DAHL	BHCS
11SR	READINESS IMMUNIZATIONS DAHLGREN	Readi Imm DAHL	GAAS
11ST	PATIENT TRANSPORTATION DAHLGREN	Pt Trans DAHL	FEAS
11SW	WELLNESS DAHLGREN	Wellness DAHL	EBBS
11T0	PRIMARY CARE WNY	PrimCareSrv WNY	BHAT
11TB	INDUSTRIAL HYGIENE WNY	Indus Hyg WNY	FBCT
11TC	OCCUPATIONAL HEALTH WNY	OccHlth WNY	BHGT

11TD	RADIOLOGY WNY	Rad WNY	DCAT
11TE	HEARING CONSERVATION WNY	Hearing Con WNY	FBNT
11TG	SUP TO OTH MIL ACT WNY	SupOthMilAc WNY	FCDT
11TH	PHARMACY WNY	Pharm WNY	DAAT
11TI	IMMUNIZATIONS WNY	Immuniza WNY	FBIT
11TL	LABORATORY WNY	Lab WNY	DBAT
11TM	PREV MED WNY	PrevMed WNY	FBBT
11TO	OPTOMETRY WNY	Optometry WNY	BHCT
11TP	PATIENT ADMIN WNY	Pt Admin WNY	EKAT
11TR	READINESS IMMUN WNY	Readi Imm WNY	GAAT
11TS	SUBS ABUSE WNY	Subs Abuse WNY	BFFT
11TW	WELLNESS WNY	Wellness WNY	EBBT
11UO	MILITARY SUP to ARL ANNEX	Sup to Arl Annex	FCDA
11V0	PRIMARY CARE EARLEP	PrimCarSrv ERLP	BHAV
11VB	INDUSTRIAL HYGIENE EARLEP	Indus Hyg ERLP	FBCV
11VH	PHARMACY EARLEP	Pharm ERLP	DAAV
11VI	IMMUIZATIONS EARLEP	Immuniza ERLP	FBIV
11VL	LABORATORY EARLEP	Lab ERLP	DBAV
11VM	PREV MED EARLEP	Prev Med ERLP	FBEV
11VR	READINESS IMMUNIZATIONS EARLEP	ReadiImm ERLP	GAAV
11VT	PATIENT TRANSPORTATION EARLEP	Pt Trans ERLP	FEAV
11VW	WELLNESS EARLEP	Wellness ERLP	EBBV
11W0	PRIMARY CARE WILLOW GROVE	PrimCarSrv WG	BHAW
11WB	INDUSTRIAL HYGIENE WILLOW GROVE	Indus Hyg WG	FBCW
11WC	OCCUPATIONAL HEALTH WILLOW GROVE	OccHlth WG	BHGW
11WD	RADIOLOGY WILLOW GROVE	Rad WG	DCAW
11WE	HEARING CONSERVATION WILLOW GROVE	Hearing Con WG	FBNW
11WF	FLIGHT MED WILLOW GROVE	FlightMed WG	BJAW
11WH	PHARMACY WILLOW GROVE	Pharm WG	DAAW
11WI	IMMUNIZATIONS WILLOW GROVE	Immuniza WG	FBIW
11WL	LABORATORY WILLOW GROVE	Lab WG	DBAW
11WM	PREV MED WILLOW GROVE	PrevMed WG	FBBW
11W0	OPTOMETRY WILLOW GROVE	Optometry WG	BHCW
11WP	PATIENT ADMIN WILLOW GROVE	Pt Admin WG	EKAW
11WR	READINESS IMMUNIZATIONS WILLOW GROV	Readi Imm WG	GAAW
11WT	PATIENT TRANSPORTATION WILLOW GROVE	Pt Trans WG	FEAW
11WW	WELLNESS WILLOW GROVE	Wellness WG	EBBW
11X0	OCCUPATIONAL HEALTH PNBC	OccHlthSrv PNBC	BHGX
11XB	INDUSTRIAL HYGIENE, PNBC	Indus Hyg PNBC	FBCX
11XE	HEARING CONSERVATION PNBC	HearingCon PNBC	FBNX
11XI	IMMUNIZATION PNBC	Immuniza PNBC	FBIX
11XM	PREV MED PNBC	Prev Med PNBC	FBBX
11X0	OPTOMETRY PNBC	Optometry PNBC	BHCX
11XR	READINESS IMMUNIZATIONS PNBC	Readi Imm PNBC	GAAX
11XU	AUDIOLOGY PNBC	Audio PNBC	BHDX
11XW	WELLNESS PNBC	Wellness PNBC	EBBX
11Y0	PRIMARY CARE MECHANICSBURG	PrimCarSrv MECH	BHAY
11YB	INDUSTRIAL HYGIENE MECHANICSBURG	Indus Hyg MECH	FBCY
11YC	OCCUPATIONAL HEALTH MECHANICSBURG	OccHlth MECH	BHGY

11YD	RADIOLOGY MECHANICSBURG	Rad MECH	DCAY
11YE	HEARING CONSERVATION MECHANICS	HearingCon MECH	FBNY
11YG	SUP TO OTH MIL ACT MECHANICSBURG	SupOthMila MECH	FCDY
11YH	PHARMACY MECHANICSBURG	Pharm MECH	DAAY
11YI	IMMUNIZATIONS MECHANICSBURG	Immuniza MECH	FBIY
11YJ	LAUNDRY MECHANICSBURG	Laundry MECH	EHAY
11YL	LABORATORY MECHANICSBURG	Lab MECH	DBAY
11YM	PREV MED MECHANICSBURG	Prev Med MECH	FBBY
11YR	READINESS IMMUNIZATIONS MECHANICBUR	Readi Imm MECH	GAAY
11YU	AUDIOLOGY MECHANICSBURG	Audio MECH	BHDY
11YW	WELLNESS MECHANICSBURG	Wellness MECH	EBBY
11Z0	PRIMARY CARE EARLE	PrimCarSrv ERLE	BHAZ
11ZB	INDUSTRIAL HYGIENE EARLE	Indus Hyg ERLE	FBCZ
11ZC	OCCUPATIONAL HEALTH EARLE	OccHlth ERLE	BHGZ
11ZD	RADIOLOGY EARLE	Rad ERLE	DCAZ
11ZE	HEARING CONSERVATION EARL	Hear Con ERLE	FBNZ
11ZG	SUP TO OTH MIL ACT EARLE	SupOthMila ERLE	FCDZ
11ZH	PHARMACY EARLE	Pharm ERLE	DAAZ
11ZI	IMMUNIZATION EARLE	Immuniza ERLE	FBIZ
11ZL	LABORATORY EARLE	Lab ERLE	DBAZ
11ZM	PREV MED EARLE	Prev Med ERLE	FBBZ
11ZP	PATIENT ADMIN EARLE	Pt Admin ERLE	EKAZ
11ZR	READINESS IMMUNIZATIONS EARLE	Readi Imm ERLE	GAAZ
11ZS	BHC SUBS ABUSE EARLE	Subs Abuse ERLE	BFFZ
11ZT	PATIENT TRANSPORTATION EARLE	Pt Trans ERLE	FEAZ
11ZW	WELLNESS EARLE	Wellness ERLE	EBBZ

Service Line Women's and Children's Health Service

<i>Code</i>	<i>Description</i>	<i>ShortName</i>	<i>MEPR</i>
1200	WOMEN'S AND CHILDREN'S HEALTH SVC	WomnChildHlt	BE EBDA
121A	GENERAL PEDIATRICS OP	Gen Peds OP	BE BDAA
121B	SPECIALTY PEDIATRICS OP	Spec Peds OP	BE BDAB
121C	ARMED FORCES CENTER FOR CHILD PROTE	AFCtrChild	BE EBDA
121D	EFMP/EARLY INTERVENTION	EFMP/EInterv	BE FBJA
121E	PEDIATRICS IP	Peds IP	BE ADAA
121F	EIS MULTIDISCIPL SERVICES	EIS MultiSrv	BE FBDA
122A	BREAST CARE OP	BrestCar	OP BE BCDA
122B	BREAST CARE ONC OP	BresC ONC	OP BE BCDD
122S	BREAST CARE APV	BrestCar APV	BE BCD5
123A	OB/GYN OP	OB/GYN OP	BE BCCA
123B	MATERNAL INFANT CARE CENTER IP	MatInfCar	IP BE ACBA
123M	OB/GYN, SUP TO MGMC FROM BE	OB/GYNtoMGMC	BE FCDA
123Q	OB/GYN SUP TO QUANT FROM BE	OB/GYNtoQUAN	BE FCDA
123S	OB/GYN APV	OB/GYN APV	BE BCC5
123W	OB/GYN SUP TO WRAMC FROM BE	OB/GYNtoWRAM	BE FCDA
124A	NEONATOLOGY	Neonatology	BE ADDBA
124B	NEONATAL ICU	Neonatal ICU	BE DJDA
125A	ADOLESCENT MEDICINE	Adol Med	BE BDBA

Service Line Disease Management Service

<i>Code</i>	<i>Description</i>	<i>ShortName</i>	<i>MEPR</i>
1300	DISEASE MANAGEMENT SERVICE	DiseasMgtSrv	BE EBDA

131A	ALLERGY/IMMUNOLOGY	Aller/Immuno	BE	BABA	
131B	IMMUNIZATION/DISEASE MGMT	Imm/Dis Mgt	BE	FBIA	
132A	ENDOCRINOLOGY OP BETH	Endocrin	OP	BE	BAFA
132C	DIABETES OP BETHESDA	Diabetes	OP	BE	BAEA
132N	ENDO SUP TO ANNA FROM BE	Endo to ANNA	BE	FCDA	
132Q	ENDO SUP TO QUANT FROM BE	Endo to QUAN	BE	FCDA	
132S	ENDOCRINOLOGY APV	Endocrin	APV	BE	BAF5
133A	INFECTIOUS DISEASES OP	Infec Dis	OP	BE	BAQA
133N	ID SUP TO ANNAPOLIS FROM BE	ID to ANNA	BE	FCDA	
133P	ID SUP TO PAX FROM BE	ID to PAX	BE	FCDA	
133Q	ID SUP TO QUANT FROM BE	ID to QUAN	BE	FCDA	
134A	HIV	HIV	OP	BE	BAQB
135A	NEPHROLOGY	Nephrol	BE	BAJA	
135B	HEMODIALYSIS BETHESDA	Hemodial	BE	DGBA	
135P	NEPHROLOGY SUP TO PAX FROM BE	Nephro to PAX	BE	FCDA	
136A	OPTOMETRY OP BETHESDA	Optometry	OP	BE	BHCA

Service Line Procedural Specialty Service

<i>Code</i>	<i>Description</i>	<i>ShortName</i>	<i>MEPR</i>		
1400	PROCEDURAL SPECIALTY SERVICE	ProcSpecSrv	BE	EBDA	
141A	DERMATOLOGY	Derm	BE	BAPA	
141N	DERM SUP TO ANNA FROM BE	Derm to ANNA	BE	FCDA	
141P	DERM SUP TO PAX FROM BE	Derm to PAX	BE	FCDA	
141Q	DERM SUP TO QUANT FROM BE	Derm to QUAN	BE	FCDA	
142A	GASTROENTEROLOGY OP	Gastro	OP	BE	BAGA
142B	GASTROENTEROLOGY APU	Gastro	APU	BE	DGAG
142S	GASTROENTEROLOGY APV	Gastro	APV	BE	BAG5
143A	PULMONOLGY MEDICINE	Pulm Med	BE	BANA	
143B	PULMONARY FUNCTION OP	Pulm Func	OP	BE	DDDA
143N	PULMONARY SUP TO ANNAPOLIS FROM BE	Pulm to ANNA	BE	FCDA	
143P	PULMONARY SUP TO PAX FROM BE	Pulm to PAX	BE	FCDA	
143Q	PULMONARY SUP TO QUANT FROM BE	Pulm to QUAN	BE	FCDA	
143S	PULMONARY APV	Pulm	APV	BE	BAN5
144A	RESPIRATORY THERAPY SERVICE	RespTherSrv	BE	DHAA	

Service Line Behavioral Healthcare Service

<i>Code</i>	<i>Description</i>	<i>ShortName</i>	<i>MEPR</i>		
1500	BEHAVIORAL HEALTHCARE SERVICE	BehavHlthSrv	BE	EBDA	
151A	ADULT BEHAVIORAL HEALTHCARE OP	AdultBehv	OP	BE	BFDA
152A	CHILD/ADOL BEHAVIORAL HEALTHCARE OP	ChildAdBe	OP	BE	BFCA
152B	ADOLESCENT BEHAVIORAL HEALTHCARE PH	AdolBehv	PHP	BE	BFCB
152C	ADOLESCENT BEHAVIORAL HEALTHCARE IP	AdolBehav	IP	BE	AFAA
153A	PRIMARY BEHAVIORAL HEALTHCARE	PrimBehavHlt	BE	BFDB	
153B	SUBSTANCE ABUSE OP	Subs Abuse	BE	BFFA	
153D	SOCIAL WORK MED/SURG	SocWkMED/SUR	BE	BFEA	
153M	BEHAV HEALTH SUP TO MGMC FROM BE	Behav ToMGMC	BE	FCDA	
153N	BEHAV HEALTH SUP TO ANNAPOLIS FM BE	Behav ToANNA	BE	FCDA	
153P	BEHAV HEALTH SUP TO PAX FROM BE	Behav To PAX	BE	FCDA	
153Q	BEHAV HEALTH SUP TO QUANT FROM BE	Behav ToQUAN	BE	FCDA	
153W	BEHAV HEALTH SUP TO WRAMC FROM BE	Behav ToWRAM	BE	FCDA	

Directorate Restorative Care
Service Line Restorative Care

<i>Code</i>	<i>Description</i>	<i>ShortName</i>	<i>MEPR</i>
2000	RESTORATIVE CARE	RestorCarSrv	BE EBDA

Service Line Cardiovascular and Critical Care Service

<i>Code</i>	<i>Description</i>	<i>ShortName</i>	<i>MEPR</i>
2100	CARDIOVASCULAR AND CRITICAL CARE SE	CardioCCSrv	BE EBDA
211A	CARDIOLOGY OP	Cardio OP	BE BACA
211B	CARDIAC CATH LAB	CardiCathLab	BE DDEA
211C	ELECTROCARDIOGRAPHY BETHESDA	Electcargrap	BE DDAA
211D	CARDIAC REHAB OP	CardRehab OP	BE BACB
211N	CARDIOLOGY SUP TO ANNAPOLIS FROM BE	CardSupAnna	BE FCDA
211P	CARDIOLOGY SUP TO PAX FROM BE	CardSupPAX	BE FCDA
211Q	CARDIOLOGY SUP TO QUANTICO FROM BE	CardSupQuant	BE FCDA
211T	CARDIOTELEMETRY	Cardiotele	BE DGEA
212A	CARDIOTHORACIC SURGERY OP	CardthorSurOP	BE BBBA
213S	CARDIOLOGY APV	Cardio APV	BE BAC5
214A	CARDIOLOGY/CT SURGERY IP	CardCTSUR IP	BE AABA
214B	CARDIOLOGY/CT SURGERY ICU	CardCTSURICU	BE DJCA
215A	CRITICAL CARE MEDICINE/ICU	CrtCareMDICU	BE DJAA

Service Line Musculoskeletal Service

<i>Code</i>	<i>Description</i>	<i>ShortName</i>	<i>MEPR</i>
2200	MUSCULOSKELETAL SERVICE	MusculoskSrv	BE EBDA
221A	CHIROPRACTIC	Chiropractic	BE BEZA
222A	OCCUPATIONAL THERAPY OP	OccupaTherOP	BE BLBA
223A	ORTHOPEDECS OP	Ortho	BE BEAA
223B	ORTHO CAST CLINIC OP	OrthoCastOP	BE BEBA
223C	ORTHO MINOR OR	OrthoMinorOR	BE DGAF
223D	ORTHOPEDECS IP	Ortho IP	BE AEAA
223S	ORTHOPEDIC APV	Ortho APV	BE BEA5
223T	PHYSICAL MEDICINE	PhysicalMed	BE BARA
224A	PHYSICAL THERAPY	PhysicalTher	BE BLAA
225A	PODIATRY	Podiatry	BE BEFA
226A	RHEUMATOLOGY OP	Rheumatol OP	BE BAOA

Service Line Neurosciences Service

<i>Code</i>	<i>Description</i>	<i>ShortName</i>	<i>MEPR</i>
2300	NEUROSCIENCES SERVICE	NeurosciSrv	BE EBDA
231A	NEUROLOGY OP	Neurol OP	BE BAKA
231E	EEG AND SLEEP LAB	EEG/SleepLab	BE DDBA
231M	ELECTROMYOGRAPHY (EMG)	Electmyograph	BE DDCA
231N	NEURO SUP TO ANNA FROM BE	NeuroSupAnna	BE FCDA
231P	NEURO SUP TO PAX FROM BE	NeuroSupPAX	BE FCDA
231Q	NEURO SUP TO QUANT FROM BE	NeuroSupQuan	BE FCDA
231S	NEUROLOGY APV	Neurol APV	BE BAK5
232A	NEURORADIOLOGY	Neurorad	BE DCAC
233A	NEUROSURGERY OP	Neurosurg OP	BE BBBA
233B	NEUROSURGERY IP	Neurosurg IP	BE ABDA
233S	NEUROSURGERY APV	Neurosurg APV	BE BBC5
233W	NEUROSURG SUP TO WRAMC FROM BE	NeursurToWRA	BE FCDA

Service Line Oncology Service

<i>Code</i>	<i>Description</i>	<i>ShortName</i>	<i>MEPR</i>
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2400	HEMATOLOGY/ONCOLOGY SERVICE	Hema/OncaSrv	BE	EBDA	
241A	HEMATOLOGY/ONCOLOGY OP	Hema/Onca	OP	BE	BAHA
241B	HEMATOLOGY/ONCOLOGY IP	Hema/Onca	IP	BE	AAKA
241N	HEM/ONC SUP TO ANNAPOLIS FROM BE	HemOnSupANNA	BE	FCDA	
241P	HEM/ONC SUP TO PAX FROM BE	HemOncSupPAX	BE	FCDA	
241Q	HEM/ONC SUP TO QUANT FROM BE	HemOnSupQUAN	BE	FCDA	

Service Line Operative Care Service

<i>Code</i>	<i>Description</i>	<i>ShortName</i>	<i>MEPR</i>		
2500	OPERATIVE CARE SERVICE	OperaCarSrv	BE	EBDA	
252A	AMBULATORY PROCEDURE UNIT (APU)	AmbulProUnt	BE	DGAA	
253A	ANESTHESIA	Anesthesia	BE	DFAA	
253B	PAIN MANAGEMENT OP	Pain Mgmt	OP	BE	BBLA
254A	MAIN OR	Main OR	BE	DFBA	
255A	PACU	PACU	BE	DFCA	
256A	STERILE PROCESSING	Steril Proc	BE	DEAA	

Service Line Surgery Service

<i>Code</i>	<i>Description</i>	<i>ShortName</i>	<i>MEPR</i>			
2600	SURGERY SERVICE	SurgerySrv	BE	EBDA		
261A	GENERAL SURGERY OP	GenSurg	OP	BE	BBAA	
261B	COLO-RECTAL SURGERY OP	ColoRecSur	OP	BE	BBHA	
261C	VASCULAR SURGERY	VascularSurg	BE	BBKA		
261D	GENERAL SURGERY MINOR OR	GenSurgMinOR	BE	DGAE		
261E	GENERAL SURGERY IP	GenSurg	IP	BE	ABAA	
261N	GEN SURG SUP TO ANNAPOLIS FROM BE	GenSurToAnna	BE	FCDA		
261P	PEDIATRIC SURGERY OP	PediSurg	OP	BE	BBJA	
261S	GENERAL SURGERY APV BETHESDA	GenSurg	APV	BE	BBA5	
261T	COLO-RECTAL APV BETHESDA	ColoRec	APV	BE	BBH5	
263A	OPHTHALMOLOGY OP	OphthalmolOP	BE	BBDA		
263S	OPHTHAMOLOGY APV	OphthalmolAPV	BE	BBD5		
264A	ORAL AND MAXILLO-FACIAL/DENTAL OP	OralMaxFacOP	BE	CAAA		
264B	ORAL SURGERY IP	OralSurg	IP	BE	ABFA	
264L	DENTAL LAB	Dental Lab	BE	CBAA		
264S	DENTAL APV	Dental APV	BE	CAA5		
265A	OTOLARYNGOLOGY OP	OtolaryngOP	BE	BBFA		
265B	AUDIOLOGY OP ENT	Audio	OP	ENT	BE	BHDA
265C	OTOLARYNGOLOGY IP	OtolaryngIP	BE	ABGA		
265N	EN SUP TO ANNAPOLIS FROM BE	EN sup ANNA	BE	FCDA		
265P	EN SUP TO PAX FROM BE	EN sup PAX	BE	FCDA		
265Q	EN SUP TO QUANT FROM BE	EN sup Quant	BE	FCDA		
265S	OTOLARYNGOLOGY APV	Otolaryn	APV	BE	BBF5	
266A	PLASTIC SURGERY OP	PlasticSur	OP	BE	BBGA	
266B	SPEECH AND LANGUAGE PATH	SpeecLanPath	BE	BHEA		
266S	PLASTIC SURGERY APV	PlasSurg	APV	BE	BBG5	
267A	UROLOGY OP	Urology	OP	BE	BBIA	
267B	UROLOLGY MINOR OR	UrolMinor	OR	BE	DGAD	
267C	UROLOGY IP	Urol	IP	BE	ABKA	
267D	UROLOGY LABORATORY	UrologyLab		DBAC		
267E	UROLOGY RADIOLOGY	UrologyRad		DCAC		
267Q	UROLOGY SUP TO QUANT FROM BE	UrolSupQuan	BE	FCDA		
267S	UROLOGY APV	Urol	APV	BE	BBI5	

Directorate	Clinical Support		
Service Line	Clinical Support Service		
Code	Description	ShortName	MEPR
3000	CLINICAL SUPPORT	ClinSupSrv BE	EBDA
300W	CLIN SUP SERV TO WRAMC FROM BE	ClinSupWRAM BE	FCDA
Service Line	Blood Bank Service		
Code	Description	ShortName	MEPR
3100	BLOOD BANK SERVICE	BloodBankSrv BE	FADA
Service Line	Clinical Nutrition Service		
Code	Description	ShortName	MEPR
3300	NUTRITION MANAGEMENT SERVICE	ClinNutriSrv BE	EBDA
330A	CLINICAL NUTRITION OP	ClinNutriOP BE	BALA
330B	CLINICAL NUTRITION IP	ClinNutri IP BE	EICA
330C	COMBINED FOOD OPERATIONS	CombFoodOps BE	EIBA
330D	NONPATIENT FOOD OPERATIONS	NonPtFoodOps BE	FDCA
Service Line	Laboratory Service		
Code	Description	ShortName	MEPR
3400	LABORATORY SERVICE	Lab Srv BE	EBDA
341A	ANATOMIC PATHOLOGY	AnaPath BE	DBBA
342A	CLINICAL PATHOLOGY	ClinPath BE	DBAA
Service Line	Navy Central HIV Service		
Code	Description	ShortName	MEPR
3500	NAVY CENTRAL HIV SERVICES	NavyCtrHIVSrvBE	EBBA
Service Line	Pharmacy Service		
Code	Description	ShortName	MEPR
3600	PHARMACY SERVICE	Pharm Srv BE	EBDA
361A	PHARMACOLOGY CONSULTATION	Pharm Consul BE	
362A	AMBULATORY PRESCRIPTION	AmbulPrescri BE	DAAA
363A	INPATIENT PHARMACY	InpatiePharm BE	DAAB
Service Line	Radiology Service		
Code	Description	ShortName	MEPR
3700	RADIOLOGY SERVICE	RadSrv BE	EBDA
371A	DIAGNOSTIC RADIOLOGY	DiagRad BE	DCAA
372A	NUCLEAR MEDICINE	NucMed BE	DIAA
373A	PHYSICS/RADIATION SAFETY	PhysicRadSafeBE	FBDA
374A	RADIATION THERAPY	RadiTherapy BE	BASA
Directorate	Managed Care		
Service Line	Managed Care		
Code	Description	ShortName	MEPR
4000	MANAGED CARE	Managed Care BE	ELAA
400A	TRICARE NORTHEAST OFFICE (WRAMC)	TricarNE (WRA) BE	FCDA
Service Line	Clinical Management Service		
Code	Description	ShortName	MEPR
4100	CLINICAL MANAGEMENT SERVICE	ClinMgmtSrv BE	ELAA
410A	UTILIZATION MANAGEMENT	UtilizatMgmt BE	ELAA
Service Line	Customer Service		
Code	Description	ShortName	MEPR
4200	CUSTOMER SERVICE	Customer Srv BE	ELAA
420A	CUSTOMER SERVICE COORDINATOR	CustoSrvCoor BE	ELAA
420B	PATIENT RELATIONS	PatientRelat BE	ELAA
420C	EXECUTIVE HEALTHCARE	ExecHealth BE	ELAA
420D	BENEFICIARY SERVICES	BeneficiSrv BE	ELAA

420E	MARKETING	Marketing BE	ELAA
Service Line <i>Tricare Business Service</i>			
<i>Code</i>	<i>Description</i>	<i>ShortName</i>	<i>MEPR</i>
4300	TRICARE BUSINESS SERVICE	TricarBusSrv BE	ELAA
430A	TRICARE COTAR	TRICAR COTAR BE	ELAA
430B	TRICARE PLANS AND OPERATIONS	TricarPlanOpsBE	ELAA
430C	TRICARE BUSINESS PROPOSALS	TricarBusPropBE	ELAA
Directorate <i>Administration</i>			
Service Line <i>Administration</i>			
<i>Code</i>	<i>Description</i>	<i>ShortName</i>	<i>MEPR</i>
5000	ADMINISTRATION	Admin BE	EBCA
500A	DHA OUTSERVICE TRAINING	DHA OutsrvTrnBE	EBFA
Service Line <i>Administration Service</i>			
<i>Code</i>	<i>Description</i>	<i>ShortName</i>	<i>MEPR</i>
5100	ADMINISTRATION SERVICE	AdminSrv BE	EBCA
512A	CDO DESK	CDO Desk BE	EBAA
513A	MANPOWER MGMT	ManpowerMgmt BE	EDKA
513B	STASH BETHESDA	Stash Bethes BE	FCGA
514A	PUBLIC SAFETY/SECURITY	PublicSafSec BE	EDIA
514B	DRUG SCREENING	DrugScreen BE	FAFA
515A	STAFF ED AND TRAINING	StaffEd/Trn BE	EBFA
515B	CREW'S LIBRARY	CrewLibrary BE	EDKA
515C	STITT LIBRARY	Stitt Library	EBFA
Service Line <i>Commercial Service</i>			
<i>Code</i>	<i>Description</i>	<i>ShortName</i>	<i>MEPR</i>
5200	COMMERCIAL SERVICES	CommerciaSrv BE	FDBA
521A	MAIN STREET	Main St BE	FDBA
522A	NAVY EXCHANGE	Navy Ex BE	FDBA
523A	NAVY LODGE	Navy Lodge BE	FDBA
524A	PACKAGE STORE	PackageStore BE	FDBA
Service Line <i>Contingency Service</i>			
<i>Code</i>	<i>Description</i>	<i>ShortName</i>	<i>MEPR</i>
5300	CONTINGENCY SERVICE	ContingenSrv BE	GAAA
530A	COMFORT DEPLOYMENT	ComfortDeplo BE	GDAA
530B	DEPLOYMENT PLANNING	DeployPlan BE	GAAA
530C	NDMS PLANNING & ADMIN	NDMS PlanAdm BE	GGAA
530D	NDMS EXERCISES	NDMS Exercis BE	GGBA
530E	READINESS TRAINING WARTIME	OtherReadTrg BE	GBBA
530F	PEACETIME DISASTER PREPAREDNESS	PeaceDisPrep BE	EBGA
530H	OTHER READINESS PLANNING	OthrReadPlan BE	GABA
530I	READINESS TRAINING PEACETIME	LocalReadTrn BE	GBAA
531A	RESERVE LIAISON OFFICE	ResLiaisoOff BE	GAAA
Service Line <i>Facilities Management Service</i>			
<i>Code</i>	<i>Description</i>	<i>ShortName</i>	<i>MEPR</i>
5400	FACILITIES MANAGEMENT SERVICE	FacilMgmtSrv BE	EDAA
540H	HOUSEKEEPING	Housekeeping BE	EFAA
541A	BASE ENGINEERING	BaseEngineer BE	EDAA
541B	OTHER ENGINEERING SUP	OthEngnerSup BE	EDEA
542A	ENVIRONMENTAL PROGRAMS	EnvironmProg BE	EDEA
543A	FIRE SUPPORT	Fire Support BE	EDHA

544A	HOSPITAL ENGINEERING	Hosp Engine	BE	EDAA
545A	PLANNING & TRANSPORTATION	Plan/Transpo	BE	EDGA
Service Line Information Technology Service				
Code	Description	ShortName		MEPR
5500	INFORMATION TECHNOLOGY SERVICE	InfoTechSrv	BE	EBCA
551A	INFORMATION MANAGEMENT	InformatMgmt	BE	EBCA
552A	INFORMATION TECHNOLOGY	InformatTech	BE	EBCA
552B	COMMUNICATIONS	Communicatio	BE	EDJA
553A	TELEMEDICINE	Telemedicine	BE	DCAB
Service Line Logistics Service				
Code	Description	ShortName		MEPR
5600	LOGISTICS SERVICE	LogisticsSrv	BE	EEAA
561A	ACQUISITION MGMT	AcquisitMgmt	BE	EEAA
561L	LAUNDRY CONTRACT	LaundryContr	BE	EHAA
562A	CONTRACT MGMT	ContractMgmt	BE	EEAA
563A	EQUIPMENT MGMT	EquipMgmt	BE	EEAA
563B	BIOMEDICAL REPAIR	BiomedEquip	BE	EGAA
564A	MATERIAL MGMT	MaterialMgmt	BE	EEAA
564B	CENTRAL MATERIALS	CenMaterials	BE	DEBA
565A	POSTAL OPERATIONS	PostalOps	BE	EDJA
Service Line Base Service				
Code	Description	ShortName		MEPR
5700	BASE SERVICE	Base Service	BE	FDDB
571A	BACHELOR HOUSING	BachHousing	BE	FDDB
572A	FISHER HOUSES	FisherHousin	BE	FDDB
573A	MWR	MWR	BE	FDDB
575A	CHILD DEVELOPMENT CENTER	ChildDevCtr	BE	FDDB
Service Line Patient Admin Service				
Code	Description	ShortName		MEPR
5800	PATIENT ADMIN SERVICE	PtAdminSrv	BE	EBCA
580A	MEDICAL BOARDS	MedBoards	BE	FEDA
580W	PT ADMIN WRAMC LIAISON	PtAdmWRAMLia	BE	FCDA
581A	PATIENT ADMIN SUPPORT	PtAdminSup	BE	EJAA
581B	DECEDENT AFFAIRS	DecedentAff	BE	FDDB
582A	RECORDS MANAGEMENT	RecordsMgmt	BE	EKAA
Directorate Resources				
Service Line Resources				
Code	Description	ShortName		MEPR
6000	RESOURCES	Resources	BE	EBBA
Service Line Budget Service				
Code	Description	ShortName		MEPR
6100	BUDGET SERVICE	Budget Srv	BE	EBBA
Service Line Fiscal Service				
Code	Description	ShortName		MEPR
6200	FISCAL SERVICE	Fiscal Srv	BE	EBBA
621A	PAYROLL	Payroll	BE	EBBA
Service Line Medical Accounts Service				
Code	Description	ShortName		MEPR
6300	MEDICAL ACCOUNTS SERVICE	MedAcctsSrv	BE	EBHA
631A	PATIENT ACCOUNTS	PT Accounts	BE	EBHA
632A	INPATIENT HEALTH INSURANCE	IP HealthINS	BE	EBHA
633A	OUTPATIENT HEALTH INSURANCE	OP HealthINS	BE	EBHA

634A	MEDICAL LIABILITY	MedLiability	BE	EBHA
Service Line Performance Reporting Service				
<i>Code</i>	<i>Description</i>	<i>ShortName</i>		<i>MEPR</i>
6400	PERFORMANCE ANALYSIS REPORTING SERVICE	PlansAnaRep	BE	EBBA
Directorate				
Service Line				
<i>Code</i>	<i>Description</i>	<i>ShortName</i>		<i>MEPR</i>
900A	GME INTERN/RESIDENT SALARY	GMEIntResSal	BE	FAMA
900F	GME FELLOWSHIP SALARY	GMEFellowSal	BE	FAPA
901A	GME FEL/RES RESEARCH 100%	GMEFelResRes	BE	FAOA
901M	STAFF SUP OF GME	StaffsupGME	BE	EBEA
902A	GDE INTERN/RESIDENT SALARY	GDEIntResSal	BE	FANA
902B	GDE FELLOWSHIP SALARY	GDEFellowSal	BE	FAQA
903A	GDE FTES SUPPORT EXPENSE	GDE FTESupExp	BE	EBIA
904A	CONT HEALTH ED OUTSIDE MTF - MC	ConHlthEdOut	BE	FALA
904S	SPECIALTY LEADER	SpecLeader	BE	EBDA
905A	SUP TO OTHER MILITARY ACTIVITY	SupOthMilAct	BE	FCDA
906A	SUP TO OTHER FEDERAL AGENCY	SupOthFedAg	BE	FCEA
907E	MIL FUND EMER LV	MilFunEmerLv	BE	FDHA
907N	SUP NON-MEPRS ACT	SupNonMeprAct	BE	FCGA
Service Line				
<i>Code</i>	<i>Description</i>	<i>ShortName</i>		<i>MEPR</i>
9999	TERMINAL LEAVE	Terminal Lv	BE	EBCA

Table 13. The NNMC Command Structure (From: Report Created from Flash Report Access Database)

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APPENDIX B. DEFINITIONS

ADM: Ambulatory Data Module

Ambulatory Data Module: "The CHCS module for coding outpatient encounters." [1]

ASD: Account Subset Definition

Account Subset Definition: "The ASD identifies the MEPRS work centers/MEPRS codes used at the MTF. The MEPRS codes are listed on the ASD in alphabetical order. The Stepdown Assignment Statistics (SASs) and the Assignment Sequence Numbers (ASNs) are also listed on the ASD." [1]

ASN: Assignment Sequence Number

Assignment Sequence Number: Identifies the sequence of stepdown for the D and E MEPRS codes. The stepdown process will distribute all E functional codes first and D account codes second. [1]

Benchmarking: "The comparison of like provider's performance. A standard from which to establish what is 'quality' medical care and develop measurement from which to evaluate providers and patient outcomes." [1]

Borrowed Labor: "That quantity of productive work or service provided to the MTF by personnel other than staff and student personnel normally carried on the staffing (manpower) documents of the facility or worksite receiving the benefit of the labor. Patient personnel are excluded from this definition. The work or services provided are in positions and/or assignments that would be customarily filled by full-time staff personnel and are performed on a regularly scheduled basis in satisfaction of a continuing need." [2]

BUMED: "Bureau of Medicine and Surgery. Navy Headquarters that establishes policy and program guidelines for Navy Medicine." [1]

Cost Account Code: "Cost Account Code (Navy Only) required for the workload reporting to the STARS/FL system." [2]

Chief of Service: "The member of a hospital staff who is elected or appointed to serve as the medical and/or administrative head of a clinical service." [1]

Clinic: "A health treatment facility primarily intended and appropriately staffed and equipped to provide emergency treatment and ambulatory services. A clinic is also intended to perform certain non-therapeutic activities related to the health of the personnel served, such as physical examinations, immunizations, medical administration, preventive medicine services, and health promotion activities to support a primary military mission. In some instances, a clinic may also routinely provide therapeutic services to hospitalized patients to achieve rehabilitation goals; e.g., occupational therapy and physical therapy. A clinic may be equipped with beds for observation of patients awaiting transfer to a hospital, and for the care of cases that cannot be cared for on an outpatient status, but that do not require hospitalization. Such beds shall not be considered in calculating occupied-bed days be MTFs." [2]

Clinic Service: "A functional division of a department of a Military Treatment Facility identified by a three-digit MEPRS code." [1]

Clinic Support Staff: "Personnel who are required to be licensed but are not included in the definition of health care Practitioners. This category includes dental hygienists and non-privileged nurses." [1]

Clinician: "A "clinician" is defined as a physician or dentist practitioner normally having admitting privileges and primary responsibility for care of inpatients. Interns and resident physicians and dentists are considered clinicians only for purposes of meeting the requirements of the manual and NOT for the purposes of JCAHO

accreditation, credentialing, etc. A physician or dentist assigned to and/or working at a clinic with no inpatient capability will still be considered a clinician on the premise that if assigned to a hospital, he or she would have admitting privileges. For manpower purposes, all physicians and dentists are considered clinicians. For expense purposes, clinician salary expenses are processed in a manner that will align inpatient expenses to permit comparison between civilian facility and military facility inpatient care costs. Salary expenses to be accounted for separately will be for those clinicians whose services are normally provided in the civilian sector by clinicians not employed by the hospital and who bill the patient directly." [2]

Clinician MEPRS: "A physician or dentist practitioner normally having admitting privileges and primary responsibility for care of inpatients. Intern and resident physicians and dentists are considered to be clinicians as far as the reporting categories only for the purposes of meeting the requirements for MEPRS." [1]

Composite Health Care System (CHCS): "Composite Health Care System. A medical automated information system that provides patient facility data management and communications capabilities. Specific areas supported include MTF health care (administration and care delivery), patient care process (integrates support-data collections and one-time entry at source), ad hoc reporting, patient registration, admission, disposition, and transfer, inpatient activity documentation, outpatient administrative data, appointment scheduling and coordination (clinics, providers, nurses, and patients), laboratory orders (verifies and processes), drug and lab test interaction, quality control and test reports, radiology orders (verifies and processes), radiology test result identification, medication order processing (inpatient and outpatient), medicine inventory, inpatient diet orders, patient nutritional status data, clinical

dietetics administration, nursing, order-entry, eligibility verification, provider registration, and the Managed Care Program." [2]

DBA - Database Administrator

Department: "An organizational unit of the Military Treatment Facility or of the medical staff." [2]

Direct MEPRS Expense: "MEPRS direct expenses are the value, measured in dollars, of the transactions and events of work centers and/or accounts." [2]

DMHRS - Defense Medical Human Resources System

EAS: "Expense Assignment System. Resource Information Technology Program Office (RITPO)-sponsored application used to capture and process clinical workload data and associated costs for Medical Expense Performance Reporting System (MEPRS) management reporting." [2]

Encounter: "Contact between a patient and a provider who has primary responsibility for providing assessment, treatment, or consultative care." [1]

FCC - Functional Cost Code. Terminology to replace MEPRS Code.

Final MEPRS Expenses: "For MEPRS, reporting the final MEPRS expense is the final accumulation point for the cost pools, ancillary and support services MEPRS accounts after the MEPRS EAS performs the cost assignment of these expenses to provide calculated final expenses for the inpatient, outpatient, dental, special programs and readiness MEPRS work centers or accounts." [2]

FTE: "Full Time Equivalent. Work force equivalent of one individual working full-time for a specific period, which may be made up of several part-time individuals or one full-time individual." [2]

FTE Work-Month: "The amount of labor that would be available if one person had worked for one month in that work center. (The conversion factor: one FTE = total actual hours worked/168)" [2]

Graduate Medical Education: "Full-time, structured, medically-related training, accredited by a national body (e.g., the Accreditation Council for Graduate Medical Education), approved by the commissioner of education, and obtained after receipt of the appropriate doctoral degree." [2]

Hours or Minutes of Serve: "The elapsed time between commencement of service or treatment and termination of service or treatment. For a detailed discussion, see DoD 6010.13-M." [2]

JON - Job Order Number

Job Order Number: "A method of accumulating costs and posting accounting information by assigning numbers or codes to identify the various segments of work and accounting classification." [2]

Loaned Labor: "Staff personnel whose services are temporarily made unavailable to the Military Treatment Facility because of emergency and contingency needs or because of the necessity to provide temporary medical support to other facilities or worksites. For specific guidance on reporting, see DoD 6010.13-M (reference (a))." [2]

Man-Hour: "A unit of measuring work person working at a normal pace for 60 minutes, two people working at a normal pace for 30 minutes, or a similar combination of people working at normal pace for a period of time equal to 60 minutes." [2]

Manning: "The specific inventory of people currently assigned to an activity in terms of numbers, grades, and occupational groups." [1]

Manpower Authorization: "The authority to staff a military or civilian space based on an official table of organization or unit manning document, issued by a higher headquarters." [1]

Manpower Requirement: "The human resources needed to accomplish the specified workloads of an organization." [1]

Medical Center: "A large hospital that has been so designated and is appropriately staffed and equipped to provide a broad range of healthcare services. Serves as a referral center with specialized and consultative support for facilities within the geographic area of responsibility. Conducts, as a minimum, a surgical graduate medical education program." [2]

Medical Expense and Performance Reporting System (MEPRS) "A uniform reporting methodology designed to provide consistent principles, standards, policies, definitions, and requirements for accounting and reporting of expense, manpower, and performance data by Department of Defense (DoD) fixed military treatment facilities and dental treatment facilities (MTFs/DTFs). Within these specific objectives, the MEPRS also provides, in detail, uniform performance indicators, common expense classification by work centers, uniform reporting of personnel utilization data by work centers, and a cost assignment methodology. (The two-digit MEPRS code identifies departments and the three-digit MEPRS code identifies clinic services.) [1]

MEPRS - Medical Expense Performance Reporting System." [2]

MEQS - Medical Expense and Performance Reporting System Executive Query System

Military Treatment Facility (MTF) "A military facility established for the purpose of furnishing medical and/or dental care to eligible individuals." [2]

MTF - Military Treatment Facility; Medical Treatment Facility

Non-available Time- "Those hours expended in support of activities unrelated to the healthcare mission. These activities include, but are not limited to, official leave, PCS processing, medical visits or treatments, change of quarters, parades, formations, details, and non-healthcare-related training." [2]

Non-reportable Time: "Those hours not accounted for by a MTF of assignment because another facility has reporting responsibility or such hours are already excluded by the use of 168 hours as the standard work month used by MEPRS, such as, regularly scheduled days off, holidays not worked, meal and other breaks, etc." [2]

Revised Financing: "The fiscal environment in which the Military Treatment Facility (MTF) receives funding for all TRICARE Prime enrollees (active duty and CHAMPUS eligible), which is designed to cover their MTF and/or purchased healthcare costs for the fiscal year; the MTF assumes full financial responsibility for healthcare requirements of enrollees." [1]

RVU: Relative Value Unit

Relative Value Unit: "The Relative Value Unit is a standard professional service (provider) weighting schema used extensively in the health care industry. The RVU is calculated from the Evaluation and Management (EM) code and the Procedure codes (CPT4) from the SADR. The diagnostic codes are not used, but should be related to the EM and CPT4 codes. [2]

SADR: Standard Ambulatory Data Record

Standard Ambulatory Data Record: A data repository that stores the MTFs daily outpatient workload captured in the CHCS system. [1]

SAS: Stepdown Assignment Statistic

Stepdown Assignment Statistic: A SAS shows who and how much a work center benefited/received support from the D and E MEPRS Codes. [1]

SEEC - Standard Expense Element Code

Service: "A term used to indicate a functional division of the hospital or of the medical staff. It also used to indicate the delivery of care." [1]

SMART - Summarized Management Analysis Resource Tool (Navy Only)

STARS/FL - Standard Accounting and Reporting System/Field Level

Standard Expense Element Code: "DoD coding convention used to total Service detailed expenses and obligation data to EAS." [2]

Stepdown Process: "A term used in MEPRS to describe the cost assignment of MEPRS expenses." [1]

TAD - Temporary Additional Duty (NAVY)

UIC - Unit Identification Code

Utilization: "Use of services. Utilization is commonly examined in terms of patterns or rates of use of a single service or type of service such as hospital care, physician visits, and prescription drugs. Measurement of utilization of all medical services in combination is usually done in terms of dollar expenditures. Use is expressed in rates per unit of population at risk for a given period such as the number of admissions to the hospital per 1,000 persons over age 65 per year, or the number of visits to a physician per person per year. Utilization is also analyzed with respect to demand forecasting - e.g., the enrolled population averages an outpatient utilization rate of X visits per year; therefore, increasing enrollment by 100 would reasonable increase demand for like services by 100 times X visits." [1]

Utilized Hours: "The total hours (available and non-available) contributing to the completion of required work center functions. These may include work hours from assigned, detached, detailed, borrowed, contracted, or volunteer personnel." [1]

Visit: "Healthcare characterized by the professional examination and/or evaluation of a patient and the delivery or prescription of a care regimen." [2]

Workload Assignment Module (WAM): "A module in CHCS that allows authorized users to generate MEPRS EAS and for the Navy the Standard Accounting and Reporting System/Field Level (STARS/FL) workload data, generate EAS and STARS/FL workload reports, manage CHCS workload data with approval processes and creates EAS and STARS/FL workload American Standard Code for Information Interchange (ASCII) files for interfacing with the EAS and STARS/FL. It also provides a centralized CHCS menu of MEPRS related reports." [2]

Work Center: "A discrete function or subdivision of an organization for which provision is made to accumulate and measure its expense and determine its workload performance. The minimum work centers for a Military Treatment Facility are established by the prescribed operating expense accounts. For specific guidance, see DoD 6010.13-M." [2]

Work Measurement: "A technique for the collection of data on man-hours and production by work units, so that the relationship between work performed and man-hours expended can be calculated and used as the basis for manpower planning, scheduling, production, budget justification, performance evaluation, and cost control." [1]

Workload: "An expression of the amount of work, identified by the number of work units or volume of a workload factor, that a work center has on hand at any given time or performs during a specified period of time." [2]

APPENDIX C. MEPRS GUIDELINES

A. MEPRS TIME ALLOCATION FOR PROVIDERS: A PRACTICAL GUIDE

1. Overview

This guide was assembled for providers who have to fill in MEPRS timesheets each month. It is designed to answer your questions about allocating time and to help you accomplish this task easily and effectively. The guide is set up in the form of Frequently Asked Questions (FAQs) that have been received over time from providers who were unsure of what to do.

2. Why Should You Care About This?

Naval Medicine operates Medical Treatment Facilities (MTFs) all over the world. Seventy percent of the cost of operation is salary expense. Right now, we do not feel confident that we know how much of that salary is being spent on the various activities within the MTFs because MEPRS time-allocation data is inaccurate. People at the BUMED and TMA are using the available data, however, to make decisions about which specialties are efficient and which ones are not. The specialties that appear efficient and cost-effective will continue to receive resources and the ones that are not are at risk for elimination. To make the best decisions about resourcing medical specialties and distributing manpower in support of health care priorities, we need accurate data about how providers are spending their time.

3. What is MEPRS?

The Military Expense and Productivity Reporting System (MEPRS) was developed in an effort to track the costs of accomplishing the many missions of military medicine.

MEPRS codes are associated with each part of an MTF where work is done and/or where expenses are incurred. In order to measure the relative efficiency of different parts of a command, we need to be able to tie the costs of producing workload with the actual workload that is produced. For salary expenses, that is done when staff members complete MEPRS time sheets and distribute time to the areas where work was accomplished.

4. Why Concentrate on Providers?

Most staff members work in a few areas during each month, and it is relatively easy to capture their time distribution. Providers, however, tend to divide their time among more activities and MEPRS codes. In addition, measures of provider efficiency are directly related to provider time allocation because providers are the only staff members who are directly linked to clinical workload accomplished by the Command. For these reasons, special attention should be given to the accurate capture of provider time allocation (and provider workload).

5. What Do We Do with Administrative Time?

Naval Medicine produces clinical care, readiness, research, and graduate medical education. Each of these activities has a work product and each of these activities must be supported administratively. Administration is required for workload to be produced and administrative time must be attributed to the workload-producing activity that benefits from the administrative support. Thus, administrative time which supports readiness should be allocated to readiness. Administrative time which supports clinical care should be attributed to a clinical activity, and so forth. To the greatest extent possible,

administrative activities should be attributed directly to the work center. Thus, if a provider is performing administrative tasks for a clinic, (paperwork, meetings, phone calls, completing watch bills, scheduling clinics) the time spent on those tasks is appropriately recorded as clinical time. Only those activities that benefit the entire command should be recorded in administrative codes. Those administrative or support activities are described below.

6. What Is Productive and Non-Productive Time?

Productive time is time spent on activities that directly support the command mission. Non-productive time is relatively self-evident; it is time that is not available to the Command for productive work. Examples include regular leave and sick leave. It is very important to track the amount of non-productive time accurately. When providers are not available due to leave, they will not be able to produce clinical workload. If they are recorded as available for productive work, then efficiency will appear lower than it really is. Also, it is important to keep track of the amount of productive time available for each provider in general. If someone is not regularly available for work, then some aspect of management intervention is likely needed.

7. Is It Better to Inflate My Time So That I Can Show How Hard I Am Working or Should I Record Fewer Hours So It Looks Like I Am Accomplishing More Visits Per Hour?

Actually, the goal is to capture accurately the amount of time it actually takes to accomplish our mission. If people are really putting in 250 hours per month we need to know that because we probably need some management

intervention. On the other hand, if people are recording more time than they are actually present, they will look inappropriately inefficient, and this could hurt us in comparisons with our competitors. Essentially, we need the real numbers with the actual distribution.

8. What Are the Broad Categories of Time That Correspond to MTF Mission Elements?

The list below is a broad categorization of MTF mission essential activities. Each of the categories are associated with workload and requires significant resources. You should ask yourself if you are involved in activities that support each of the following broad categories or mission elements:

Clinical Care

GME

Readiness

Research

Loaned Labor

Command Administration

Leave/Liberty

If you are doing work in one of these activities, but your time is not being captured, then we are not accurately reporting how you are being employed in support of the command.

9. How Do I Identify the Specific Codes to Use in the Categories of Activities Where I Work?

Your MEPRS coordinator or clinic manager will be able to tell you the actual code to use if you can identify the type of activity from the list below. As you can see, the MEPRS codes are comprehensive. As you review the list below, you will notice that you will need to identify the

type of clinic, ward, APV, or ICU, where you work. For the non-clinical areas there will usually only be one MEPRS for each of the activities:

Clinical Care

Outpatient Clinics

Ancillary Services (lab, pharmacy, radiology)

APV

Inpatient Wards

Anesthesiology

Intensive Care Units

Education

Providing GME support or training

Delivering staff education

Receiving professional skills training (CME, etc)

Readiness

Deployment planning and administration

Field or fleet readiness exercises

Local readiness training

Unit deployment

Readiness physical training

NDMS Exercises

Research

Full time research (research fellows)

Approved research projects (part time) (Clinical Investigation Program)

Loaned Labor

Working in another military hospital or clinic

Working at a VA hospital

Working at a civilian hospital.

Administration

Command Administration

Clinical Management (for more than one clinical service, like a Clinical Director)

Specialty Leader Work or Guest Lecturer
Executive Committee of the Medical Staff
Time on call

10. Once I Have Identified the Clinical Areas Where I Work, Are There Guidelines for How Much Time I Should Attribute to Each Area?

Outpatient Clinics: In most cases, this is quite obvious. All of the time you spend in face-to-face patient care, documentation, returning phone calls, and working with staff is considered clinical time. In addition, any time you spend attending clinic staff meetings would also be considered clinical time.

Consultations are performed in the ER, on inpatient wards, in the ICU or elsewhere within the MTF. The time devoted to this work should be allocated to your usual clinical code and the work should be captured as consultations recorded in the same clinic. Thus, if an internal medicine provider is called to the inpatient surgery ward to see a surgical patient experiencing postoperative chest pain, the provider would complete the consultation on the ward, record the visit later in the internal medicine clinic and allocate the time devoted to the consult to the internal medicine clinic.

Ancillary Services (lab, pharmacy, radiology): Only providers that are assigned to the lab, pharmacy or radiology generally use these codes to record their time. One exception would be a cardiologist who goes to the radiology department to perform a procedure. In that case, the cardiologist would allocate the time she spent

performing the procedure to the radiology department as long as the radiology department receives the credit for the procedure.

Ambulatory Procedure Units: Ambulatory procedures have been set up in a unique manner. All provider time should be allocated to an outpatient clinic code that ends with a 5 (B**5). The actual ambulatory procedure units serve several clinical specialties and are where the support staff (nurses, corpsmen, administrative staff) allocates their time. No provider time should be allocated to the Ambulatory Procedure Units.

Inpatient Work: Just like outpatient time-allocation, inpatient time is generally self-explanatory; if you are on the ward you should code your time to the ward. Team meetings, patient safety meetings, or case conferences should be allocated to a clinical code. If the meeting is primarily focused on inpatient issues, the time should be attributed to an inpatient code.

Operating Rooms: Surgeons should never attribute time directly to the OR. All of the time should be attributed to the inpatient service or ambulatory procedure visit (APV) code for which the patient was admitted.

Anesthesiology: Anesthesiology providers should code all of their clinical time to anesthesiology unless they are delivering care in the pain clinic. Time in the pain clinic is attributed directly to the pain clinic.

Intensive Care Units: Generally, only providers who are working in the ICU on a full-time basis should use the ICU code. Some providers (residents, rotating attendings)

spend a month or more working in the ICU. In this instance, use of the code by those providers would be appropriate. For other providers who are making rounds on their patients in the ICU, time should be allocated to the inpatient service that originally admitted the patient (before they went to the ICU).

On-Call Activities: The first rule is that time should not generally be recorded for activities that take place outside of the MTF. Any on-call work that is accomplished over the phone from home can be recorded in MEPRS but only for military providers. Being at home, waiting for the phone to ring is never considered productive time for MEPRS reporting purposes. On the other hand, time on-call in the MTF should be recorded. In most cases, providers who are on-call in the MTF are there to support inpatient care or the ER. In those cases, the on-call time should be attributed to the inpatient code that the provider is supporting, except when they are actually in the ER evaluating patients. If one on-call provider supports multiple services, then the time should be divided based on a reasonable estimate of the proportion of time devoted to each of the services.

11. How Much Time Should I Attribute to GME?

First, realize that the rules are different for trainees and for faculty.

Faculty: If you are a faculty member in a training program, you should count as training time as the time you spend supervising trainees in the clinic, conducting classes, preparing for teaching while at work, or attending meetings that primarily support the GME mission.

Trainees in a GME Program: For trainees, the answer is simple. Trainees allocate their time to the clinical areas for which they work, using the guidelines for allocating clinical time. When the SPMS/MEPRS personnel at your Command enter the data, they will adjust the input to reflect a set percentage of your productive time going to GME salary. For interns, 50% of productive time will be attributed to GME salary, for residents 30%, and for fellows 10% of the time is considered training. Any additional time that is spent in classes, studying, or receiving guidance outside of clinical spaces can be attributed directly to the training code.

12. What about Time I Spend Delivering Professional Training to Peers and Fellow Staff Members?

If training is delivered to members of the MTF staff, but it is not associated with a GME program, then it should be coded as Professional or Skills training, but only if you conduct the training outside of your clinic. Examples of this type of training include ATLS, ACLS, BLS, JCAHO training, or routine in-service training. Time that you spend delivering in-service lectures for the clinic where you work should be counted as clinical time.

13. How Do I Code for the Time I Spend in Training to Keep My Credentials or Privileges?

If you attend mandatory training in order to maintain your professional credentials or increase your scope of activities at work, or help the MTF maintain regulatory compliance, you should attribute that time to the CME/Professional Skills training MEPRS code. Examples of this kind of training include ATLS, ACLS, JCAHO training, sexual harassment training, customer relations, or TAD to attend a conference. Again, since you are not available to provide

clinical care, this time must be carefully recorded. If you mistakenly attribute this time to clinical activity, you will look unfairly inefficient.

14. How Do I Account for the Time I Spend Supporting the Readiness Mission?

There are a number of activities associated with readiness:

Maintaining personal fitness is required so any time you spend preparing for the PRT while you are at the MTF can be counted as readiness time. If however, you choose to work out before you come to work or after you go home, you cannot count this as readiness time in MEPRS.

Deployment planning or administration: This code should be used to capture the time you spend ensuring that you are ready to deploy. This would include updating medical records, obtaining immunizations, procuring dog tags, clothing, preparing a will, etc. You should also use this code if you are part of the planning team for a deployment.

Readiness training/exercises peacetime: Use this to record all of the time you spend attending classes or exercises in preparation for peacetime or disaster. This might include recall exercises, readiness drills and anything else done in preparation for peacetime contingency operations.

Readiness training/exercises wartime: Use this to record all of the time you spend attending classes or exercises in preparation for wartime activities. This

includes MMART training, platform training, CBW training, recall exercises, readiness drills and anything else done in preparation for wartime contingency operations.

Unit or personnel deployment: If you are deployed in support of a contingency operation, all of your time should be attributed to this code. If you do not make sure that your time is moved to this code, it will seem as you are still at your Command and that you are available for clinical work.

National Disaster Management System (NDMS) Exercises: Any time you spend practicing with the local community in preparation for a civilian disaster can be attributed to this code.

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APPENDIX D. MEPRS TIME-ALLOCATION FORM FOR CARDIOVASCULAR AND CRITICAL CARE SERVICE

The MEPRS template data that is collected and returned to the MEPRS shop will be entered into the MEPRS module in SPMS and the form associated with the Service Line's template in the FlashReport database. Figure 16 below shows an illustration of a form that was designed in the FlashReport database to capture the entered data.

Cardiovascular and Critical Care Service Time Allocation Form

RANK: CDR LNAME: MCLUCKIE FNAME: ALAN DUTYPE: 1P

DEPARTMENT: 0002100 PRD: 7/5/2000 PCS: Service:

Clinical

Cardio OP BE: 43
 CardiCathLab BE: 114
 Electcargrap BE: 2
 CardRehab OP BE: 0
 Cardiotele BE: 0
 CardthorSurOPBE: 0
 Cardio APV BE: 0
 CardCTSUR IP BE: 0
 CardCTSURICU BE: 0
 CritCareMDICU BE: 0

Loaned Labor

CardSupAnna BE: 0
 CardSupPAX BE: 0
 CardSupQuant BE: 0
 SupDthMIAct BE: 0

Readiness

LocalReadTm BE: 0
 OthrReadExer BE: 0
 PRT BE: 16
 SupNonMEPRAct BE: 0
 SupDthFedAg BE: 0

GME

GMEIntResSal BE: 0
 GMEFellowSal BE: 0
 StaffsupGME BE: 0
 StaffEdTm BE: 33
 CorHHEdOut BE: 4

Research

ClinResSrv BE: 0
 GMEFelResRes BE: 0

Command Functions

Comm Admin Prov: 10
 SpecLeader BE: 0
 CardioCCSrv BE: 0
 Guest Lect Prog: 0

Leave and Liberty

Leave and Liberty: 0
 Sick Leave: 0

Total Time

Total Hours Worked: 222

Exit Form

Enter this number for "Total Hours Worked"

222

Find Record MCLUCKIE

If two last names are the same, select correct last name and then push enter, other wise, it will go to 1st last name in sequence

Record: 108 of 169

Figure 16. MEPRS Time-Allocation Form for Cardiovascular and Critical Care Service (Source: FlashReport Access Database)

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APPENDIX E. QUERY TO FIND ORGANIZATIONAL CODE MISMATCHES BETWEEN THE ORGANIZATIONAL FILE AND FLASHREPORT SERVICE CODES

The query shown in Figure 17 was created during the early stages of the transformation of the NNMC. The results from the query shown in Figure 18 reveal 16 Services that were included in the Organizational File in SPMS, but not included within the organizational table maintained in the FlashReport.

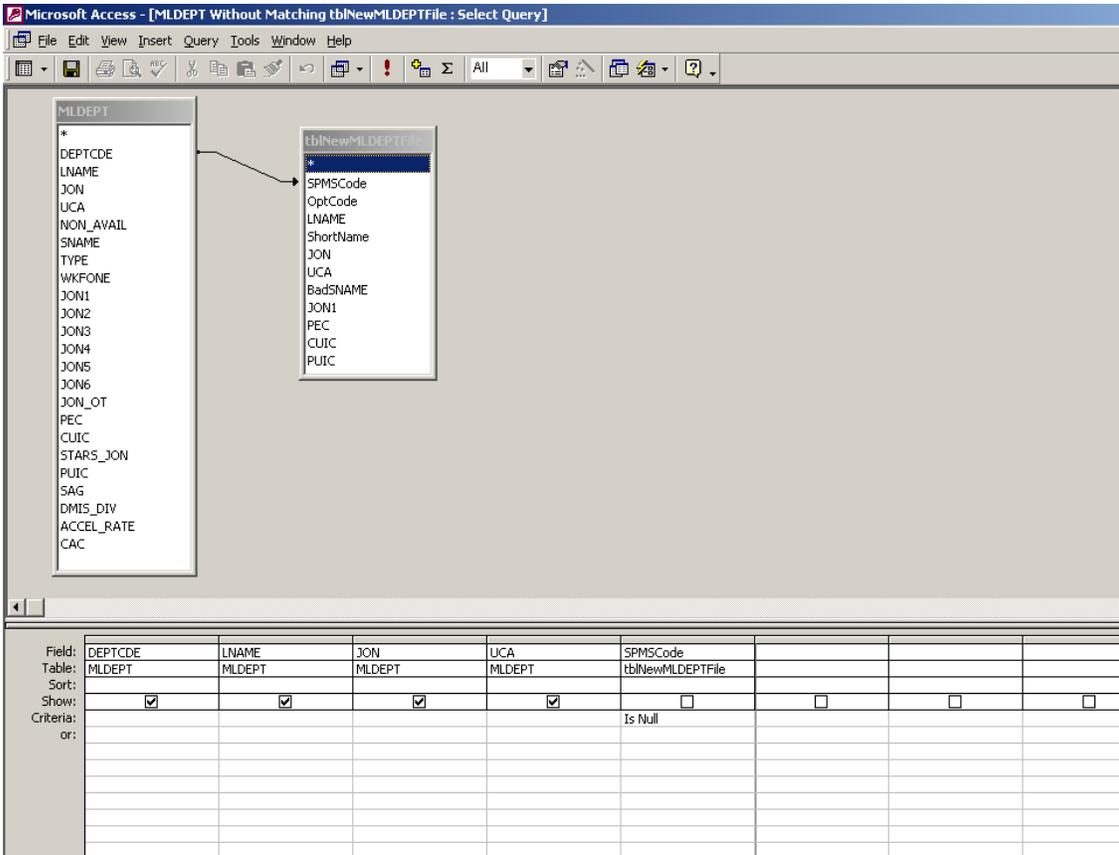


Figure 17. Query to Find Organizational Code Mismatches between the Organizational File and FlashReport's Data Tables (Source: FlashReport Access Database)

Results from query

DEPTCDE	LNAME	JON	UCA
00000A0	PUBLIC AFFAIRS	1A10R	EBAA
000115A	ADOLESCENT MEDICINE	NFJ1L	BDBA
00011PP	OCCUPATIONAL HEALTH NRL	LSW1Q	EKAP
00011TT	IMMUNIZATIONS WNY	LU11Q	FBIT
000132B	REPRODUCTIVE ENDOCRINOLOGY	NF01M	BCAA
000135D	PERITONEAL DIALYSIS	NP51L	DGDA
00014TO	OPTOMETRY WNY	LJB1Q	BHCT
000153C	DRUG AND ALCOHOL PROGRAM ADVISOR	NRU1C	EBBA
000310A	DOD BLOOD BANK PROGRAM	NUA1M	FADA
0003200	CLINICAL INVESTIGATION SERVICE		FAHA
000342B	LABORATORY (HEM/ONC)	NM51N	DBAD
000342H	LABORATORY (HIV)	NM51N	DBAB
0003800	RESPIRATORY THERAPY SERVICE		DHAA
000530G	OTHER READINESS EXERCISE	C2Q10	GBBA
0006500	PLANS ANALYSIS AND EVALUATION SERVI	Q121R	ELAA
00125A	ADOLESCENT MEDICINE	NFJ1L	BDBA

Figure 18. Result from the Query to Find Organizational Code Mismatches between the Organizational File and FlashReport's Data Tables (Source: FlashReport Access Database)

The query was run during the early stages of the transformation of the NNMC. The query results show 16 Services that were included in the Organizational File in SPMS, but not included within the organizational table maintained in the FlashReport.

APPENDIX F. CHECK-IN/CHECK-OUT PROCESS

The check-in/check-out process was revised because data in the personnel database did not accurately reflect who worked at the MTF or where they worked. A task group assessed the current process and created a business process with attendant business rules to control the flow of personnel in and out of the Command.

The group consisted of representatives from:

- Performance Reporting (Resources Directorate)
- Manpower Department (Hospital Administration Directorate)
- Pass and ID Division (Hospital Administration Directorate)
- Information Management Department (Hospital Administration Directorate)

The group developed a sequence for check-in to control the flow of personnel so they could be properly entered into the SPMS and CHCS systems. It was determined that Pass and ID along with the Information Management Department would be the two focal points, because of the importance of a staff member obtaining an identification badge and a provider gaining access to the CHCS system.

The sequence to be followed and the rationale for each step is as follows:

- LCPO and Department (Enlisted Only): The Service Line Manager determines which organization code the service member will be working in.
- Pass and ID: A staff member must have a check-in sheet with an assigned skill type from Manpower, before an identification badge is issued. The skill type from SPMS will be aligned with the identifiers on the identification badges. If the members do not have a check-in sheet, they will be referred back to Manpower.
- Outpatient Medical Records: A green card will be issued to patients and the staff member's name will be entered into CHCS.

This step is necessary later when CHCS access privileges are assigned from Information Management.

- CHCS/CIS (ONE STOP SHOP): When providers start to see patients, they need to have order entry and then privileges in CHCS. If they request that access without a check-in sheet, they will be directed back to Manpower. When the staff members initially check in with Manpower, they will be given an Information Management form. This form will be filled out by the Department to recommend what level of access to the computer systems that these staff members need to do their job.

This check-in/check-out sequence was tested for two months before the process was determined to work well. The lessons that were learned were the critical steps were done in sequence but the remaining items on the check-in could be done at one's leisure.

The initial personnel data is entered in SPMS Personnel File when the staff member reports to Manpower. The check-in procedure is carried out with Manpower being the last stop. The personnel file from the Manpower Module of SPMS is transmitted to Performance and Reporting Service where it is merged with the integrated database that will create the report template that will be forwarded to the Service Line Managers. In addition to receiving expense data and military labor allocation, the Service Line Managers will be certifying that the correct personnel are assigned to the Service Line and making notations if corrections are necessary. This information will be forwarded to Manpower for changes in the personnel file in the Manpower Module.

APPENDIX G. SPMS UPDATE ACCESS DATABASE

A. QUERY TO SUBSET THE PERSONNEL FILE IN SPMS INTO SERVICES

The query shown in Figure 19 provides the required tables and relationships that are needed to subset the SPMS PERS File into individual Service Lines.

The query at first seems complex because of all the table relationships, but the only feature this query is performing is to retrieve all personnel who have a service code that matches the criterion. The service code criterion is not visible in the figure because of formatting limitations, but for this particular query, the criterion in the service code variable was "00021??".

The criterion "00021??" retrieves any staff member assigned to the Cardiovascular Service Line. The "??" symbols are wild-card characters that pull all personnel from all services within the Cardiovascular Service Line.

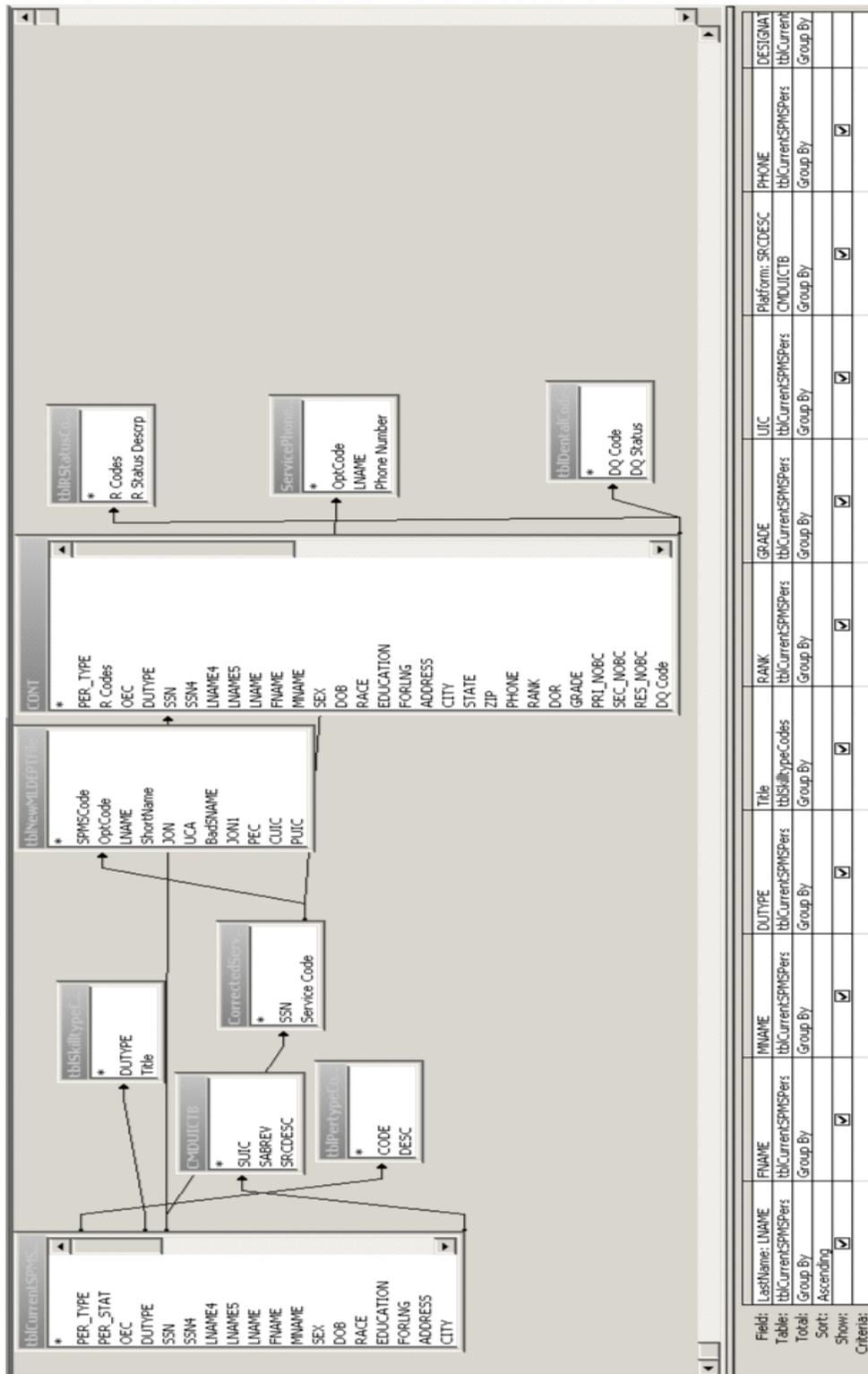


Figure 19. Query to Subset the Personnel File in SPMS into Services Lines (Source: SPMS Update Database)

B. MACROS THAT DELETE, CREATE, AND EXPORT THE SERVICE TABLES

The first macro created deletes all the service tables initially generated by the make-table queries. Figure 20 shows the events the macro will execute if the macro is run. In this figure, the events are to delete the Service Line tables.

Macro Name	Action
	DeleteObject
	Commander
	DeleteObject
	Chief of Clinical Staff
	DeleteObject
	Chief of Nursing Staff
	DeleteObject
	Command Master Chief
	DeleteObject
	American Red Cross
	DeleteObject
	Navy Marine Relief
	DeleteObject
	Pastoral Care
	DeleteObject
	PE&I
	DeleteObject
	Public Affairs
	DeleteObject
	Safety Dept
	DeleteObject
	JAG
	DeleteObject
	Chief of Optimization
	DeleteObject
	Deputy Commandert
	DeleteObject
	Prevention and Wellness
	DeleteObject
	Primary Care
	DeleteObject
	Women and Children
	DeleteObject
	Disease MGMT
	DeleteObject
	Procedural Specialty
	DeleteObject
	Behavioral Healthcare
	DeleteObject
	Restorative Care
	DeleteObject
	Cardiovascular
	DeleteObject
	Musculoskeletal
	DeleteObject
	Neuroscience
	DeleteObject
	Oncology
	DeleteObject
	Operative
	DeleteObject
	Surgery Service
	DeleteObject
	Clinical Support
	DeleteObject
	Blood Bank
	DeleteObject
	Clinical Nutrition
	DeleteObject
	Laboratory
	DeleteObject
	Navy Central HIV
	DeleteObject
	Pharmacy
	DeleteObject
	Radiology

Figure 20. Design View of the SPMS Update Delete Macro (From: SPMS Update Access Database)

C. SPMS UPDATE MAINTENANCE GUIDELINES

Table 14 below shows the steps involved and the responsible party member to perform maintenance to update the SPMS Personnel File.

Step/Task	Responsible Party
Service Line Rosters Exported On FINSERVER Updated from SPMS Update Access Database	SPMS Update Database Management
Validation and Correction Of FINSERVER Roster	Service Line Leadership Team
E-mail Validated/Corrected FINSERVER Roster to Manpower at: SPMSUpdate@bethesda.med.navy.mil	Service Line Leadership Team **
Correction/Update of SPMS Database	SPMS Manpower Manager
All SPMS Database Corrections/Updates completed by COB	SPMS Manpower Manager

Table 14. Steps to Update the SPMS Personnel Data and the Responsible Party

As table 14 describes, after the Service Line tables are exported from the SPMS Update Access Database to their respective folders on the secure Finserver network, they are reviewed and verified by the Service Line Management Team. The Service Line Management Team then emails or delivers the hard copies to the SPMS Database Manager to correct the personnel errors that are within the SPMS Personnel File. The SPMS Update process is run the next day and the personnel corrections are reflected in the updated exported personnel roster spreadsheets. The email is the recommended mode to submit corrections because it files an audited path of and by whom what changes are being requested in the SPMS Personnel File.

Process and format for making corrections to each Service Line's personnel roster via FINSERVER secure network:

List all corrections at the bottom of your personnel roster, a few lines below the last entry. There are three general types of corrections, "Delete," "Add," and

"Change." The process for making these corrections is listed below.

If personnel roster is correct and no changes are needed, type **"No Changes"** in column "A," a few rows below the last entry on the personnel spreadsheet. Validation and submission of the personnel roster to Manpower is required weekly regardless of whether changes are needed.

Process to DELETE Personnel

If an individual who is not in your Service Line/Service appears on your personnel roster, copy the line on which the individual appears and paste it a few lines below the last entry on your personnel roster.

In the cell directly below the persons last name, type in **"Delete."** If you know when they left your Service Line/Service, and/or where they moved to, please type that in also.

Process to ADD Personnel

If an individual is in your Service Line/Service but not on your personnel roster, type the person's last name in column "A" a few rows below the last entry on your personnel roster.

In the cell directly below the person's last name, type in "Add."

Instruct the individuals who you are adding to your personnel roster to report to manpower ASAP to update their demographic information sheet. It is generally not possible for Manpower to add individuals to the SPMS

database and personnel roster if they do not go to Manpower to update their demographic information sheet.

Process to CHANGE Personnel

If you just want to correct some of the information about an individual who is on your personnel roster, copy the entire row that the individual's data is on and paste it a few rows below the last name on your personnel roster spreadsheet.

In the cell directly below the last name of the individual for whom you want to correct information, type "**Change.**" Then find the cell with the incorrect information and in the cell directly below it, type in the correct information. Do not overwrite the incorrect information. Only list the correct information in the cell below what you want to change.

The Service Line Leadership Team is responsible for identifying the individuals and up to two alternates who are responsible for validating, correcting and submitting the personnel roster to Manpower. Having the same individuals perform this task every week will simplify the process of SPMS updates, enhance the reliability of the data, and quickly resolve questions about the SPMS Database Update Process.

D. DATA TABLES WITH CODES AND DESCRIPTIONS

The Skill Type codes refer to the staff member's professional skill. Table 15 shows the Skill Type code and their code descriptions.

DUTYPE	Title
1R	RESIDENT-PHYSCIAN
1N	INTERN-PHYSICIAN
1F	FELLOW-PHYSICIAN
1D	DENTIST
1P	PHYSICIAN
5Z	NO DIRECT PT CARE/NONMED-ALL OTHERS
4Z	DIRECT CARE PARAPROFESSIONAL - ALL OTHER
4A	NURSING ASSISTANT
2Z	DIRECT CARE PROFESSIONAL-ALL OTHERS
5C	CLERICAL
5L	LOGISTICS
5A	ADMINISTRATORS
3R	REGISTERED NURSE
2A	NURSE ANESTHETIST
4L	LPN/LVN
2N	NURSE PRACTITIONER
2M	NURSE MIDWIFE
2S	CLINICAL NURSE SPECIALIST
1V	VETERINARY
2P	PHYSICIAN ASSISTANT
1S	INTERN-DENTIST
1T	FELLOW-DENTIST
1U	RESIDENT - DENTIST
2C	COMMUNITY HEALTH NURSE
2H	OCCUPATIONAL HEALTH NURSE

Table 15. Skill Type Table with Codes and Descriptions

The personnel type codes refer to the type of staff. Table 16 shows the Personnel Type codes and their code descriptions.

Per Type	DESCRIPTION
O	Officer (Staff)
E	Enlisted (Staff)
C	Civilian (Staff)
B	Borrowed Labor
R	Reservist
L	OLD Local Foreign Natl
X	Contractor-Personnel Svcs
V	Volunteer
T	Other

Per Type	DESCRIPTION
D	Foreign Natl-Direct Hire
I	Foreign Natl-Indirect Hire
F	Foreign Natl-Free Receipt
S	Contractor-Shared Resource
Y	Contractor-Non-Personnel Svcs
W	Red Cross

Table 16. Personnel Type Codes and Descriptions (Source: SPMS Per Type Table)

The status code identifies a staff member's position within the MTF. Table 17 below shows the status codes, along with the code descriptions.

STATUS	DESCRIPTION
ATF	ADVANCED TECHNICAL FIELD
FEL	FELLOW
INT	INTERN
LIM	LIMITED DUTY
OTH	OTHER STATUS NOT PREVIOUSLY DEFINED
PSI	PROGRAMMED SCHOOL INPUT
RA1	RESERVE - ANNUAL TRAINING
RES	RESIDENT
RI1	RESERVE - INDIVIDUAL DUTY
RR1	RESERVE - RECALL
RS1	RESERVE - SPECIAL WORK
RV1	RESERVE - VOLUNTEER
STF	STAFF

Table 17. Status Codes and Descriptions (Source: SPMS Status Table Revised)

APPENDIX H. FLASHREPORT DATABASE

A make-table query was created for each Service to find staff who had departed from the Service Line. The make-table query is shown in Figure 21.

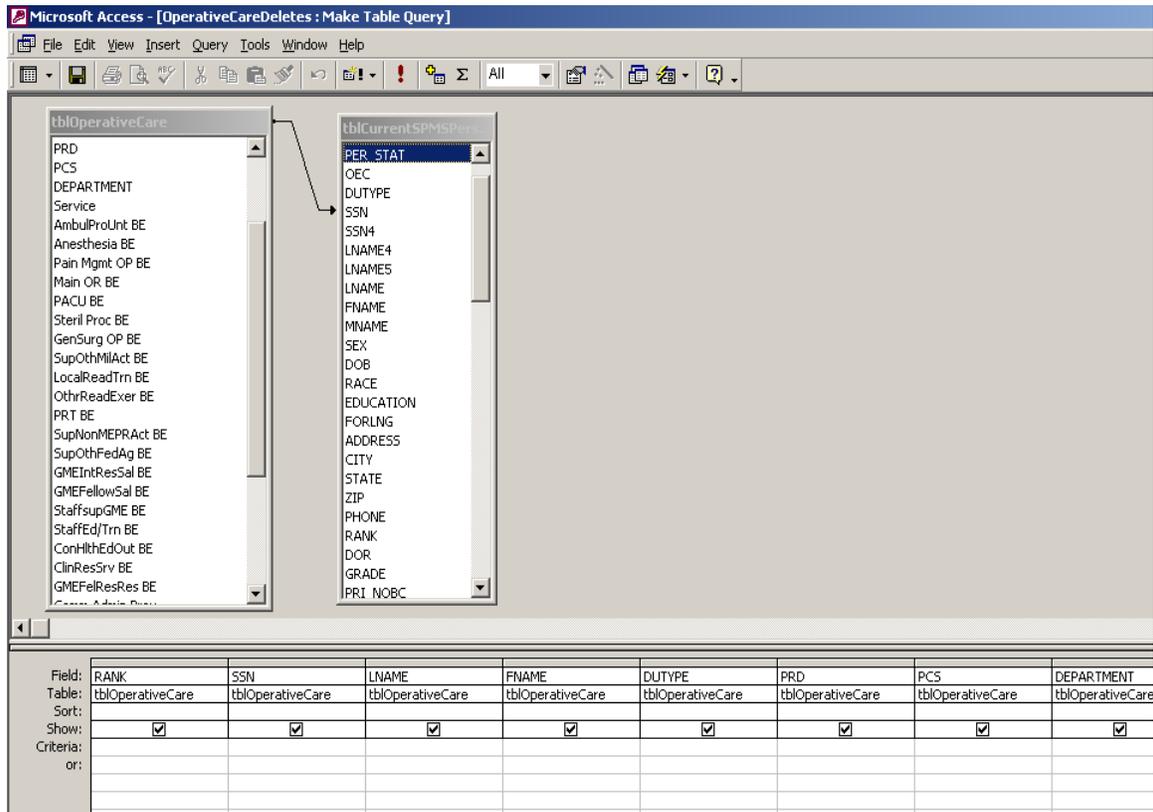


Figure 21. A Make-Table Query That Finds All Staff Who Have Left or Transferred from the Operative Care Service Line (Source: FlashReport Access Database)

After all the make-table queries were executed to find the staff who have left each Service Line, a delete-table query was built to remove all the staff from the original Service Line table. This is the only method for removing staff from the original Service Line tables. Figure 22 below shows the delete query design.

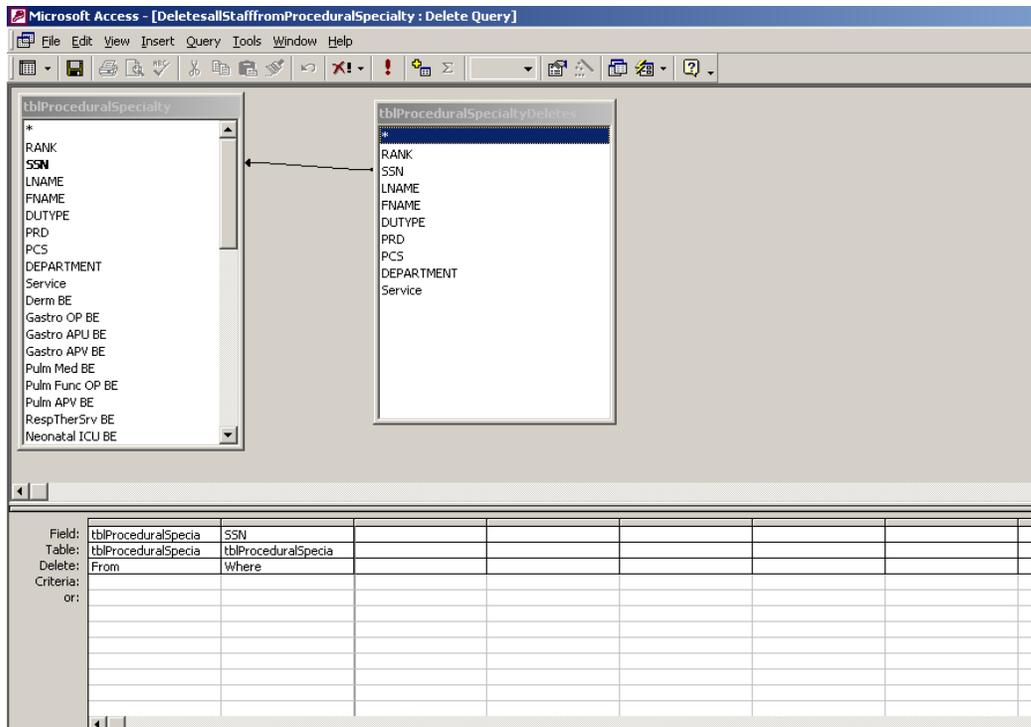


Figure 22. Delete Query That Automatically Deletes Records from Procedural Specialty Service Line (Source: FlashReport Access Database)

A make-table query was created to find all staff that have recently arrived, by Service Line. Figure 23 below shows the make-table query that produces the tables containing personnel recently added to a particular Service Line.

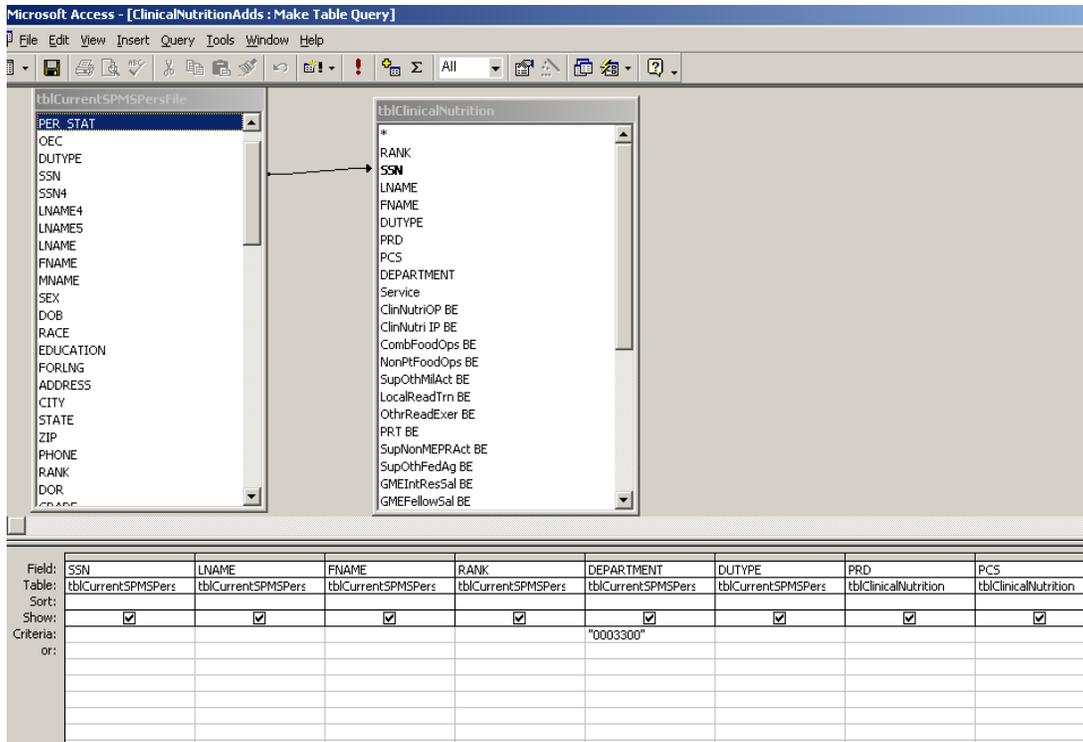


Figure 23. Make-Table Query That Includes All Personnel Who Were Recently Assigned to the Clinical Nutrition Service Line (Source: FlashReport Access Database)

The append-query appended the new additions automatically to their respective original Service Lines. This is the only method for adding new records to the original Service Line tables. Figure 24 below shows an append-query that will automatically add the personnel to the Disease Management Service Line.

A third make-table was created to find all staff who transferred from one Service Line to another.

After all the make-table queries were executed for each Service Line, an append query was built for each Service line to append all personnel who transferred. This was done in a single table. The table now includes all

staff who need to be deleted from their original Service Line. The database manager deletes the transfers manually from their original Service Lines. This is the only manual task a manager must perform, other than entering the MEPRS time-allocation data. The staff are automatically added to their respective service lines from the query that finds all new staff and the append query that automatically adds the staff.

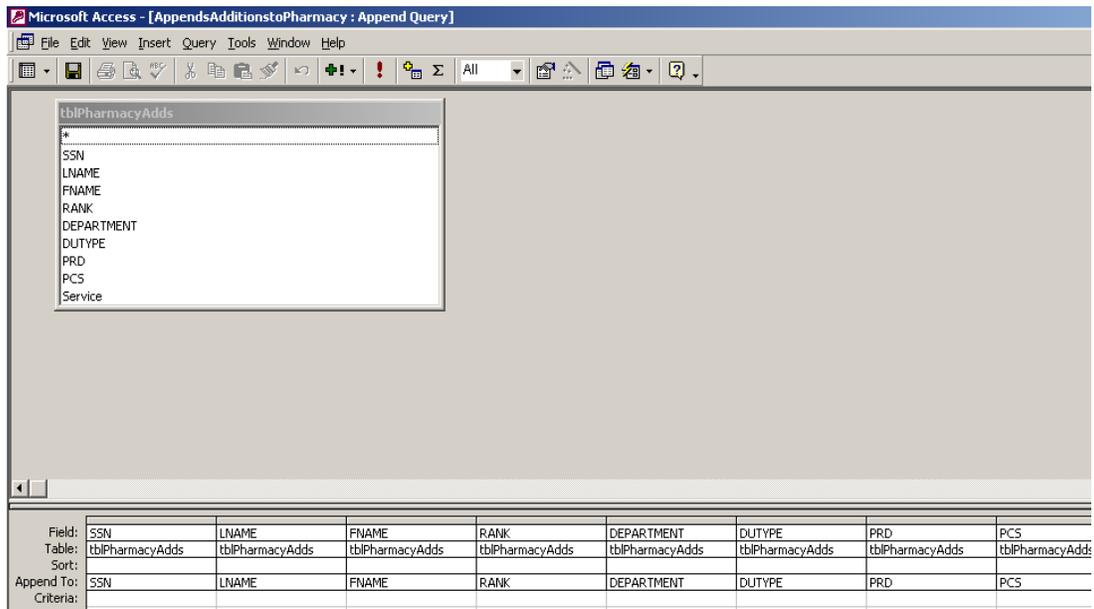


Figure 24. An Append-Query That Automatically Adds Personnel to the Disease Management Service Line

To recap, every Service Line has six associated action queries with which to align the personnel. This was necessitated by the fact that the Manpower Service would not allow the PERS File to be directly linked into any of the three Access databases created by the Resource Service. Below are the action queries built for the Behavioral Health Service Line to handle the personnel changes.

Original Behavioral Health Service Line (SL) Table

Action Queries:

Make-table to create a table for the additions
Make-table to create a table for the deletions
Make-table to create a table for the transfers
Append query to add the additions to SL tables
Delete query to delete the deletions from SL tables
Append query to add the transfers to a single table

The next order of business was to create six macros that automated the execution of the six action queries. Below is a list of all the macros created to automate the process of capturing the daily personnel changes.

Macros:

- Macro that executes all queries that Append Additions to Service Lines
- Macro that executes all queries that Append Transfers to a single table called tblTransfers
- Macro that executes all queries that create new Addition Service Line tables
- Macro that executes all queries that create new Deletion Service Line tables
- Macro that executes all queries that create new Transfer Service Line tables
- Macro that executes all the delete queries

Figure 25 below shows the splash screen to automate the process of executing the macros.



Figure 25. Splash Screen with Command Buttons That Automate the Process of Executing the Macros. (Source: FlashReport Access Database)

Figure 25 shows seven command buttons with associated visual basic code programming to execute the respective macros. The command button that has the caption, "Finds All Additions to NNMC," is linked to another splash screen shown in Figure 26 below.

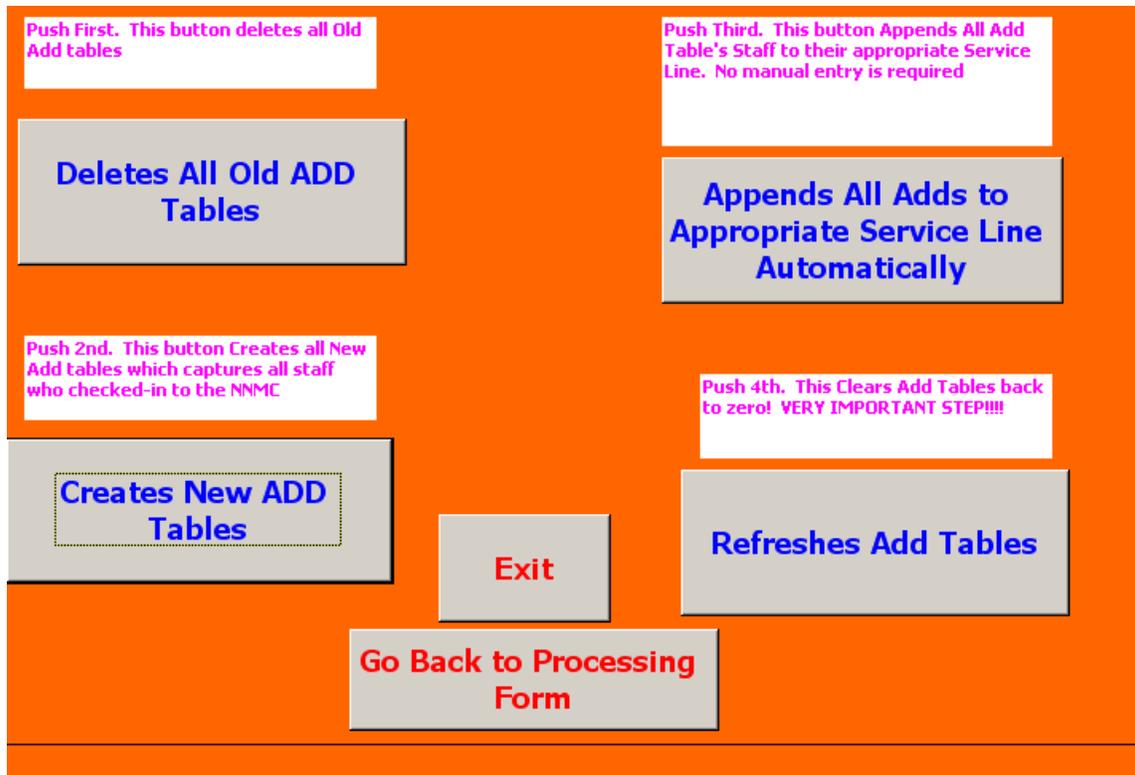


Figure 26. Splash Screen with Command Buttons That Automate the Process of Executing the Macros that Run the Queries to Find and Add All New Staff and Append the Staff to Their Respective Service Lines. (Source: FlashReport Access Database)

The button with the caption "Deletes All Old Add Tables" deletes all the tables for each Service Line that includes personnel to be added to their original Service Line table. The button with the caption "Creates New Add Tables" creates newly updated tables for each Service Line that contains staff that must be added to their assigned Service Lines. The button with the caption "Appends All Adds to Appropriate Service Line Automatically" appends all the newly assigned staff members to their individual Service Lines. The command button with the caption, "Refreshes Add Tables" re-runs the buttons: "Deletes All

Old Add Tables" and "Creates New Add Tables" in sequence. This will show if any staff members that needed to be added to a Service Line were not added properly. All the tables with the new added staff should now be empty.

Figure 27 below shows the form for the Clinical Support Service. The form includes all the services where the staff members say they perform their duties. A list box was created to find a person's record and to carry their data into the form automatically. Figure 27 below shows an HM3's record captured. The first and last name is not shown for privacy considerations.

The text boxes for the data variables Rank, Last Name, First Name, Skill Type, Service Line, PRD, and Total Hours Worked are locked and not editable. All other text boxes are not locked and data entry is permissible. When the MEPRS time-allocation templates are returned to the MEPRS shop from the Clinical Support Service Line, they are entered into this form for each staff member contained in the original Clinical Support table.

RANK HME **LNAME** **FNAME:** **DUTYPE** 4Z

DEPARTMENT: 0003000 **PRD** 8/1/2002 **PCS** **Service:**

Loaned Labor

ClinSupWRAM BE: 0
 SupOthMIAct BE: 0

Readiness

LocalReadTrn BE: 10
 OthReadExer BE: 0
 PRT BE: 18
 SupNonMEPRAct BE: 0
 SupOthFedAg BE: 0

GME

GMEInResSal BE: 0
 GMEFellowSal BE: 0
 StaffsupGME BE: 0
 StaffEd/Trn BE: 0
 ConHRHdEdOut BE: 3

Research

ClinResSrv BE: 0
 GMEFelResRes BE: 0

Command Functions

Comm Admin Prov: 0
 SpecLeader BE: 0
 ClinSupSrv BE: 144
 Guest Lect Prog: 0

Leave and Liberty

Leave and Liberty: 0
 Sick Leave: 0

Visits

Visits: 40
 Clinical Hours: 0
 Total Hours Worked: 175

Enter this number for "Total Hours Worked" 175

Exit Form

Find Record

Figure 27. Clinical Support Data Entry Form That Captures the MEPRS Time-Allocation Labor Hours for Each Staff Member (Source: FlashReport Access Database)

A data entry switchboard was created to allow a data enterer easy access to each Service Line's form. The switchboard's command buttons help the data entry person guide to the Directorate Level. At the data entry switchboard, users simply click on the selected Directorate command button they prefer and this takes them to a Service Line switchboard. The Service Line switchboard is shown in Figure 29.

Examples of the switchboards are shown in the following figures. Figure 28 shows the Directorate switchboard. The Directorate switchboard provides access to each Service Line's switchboard.

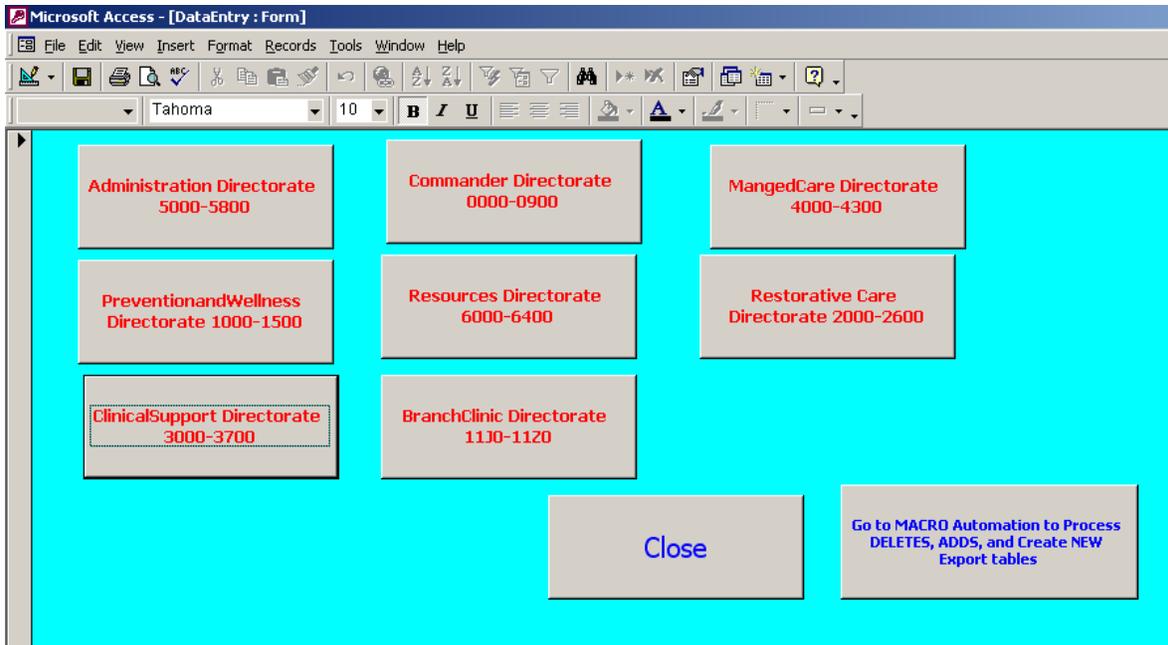


Figure 28. Switchboard for Each Directorate at the NMMC to Gain Access to the Service Line Level Switchboard (Source: FlashReport Access Database)

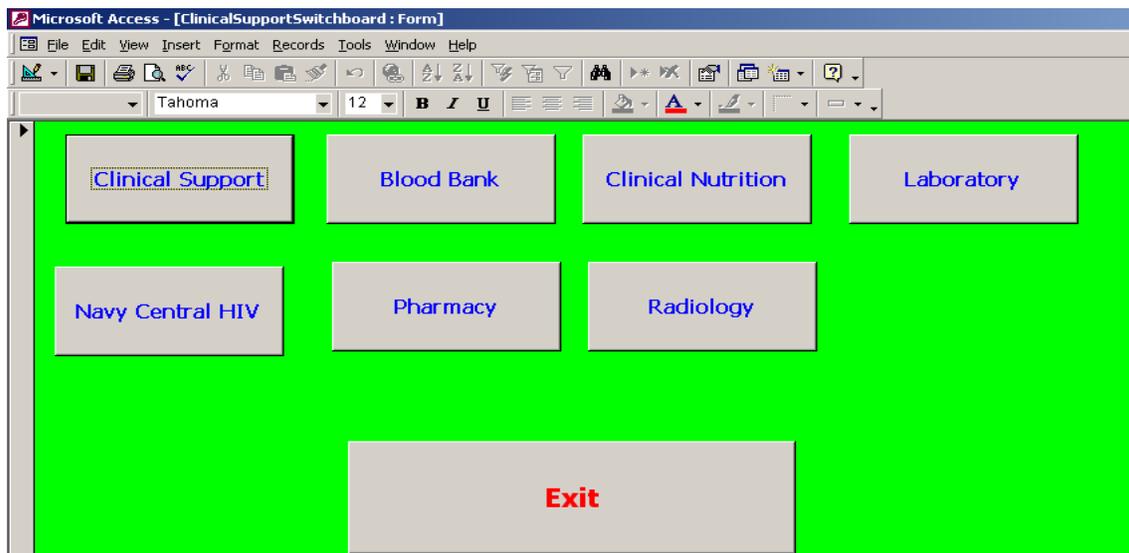


Figure 29. Service Line Switchboard That Proceeds a Data Enterer to a Service Line by Clicking on the Preferred Service Line (Source: FlashReport Access Database)

In Figure 29, clicking on the command button with the caption "Blood Bank" will guide a user to the Blood Bank's data entry form in order to enter the MEPRS time-allocation hours.

Figure 30 below shows a command button for each Directorate. If a user clicks on one of the buttons displayed, this runs the macro which will export the time-allocation data tables for each Service Line within that Directorate to its respective folder on the network in an Excel format.

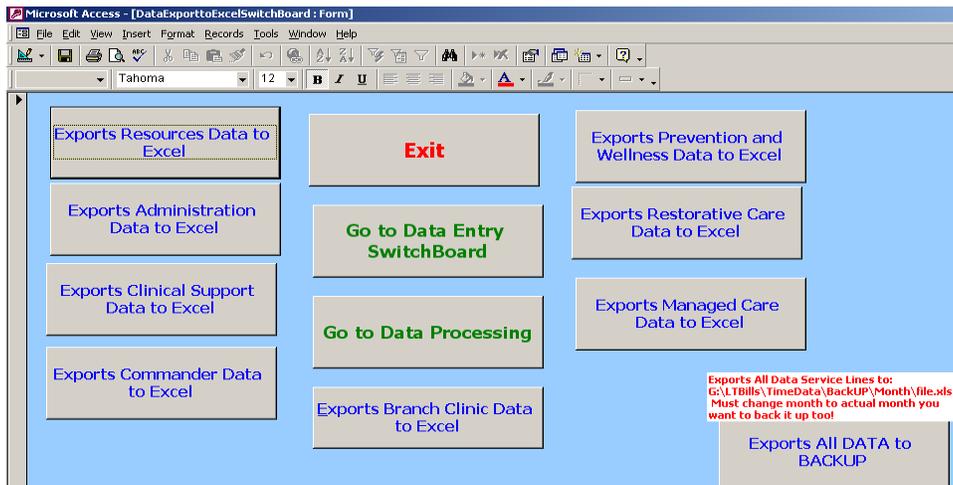


Figure 30. Switchboard That Exports all the Service Line Tables to the Finserver Network in an Excel Format (Source: FlashReport Access Database)

The Microsoft Visual Basic Code shown in Figure 31 below was vital in automating the formatting of the templates. Each Service Line template includes a macro that needs to be executed to format the data on the template.

```

Sub Cardiovascular()
' TRANSPOSE2 Macro
' Macro recorded 3/2/2001 by RKBills
'   Range("A2:Aq200").Select
    Selection.Copy
    Sheets("DATA").Select
    Range("E1").Select
    Selection.PasteSpecial           Paste:=xlAll,Operation:=xlNone,
SkipBlanks:=False, _
    , Transpose:=True
    Range("E1:GG37").Select
    Selection.Columns.AutoFit
    Application.CutCopyMode = False
    With Selection.Font
        .Name = "Arial"
        .Strikethrough = False
        .Superscript = False
        .Subscript = False
        .OutlineFont = False
        .Shadow = False
        .Underline = xlUnderlineStyleNone
        .ColorIndex = xlAutomatic
    End With
    With Selection.Font
        .Name = "Arial"
        .Size = 8
        .Strikethrough = False
        .Superscript = False
        .Subscript = False
        .OutlineFont = False
        .Shadow = False
        .Underline = xlUnderlineStyleNone
        .ColorIndex = xlAutomatic
    End With
    Selection.Columns.AutoFit
    Range("F19").Select
End Sub

```

Figure 31. Microsoft Visual Basic Code Used in Excel to Help Automate the Format of the MEPRS Time-Allocation Templates

Figure 34 and Figure 35 show the queries and tables necessary to generate the Provider Productivity and the Clinical Managers' Reports.

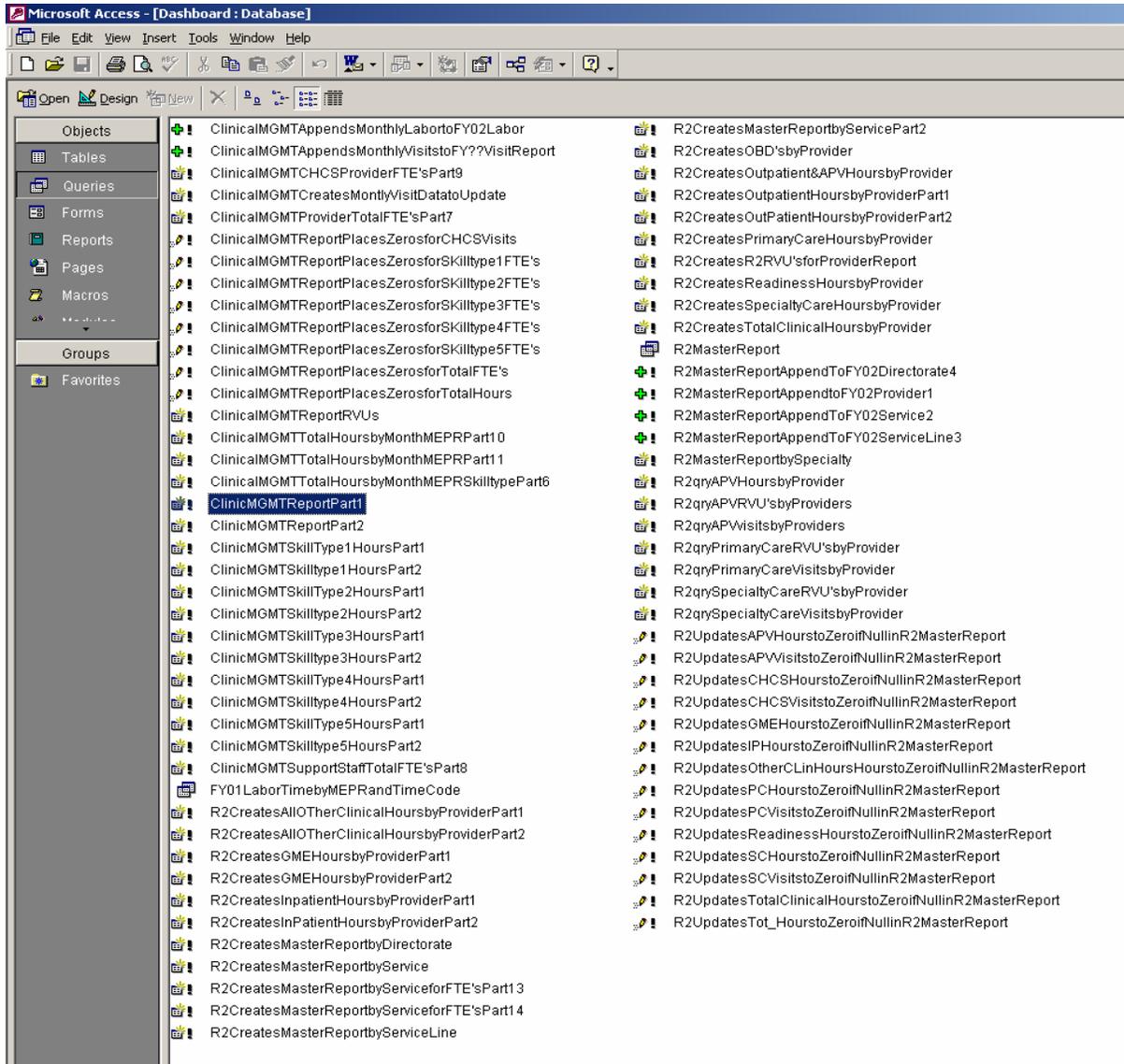


Figure 34. List of Action Queries Created Necessary to Generate the Provider Productivity and Clinical Managers' Reports

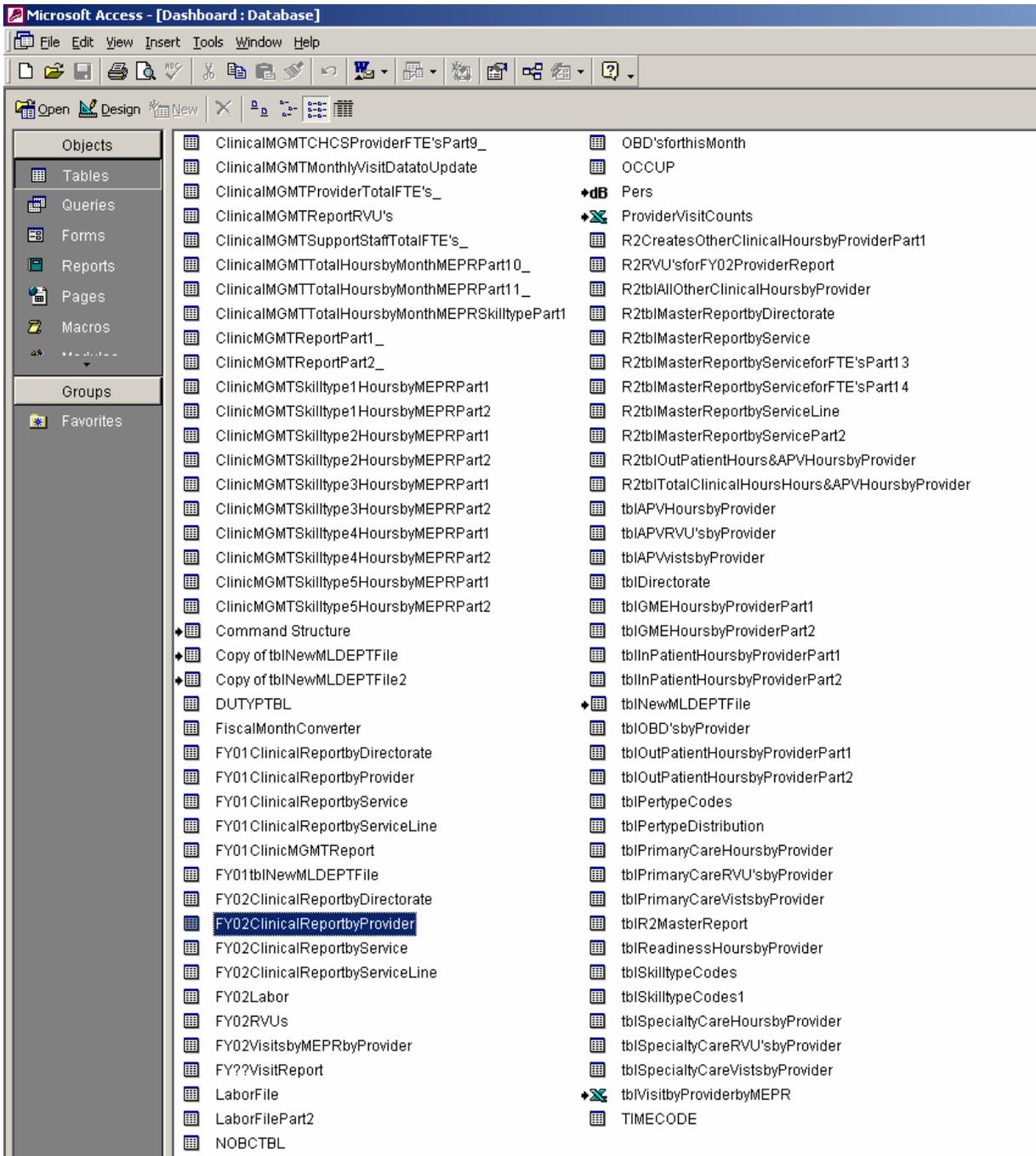


Figure 35. List of Tables Created and Imported, Necessary to Generate the Provider Productivity and Clinical Managers' Reports

APPENDIX J. SOP MANUALS FOR ACCESS DATABASES

A. SOP MANUAL FOR SERVICE LINE MANAGERS TO MAP TO THE SECURE NETWORK

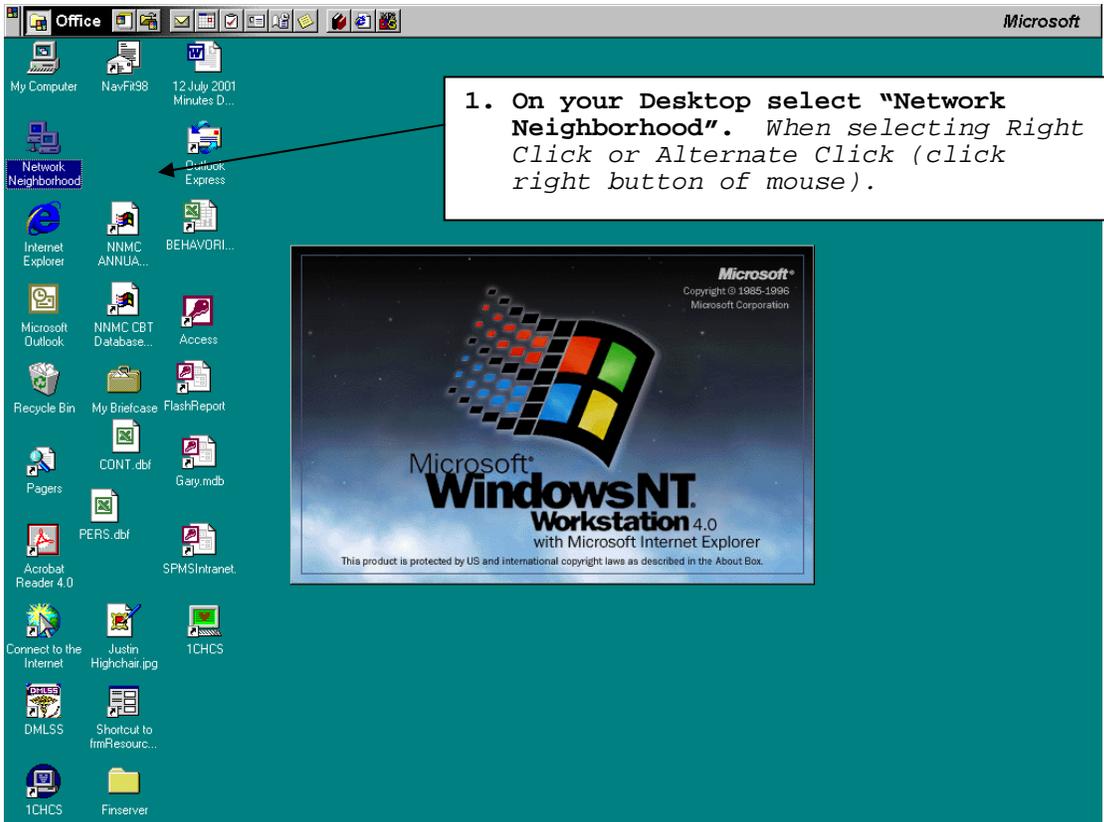
FINSERVER Set Up Instructions

Map Drive to Finserver Create a Shortcut	Please note you must first be granted access to FINSERVER files from ☎ 301-295-1883
---	---

Map Drive to Finserver

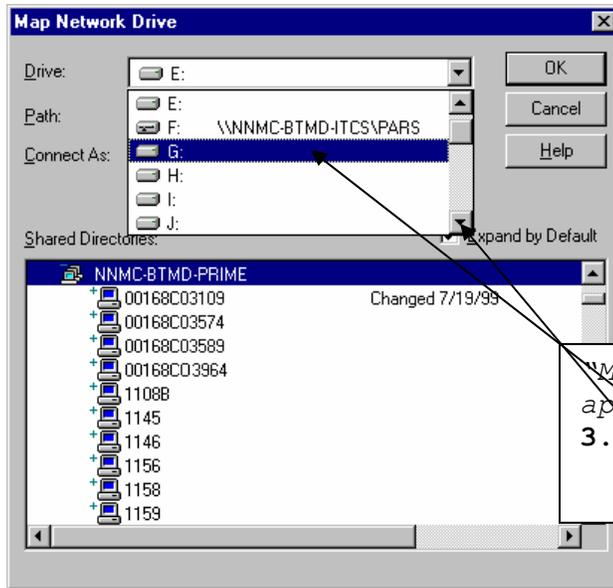
- On your Desktop **select** by right clicking the mouse and choosing "**Network Neighborhood.**"
- A drop down list will appear. **Select "Map Network Drive."**
- "Map Network Drive" box will appear. **Select "G"** or any other available drive letter
- Point and click on down arrow adjacent to "Drive:/"
- Select "G" from dropdown list
- Enter Path: "**\\NNMC_FINSERVER\Home**" in box adjacent to "Path:"
- Press **OK.**

For more detailed instructions see illustrations below

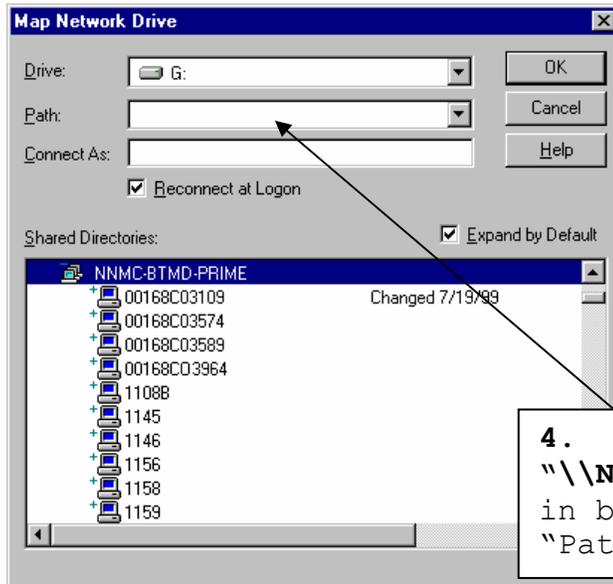


- O**pen
- E_xplore
- F_ind computer...
- M_ap Network Drive...
- D_isconnect Network Drive...
- R_ename
- P_roperties

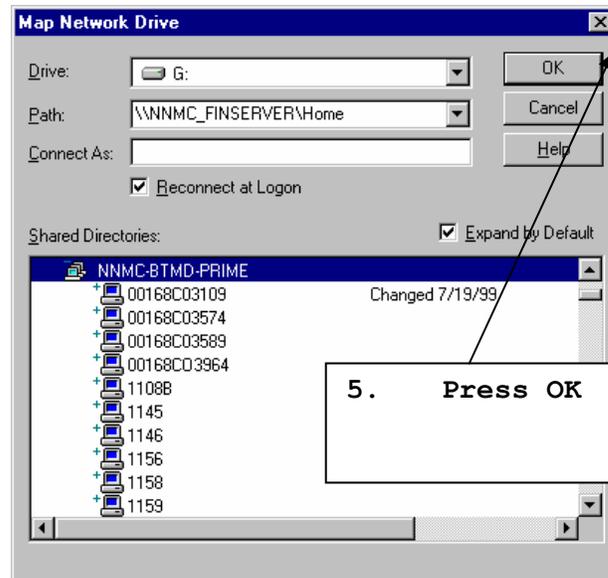
(Continued on next page)



Map Network Drive box will appear.
3. Select "G:" Drive
a. Point and click on down arrow



4. Enter Path:
"\\NNMC_FINSERVER\Home"
in box adjacent to
"Path:"

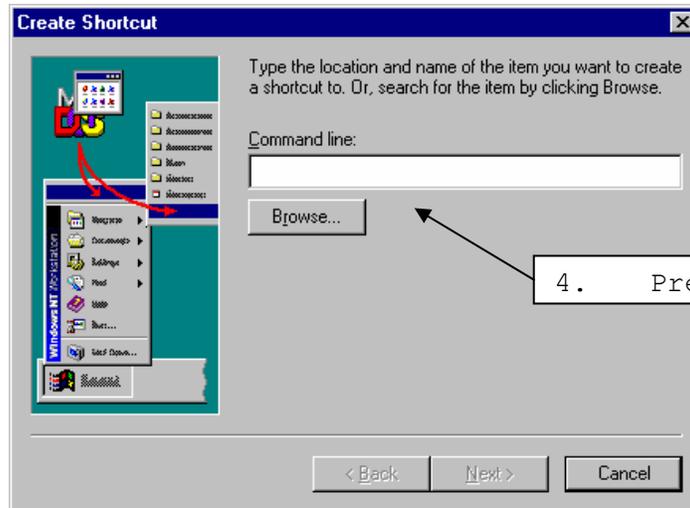
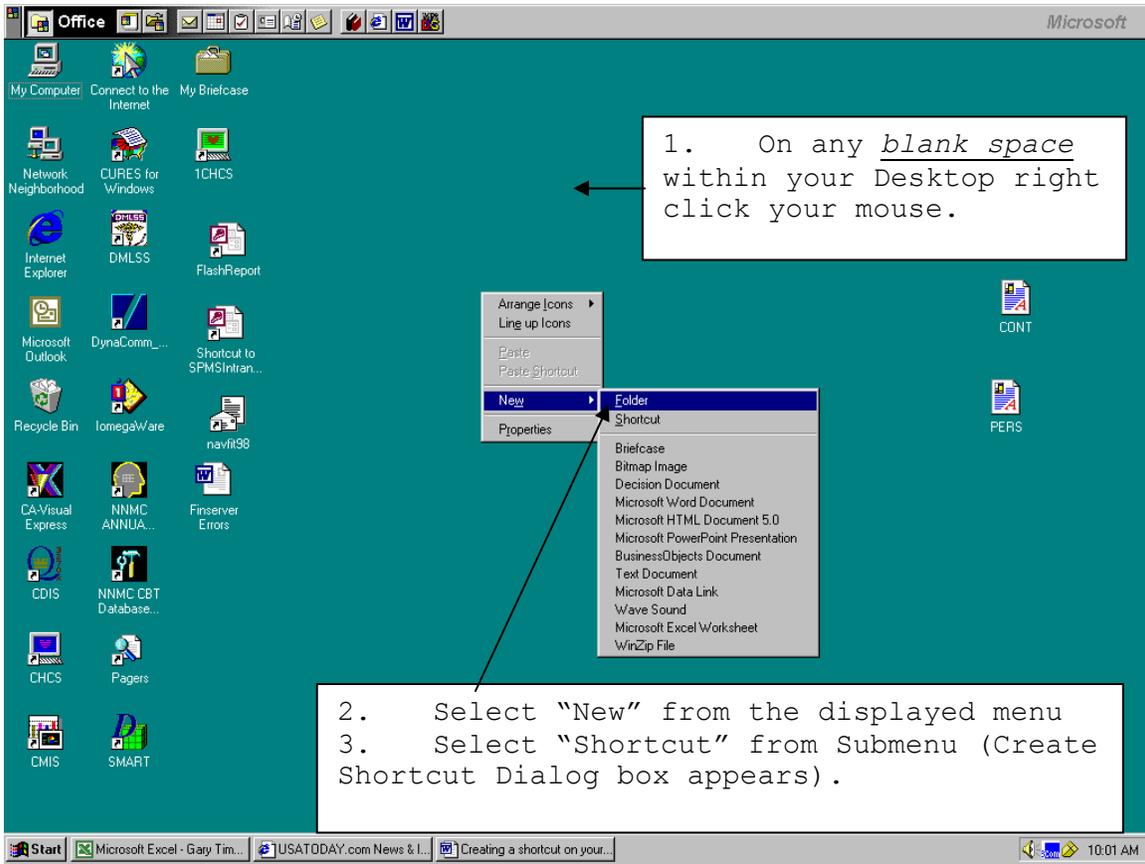


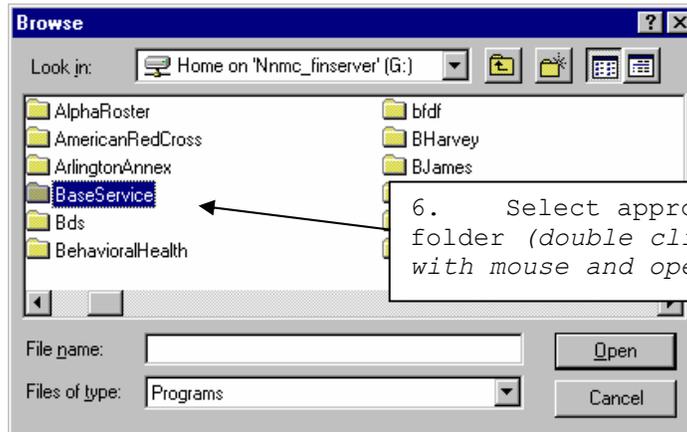
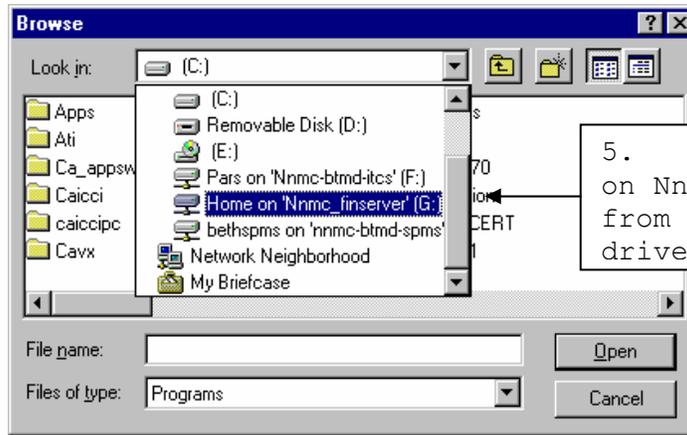
Creating a shortcut on your Desktop

If a user encounters an error denying access privileges to the file of reference, this may indicate that access privileges may not have been granted. Questions call at XXX-XXXX.

1. On any blank space within your Desktop right click your mouse.
2. Select "New" from the displayed menu.
3. Select "Shortcut" from Submenu (Create Shortcut Dialog box appears).
4. Press "Browse" button.
5. Select drive "Home in NNMC_finserver' (G:)" from drop down list of drives.
6. Select appropriate folder (double click or select with mouse and open).
7. Select appropriate file (note: you may have to select all files in the "Files of type" dialog box in order to show file you are looking for).
8. Press Next button.
9. Press Finish button and Icon should appear on your desktop.

For detailed illustration see below





B. SOP MANUAL TO UPDATE THE FLASHREPORT DATABASE

MEPR-Process-Instructions-for-Labor- Template-Database

```

{}
{}
{}
{}
{}
1.. Retrieve Visit Data from fin server under folder Doyle (note:
Look at dates created)
  -> 1st file visits.txt (entire command)
  -> 2nd file visits_nj.txt (new jersey files only)
visits file are completed at the end of each month or the
beginning of the next month
{}
once files are completed they need to be cut and pasted into the
file for the previous month (ex 9/5 will be for month 08)
{}
2.. Processing the visit data
{}
in fin server/doyle there will be an access data base called
visit.mdb
* Refresh links
  => tools
  .....> data base utilities
  > link table manager
select the links to refresh
visits
visits_nj
Select check box to find new location
{}
* Select macros
{}
run visit data
answer yes to message box that say existing table
"tblProviderVisitCounts" will be deleted before you run the
query.
>-{}

{}
queries
run "qry\visitbyProviderbyemp"
yes
to replace existing table
{}
tables
export tblProviderVisitCounts to Finserver Doyle in excel format
export tbl visits by providerbyemp to finserver doyle in excel
format. Cut and paste into appropriate month.
{}
Close visits database
{}
3.. Copy PERS file from SPMS drive to Desk top
{}

```

Note:- You will have to rename files to visits.txt and visits_nj.txt before linking in database

Open Flash Report Database

```

ff
ff
ff
1..Backup files from previous month
(located in Flash Report Database)
  → ff
  
```

```

Run new export macro (create & delete)
Export all data to backup G:\LBills\TimeData\Backup
Cut and paste into L:\Bills\TimeData\Backup\FY02\Month
  
```

```

2..Refresh links
  => tools
  ..... > data base utilities
  > link table manager
  
```

select the links to refresh

```

provider visits counts
the provider visits by mep
the current spms pers file (desktop)
  
```

For convenience place all files on desktop before linking

```

select
check for new location (current month)
select ok
  
```

In Forms go to Data Processing Switchboard

3..Select "Find All Personnel that Left Command"

```

Select button for deletes all old delete tables
Select button for creates new delete tables
Select appends all delete tables together this creates a table called the deletes
this will come up in print preview for printing
  
```

Select "Go Back to Processing Form"

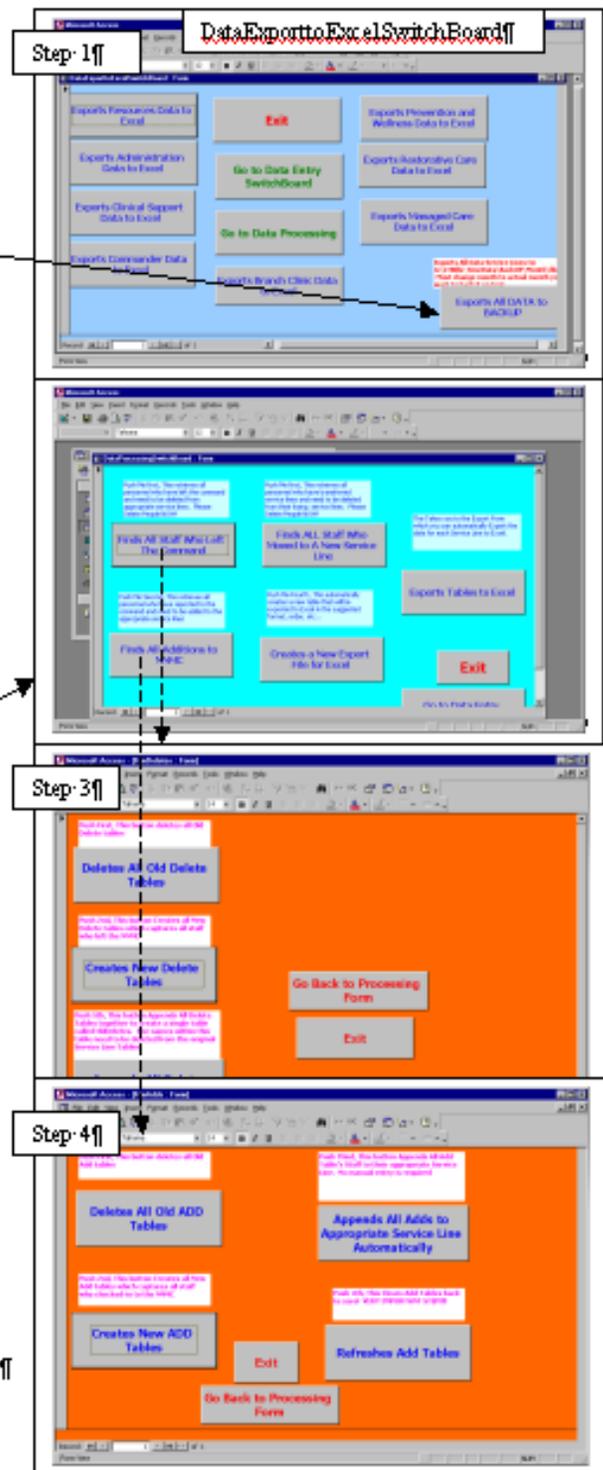
4..Select "Find all Additions to NNMIC"

```

Select deletes all old add tables
Select create new add tables
Select appends all adds to appropriate service line automatically
Select refreshes add tables
  
```

Select "Go Back to Processing Form"

```
ff
```



5... Select "Find All Staff Who Moved to New Service Line"

```
Select: "Deletes all Old Move Tables"
||
Select: "Creates New Moves Tables"
||
Select: "Appends All Moves to Appropriate Service Line Automatically" - this creates the table then transfers
this will come up in print preview for printing - adjust columns to fit
on one page and be sure to hide the department column the service
line is the department they left, department is the gaining
department.
||
select: "Refreshes Move Tables"
```

6... Manual Deletes

Must complete next two steps before continuing.

- 1. Based on the delete table printout please delete all personnel from their respective service line table per department variable
- 2. Based on the moves table printout please delete all personnel from their respective service line table per service line variable.

```
||
Select: "Go Back to Processing Form"
```

7... Select "Creates a New Export File for Excel"

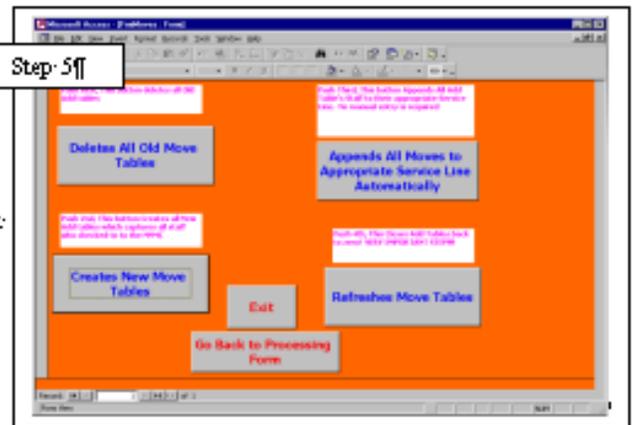
```
Select button: Exports tables to excel (takes to Data Export to Excel Switchboard)
```

Select following buttons

```
Exports Resources data to excel
Exports Administration data to excel
Exports Clinical Support data to excel
Exports Commander data to excel
Exports Branch Clinic data to excel
Exports Prevention and Wellness data to excel
Exports Restorative data to excel
Exports Managed Care data to excel
Exit
```

8... Print Templates

```
Start Excel
Open File server
Lt bills
Time Data
Hard Copies
Select Directorate
Select Service Line
Enable Macros
Select "Macro" Sheet
Push Run Macro Button (this will format data)
Save
File Print
Print Data Sheet and Values Sheet
Select another Service Line
Repeat Print Templates Steps for next Directorate Service Line
```



C. SOP MANUAL FOR THE DASHBOARD DATABASE

Dashboard Standard Operating Procedures
Monthly Provider Productivity Report
Monthly Clinical Manager Report

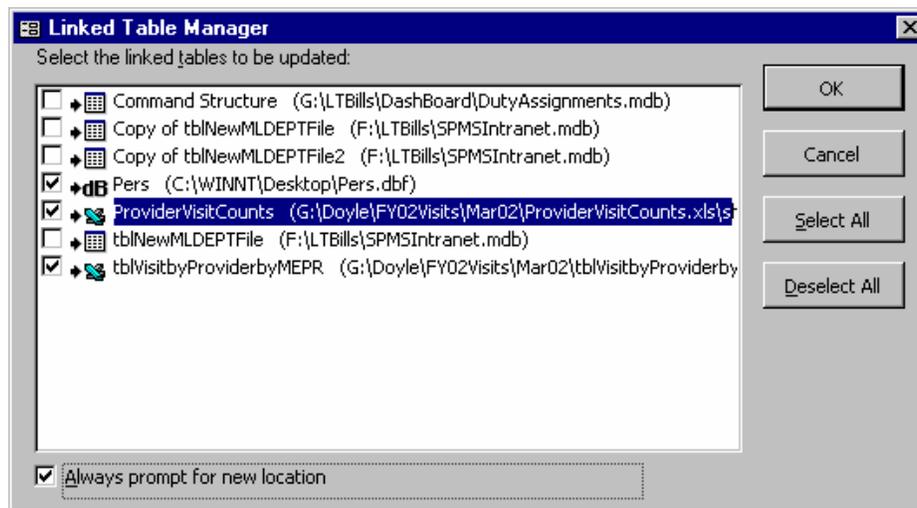
Provider Productivity Report SOP

(Eliminate redundancy by completing Clinical Provider Productivity Report first)

1. Open Dashboard database located on Pars\Folder.
2. Refresh Links to Pers, ProviderVisitCounts, and VisitbyProviderbyMEPR.
Go to Menu "Tools>Database Utilities>Linked Table Manger.

Select Pers, ProviderVisitCounts, tblVisitbyProviderbyMEPR and always prompt for new location.

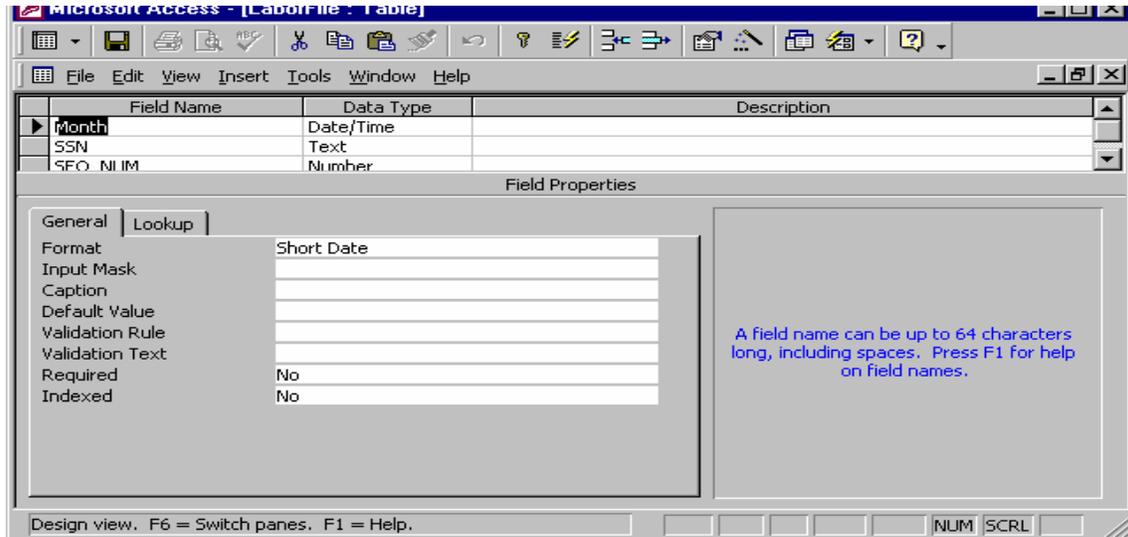
Press OK. Make certain to choose appropriate month when prompted.



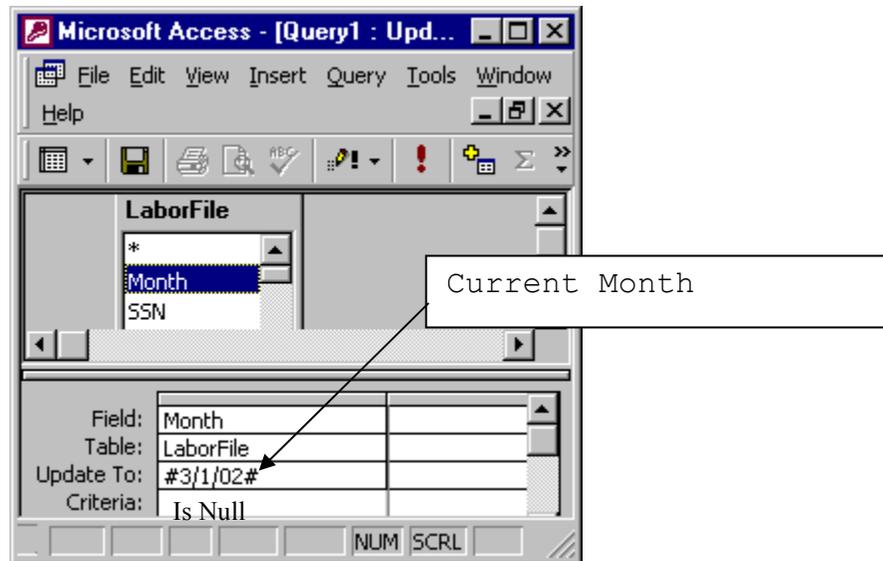
3. Import Labor Files LBRFYMM and MMLPFYMM.
(Example: LBR0203 for March 02 data) from SPMS/Data.
Menu File>Get External Data>Import>LBRFYMM
Menu File>Get External Data>Import>MMLPFYMM

4. Rename Files
LBRFYMM = LaborFile
MMLPFYMM = LaborFilePart2

5. Insert new variable for Month (must be created)
Go to table "LaborFile" Design View and add month as variable
Set properties: Data Type = Date/Time, Format = Short Date



6. Build and run update query to add current month to LaborFile (do not save).



7. Run Macro "R2MasterReport."
8. Check data in the tblR2MasterReport by comparing hours in LaborFile and visits within

VistisbyProviderbyMEPR, if data is valid then proceed to step 9.

Run Macro "R2MasterReportAppendMacro", this appends:

tblMasterReport ⇒ FY02ClinicalReportbyProviders
R2MasterReportbyService ⇒ FY02ClinicalReportbyService
R2MasterReportbyServiceLine⇒FY02ClinicalReportbyServiceLine
R2MasterReportDirectorate ⇒
FY02ClinicalReportbyDirectorate

Clinical Managers' Report SOP

4. Do steps 1 to 4 of Provider Productivity Report if not done for current month otherwise proceed to next step.

5. Run Make Table query "ClinicalManagementCreatesMonthlyVisitDatatoUpdateandClinicalHoursbyMeprs". This creates table "ClinicalMangementDatatoUpdate".

6. Go To Design View of table and insert "Month" as a new field.

7. Create and run Update Query that updates all null values in Month Field.

5. Run Macro "ClinicalMgtReport."

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- [5] Hiller, Frederick S., Lieberman, Gerald J., *Introduction to Operations Research: Seventh Edition*, McGraw-Hill Higher Education, New York, New York, 2001.
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- [8] Simpson, Alan, Olson, Elizabeth, *Mastering Access 97: Fourth Edition*, Sybex Inc., Alameda, California, 1997

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