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Volume 1. General Information

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Material in this volume is reviewed annually for technical accuracy, adequacy, and currency. For SKT purposes the examinee should check the *Weighted Airman Promotion System Catalog* to determine the correct references to study.

THIS IS THE FIRST volume of career development course (CDC) Z4A051, *Health Services Management Journeyman*. This course tells you how the military treatment facility (MTF) depends on you and other Health Services Management personnel to perform duties in an efficient and consistent manner. You are the vital link that holds the quality health care chain together. As your skill and rank increases, so will your duties and responsibilities. However, your future advancement in the career field is dependent on expanding your knowledge and advancing your skill level. A significant part of widening your knowledge and skills begins with the successful completion of this CDC. This CDC is divided into 4 volumes. Each volume explores different areas, functions, and duties in the career field.

The first volume, which you are starting now, consists of general information. It introduces and explores the different tasks and functions everyone in the career field will perform or should be familiar with. In volume 2, you will review a multitude of 4A0 patient administration subjects to include outpatient medical records, medical records retirement, admissions and dispositions processing, inpatient administration and medical records. In volume 3, we will introduce you to medical readiness, medical and aeromedical evacuation, and the Integrated Disability Evaluation System. Lastly, the sensitive duties, resource management, and personnel and administration are discussed in volume 4. This important area deals with important functions and responsibilities that directly affect unit personnel careers.

So let's start out with this volume—*General Information*. Unit 1 of this volume begins with organization within the Air Force and within the Air Force Medical Service. It will also cover communication courtesy and coordination. Unit 2 examines health information technology, beginning with an overview of computer systems and the terminology used then the inventory process, as well as the important concept of system security, and various core medical programs you may use on the job. Unit 3 covers TRICARE and the different options that beneficiaries have when it comes to medical care. Finally, in unit 4 you will continue your knowledge and acquaint yourself with medical terminology, and anatomy and physiology.

Preparation of this volume was aided through the cooperation and courtesy of the outstanding individuals who furnished their technical expertise. Completion of this course would not have been possible without the help of SMSgt Jimmy Santiago, SMSgt Christopher Gent, SMSgt Jessica Slaughter, MSgt Marcia Swenson, and MSgt Tamarshia Smith.

A glossary of abbreviations and acronyms used in this volume is included for your use.

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This volume is valued at hours 18 and 6 points.

NOTE:

In this volume, the subject matter is divided into self-contained units. A unit menu begins each unit, identifying the lesson headings and numbers. After reading the unit menu page and unit introduction, study the section, answer the self-test questions, and compare your answers with those given at the end of the unit. Then complete the unit review exercises.

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Unit 1. Air Force Medical Service Organization

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CONGRATULATIONS ON YOUR RECENT graduation and assignment to your new base! You are fortunate to be a Health Service Management Apprentice! This career field as a whole supports the entire military treatment facility (MTF). Given the expeditionary mission of the Air Force, you have a professional and moral responsibility to help maintain the health and readiness of our forces and their families. Regardless of your specific duties, the overall mission will not be accomplished unless you perform your assigned duties faithfully and to the best of your ability. As a Health Service Manager (HSM), you will interact with active duty patients of all ranks, dependents, retirees and other medical professionals. You should be comfortable interacting with them to help especially when they are sick, going through a hard time, or need assistance for a routine task.

You are probably learning quickly that the HSM career field is very diverse, and there is still a lot to learn. Over the next couple of months, you will discover different areas where a HSM can work such as systems, medical readiness, TRICARE Operations and Patient Administration (TOPA), and many others. To understand how you contribute to the Air Force mission you need to understand the Air Force Medical Service mission, objectives, organization, development, and function. Wherever you work, you should understand your organizational structure, where you are in it, and how you contribute to it. Once you know this, you will have a greater connection to your job, the mission of your unit, the Air Force Medical Service (AFMS), and the Air Force.

1–1. Organization of Air Force Medical Service

Whenever you join a person, or group of people to attain a single goal, the task requires that skills and effort be combined. A formal organization provides this structure to achieve your goals. The AFMS establishes procedures and processes that focus Airmen on a common goal with a minimum of wasted effort. Understanding the Air Force Medical Service organization and your role in it will aid in building relationships that in turn strengthen unit and organizational cohesion.

001. Development of Air Force Medical Service structure

Creating a successful organization is not as easy as it may sound. There is a lot of planning and thought that goes in to it. From identifying the vision, considering the mission and determining the principles, organizational structure takes time to create, implement, and become part of our accepted norm. Recall the last time you joined a team; there was a lot of planning that went into working towards your goal. If your team competed in a contest or solved a major problem at work, some type of organization was required. Whether your team was successful or not, you gained essential insight on how an organization works. The important thing is to learn from the successes and faults, and apply what you learned to your next goal.

That is what the Air Force did when creating our current organizational structure. They took their experience and identified five organizational principles that led to developing our current structure.

This is important to know because this is the foundation of how we operate. Just like when building a house, there needs to be a solid foundation. If there is not a solid foundation, the house could fall apart. Even worse, if there is no faith in the foundation of the house, no one will want to live in it. That is what this next section will provide, that solid foundation. You learn about how the foundation of the Air Force was created, which will lead to an appreciation and faith in the organizational structure.

Organizational principles

Air Force Instruction (AFI) 38–101, Air Force Organization provides direction on how units will organize. Since the Air Force dictates how units will organize, it makes sense that you understand the foundation of Air Force organization. Before creating the current organization, there were five principles that were identified. These principles ensured focus when creating our current organization. The five principles are emphasis on wartime task, functional grouping, lean organizational structures, skip-echelon structure, and standard levels.

Emphasis on wartime tasks

Organizations must be structured to accomplish wartime tasks without reorganizing.

Functional grouping

Organizations have these characteristics—a clear-cut purpose, scope, with one individual in charge; parts that form a logical, separable activity; close relationships among the parts, constituting a complete entity; and natural divisions of work that clearly define where responsibility begins and ends.

Lean organizational structures

Organizations must encourage rapid decision-making, so they should be flat structures without intermediate levels, unless mission requirements cannot be met otherwise. When used, intermediate organizations consist of tactical functions only, without a full range of staff functions. Organizational levels that exist only to review and transmit information or taskings should be eliminated. Both the number of supervisors and the number of internal subdivisions within organizations should be designed to minimize layers and maximize worker-to-supervisor ratios.

Skip-echelon structure

Major commands (MAJCOM) sit on top of a skip-echelon staffing structure. MAJCOMs, wings, and squadrons possess the full range of staff functions needed to perform required tasks; numbered air forces (NAF), groups, and flights have no, or minimal, staff. These tactical echelons are designed to increase operational effectiveness rather than to review and transmit paperwork. The chain of command and responsibility for mission accomplishment run through commanders at all levels. However, problems are often solved by staff communication through the functional chain, bypassing echelons where the function is not found.

Standard levels

The Air Force uses the standard levels to design organizations. They establish organizations at the lowest level required in order to accomplish the primary mission successfully. Factors such as scope of responsibility span of control and functional grouping of related missions/activities are the predominant factors that determine organizational kind.

Air Force Medical Service history

In 1993, the AFMS adopted these organizational principles, and aligned their structure to mirror the line of the Air Force (LAF). This organizational structure, called the Objective Medical Group (OMG), represented a massive change to the medical community. The change in structure allowed the medical community to be on equal ground with the line counterparts, and the “dual professional nature” of military medicine was recognized. It created squadrons, fostered team building, and allowed patients to navigate the system for their care.

Some years later, focus grew towards the expeditionary mission of the Air Force and deliberately preparing Airmen for this mission while providing great care to beneficiaries. In line with these initiatives, it was appropriate to reevaluate the Objective Medical Group structure. Direction came in May 2004 from then chief of staff, United States Air Force (CSAF), General John Jumper in his letter "Developing Expeditionary Medics - A Flight Path." General Jumper tasked the medical community with completing a comprehensive review of their organization that could support the wartime and peacetime mission. Work groups developed a streamlined, consistent MTF organizational structure that provides a ready and fit force for the air expeditionary force (AEF), a medical power projection platform to deploy medics forward with high quality, cost-effective care and cost-effective mission support at home and when deployed.

002. Mission and objectives

In order to accomplish the tasking from General Jumper, the working group reestablished the Air Force Medical Service mission and objectives as listed here.

Mission

Organizations have a reason to exist, a goal to attain; this is what the mission accomplishes. Our mission helps us focus where our resources and capabilities should be. Without it, there would be no direction and no focus. You should be familiar with the following two missions.

Air Force

The mission of the United States Air Force is to 'fly, fight and win…in air, space, and cyberspace."

Air Force Medical Service

The AFMS' mission is to enable medically fit forces, provide expeditionary medics, and improve the health of all we serve to meet our nation's needs.

Air Force Medical Service objectives

In order to meet the AFMS mission, senior leaders created a strategic structure that helps focus our efforts. It allows us to enhance our ability to deliver better care, better health, and the best value while staying true to our core mission to enable medically fit forces and expeditionary medics (fig. 1–1).

Figure 1–1. Trusted Care Anywhere.

Better care

Better care enables us to provide reliable access to safe, quality care for all that we serve, promoting positive patient experiences and outcomes.

Better health

Encourage healthy behaviors through a health-based culture to enhance resilient and human performance, while reducing illness and injury.

Best value

Focus on the appropriate utilization of people and resources applied through effective management of the AFMS enterprise in order to attain readiness, better care, and better health.

Readiness

Readiness is increased by supporting optimal medical readiness for all Airmen and ensuring Air Force medics are current, trained, and equipped to deliver "Trusted Care, Anywhere" in support of the full spectrum of military operations.

003. Air Force Medical Service organization

If you did not grasp the complexity of it before, you can now see how much work goes into developing the foundation of an organization. There is a lot of planning and a great deal of critical information considered before determining the structure. That is just like building a house, a builder does not just pour concrete and start building; there is a lot of planning and decisions that have to be made before construction begins. However, once the necessary items are addressed and plans are complete, then the construction starts so that a solid foundation is built. Next step: framing.

When framing a house, the builder starts to give the house a shape with 2 by 4s. As the frame goes up, it starts to take some type of shape. That is comparable to how AFI 38–101, Air Force Organization, gives shape to units. The principles, mission, and objectives give a solid foundation, while AFI 38–101 allows you to see the shape of an organization.

Air Force organization

AFI 38–101 identifies how Air Force units will organize. This assures standardization, and enables the military to function smoothly as personnel continually change. Try to imagine going to another base where the organizational structure is completely different from where you are now. How much time would it take you to become familiar with your new job? Using standard levels of organization provides continuity across the Air Force. In this lesson, you will study the levels of organization used as the standard for structuring and designating Air Force units.

Headquarters Air Force

Headquarters United States Air Force (HQ USAF) is the senior headquarters of the Air Force, consisting of two major entities: the secretary and the Air Staff, headed by the chief of staff.

Major command

A major command, or MAJCOM, is a major subdivision of the Air Force, directly subordinate to HQ USAF. MAJCOM headquarters are management headquarters; thus, the have the full range of functional staff. MAJCOMs, in turn, may be subdivided and the levels are in descending order and represent levels of assignment as shown in the table below. For example, an organization may be assigned to any organization listed above it (e.g., a wing or MAJCOM), but an organization may not be assigned to another organization at the same or lower level than itself as shown in the organization hierarchy that is listed below.

ORGANIZATIONAL HIERARCHY
Headquarter USAF (HQ USAF)
Major command (MAJCOM)
Numbered Air Force (NAF)
Wing
Group
Squadron
Flight

Numbered air force

A NAF is directly under a MAJCOM. NAFs are tactical echelons that provide operational leadership and supervision. They are not management headquarters and do not have complete functional staffs. Many NAFs are responsible for MAJCOM operations in a specific geographic region or theater of operations. The number of persons assigned to a NAF headquarters varies from case to case, but should not exceed 99 people. Subordinate units, such as wings, groups, and squadrons, are assigned to a NAF.

Wing

A wing is below the NAF or higher headquarters. A wing has a distinct mission with significant scope. It is responsible for maintaining the installation or has several squadrons in more than one dependent group. A wing has approximately 1,000 to 5,000 persons and may be either an operational wing, an air base wing, or a specialized mission wing.

Group

A group is below the wing. Like the NAF, it is a tactical echelon without significant staff support. A group usually has two or more subordinate units, and has approximately 500 to 2,000 persons.

Squadron

The squadron is the basic unit in the Air Force. A squadron may be either a mission unit, such as an operational flying squadron, or a functional unit, such as a civil engineer, security forces, or transportation squadron. Squadrons vary in size according to responsibility, and they typically have approximately 50 to 750 persons assigned.

Flight

If internal subdivision is required with the squadron, a flight may be established. A flight may consist of sections, then elements. A flight may be either a numbered flight, named flight, alpha flight, or a functional flight.

Air Force Medical Service Organization

In addition to AFI 38–101, the medical community also falls under the Military Health System (MHS). The MHS is comprised of medical personnel from all services. This complex system weaves together health care delivery, medical education, public health, private sector partnerships, and innovative medical research and development. Essentially, it is Army, Navy and Air Force medical professionals that ensure those in uniform are medically ready to deploy anywhere around the globe at a moment's notice. The MHS works in conjunction with the line of the LAF.

To make it easier to understand, the MHS is like the plywood and siding on a house. The principles form the foundation, AFI 38–101 provides the framing of the structure, and the MHS, or AFMS, provides additional support as the plywood and siding does for a house. Each function supports the other and cannot exist without the other. Now that you understand the relationship between the LAF and the AFMS, you should be able to grasp the next section, which explains the AFMS organization.

Defense Health Agency

The Defense Health Agency (DHA) was established on 1 October 2013. The agency was created to manage the MHS and support the department's aim, which is to achieve medical readiness, improve health care for all beneficiaries, enhance the care experience, and lower healthcare costs.

Air Force Surgeon General

The Air Force Surgeon General (AF/SG) advises both the secretary of the Air Force (SECAF) and CSAF on medical matters pertaining to Air Force operations and readiness. It is a small staff that includes two field-operating agencies that support the SG: the Air Force Medical Operations Agency (AFMOA) and Air Force Medical Support Agency (AFMSA).

Field operating agency

A field-operating agency (FOA), such as the AFMOA and AFMSA, is a subdivision of the Air Force, directly subordinate to a HQ USAF functional manager. A FOA performs field activities beyond the scope of any of the MAJCOMs. The activities are specialized or associated with an Air Force-wide mission, and do not include functions performed in management headquarters.

Major command surgeon general

A MAJCOM surgeon general (MAJCOM/SG) controls medical resources, monitors medical functions, and coordinates communication between MAJCOM Commander, AF/SG, AFMOA, and AFMSA.

Medical group commander

The medical group commander has the overall responsibility for all activities of the medical group and is accountable for accomplishing all aspects of the medical group mission. The commander serves as the chief executive officer, the local representative of the governing body, and the medical advisor to the wing/installation commander.

004. Air Force Military Treatment Facility organization

Your house is almost done! You have a solid foundation, complete frame, and superior siding. Now you just need to complete the inside and you have a reliable home. Inside the house, you need things like sinks, flooring, and bathroom items. The size of the house and the available resources depends on how many things you need. That is the same way MTFs are organized.

Types of military treatment facilities

You've already learned that organization dictates the hierarchy, which allows units to standardize, and enable the military to function smoothly. In conjunction with organization, the AFMS has established different types of MTF arrangements. For example, the beneficiary population requirements in San Antonio, Texas far exceed the beneficiary population requirements in a much smaller area such as Minot, North Dakota. The biggest difference between the types of MTFs is their size and capabilities. Although there are many types of MTFs, the hierarchy is the same through each MTF. There are five types of MTFs where you could work. They are listed here in the order of how likely you are to work at them: the typical clinic model, hospital or medical center, medical wing, limited scope medical facility, and medical squadron.

Typical clinic model

Most clinics within the AFMS will follow the group organization and have the four-squadron structure depicted below (fig. 1–2). Some squadrons may have less or more squadrons based on their mission requirements. All structures must fall within the scope of AFI 38–101. Each medical group has a minimum of two squadrons and a maximum of six (fig. 1–2).

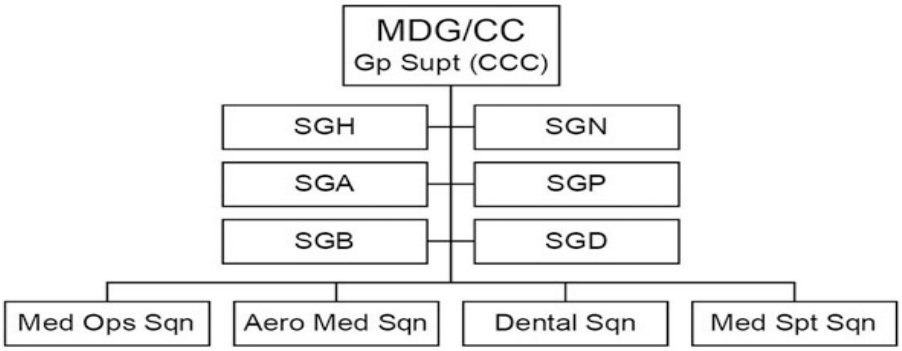

Figure 1–2. Typical Clinic Model.

Hospital or medical centers

Medical centers are the largest treatment facilities in the Air Force. Their capabilities include inpatient and outpatient care as well as an array of major specialty care clinics. Medical centers have active emergency rooms, open around the clock, and trauma units that allow them to accept patients worldwide. All ancillary services are available in medical centers.

Medical wing

A medical wing is a level of command below higher headquarters and has a distant mission with significant scope. It has several squadrons in more than one dependent group. A medical wing is defined as a specialized mission wing.

Limited scope military treatment facility

Limited-scope military treatment facilities (LSMTF) are medical functional flights and small medical squadrons that do not provide the scope of services found in a medical group. LSMTF are assigned to non-medical squadrons or groups (e.g., air base squadrons, mission support groups, or air base groups). In some cases, the LSMTF may report directly to the wing. All operational command (OPCON), administrative command (ADCON), and tactical command (TACON) LSMTFs reside with their parent unit, not a medical organization.

Medical squadron

These are full scope clinics utilizing full Health Services Inspection (HSI) criteria. Some wings did not meet organization threshold minimums, which meant that subordinate medical groups went from medical groups to medical squadrons. This model was implemented 1 January 2012.

Typical clinic model

Most clinics within the AFMS will have the four-squadron structure depicted in (fig. 1–2). Some squadrons may have less or more squadrons based on their mission requirements. All structures must fall within the scope of AFI 38–101. Each Medical Group has a minimum of two squadrons and a maximum of six (refer to fig. 1–2).

Military treatment facility squadrons

An MTF will have between three and six squadrons, depending on the number of personnel assigned. The AFMS Flight Path describes how a squadron can organize. The Flight Path does allow structure flexibility so the MTFs are able to meet their mission. Now let’s take a look at all the squadrons along with the flights that encompass them.

Medical operations squadron

This squadron contains the majority of outpatient clinics within the MTF. The focus is to provide continuously improving health care and preventive medicine to their beneficiaries. Authorized flights within this structure include, but are not limited to the ones shown in figure 1–3.

Dental squadron

This squadron is responsible for the prevention and treatment of dental disease to ensure maximum personnel readiness and optimal oral health of all beneficiaries. Flights authorized in this squadron may include the dental laboratory, dental support, and clinical dentistry (fig. 1–4).

Aerospace operations squadron

This squadron supports the operational Air Force by enhancing the health of its people, ensuring a fit force, preventing disease and injury, protecting the environment, and anticipating medical contingencies. Flights within this squadron may include the aerospace and operational medicine flight, aerospace and operational physiology flight, audiology flight, bioenvironmental engineering flight, health promotions flight, hyperbaric medicine flight, occupational medicine flight, optometry flight, personnel reliability program flight, and public health flight (fig. 1–5).

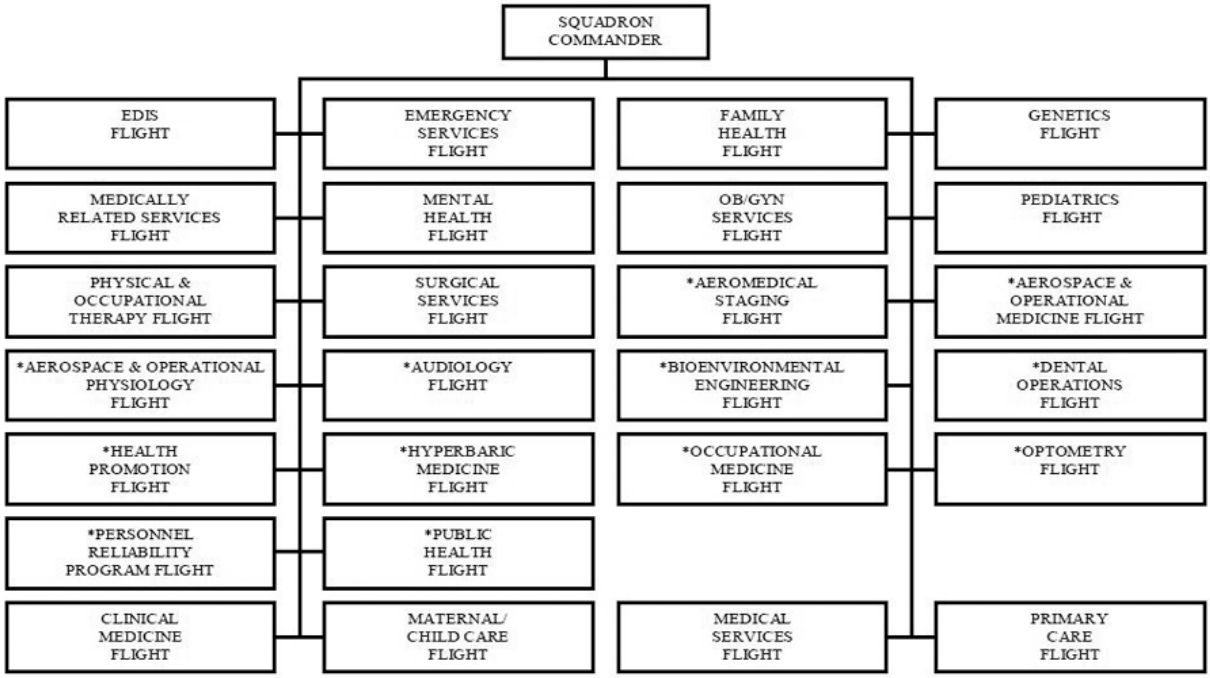

Figure 1–3. Medical Operations Squadron.

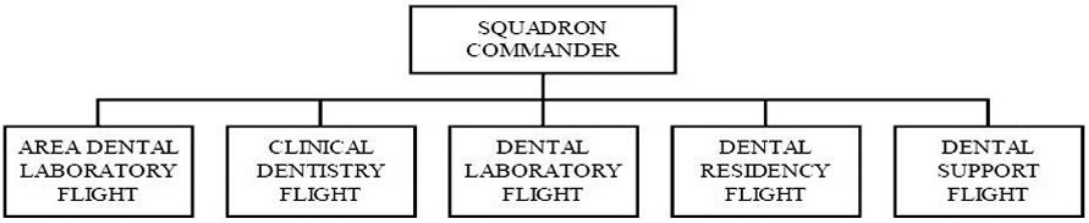

Figure 1–4. Dental Squadron.

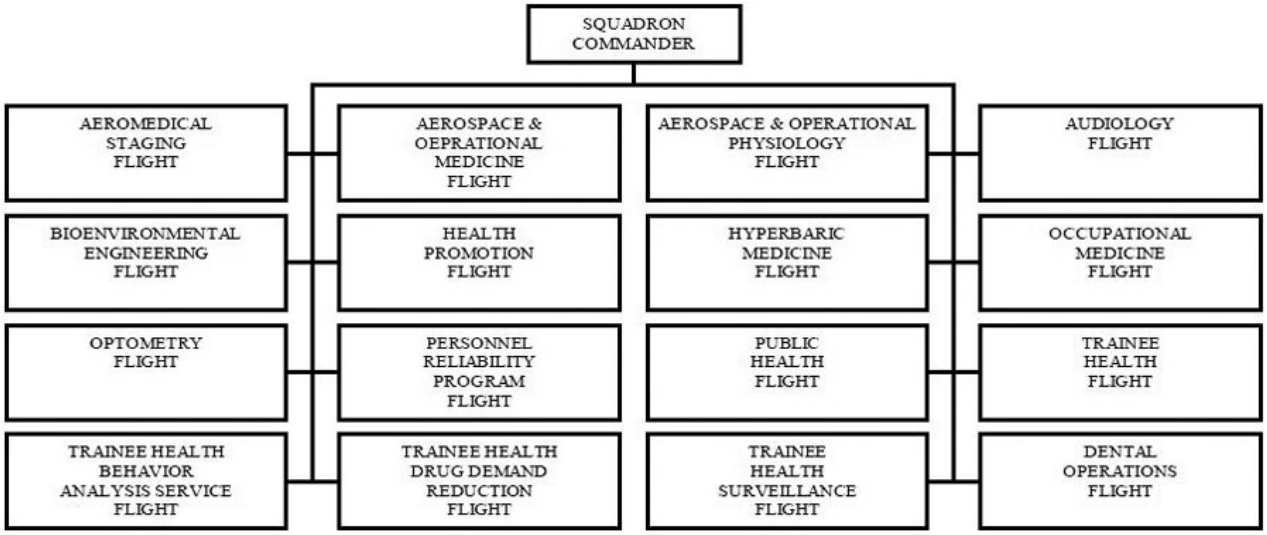

Figure 1–5. Aerospace Operations.

Inpatient operations squadron

This squadron supports the operational Air Force by enhancing the health of its people, ensuring a fit force, preventing disease and injury, protecting the environment, and anticipating medical contingencies. Flights within this squadron may include aerospace and operational medicine flight, aerospace and operational physiology flight, audiology flight, bioenvironmental engineering flight, health promotions flight, hyperbaric medicine flight, occupational medicine flight, optometry flight, personnel reliability program flight, and the public health flight (fig. 1–6).

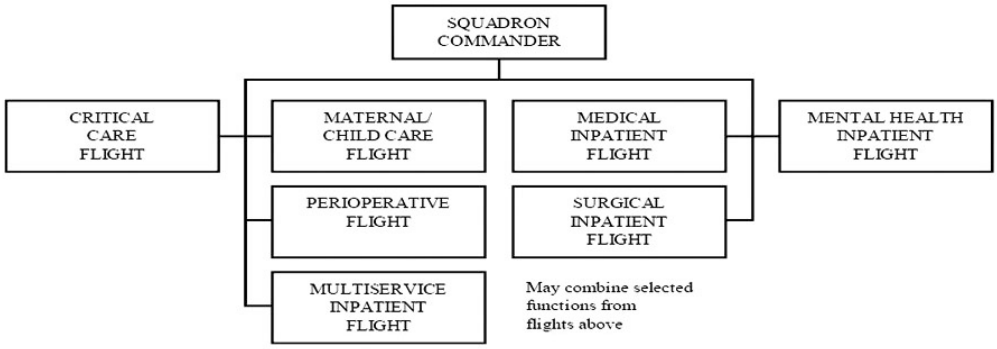

Figure 1–6. Inpatient Operations.

Surgical operations squadron

The mission of this squadron is to provide primary episodic care to the patient population. It provides specialized treatment to patients, generally with a singular occurrence. Many of these patients may be referred from other MTFs. Flights within this squadron may include surgical services, operating room, OB/GYN services, anesthesia, orthopedics, general surgery, critical care, and surgical specialties (fig. 1–7).

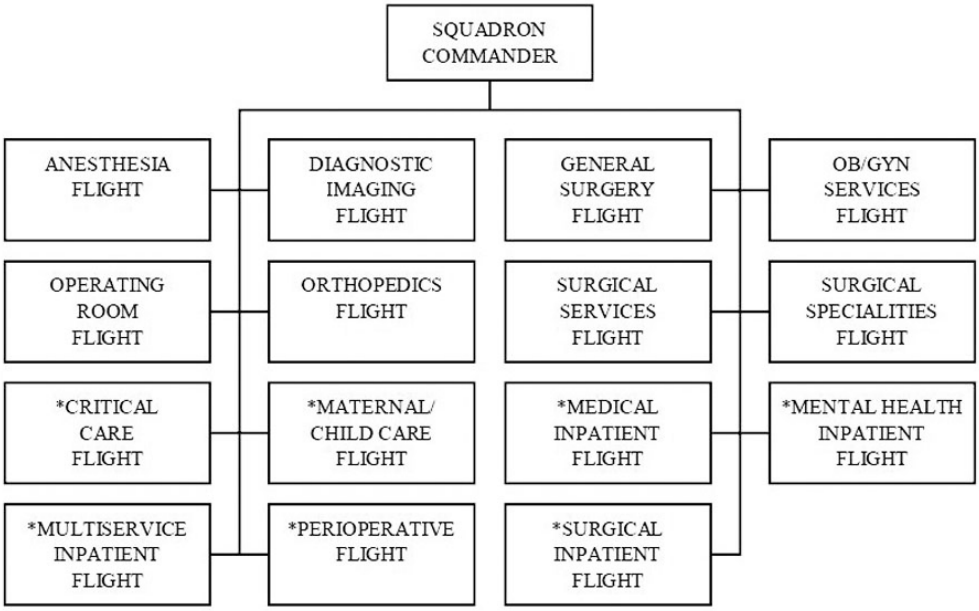

Figure 1–7. Surgical Operations.

Diagnostics and therapeutics squadron

The diagnostics and therapeutics squadron is an optional squadron for medical groups with over 1,000 personnel authorizations that have large capabilities in the affected areas. When this option is used, the medical support squadron will not have the affected flights. The following are approved flights in

the D and T squadron: clinical laboratory and pathology, pharmacy, nutritional medicine, diagnostic imaging, and histopathology (fig. 1–8).

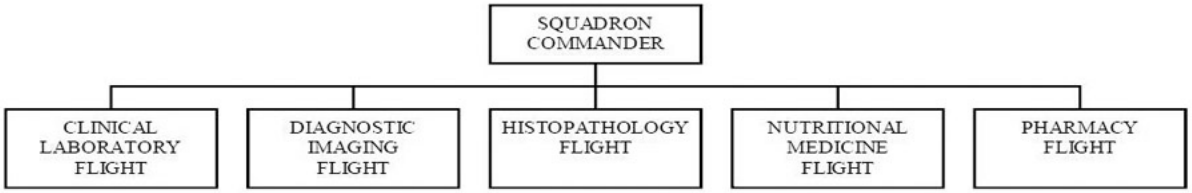

Figure 1–8. Diagnostics and Therapeutics Squadron.

Medical support squadron

This squadron provides support for the entire MTF and is where most of the HSMs work. This squadron may include resource management, medical logistics, medical information services, personnel and administration, TOPA, readiness, pharmacy, clinical laboratory, nutritional medicine, diagnostics and therapeutics, histopathology, readiness, and diagnostic imaging (without an assigned radiologist). Some of the primary HSM duty sections include the following (fig. 1–9):

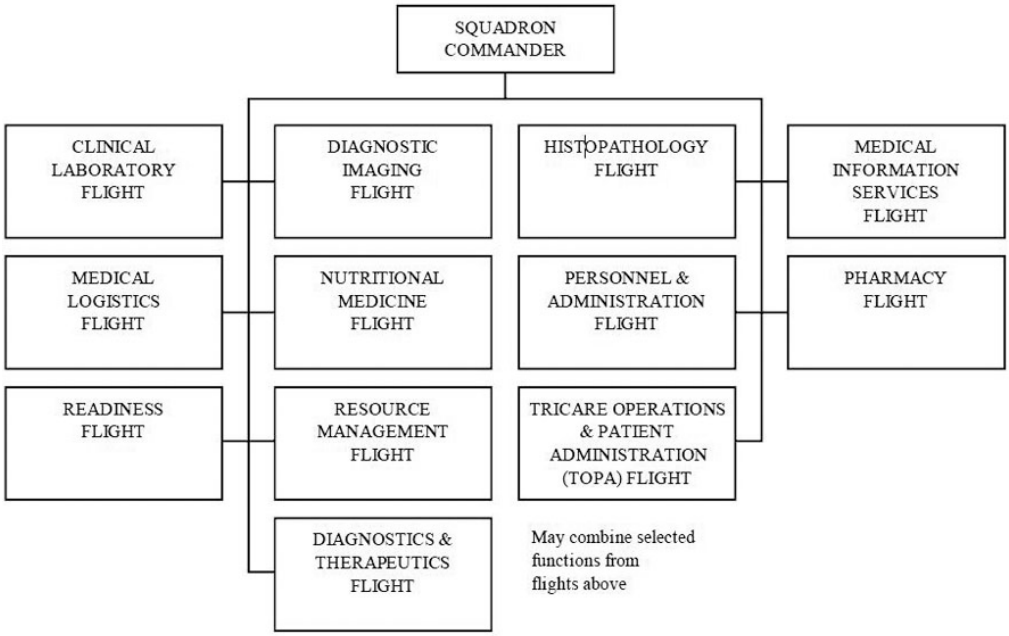

Figure 1–9. Medical Support Squadron.

Personnel and administration flight

Personnel and administration flight, also known as P&A, provides and arranges for all the medical group personnel and administrative needs.

Medical health information technology flight

The flight responsible for all automated systems within the MTF is the medical health information technology (MHIT) flight. They maintain applicable servers and networks and perform basic maintenance on computers within the facility. This flight maintains the computer help desk and builds e-mail accounts.

TRICARE operations and patient administration flight

Some of the duties found in the TOPA flight include managing the facilities' appointment desk, processing referrals, and maintaining TRICARE contracts, admission and dispositions, quarters, and

convalescent leave. The TOPA flight is also responsible for the inpatient and outpatient records, medical evaluation board programs, release of information, line of duty determinations, casualty reporting, and patient travel/aeromedical evacuation.

Readiness flight

The readiness flight prepares MTF personnel for contingency operations in both war/peacetime situations. Members working in this flight are also responsible for coordinating medical staff deployments.

Resource management operations flight

The medical resource management operations (RMO) Flight is responsible for programs including manpower, budget, third-party collections, the medical expense performance reporting system (MEPRS), and cashiers are just some of the duties found in this flight.

Self-Test Questions

After you complete these questions, you may check your answers at the end of the unit.

001. Development of Air Force Medical Service structure

1. What are the five basic principles of the Air Force's organizational structure?

2. When did the Air Force Medical Service align the structure to mirror the line of the Air Force and what was the organizational structure name changed to?

3. What considerations did working groups use as a basis for developing a streamlined, consistent MTF organizational structure from a clinic to a medical group?

002. Mission and objectives

1. What are the AFMS objectives?

2. What Air Force Medical Service objective encourages health behaviors through a health-based culture to enhance resilient and human performance, while reducing illness and injury?

3. What Air Force Medical Service objective supports optimal medical readiness for all Airmen and ensures Air Force medics are current, trained, and equipped to deliver "Trusted Care, Anywhere" in?

003. Air Force Medical Service organization

1. What is the function of the Air Force Surgeon General?

2. What are two examples of a forward operating agency?

004. Air Force Military Treatment Facility organization

1. What are the five types of military treatment facilities?

2. What squadrons are allowed in an MTF?

3. What are some flights you would find in the medical support squadron?

1–2. Communication and Correspondence

On the surface, formatting communication is easy. You know how to talk and e-mail, but do you know how to communicate professionally? What is the appropriate response when answering the phone? What do you need to consider when sending an organizational e-mail? How do you complete and route a memorandum for record? Maybe you need to prepare written correspondence for your supervisor or commander. In this unit, you will learn about professional communications, both verbal and written.

005. Communication courtesy

Scenario: You are walking through the MTF and a patient comes up and asks you a question. You get the feeling he/she is a little irritated, and you are not sure how to answer the question. What do you do?

It is essential that you use appropriate communication to ensure you take excellent care of our patients. Contrary to belief, dealing with patients is not the only time you exercise great customer service skills. You will deal with both external and internal customers. External customers are people that do not work with you, which can include patients, couriers, and insurance companies. Internal customers are people that you with work, which includes your coworkers, supervisors, others in your squadron and so forth. You will use your customer service skills in every section that you work and no matter the type of customer, you should provide the best customer service possible. This lesson will focus on three forms of communication: face-to-face, telephone, and e-mail.

Face-to-face communication

You use two forms of communication when interacting with other people, nonverbal and verbal communication.

Nonverbal communication

How you communicate often determines how well you relate to your customers. Before your mouth opens, you are communicating more than your words ever could. Without speaking a word to your customer, how would you tell him or her that you are professional, respectful, and are reliable to provide the accurate and complete information he or she wants to know? Use nonverbals by taking the time to dress and groom yourself appropriately, making eye contact, and smiling to give your customers the impression that you’re a person who cares about the job, is knowledgeable, and willing to assist.

Dress and appearance

AFI 36–2903, Dress and Personal Appearance of Air Force Personnel, explains how to wear your uniform and groom yourself properly. You must always adhere to the minimum standards in this AFI, but when you perform duties involving customers, you should far exceed this standard.

Visual attitude

When a customer looks at you, does he or she see you slouching in your chair with one leg up on the counter or your feet on the desk? Or … are you sitting up straight with a smile and a positive attitude, ready to answer his or her questions? Your nonverbals say a lot about you and the service you are providing. Avoid leaning over counters since this conveys boredom or disinterest. Never chew gum while speaking with customers. Not only is it rude, but you also run the risk of spitting on customers, by mistake, or having the gum escape your mouth.

Verbal communication

Communicating effectively is important. If you do not, you can confuse people, cause misunderstandings, and create more work for yourself and others. Simple things you may overlook are essential for effective communication, like tone of voice, enunciation, word choice, keeping customers informed and building rapport.

Tone of voice

The first verbal communication customers evaluate is your tone of voice. You can say the exact same words and use two different tones that have very different meanings. Take the phrase, “I’ll get right on that.” Say it with an eager tone and positive attitude, and you will impress your customer with your enthusiasm. Say it with a sarcastic tone and negative attitude, and you may offend your customer. Customers who have been offended lose trust in the MTF, making it more difficult to please the customer. Regaining trust is harder than continuing the trust already gained.

Enunciate

Speak clearly, slowly, and loud enough for the customer to hear and understand you. Enunciate your words. Do not mumble or race through your words, even if you are busy. If you do, you will probably have to repeat yourself and that could make the customer feel unimportant or rushed. When you take your time with your customers, they gain trust in both you and the MTF.

Word choice

Another part of communicating effectively is your choice of words and how you put them together. The military is comprised of people from all over, and one word can have two different meanings to two different people. Also, use “please” and “thank you.” Avoid foul language, slang, and jargon. Provide accurate and complete information. Remain gender neutral and treat all customers equally. Use a clean sense of humor, if it is appropriate. Be accessible to the customer. Give him or her time to ask questions and clarify answers. Use gentle persuasion instead of barking orders at him or her.

Keep your customers informed

No one enjoys standing in long lines, especially your patients. So, why make them wait? You should make every attempt to satisfy their need in a reasonable amount of time. When long waits are unavoidable, brief patients of the situation and reassure them that you will take care of all their needs as soon as possible. Also, provide them with the “who, what, when, where, and, sometimes, the why” of the situation. Giving the customer more information than asked for allows them to decide what parts are and are not important. On the other hand, giving too little information may frustrate them or make them feel as if they are getting the “runaround.” Part of communicating effectively is to provide the customer with all of the information he or she needs and ensuring that it is accurate.

Build rapport

Build rapport with your customers. Building rapport is taking time to show a sincere interest in another person. While your job probably will not give you much time to “shoot the breeze” all day, you can do your best to build rapport with customers in the little time that you have with them. You can build rapport by listening and asking good questions. For example, it is reasonable to assume that if a customer asks where the Immunizations Clinic is, he or she plans to go there.

Operating hours are something this customer would be interested in, especially if the clinic is closed. However, let us say you did not know the clinic was closed. What might be a good question to ask? “When were you planning on going sir or ma’am?” Then you could explain that the clinic is closed from 1100–1230 for lunch every day, and then offer the customer other alternatives.

Listening

Listening is the most important customer service skill. In any situation, you may not always be able to solve the problem to the patients’ satisfaction, but a gesture as small as listening to them “get it off their chest” goes a long way. This skill is easier said than done; however, listening is one of the most difficult and neglected skills when communicating with people. Here are some things you can do to improve your listening skills when interacting with your customers.

Undivided attention

Give the customer your undivided attention. Do not look at other people walking by. Look your customer in the eye and listen actively. Focus on the customer and be mentally prepared to receive information. This shows your customer that you are open-minded, receptive to their views, and willing to listen to their situation.

Also, do not think about other things while they are speaking. People often think about what they are going to say next or what they are doing for lunch. Avoid this. Pay attention. Avoid distracters. Customers know when you are not paying attention to what they are saying. Hear each customer out before formulating your response.

Do not interrupt

Do not interrupt the customers. Let them finish, even if they may be chatty. Wait until the customer finishes speaking before responding, even if it takes some time. Often, the real reason behind a situation is uncovered after customers get past releasing their frustrations. The real reason is what we need to know in order to fix it.

Paraphrase

Paraphrase what the customer said. This shows that you were listening and understood what he or she said. Before you can solve any situation, you need to understand the actual problem. Paraphrasing back to the customer how you interpreted the problem gives them the chance to clear up any confusion so you can take proper action.

Telephone etiquette

As you just learned, providing great customer service involves a lot of attention to details. However, providing great customer service does not stop there. You will also interact with customers over the phone. In addition to using some of the skills you just learned when talking to patients face-to-face, there are some other factors to take into consideration when answering the phone or calling a customer.

Be prepared to answer the phone

Keep a pen and paper near the telephone to take good notes. Sometimes you will need information from a patient in order to research the issue properly. No matter what, write down the necessary information in case you need to use it again. Let’s say that you are researching a patient in the computer and you did not write down the name. You typed it into the computer the first time and nothing came up. You have another way to search; only you forgot how to spell the name. Now you

have to ask the customer to repeat the information so that you can do another search. Write it down the first time to avoid this and you will give the customer smoother service.

Answering the phone

When you hear the telephone ring, you should answer it as soon as possible. Many times a phone will ring three or four times because no one in the office will take the initiative to answer it. If you are helping a customer at the time your phone rings, understand that the person on the other end is also a customer. Be polite to your current customer while excusing yourself to answer the call. You will find that the more phone calls you answer, the more you will learn. You will receive phone calls from patients, and since they cannot see your nonverbals, your verbal communication skills will determine how positive the conversations will be. Although the phone etiquette rules vary, you should answer all phone calls within three to five rings. Never ignore a call since valuable information could be on the other end.

Identify yourself

Collect yourself, greet your customer, and speak slowly. You should always use standard greetings such as “Good Morning, this is A1C Smith, in outpatient records, how may I help you?” This prevents confusion and reassures patients that they have called the correct place. Because we come from different backgrounds, the rate at which we speak differs tremendously from person to person. However, when on the phone, we all must train ourselves to speak slowly enough so others understand us. This gives customers the impression that we are not rushed and we are willing to spend time and hear what they have to say. It also prevents you from repeating yourself.

Avoid abrupt phrases

You should not cut off the person on the other end of the line with abrupt phrases. Never interrupt or use such phrases as, “He isn’t in,” “He’s busy,” or “What do you want?” These phrases give customers the impression that you are not interested in helping them. Instead, let them finish what they need to say.

Take messages

If you receive a phone call and the person for whom the call is intended is not in the office or tied up at the time, ask if you can assist or if you can take a message. Sometimes the customer has a general question that anyone can answer, other times it may be necessary to take a message. It is important to make sure you get the necessary information and that you deliver it promptly. Information that you need to make sure to write down include the date, time, person’s name, contact number, and nature of the call.

Calling customers

Although you have used the phone many times, it is important to pay special attention when calling customers, especially patients. There is much more to making a telephone call than simply picking up the receiver and dialing the number. If you call a patient to schedule an appointment or call a coworker in another duty section, you should always show the appropriate courtesy.

Plan your conversation

This is the first thing you do when calling someone. You do not need to have a script written for every phone call you make, but you need to have some idea of what you are going to say. Think of what you are calling for and write it down if necessary. Ask yourself who you are calling, why you are calling them, and what you need from them. By doing this, you will ensure you do not forget what you called for. You may want to list some of the main points for your call. For example, if you were calling SSgt Jones to schedule him for a follow up appointment, some information you need to know would include the date, the time of the appointment, the location, and any documents he or she is required to bring to the appointment.

Dial carefully

Once you know what number to call, take your time and dial carefully. It would be embarrassing if you wanted to call the supply squadron and you ended up getting the base commander on the line. If you dial a wrong number, be polite. Do not just hang up the phone, explain that you have dialed the wrong number and apologize.

Identify yourself

Just like when you answer the phone, identify yourself. When a person picks up the other end of the line, be prepared to identify yourself. At a minimum, give your rank, name, and the organization to which you are assigned. For example, "Good Morning, this is SrA Johnson from the Family Medicine Clinic …."

Speak clearly

Hold the receiver about an inch from your mouth, speak slowly, speak up, but do not yell, and do not run your words together. Be brief, business-like, and remain professional.

Mind the time

If you know your call will be lengthy, make sure you ask if the other person has time to talk. If they state they are too busy to talk right now, ask them when will be good time to call back. Make sure that you call back at the specified time. If possible, limit your call to five minutes.

Terminating your call

At the end of your conversation, acknowledge you have received the desired information, thank the individual for their assistance, and give your closing salutation or goodbye. It would be rude to hang up suddenly when you have received your information. The individual on the other line may not be sure if you received what you needed or if the phone was just disconnected.

Dealing with a difficult situation

Go back to the scenario at the beginning of the lesson: You are walking through the MTF and a patient comes up and asks you a question. You get the feeling he/she is upset, and you do not know the answer to his question. What do you do? By now, you know the appropriate steps to take when dealing with a happy customer, but what do you do when the situation is a little more tense?

Customers that do not feel well or are frustrated with 'the system' can become emotional. It is important for you to understand how to respond because you could be the first person they see. Leadership relies heavily on your professionalism in handling these types of situations that require experience and practice. Remember, do not take it personally and remain calm and professional. Practice these steps when dealing with difficult situations.

Listen to your customer attentively

Make eye contact with him or her, nod your head to show that you understand, and repeat or paraphrase what the customer said back to him or her so that you both are clear. Practice your nonverbal communication skills previously mentioned.

Show empathy

Use phrases like, "I understand," "I know how frustrating that can be," or "I'm sorry to hear that."

Solve the problem

This may require that you explain a process again or provide options to the customer. This is what your focus should be. If their documentation is incorrect, help them correct it or walk with them to the appropriate duty section that can.

Take them to your patient advocate or supervisor

If patients do not calm down or start to verbally attack you, escort them to the Patient Advocate. Most facilities have a patient advocate representative that works in each of the duty sections. Politely let the

patient know you empathize with them, and you think their concern should be raised to the appropriate personnel that can assist them. Escort them to the patient advocate's office, or ask a coworker to bring the patient advocate to you.

Electronic communication

As you know, e-mail is transmitting information electronically over a computer-based message system. It is a faster, better, and cheaper way to transmit most routine information instead of a paper copy. E-mail is quick, inexpensive, and provides a record of communication. For that reason, you should use this when it is appropriate and before using the mail or fax. However, do not use e-mail to transmit classified or patient information unless you transmit it over the appropriately approved network. There are two types of e-mails: organizational and individual.

Organizational e-mail

This type of e-mail is sent from an organization's mailbox and is transmitted to any other e-mail address. It includes official communications such as letters, messages, memorandums, reports, and so forth, and follows the specific formats found in Air Force Handbook (AFH) 33–337, The Tongue and Quill. Organizational e-mail must contain a complete signature element clearly indicating who sent the communication, the term "signed", and the authority line, if appropriate. Within the chain of command, recipients must consider correspondence and documents received by way of organizational e-mail as authoritative when a signature is indicated. Indicate the signature by the word "signed" or the letter "s." For example:

//signed//
LINDA S SMITH, SrA, USAF
Outpatient Records Technician

Organizational e-mail is coordinated through the appropriate offices before being released and must be released by a designated releasing official. E-mail is coordinated using the same method as the official memorandum. You will prepare the correspondence for release, e-mail it to the appropriate individuals for coordination, and then forward it to the releasing authority electronically or in paper copy. The releasing official transmits the electronic correspondence by way of e-mail or returns it to you with comments or changes.

Individual e-mail

Individual e-mail includes communication between Department of Defense (DOD) personnel within administrative channels, both inside and outside the organization. There is no specific format for correspondence using individual e-mail. However, if information is official, the same policies apply as for organizational e-mail. Individual e-mail does not generally commit or direct an organization. Use it for personal official mail and business within the organization. You may omit the signature if the computer automatically generates sender identification.

006. Prepare draft and finalize official correspondence

There will be times when you have to prepare written correspondence for your supervisor or commander. For example, your supervisor, TSgt Johnson, comes to you and wants you to prepare a letter to flight personnel explaining the quality control process for outpatient records. What do you do? Where do you start? First, you set your fears aside, and then you start by preparing a draft of the letter.

Prepare draft

The first step in the writing process is to prepare a draft. What exactly is a draft? A draft is an initial plan towards your final product. Think of a draft in terms of building a house. You need to have a design blueprint before you can start your construction. It is the same when writing. A draft is the architectural outline for your completed communication. The first step is to determine the purpose of the correspondence.

Find the purpose

All Air Force writing falls under one or a combination of three general purposes: to direct, inform (or question), or persuade as listed in the table below.

PURPOSE	QUESTION TO ANSWER
To Direct	What does your reader need to do?
To Inform	How does your reader need to do something?
To Persuade	Why does your reader need to do something?

More often than not, your correspondences will have overlapping purposes. Once the purpose is identified, you will know what the objective of the correspondence will be. You will need to refer back to your purpose occasionally to ensure that you are staying on track.

Identify the receiver

The receiver is the individual or group that your communication is directed to. In your scenario, your correspondence is directed towards your patient population. When considering your receiver, ask yourself the following three questions:

1. How much does my receiver know about the subject I am presenting?
2. What response do I want from my receiver after reading the correspondence?
3. What tone should I use to get my point across?

Once you answer these questions, you will be able to identify the best vocabulary and tone for your reader.

You have already identified that the audience for your correspondence will be the Medical Group's patient population. You want the patients to be informed on the new process and to understand how to utilize it. Due to the huge variety of individuals in your audience, you need to make the letter as easy as possible to follow. You will have military, dependents, retirees, and possibly even civilians reading your letter. One easy way might be to think of someone you know that has no affiliation with your organization or the military in general. In other words, someone who has absolutely no idea of what release of information is, and then pretend you are writing an official letter to him or her.

Choose wording

You want to make sure that your communication is written in a way that your audience will understand. You do not want to confuse your audience or muddle your point. Knowing that your readers are not "in-house" personnel, you will probably want to avoid technical terminology, over-explaining, and unexplained abbreviations and acronyms. For example "IAW AFI 41–210, TRICARE Operations and Patient Administration Functions, the release of information (ROI) clerk has 20 days to complete request." You know what this means, but will your readers? If you are unsure as to whether or not a word or phrase will be understood, it is best to either not use it, or reword it so anyone can understand it. Another useful writing hint is to avoid "fluff." Readers can get bored and skip over areas that may seem unimportant. You want to keep your readers engaged.

Tone of correspondence

Tone is an important aspect of communication. A negative tone, consisting of words that are uncomplimentary, negative, or bring about unpleasant thoughts, can defeat your purpose. Be aware that some expressions may humiliate or belittle your readers. Strive for a positive tone by using a dignified, polite, and understanding style. Any display of irritability, rudeness, or superiority is certain to reduce your effectiveness.

Outline

Prior to starting your outline, you will need to collect the information you are passing on. Begin with official aspects of your message. Will you be referencing Air Force Instructions, Policy Letters, or

locally drafted instructions? Will you be stating specifics of the new process? When will it start, what are the new requirements, where can they accomplish the requests? All this information will need to be organized prior to writing your letter. If not, your letter may bounce around all over the place and confuse your reader.

How you organize your thoughts is up to you. Everyone is different. Some may chose a standard outline format, others may just jot down their ideas and number them in the order they want to use them. Anyway you do it is fine, as long as it works for you, that is what counts! Are you ready to start writing? Not yet, you must next select a format.

Select format

You can use several formats. If you are unsure which format is best for your correspondence, you can look them up in AFH 33–337, The Tongue and Quill. Some of the formats that are available to you are in the following table.

Correspondence Formats	
The Official Memorandum	This is used to conduct official business inside the government. It is also used outside the government with vendors or contractors when the personal letter is inappropriate.
The Personal Letter	Usually prepared on letterhead stationery, this letter is used in conveying appreciation, thanks, condolences, or recommendations.
The Memorandum for Record	This is an in-house memorandum covering information that would otherwise not be recorded in writing.
Talking Papers	This is used as a quick-reference outline on key points, facts, positions, and questions that are used during oral presentations.
Position Papers	This format is used when you must evaluate something, raise a new idea, or “take a stand” on an issue.

The Tongue and Quill will show you where the margins should be aligned, how many spaces and where they are placed, and in what situation you should use which format. Review the Tongue and Quill and decide if the Official Memorandum is the best fit for your letter. Now that you have a format, look at the example in the Tongue and Quill. You will see that the letter is broken down into introductions, body paragraphs, and conclusions (if your command, base, or unit uses modifications of these formats, follow local guidance). First, start with your introduction.

Introduction

Your introduction is the beginning to your correspondence. This is where you state your purpose and set the tone of what you are telling the reader. Your introduction should be brief and to the point. Once you have stated your purpose, you can transition into your supporting paragraphs, or the body of your message.

Body

The body of your message backs up your purpose. It will include supporting ideas broken up into paragraphs. In each of these paragraphs, you will present validation. Sometimes, depending on the purpose of your letter, you can have only one body paragraph. If your message is lengthy, you may need five or six paragraphs supporting your purpose. Just remember the general rule is one main idea per body paragraph.

Conclusion

Your conclusion has one job in your correspondence, to sum up what you have said. It is a brief recap of your introductions and main points. It is also a good idea to write a quick contact statement at the end of your statement if you feel your readers may have further questions. For example, "If you have any further questions or concerns, please feel free to contact me at DSN 123–4567 or e-mail me at jane.smith99@us.af.mil."

Finalize

Now that you have got your message written, you need to ensure it is ready. It is time to edit! This is the time to pull out the red pen. For best results, it is best to look at your letter with "fresh eyes." Remember to save your correspondence, close out of it, and go do something else. When you come back to your document, read it at least three times, checking each time for spelling, grammar, and readability.

Use active voice

Passive writing tends to be dull and lifeless. If you are going to say something, say it in an active voice. Here are some common, "passive" voice words: am, is, are, was, were, be, being, been. For example:

> (Passive) The paperwork in the OPR section should be filed by close of business (COB).
> (Active) The OPR section will have the paperwork filed by COB.

Edit

When you edit your writing, you must shift from the role of writer to the role of critic. For effective evaluation, detach yourself emotionally from your material and look at it through cold eyes. Put the draft in a desk drawer and stay away from it for several hours (or as long as you can afford). When you come back to the draft, read it at least three times and concentrate on technical accuracy, coverage, and finally, on arrangement and readability.

Technical accuracy and coverage

Ask yourself, 'Have I included enough information for the reader to understand?' "Are details correct?" "Have I made my point, and will the reader see it as I do?" Now is the time to add information, move material to other paragraphs, or rearrange the positions of paragraphs.

Another concern is whether you have included irrelevant, or too many, details; or whether you have overwritten your support. In either event, you may waste your readers' time, confuse them, or give them needless information. Question and weigh all your material and then decide whether you can delete, modify, or consolidate.

Arrangement

Start with the subject line and decide if it accurately reflects the substance of your correspondence. If it does not, now is the time to improve it. The subject line should be specific, yet broad enough to give readers a good idea of what they are about to read. It should not be so long that they get lost in words or so short that it is meaningless. Usually you write it as a phrase or combination of phrases, but you can write it as a complete sentence, especially a question. Experiment until the subject accurately reflects the content of your correspondence.

Next, test your introduction against the conclusion. Even if you are writing a short letter or message, give your readers the courtesy of an introduction and a soft landing at the end.

When you are satisfied your introduction and conclusion play their proper roles, you are ready to apply another test. Read the introduction again and then read the topic sentence of all paragraphs between the introduction and the conclusion. The topic sentence expresses the main idea of your paragraph and gives you a point of focus for supporting details.

The topic sentence (usually the first sentence) is the subject and main idea of the paragraph. Other sentences between the topic sentence and the last sentence must be closely related to expand, emphasize, and support the topic sentence. The last sentence should summarize points made about the topic sentence, clinch the main idea in the reader's mind, or serve as a transition to the next topic sentence. Omit any sentences that do not perform one of these functions!

Readability

Read your draft aloud and listen to the sound of words, phrases, and sentences. Does it meet the test of simplicity and directness? The quicker your reader can understand your communication, the better. Simple and direct communication is easy. Just remember to do the following: take out unnecessary words, get rid of "that" and "which", and ask for feedback.

Take out unnecessary words

You need to remove unnecessary words that many writers add to their phrases because they think it emphasizes or rounds out a passage. For example; final completion, month of August, or close proximity. Completion is final or it is not complete. August is a month and proximity is close.

Get rid of that and which

Eliminate needless "that" and "which" by simply dropping them or rewriting slightly. Sometimes, you can replace which with that or leave it out altogether. Do not get carried away though; keep the ones that help the meaning or flow.

Ask for feedback

When you have done everything imaginable to improve your communication, you are probably thinking it cannot get any better. Do not bet on it. Let others see your work. Do not let pride of authorship and fear of criticism close your mind to suggestions from others. Your goal is to produce the most accurate and understandable correspondence possible. Ask a friend, coworker, and especially your supervisor to review your draft and suggest improvement. If (or when) someone suggests your meaning is not clear, and explains why, take another look at your material. Your reader may react the same way.

After editing, you are ready to put your correspondence in the format you selected earlier. The official memorandum is the most common format used in the Air Force.

Official memorandum

To begin typing the official memorandum (fig. 1–10), type the text flush with the left margin. Single-space the text, but double space between paragraphs. You may double-space the text of a one-paragraph memorandum with less than eight lines. Type on one side of the paper only, use black or blue-black ink, and use plain white paper for continuation pages.

Now that you have created the perfect official memorandum, you are ready for coordination and distribution.

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE

2 February 2004

MEMORANDUM FOR HQ AETC/IM
HQ AU/IM

FROM: HQ USAF/SCMV
1250 Air Force Pentagon
Washington DC 20330-1250

SUBJECT: Format of the Air Force Official Memorandum (Your Memo, 15 Jan 03)

References: (a) AFMAN 33-326, *Preparing Official Communications*
(b) AFH 33-337, *The Tongue and Quill*

1. This is a prepared letterhead format of the Air Force official memorandum. The heading will be generic consisting of two or three lines: Department of the Air Force, etc., and the organization (Headquarters Air Combat Command, Headquarters United States Air Force, etc.), and the location with the ZIP code (optional). Printed letterhead stationery for wing level is normally used if the quantity needed justifies the printing cost. Any unit without its own letterhead may use its parent unit's and identify its organization and office symbol in the FROM caption. Be sure to include the 9-digit ZIP code with the full address in the FROM caption.

2. The style of writing is yours. For some helpful guidelines see pages 17-24. However, when writing for someone else's signature, try to write as though that person were speaking. Be succinct, use active voice and keep it short (one page, if possible, see Atch 1). Include extensive background material as an attachment rather than within the memorandum itself (see Atch 2).

3. Even though most signers want their signatures on a perfect product, minor errors may be neatly corrected in ink.

4. If you want a response directed to a project officer rather than the signer, include that person's name and rank (if applicable), office symbol, telephone number and e-mail in the body of the memo.

Shirley Collins
SHIRLEY COLLINS
Management Analyst
Visual Information/Publishing Division

2 Attachments:
1. Minutes, 28 Dec 03
2. HQ AF/ILCXE Memo, 15 Dec 03

cc:
HQ AETC/DP

Figure 1–10. Official Memorandum

007. Complete coordination and distribution process

Coordinating is a process that involves others reviewing your correspondence before its leaves your section or organization. Whether it is staying in house or being approved and forwarded to Headquarters, it is a necessary process to ensure that all levels impacted are informed. You know TSgt Johnson wants the memorandum to go to all flight personnel; however, you know you have to send it through for coordination before distributing it through the office.

Preparing and coordinating the staff summary sheet

The first step in coordination is to complete the AF Form (IMT) 1768, Staff Summary Sheet (fig. 1–11). Otherwise referred to as the SSS, the AF Form 1768 *introduces, summarizes, coordinates, or obtains approval or signatures on correspondence*. It's a brief summary (preferably one page) stating the purpose, pertinent background information, rationale, and discussion necessary to justify the action desired. Each MTF will have procedures as to who needs to coordinate on documentation; however, your supervisor should be able to tell you who to put on the SSS. Once the SSS is complete, take it to the first person on the list. Each office in coordination will forward it to the office on the next office on the list.

STAFF SUMMARY SHEET

	TO	ACTION	SIGNATURE *(Surname)*, GRADE AND DATE		TO	ACTION	SIGNATURE *(Surname)*, GRADE AND DATE
1	ACSC/DEO	Coord	Herron, Lt Col, 5 Apr 14	6			Sign your surname, rank or grade, and date on the bottom line if you are the addressee, sign on the top line if you are not the addressee. If more than 10 coordinators, use another form, remember and fill in all info through Subject line.
2	ACSC/DE	Coord	Graham, Lt Col, 6 Apr 14	7			
3	ACSC/CV	Coord	German, Col, 6 Apr 14	8			
4	ACSC/CC	Sig	Ladwin, Brig Gen, 7 Apr 14	9			
5				10			

SURNAME OF ACTION OFFICER AND GRADE	SYMBOL	PHONE	TYPIST'S INITIALS	SUSPENSE DATE
SMSgt Tyndale	DPS	3-2290	jv	11 Apr 14

SUBJECT	DATE
Preparing the Staff Summary Sheet (SSS)	1 Apr 14

SUMMARY

1. The SSS introduces, summarizes, coordinates, or obtains approval or signature on a staff package. It should be a concise (preferably one page) summary of the package. It states the purpose, pertinent background information, rationale, and discussion necessary to justify the action desired. Show the action desired (Coord [Coordination], Appr [Approval], Sig [Signature]). Use Info (Information), when the SSS is submitted for information only. (**NOTE:** Usually show only one Appr entry and one Sig entry.) Use complete address when coordinating with outside organizations.

2. The SSS is attached to the front of the correspondence package. If an additional page is necessary, prepare it on plain bond paper. Use the same margins you see here. Summarize complicated or lengthy correspondence or document attached, or any appropriate portion of any document you reference. Do not use in place of a memo; use with a package it summarizes.

3. List attachments to the SSS as tabs. List the documents for action as Tab 1. List incoming letter, directive or other paper—if any—that prompted you to prepare the SSS as Tab 2. (If you have more than one document for action, list and tab with as many numbers as needed and list the material you're responding to as the next number: Tabs 1, 2, and 3 for signature, Tab 4 incoming document.) List supplemental documents as additional tabs followed by the record or coordination copy and information copies. If nonconcurrence is involved, list it and the letter or rebuttal as the last tab.

4. VIEW OF OTHER. Explain concerns of others external to the staff (i.e., OSD, Army, Navy, State, etc.) For example: "OSD may disapprove of the approach." Use a period or colon after VIEW OF OTHER, OPTION, etc. Either is acceptable; just be consistent.

5. OPTIONS. If there are significant alternative solutions, explain. For example, "Buying off-the-shelf hardware will reduce the cost by 25 percent, but will meet only 80 percent of the requirements."

6. RECOMMENDATION. Use this caption when SSS is routed for action. State the recommendation, including action necessary to implement it, in such a way the official need only sign an attachment or coordinate, approve, or disapprove the recommended action. Do not recommend alternatives or use this caption when submitted for info only.

Carrie H. Long
CARRIE H. LONG
Student Services, ACSC
Ext 3-7901

2 Tabs
1. Proposed Ltr
2. HQ AETC/CC Ltr, 25 Mar 14 w/1 Atch

AF IMT 1768, 19840901, V5 PREVIOUS EDITION WILL BE USED.

Figure 1–11. AF Form 1768, Staff Summary Sheet.

Finally, when all offices have coordinated on your memorandum, you will receive it back. Completing these three easy steps will ensure your memorandum is appropriately reviewed and approved. Once it is approved, you can distribute it to the appropriate personnel.

Distributing correspondence

You finally received your approved and signed memorandum, now you have to send it to the appropriate people. You know TSgt Johnson wants the memorandum to go to all flight personnel, so that is what you do. What if you work in a large office and you are in charge of making sure all correspondence gets to the right people? What do you do if you need to send the correspondence to multiple work centers?

Routing

Properly routing correspondence can increase the efficiency of your office if it is performed correctly. When routing communications, you want to make sure the communication gets to the correct personnel. To do this, first look at the MEMORANDUM FOR: section of the memorandum. This should tell you the office the memorandum is for. Next, look at the end of the memorandum to see if you see a section named ‘cc’. This section identifies the offices that should get a ‘courtesy copy’ of the memo. Once you have identified the offices, next you need to decide the appropriate delivery method. There are two methods of delivery: in and out baskets and e-mail.

In and out baskets

In and out baskets are used for personnel or offices that handle a lot of correspondence. This is only necessary when the receiving person is required to maintain a hard copy on file.

E-mail

E-mail has become the accepted form of routing correspondence since all hospital employees have access to e-mail. Each unit will have their own guidelines for routing correspondence; however, the following table is a basic checklist.

ROUTING	PROCEDURES
Organizational or individual	Whatever account you use, ensure to follow the appropriate etiquette guidelines written above.
Individuals or Distribution	MTFs will have distribution lists for their personnel. Typical distribution lists could include: squadron distribution list, enlisted distribution list, flight distribution list. If the correspondence needs to go out to many individuals, then distribution lists may be a better option than sending an e-mail to individuals.
Read Receipt	When you need to ensure everyone has received and read an e-mail, request a delivery and read receipt. Open a new e-mail message, go to “Options” tab, and select the appropriate receipt under “Tracking”.
Response Requested	Sometimes correspondence requires a response. You can manage this with the “Use Voting Buttons.” This option is also available under “Tracking”.

008. Self-inspection programs and systems

One of the areas you may need to coordinate communication is when you conduct self-inspections on your program. A self-inspection is a tool for leadership to evaluate programs and processes that impact the delivery of safe, quality healthcare in their area of responsibility. Self-inspections are everyone’s responsibility. Every program should be inspected and updated in the appropriate system. Most standards for self-inspection are updated at least annually by their accrediting source. Updates require attention to ensure we meet our beneficiary and AFMS expectations for the highest quality of healthcare. The MTF leadership has a continuous self-inspection process is in place for accurately and completely monitoring compliance standards as outlined by AFMOA, the MAJCOMs, and other national accreditation bodies as required.

Inspection guidelines

Self-inspections are primarily compliance based and conducted using checklists comprised of requirements from governing directives. The Air Force Inspection Agency (AFIA) maintains various checklists relating to inspectable areas. These checklists can be utilized to help build self-inspection checklists, and can be found on the AFIA website on the Air Force Knowledge Exchange. The following inspections help define what is on the checklists. These inspections are "Accreditation Association for Ambulatory Healthcare, The Joint Commission, and unit effectiveness inspection.

Accreditation Association for Ambulatory Healthcare

Also known as AAAHC, the Accreditation Association for Ambulatory Healthcare is a private, non-profit organization that assists ambulatory healthcare organizations in improving the quality of care provided to patients. It accomplishes this by setting standards, measuring performance, and providing consultation and education where needed.

The joint commission

An independent, not-for-profit organization, The Joint Commission (TJC) maintains state-of-the-art standards that focus on improving the quality and safety of care provided by healthcare organizations. TJC's comprehensive accreditation process evaluates an organization's compliance with these standards and other accreditation requirements. Their website has multiple tools and frequently asked questions to assist organizations in compliance.

Unit effectiveness inspection

The unit effectiveness inspection (UEI) validates and verifies a wing's resource management, leadership, process improvement, and mission execution.It is a continual evaluation of performance throughout the inspection period–a "photo album" version snapshot. The inspection period begins immediately after the close out of the previous UEI report.

Automated self-inspection tools

All AFMS MTFs use the Management Internal Control Toolset (MITC) to score all applicable elements of the national patient safety goals and current AAAHC standards. MTFs are allowed to utilize the Medical Facility Assessment and Compliance Tracking system (MedFACTS) to track other standards, such as UEIs, though each MTF will need to enter the standards into their individual folder. MTFs determine staff access; however, by design MedFACTS' visibility includes AFIA inspectors, HQ functional experts, and MAJCOM staff.

Self-Inspection program manager appointment

The MTF commander will appoint, in writing, a MTF self-inspection program manager(s) to coordinate the assessment and reassessment of all standards applicable to the MTF functions.

Ongoing self-assessment reports

At a minimum, MTF staff annually assesses each compliance item and provides a status report to the MTF Executive Committee. All inpatient facilities will submit the automated periodic performance review (PPR) to TJC annually as their accreditation requires.

Self-Test Questions

After you complete these questions, you may check your answers at the end of the unit.

005. Communication courtesy

1. What are some examples of external customers? What are examples of internal customers?

2. What are the two ways you communicate with your customers when you are face-to-face?

3. What factors should you consider when verbally communicating with a customer?

4. What is the most important customer service skill?

5. Within how many rings should you answer the phone?

6. What is the first thing you should do when you answer the phone and call someone?

7. What steps should you take when dealing with difficult situations?

8. What are the two types of e-mail?

006. Prepare draft and finalize official correspondence

1. What is a draft?

2. What is the first step in developing our correspondence?

3. What are the three general purposes of all Air Force writing?

4. What is the purpose of a letter explaining what to do when filing laboratory reports?

5. What is the purpose of a memorandum explaining why physical fitness is important?

6. What is the purpose if you are explaining how to report to the commander?

7. When thinking about your receivers, what questions do you ask?

8. What must happen first before writing an outline?

9. What three parts is the correspondence broken down to?

10. When editing, on what areas should you concentrate?

11. What are your concerns when editing for technical accuracy and coverage?

12. What should your topic sentence do?

13. How can you get rid of needless “which” and “that” in your writing?

007. Complete coordination and distribution process

1. What are the functions of AF Form 1768, Staff Summary Sheet?

2. How do you ensure someone has received and read e-mail correspondence?

3. How do you request a response via e-mail?

008. Self-inspection program and systems

1. What tool is used for leadership to evaluate programs and processes that impact the delivery of safe, quality healthcare in their area of responsibility?

2. What is a private, non-profit organization that assists ambulatory healthcare organizations in improving the quality of care provided to patients?

3. What is used to score all applicable elements of HSI, AAAHC, and applicable national patient safety goals?

4. Who appoints the MTF self-inspection program manager?

Answers to Self-Test Questions

001

1. Emphasis on wartime task, functional grouping, lean organizational structures, skip-echelon structure, and standard levels.
2. In 1993, it was changed to Objective Medical Group.
3. AEF.

002

1. To enhance our ability to deliver better care, better health, and the best value while staying true to our core mission.
2. Better health.
3. Readiness.

003

1. Advises both the SECAF and CSAF on medical matters pertaining to Air Force Operations and readiness. A small staff that includes that includes two forward operating agencies, AFMOA and AFMSA, support the SG.
2. AFMOA and AFMSA.

004

1. The typical clinic model, hospital or medical center, medical wing, limited scope medical facility, and medical squadron.
2. Medical operations squadron, dental squadron, aerospace operations squadron, inpatient operations squadron, surgical operations squadron, diagnostics, and therapeutics squadron.
3. Resource management, medical logistics, medical information services, personnel and administration, TOPA, readiness, pharmacy, clinical laboratory, nutritional medicine, diagnostics and therapeutics, histopathology, readiness, and diagnostic imaging.

005

1. External customers include patients, couriers, and insurance company. Internal customers include coworkers, supervisors, and others in your squadron such as doctors or nurses.
2. Verbally and nonverbally.
3. Tone of voice, enunciation, word choice, keep your customers informed, and build rapport.
4. Listening.
5. 3–5 rings.
6. Identify yourself.
7. Listen to your customer attentively, show empathy, solve the problem, and take them to the patient advocate or supervisor.
8. Organizational and individual.

006

1. An initial plan towards your final product.
2. Determine the purpose of the correspondence.
3. To direct, inform (or question) or persuade.
4. To direct.
5. To persuade.
6. To inform (or overlapping of informative and directive).
7. How much does my receiver know about the subject I am presenting? What response do I want from my receiver after reading the correspondence? What tone should I use to get my point across?
8. Collect the information you are passing on and then organize it.
9. Introduction, body, conclusion.

10. Technical accuracy, coverage, arrangement, and readability.
11. Is enough information included? Are details correct? Are irrelevant or too many details included–is the point made?
12. This sentence, which is usually the first sentence, is the subject and main idea of the paragraph.
13. Dropping them or rewriting slightly.

007

1. It introduces, summarizes, coordinates, or obtains approval or signatures on correspondence. It's a brief summary (preferably one page) stating the purpose, pertinent background information, rationale, and discussion necessary to justify the action desired.
2. By requesting a delivery and read receipt.
3. Use the 'Use Voting Buttons" option under 'Tracking'.

008

1. Self-inspection.
2. AAAHC.
3. MITC
4. The MTF/CC.

Do the unit review exercises before going to the next unit

Unit Review Exercises

Note to Student: Consider all choices carefully, select the best answer to each question, and circle the corresponding letter. When you have completed all unit review exercises, transfer your answers to the Field-Scoring Answer Sheet.

Do not return your answer sheet to the Air Force Career Development Academy (AFCDA).

1. (001) What organizational principle focuses on accomplishing wartime tasks *without* reorganizing?
   a. Standard levels.
   b. Lean organizational.
   c. Emphasis on wartime tasks.
   d. Emphasis on wartime and peacetime tasks.

2. (001) What organizational principle focuses on rapid decision-making so they should be flat structures *without* intermediate levels?
   a. Standard levels.
   b. Lean organizational.
   c. Emphasis on wartime tasks.
   d. Emphasis on wartime and peacetime tasks.

3. (001) The five organizational principles do *not* include
   a. Standard levels.
   b. Lean organizational.
   c. Emphasis on wartime tasks.
   d. Emphasis on wartime and peacetime tasks.

4. (002) What Air Force Medical Service (AFMS) objective focuses on the appropriate utilization of people and resources applied through *effective* management?
   a. Readiness.
   b. Better Care.
   c. Better Health.
   d. Best Value.

5. (003) What *cannot* be a subdivision of a wing?
   a. Numbered Air Force (NAF).
   b. Group.
   c. Flight.
   d. Squadron.

6. (003) What level of organization usually has between 1,000 to 5,000 personnel?
   a. Flight.
   b. Group.
   c. Wing.
   d. Numbered Air Force (NAF).

7. (003) What level of organization usually has between 500 to 2,000 personnel?
   a. Flight.
   b. Group.
   c. Wing.
   d. Numbered Air Force (NAF).

8. (004) Which option is *not* a type of military treatment facility (MTF)?
   a. Acute care.
   b. Hospital.
   c. Limited scope.
   d. Medical squadron.

9. (004) What type of military treatment facility (MTF) can have from *two* to *six* squadrons?
   a. Hospital.
   b. Typical clinic model.
   c. Medial squadron.
   d. Limited scope.

10. (004) What type treatment facility model is the *most* common in the Air Force?
   a. Hospital.
   b. Medical squadron.
   c. Typical clinic model.
   d. Limited scope military treatment facility.

11. (004) When was the medical squadron model implemented?
   a. 1 January 2012.
   b. 1 January 2013.
   c. 1 February 2012.
   d. 1 February 2013.

12. (004) What flight takes care of all the administrative needs for the medical squadron?
   a. MIS.
   b. P&A.
   c. RMO.
   d. TOPA.

13. (004) What flight takes care of the manpower and budget for the medical squadron?
   a. MIS.
   b. P&A.
   c. RMO.
   d. TOPA.

14. (005) What is an example of non-verbal communication?
   a. Tone of voice.
   b. Building rapport.
   c. Making eye contact.
   d. Choosing your words.

15. (005) What is the *most* important customer service skill?
   a. Being attentive.
   b. Paraphrasing.
   c. Enunciating.
   d. Listening.

16. (005) What shows the customer how *you interpreted* the problem and gives them a chance to clear up any *confusion* so you can take proper action?
   a. Enunciation.
   b. Paraphrase.
   c. Attention.
   d. Listening.

17. (005) What is the *appropriate* response when calling another office?
    a. “Hi, This is Amn Smith from Outpatient records, I’m calling….”
    b. “Good day, This is Amn Smith, I’m calling….”
    c. “Good day, I’m calling…”.
    d. “Howdy, I’m calling…”.

18. (006) What is the step *after* creating an outline?
    a. Determine the purpose.
    b. Identify the receiver.
    c. Choose wording.
    d. Select a format.

19. (006) During the *editing* process, addressing phrases such as: final completion, month of August, or close proximity, is an *example* of
    a. Technical accuracy/coverage.
    b. Remove unnecessary words.
    c. Arrangement.
    d. Active voice.

20. (007) AF Form 1768, Staff Summary Sheet does all of the following, *except*
    a. Coordinates.
    b. Distributes.
    c. Introduces.
    d. Summarizes.

21. (008) Who maintains various checklists relating to inspectable areas?
    a. AFIA.
    b. AFMSA.
    c. AFMOA.
    d. MAJCOM.

22. (008) What is the automated self-inspection tool the AFMS MTFs use?
    a. AAAHC.
    b. MITC.
    c. TJC.
    d. UEI.

Please read the unit menu for unit 2 and continue ➔

Unit 2. Health Information Technology and Management

2–1. Introduction to Health Information Technology 2–1
009. Terminology and standard systems 2–1
010. Overview of standard systems and applications 2–14
2–2. Systems Management 2–19
011. Systems management 2–19
012. Department of Defense perform software and hardware inventory 2–23

AUTOMATION ENHANCES YOUR ability to provide quality medical services to beneficiaries. Several years ago, virtually all of these functions were done by using a pencil or a pen and paper, or by pounding on a mechanical typewriter. Now you produce written products using a word processing program on a computer. MTFs function by using and exchanging information; computers have proven their worth over the years by consolidating that information and automating many tasks. They have become central to our everyday functions.

However, it is important to understand that we are no longer limited to what most consider a computer. There are numerous devices considered "special purpose" computers, including cell phones, notebooks, and tablets. In this lesson, you will learn about different types of devices, terminology, and continue to system management and self-inspection applications.

2–1. Introduction to Health Information Technology

Health information technology is any telecommunications and/or computer-related equipment or interconnected system, or subsystems, of equipment used to acquire, store, manipulate, manage, move, control, display, switch, interchange, transmit, or receive voice, and/or data, including software, firmware, and hardware. With the abundance of computer systems in the economy today, it is safe to assume that most, if not all, HSMs have interacted with a computer. Whether it was a laptop or desktop, most of the components are similar.

Our journey into health information technology (HIT) begins with an overview of the hardware components. During the journey, you will learn about different systems, communication components, and systems management. One thing to remember: the term *system* or *systems* are used to describe computers and computer-based HIT. You will see both terms used throughout this lesson.

009. Terminology and standard systems

The computer system has come a long way. Once upon a time, it was the exception to have a computer, now it is the rule. As computer systems gain in popularity, we have to expand our knowledge levels. The purpose of this lesson is to introduce you to some basic computing network components. While not all-inclusive, the following terms can help you become more comfortable in the world of computer systems.

Microcomputers

A microcomputer is a computer with a microprocessor as its central processing unit (CPU). It is the type of personal computer we use at home and in the MTF. With the development of the less expensive microcomputers, many more people can benefit from the computer revolution. Microcomputers can satisfy most of the needs for tasks in your career field. If necessary, it can be connected to additional equipment to gain greater storage, processing, and output capacity. In an MTF, the microcomputer has *five basic uses*:

1. Word processing is used to prepare documents such as letters and forms.
2. Spreadsheets are helpful when working with numbers and mathematical formulas.
3. Databases assist with tracking large amounts of data for reports.

4. Email messaging enhances communication.
5. Presentations allow slide show briefings

In addition to these five basic usages, your system is a portal to many other systems and programs that are hosted on servers and the Internet.

Handheld devices

Handheld devices are mostly small, lightweight, and designed for mobile use. As a HSM, you will encounter a variety of different handheld devices to include notebooks, tablets, and digital cameras.

Notebooks

A notebook, also referred to as a laptop, is a personal computer designed for mobile use and small enough to sit on one's lap while in use (fig. 2–1). A laptop integrates most of the typical components of a desktop computer, including a display, a keyboard, a pointing device (a touchpad, also known as a track pad, and/or a pointing stick), speakers, and often a rechargeable battery, into a single, small and lightweight unit. An alternating current (AC) adapter that can store enough energy to run the laptop charges the notebook battery. It usually lasts for two to three hours in its initial state; however, the time depends on the configuration and power management of the laptop.

Figure 2–1. Notebook.

Laptops are usually shaped like a large notebook with thicknesses between 0.7–1.5 inches (18–38 millimeter (mm)) and dimensions ranging from 10x8 inches (27 x2227 x2 2 centimeters {cm}, 13" display) to 15x11 inches (39 x 28 cm, 17" display) and up. Modern laptops weigh 3 to 12 pounds (1.4 to 5.4 kilogram {kg}); older laptops were usually heavier. Most laptops are designed in the flip form factor to protect the screen and the keyboard when closed.

Laptops were originally a small niche market and were suitable mostly for specialized field applications such as the military, the Internal Revenue Service, accountants, and sales representatives. However, today there are already more laptops than desktops in businesses, and laptops are becoming obligatory for student use and more popular for general use.

Tablets

Much like a notebook, tablets are for mobile computing. The distinguishing difference between a notebook and a tablet is using a touch screen as the input device. Fingers or a stylus can easily operate the touch screen display. Tablets come in two varieties: slate and convertible. Slate tablets range in size from 5–10 inches and weigh between 10 ounces and 1 pound. The most distinguishing characteristic of a slate tablet is it has no attached keyboard. Convertible tablets are similar to notebooks, but they have a complex joint between the keyboard housing and the display, permitting the display panel to swivel and then lay flat on the keyboard housing. Convertible tablets vary in size and weigh between 1 to 2 pounds.

Digital cameras

A digital camera (or digicam) is a camera that takes video, still photographs, or both, digitally by recording images by way of an electronic image sensor. Many compact digital still cameras can record sound and moving video as well as still photographs. They can display images on a screen immediately after they are recorded, store thousands of images on a single small memory device, record video with sound, and delete images to free storage space. Some can even support image editing. They operate in the same manner as film cameras, using a lens with a variable diaphragm to focus light onto an image pickup device, except the process is electronic rather than chemical.

Many special and general-purpose devices provide different functions but they are too diverse to list here. Mobile phones frequently blur the lines between a phone and personal digital assistant (PDA) as is evidenced by the Apple® iPhone® or Blackberry®.

Now you have a basic knowledge of the different types of equipment you will deal with as well as some of the different functions these devices provide. A fact that becomes clear is that much of this equipment can tie back to a computer in some way, which makes it very important. The next lesson will take you through the different components of the computer, which is something all HSMs should know.

Components

As stated before, we live with many special-purpose computers in our environment, but they are limited. A moving picture experts group (MPEG) audio layer–3 (MP3) player is a specialized computer for processing MP3 files. A global positioning system (GPS) is a specialized computer for handling GPS signals. A Gameboy is a specialized computer for handling games. However, all of these computers are limited to that one process; they cannot do anything else. A personal computer (PC) can do it all because it is a multipurpose, information-processing device.

This tool can take information from a person through the keyboard and mouse, from a device like a compact disk or a thumb drive, or from the network through a modem or a network card, and process it. Once processed, the information is then shown to the user on the monitor, stored on a device like a hard disk, or sent somewhere else on the network. This ability to be a multipurpose processor is what makes the personal computer a great tool. The following main components are typical items you find in a PC.

Power supply

This electrical transformer regulates the electricity used by the computer (fig. 2–2).

Central processing unit

The CPU is the microprocessor, or “brain”, of the computer system. The CPU oversees everything that a computer does.

Memory

This typically temporary storage comes in many different types. The CPU generally uses it to store data for quick retrieval. If your CPU had access to your hard drive for every piece of data it needs, it would operate very slowly. Later in this lesson, you will learn about many different types of memory in a computer.

Mother board

This is the main circuit board to which all of the other internal components connect (fig. 2–3). The CPU and memory are usually on the motherboard. Other systems are found directly on the motherboard or connected to it through a secondary connection. For example, a sound card can be built into the motherboard or connected through a peripheral component interconnect.

Hard Disk

The hard disk, sometimes called fixed disks, is a large-capacity permanent storage that is used to hold information such as programs and documents (fig. 2–4). Microcomputers contain one or more internal hard disk drive devices and offer long-term storage capability. Data saved to a hard disk drive remains intact after power to the CPU is shut off.

Graphics card

This translates image data from the computer into a format that the monitor displays.

Figure 2–2. Power supply.

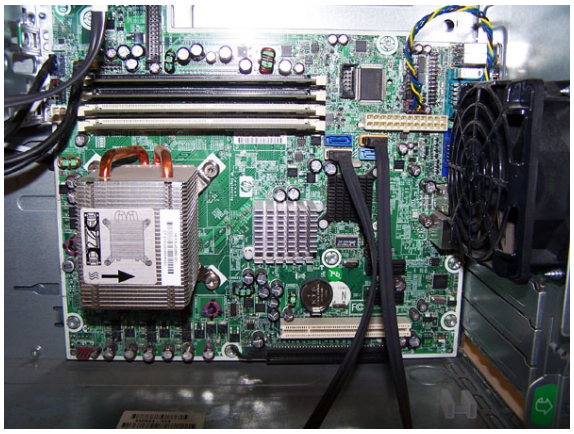

Figure 2–3. Mother board.

Figure 2–4. Hard Disk.

Network interface card

Each terminal device connected to the network has a separate network interface card (NIC). The NIC, as its name suggests, is the expansion card installed in a computer to connect or interface it to the network. Most NICs have transceivers built into the card to allow them to be connected directly to a network. Some computers have the network adapter soldered directly onto the motherboard. The NIC provides the physical, electrical, and logical functions to communicate with the network media. It operates at both the physical layer and data link layer of the open systems interconnect (OSI) model.

Sound card

The computer uses the sound card to record and play audio by converting analog sound into digital information and back again.

Port

A port is the *point of attachment to* a computer system or unit. This is a *form of hardware interface*. Generally, ports are located on the back of a system, but they can also be placed on the front of them as well. External devices such as a keyboard, monitor, printer, and mouse connect through ports, and usually attach to the port by a cable. The different types of ports used to expand the capabilities of what is attached to a computer include universal serial bus (USB) and display ports.

Universal serial bus

The USB is a protocol that allows two-way communication between peripheral devices and a host computer (fig. 2–5). It is hot pluggable, allowing the device to be connected and/or removed while the

computer is running. Examples of popular USB devices in use today are flash drives, printers, and external hard drives.

Figure 2–5. Universal serial bus.

Display port

Display port provides the digital interface between a computer and monitor (fig. 2–6). The Video Electronics Standards Association (VESA) introduced it in 2008. Since its introduction, the display port has become the new video display standard for computer manufacturers, phasing out video graphics array (VGA) and high definition multimedia interface (HDMI) computer interfaces. A display port uses a small plug and socket with a thin cable that extends to 50 feet and it can handle multiple independent data streams, and drive up to six monitors daisy chained together.

Figure 2–6. Display port.

Digital visual interface

The digital visual interface (DVI) is another widely used port to display video digitally (fig. 2–7). It supports high-bandwidth content protection and was designed to replace the analog VGA standard.

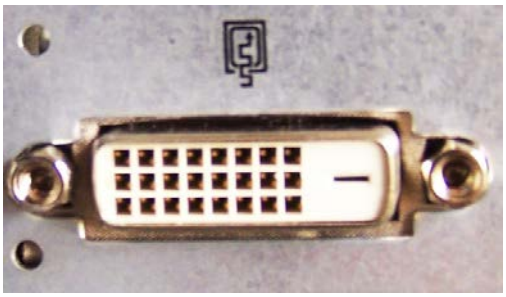

Figure 2–7. Digital Visual Interface.

Hardware

Hardware implies permanence and invariability, so client systems can be the physical aspect of computers, telecommunications, and other devices as well as hardware used to interconnect computers and users. The information used by the computer system has to be read into the system and translated into computer language. The input unit does this. Computer systems accept input from hardware such as keyboards, web cameras, barcode readers, and microphones.

The computer sends the results of an operation, as dictated by the program, to an output device. The output can be displayed on hardware such as a monitor, recorded on a disk, or sent to a printer. Some examples of hardware are computer routers, switches, hubs, and network cables.

Printers

A printer is an output device that produces reports, presentations, and copies of correspondence. Most facilities have laser printers connected directly to a computer system or networked. In some locations, you may find a multifunctional unit such as a printer, scanner, and copier combined into one device.

Router

A router is a device used to junction between local and wide area networks. This device locates the most viable route to take to deliver a transmission and data request. Routers communicate with other routers using a system of protocols and data packets stored in the routing table. Routing tables and protocol information provide the road map to other devices and computer systems on the network. The computer's network card converts the data, and then sends it to the switch as data packets. The switch directs packets determined for another local area network (LAN) or wide area network (WAN) to routers. These packets are then split into small chunks and "routed" through the network from one device to another across the networks.

Switch

While a router keeps you connected to other networks, a switch connects computers to other devices on the local network (i.e., shared drive on a local server or printer). Depending on the size of your facility, you may have one or more switches (fig. 2–8). Devices are connected utilizing ports on the front of the switch. A switch designation usually includes the number of ports available to plug devices into it. Switches have limited routing capabilities and can determine if a data request is for a local port or needs to be sent to a router for delivery on a different network.

Figure 2–8. Switch.

Patch panel

This is a panel of network ports contained together, usually within a communications closet, which connects a LAN's incoming and outgoing lines (fig. 2–9). Patch panels can come in different sizes such as 24-port, 48-port and 96-port. Patch panels can also support various types of media such as Category 5e and Category 6 copper cabling. A patch panel is used to connect the network's computers or phones to each other and to the outside fiber lines. These connections are normally accomplished using a network switch that enables the LAN to connect to the Internet. Connections are made with twisted pair cables, also known as patch cords. The patch panel allows connectivity to be arranged and rearranged by plugging and unplugging the patch cords.

Figure 2–9. Patch panel.

Network cables

The two most common cabling types you will have in a facility are twisted pair (Category 5e or 6) and fiber optics.

Twisted pair

Twisted pair (category 5e or 6) gets its name from having multiple pairs of copper wire with each pair being twisted together and encased in a protective jacket (fig. 2–10). The category rating of twisted pair cabling is dependent upon the number of twists per inch of the encased wire. Most facilities have category 5e for in house connectivity to the network, and newer installations are being accomplished with Cat 6 cabling. Computer systems are connected by way of twisted pair wiring to the closest switch. Networks experience signal degradation when other electrical devices, to include florescent lights in ceilings, are too close to the wires. Having high quality cabling prevents most of this type of signal interference and degradation.

Fiber optics

Fiber optics cable is typically used to connect switches to routers, linking your internal and external network. Fiber optic cable is made up of a glass core surrounded by layers of protective materials (fig. 2–11). Professional installers are required for installation due to the intricacies of setup. Fiber optics use light rather than electrical signals, which allow larger distances of physical connection than twisted pair, and they are not as susceptible to electrical interference. The more common connectors used on fiber optics are ST and SC connectors. ST is a barrel shaped connector that requires a slight twist to secure it in place. The ST connector is squared and snaps in, which is usually easier to connect.

Figure 2–10. Twisted Pair Network Cable.

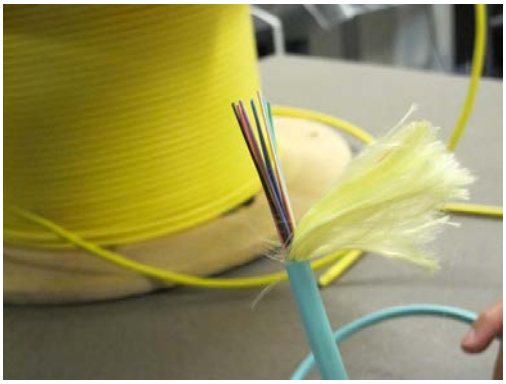

Figure 2–11. Fiber Optics Cable.

Wireless access point

Some networks use wireless technology to link networked devices. To do this you must have a wireless access point (WAP) and a wireless network interface (card or integrated). The wireless interface in the computer system communicates with the access point, which in turn communicates with the network. The WAP is typically connected back to a switch by way of twisted pair cable. Wireless can use high frequency radio signals, infrared light beams, or laser to communicate. The signal from a wireless component is susceptible to interference from electronic devices as well as physical obstructions.

Common access card reader and common access card

The DOD issues common access cards to active duty military personnel, selected reserve personnel, civilian employees, and eligible contractor personnel. The card is your identification (ID) card. It is also the primary means of authentication on the network (network login) and some DOD websites. Your common access card (CAC) provides network security by enabling you to encrypt and digitally sign email messages. To use a CAC, you must have a CAC reader installed on your workstation. You slide your card into the reader and enter your unique personal identification number when prompted.

Memory functions and types

As you have probably noticed, many of the basic operations require the computer to utilize memory of some kind. Understanding the types of memories, how they operate, and their utilization is an important part of HIT. To facilitate quick and efficient operations, memory has been laid out and organized for the best possible operation. The way memory is organized and used determines operational speed and efficiency; there are additional components in a computer that help ease the burden on memory when possible. The next topic of discussion will be memory, to include how it works, how it is used, and what different types are available.

Internal memory

There are many different types of memory used in a computer. With the different types of memory, you want to know which type memory will affect which processes. Without this knowledge, you can waste a lot of time and effort. Another thing to keep in mind is that computers have limitations where memory is concerned, so it is important to be aware of your PCs' limitations.

Complementary metal-oxide semiconductor

The complementary metal-oxide semiconductor (CMOS) memory chip stores configuration information about the computer. The CPU uses CMOS settings to communicate with each device in the computer system to include the type of disk drive, keyboard, monitor, current date and time, and other startup information when the computer is turned on. Therefore, CMOS chips use battery power to retain information even when power to the computer is off. The lithium battery must be replaced periodically to ensure CMOS settings are available. Unlike read only memory (ROM), information stored in CMOS memory can be changed.

Random access memory

Random access memory (RAM) is the *temporary* electrical storage space that *holds* program instructions and program data. RAM consists of memory chips that the processor and other devices can read from and write to. All programs need to be loaded into RAM in order to run. Generally speaking, the more RAM you have, the larger the programs you can use and the faster the program is likely to run. In addition, the more RAM you have, the larger and more detailed the documents you can create. In today's world, having 2 gigabytes (GB) of RAM should run most any commercial off-the-shelf (COTS) program.

When users discuss memory in a computer, they usually are referring to RAM. When the computer is powered on, certain operating system (OS) files are loaded from a storage device (i.e., a hard disk or compact disc {CD}) into RAM. These files stay in RAM as long as the computer is running. As more

programs and data are requested, they also load from storage into RAM. The processor interprets the data while it is in RAM. During this time, the contents of RAM may change. RAM can hold multiple programs simultaneously, provided the computer has enough RAM to accommodate all the programs.

Remember that RAM is volatile, or temporary memory, which means that the contents of RAM are lost when your computer loses power. That is why it is important to save your documents to the hard disk or to another removal media, especially before you turn off the computer. There is nothing more frustrating than losing valuable work because you forgot to save your work before powering down the system.

Read only memory

The next memory type is ROM, which is nonvolatile; its contents are not lost when power is removed from the computer. It can be read by the CPU but not changed, so it is considered non-erasable or permanent memory. We also use the term firmware to refer to the data and instructions stored on a ROM chip. Manufacturers of ROM chips often record the data, instructions, or information on the chips when they are manufactured.

Cache memory

Cache memory (CM) is a collection of data, duplicating original values stored elsewhere or computed earlier, where the original data is expensive to fetch (time-consuming data retrieval) or to compute compared to the cost of reading the cache. In other words, a cache is a temporary storage area where frequently accessed data can be stored for rapid access.

Auxiliary storage

This is any data storage device other than your primary hard drive, RAM, or ROM. This type of storage allows you to save, store, and retrieve data for use later. Through auxiliary storage devices, large amounts of data are stored electronically and accessed with a minimum of retrieval time. These devices include hard disks, CD/digital versatile disc-read/writeable (DVD-R/RW) drives, and USB devices.

Compact disc or digital versatile disc

CDs or DVDs are used primarily as a semi-permanent or permanent storage device. CD ROMs can hold up to 650 megabytes (MB) of data and DVD ROMs can hold up to 4.7 GB of data. There is also dual-layer DVDs that can hold up to 8.5GB of data.

USB drive

USB drives are external, portable hard drives that plug into the computer’s USB port. USB drives are either solid state or hard disk drives. Solid-state drives have no moving parts in them. USB drives with moving parts in them are called external hard disk drives, because they contain internal disks that rotate when the drive is powered on. Physically, these drives come in many different shapes and sizes. Solid state drives typically range from 1–3 inches in length, are generally referred to as “thumb” drives, and can store terabytes of data. External USB hard disk drives are similar to internal hard disk drives, but connect to the computer by way of a USB cable and can typically store more data than solid state USB drives.

Operating system

As stated before, the OS is software that allows the user to interface with the computer. It is a program, or set of programs, that manages and directs a computer system. An OS handles the complex task of directing the functions of your computer. Essentially, it provides the basic operating instructions to your computer. It decides how memory is used and distributed, how disk space is used, how data is processed, how to accept data from the keyboard, how to send and display information on the monitor, and how to deal with assigned tasks.

The OS calls the shots, and the hardware goes to work. Microsoft's Windows 7 is the current industry standard OS. Designed to work with both CD/DVD-ROMs and hard disks; Windows 7 provides a number of operations that allow you to organize and manipulate information stored on disks. Some examples include copying, renaming, deleting, displaying, and printing the contents of your files, regardless of the software application program in which they may have been created.

Backing up data

Performing a backup of important data is a simple way to get a little peace of mind. It can save countless hours that would otherwise be spent rebuilding files if something happens to the system. Any individual can perform a backup of their data files. Some reasons to perform a backup include hardware failure, systems replacement, new software package installation, computer repair, or just routine.

The most common files requiring backup are office documents such as Word, Excel spreadsheets, PowerPoint, Access database and government forms. Backing-up the local e-mail outlook personal storage table (.pst) and internet favorites is also suggested if you utilize them. Concentrate your efforts of files whose loss could be detrimental to the mission and those that provide a history of important facts or upcoming projects. Do not back-up actual programs (e.g., Outlook, Acrobat Reader, Internet Explorer, etc.). They can be reloaded from existing sources. Backing up system/users' data files can be done with several devices: government issued USB drive, CD, and a network drive.

Government issued universal serial bus

Government issued USB drives are the simplest form of backing up media. Government issued USB drives can hold from 50 GB, to in excess of two terabyte (TB) of data (high capacity drives are required to accomplish the back-up process). Insert the government issued USB drive into a free USB slot on the computer, and copy or move the selected files utilizing the Windows Explorer or computer interface. Ease of storing and accessing makes this the quickest and easiest way to back up files.

Compact disc and digital versatile disc

The CD or DVD drive is the next simplest way of backing up user data. Both discs can be followed by 'R/W', which means –Rewritable. A CD R/W or DVD-R/W drive must be installed in the system you are backing up, and knowing how to use the software interface appropriately is required. You can also copy or move the selected files utilizing the Windows Explorer or computer interface. This media is usually enough to store user data, but not system data. CD-ROMs and DVDs are also an easy way to transport and utilize stored data. While government issued USB drives may require a driver to move between computer systems, a completed CD-ROM or DVD does not.

Network drive

A simple alternative to the above back-up processes is using the network drive to back up data. Ensure there is adequate space before attempting to back-up your data to the network. Consult with your local systems office or network control center to determine space requirements, especially if you are planning to store a large PST file. Knowledge of the back-up schedule will alert you if this is a viable means of backing up your most important data. Additionally, most networks are backed up nightly to protect its content.

User files

User files are all the data files created by users, such as you, using office automation, other graphical type software, and so forth. To access user files, right click on the Start button and then select 'Open Windows Explorer'. This shows all shared folders (if authorized), the hard drive(s), any created partitions, and all other configured drives. Contents may vary depending upon the devices loaded/configured on the computer system.

Managing user folders and files

Access user folders/files by double clicking on the C: drive icon. The *Users* folder contains the user profile folders. The user profile folders contain all files specific to the user. Each user has access to their individual folder. Only computer administrators can gain access to all user profile folders. User profile folders are created when a new user logs onto the computer system. Standard folders include Favorites, Contacts, My Documents, My Pictures, and Desktop. Users should store all data files within this folder. It not only provides a secure storage area, it provides a means of quickly locating your files. Using this folder will also assist system administrators in quickly recovering/backing-up required data files. Additional hidden folders are created by the operating system. DO NOT delete or change these hidden files; doing so may cause instability to the users' profile.

Managing system files

Keeping data files clean and up-to-date makes it easier to determine the most current version for back-up purposes. Note the storage locations of data files, as these files can be stored anywhere on the computer hard drive. Most programs will create a directory for storing data files. Knowing this location is essential to performing quick, complete back-ups. Microsoft office suite stores data from all its programs in the "My Documents" folder unless a different location is specified. The Outlook .pst file is located in a hidden folder unless the My Documents folder is selected when the file is initially created. Consult your systems administrator for locating and accessing this hidden folder.

To manage files, open the "Local disk" by double clicking on the C: Drive icon. The *Windows* folder contains the files for the operating system. The *Program Files* folder contains files for all programs loaded onto the system. DO NOT delete files or make changes to files in these folders. Tampering with these files could cause an unstable/unrecoverable operating system and programs. System files are loaded when you load the operating system. If additional software is loaded, they are added to the overall system files (not to be confused with the operating system files). Do not move these files to another location as this will render the program(s) useless requiring a reload of the entire program files.

When software is loaded, the set-up files write pointers in the windows system registry; this enables the operating system to establish links between the program and its components. Software is loaded on a partition that has adequate space to allow the temporary files required to execute the programs to be created.

Disk management

Disk management is a graphical tool for managing disks and volumes. It supports partitions, logical drives, new dynamic volumes, and remote disk management. Some of the tools to help managing storage are disk space clean up and defragment.

Disk space clean-up

Disc space clean-up creates more space on your drive by deleting unnecessary files. When used, it accesses the following areas to archive or delete outdated information: the Recycle Bin, Temporary Internet files, and My Documents. Frequently cleaning out these areas can return needed space to save required information.

Defragment

Defragmenting the system hard drive is essential to maintaining the systems' performance. A hard drive becomes fragmented when programs and data are continuously added and deleted. When a new program is, or data are, written to a hard disk, the read/write mechanism seeks out the first empty space and starts the write process. If it encounters other information before it has completed the write process, it will skip over that data and continue to write in the next available space, this is called fragmenting. This slows the data access rate and impedes the computer system's performance. Defragmenting realigns the separated files and moves them into a more defined structure increasing the data access rate and system performance.

Network

A network is the hardware component in your computer, or other network device, that allows you to communicate with other devices on the network. Without it, your workstation can only operate as a standalone system. Newer computer systems and end user devices that are capable of being networked are now deployed with the network interfaces already integrated onto the motherboards; removing the requirement for an additional interface card. Connection to the network for these computer systems or end user devices is achieved using twisted pair and, in rare cases, a fiber optic cable. Wireless connections can also be achieved if a wireless NIC or integrated wireless network interface is present in the device. All network interface devices (card or integrated) have a unique 48-binary digit (bit) serial number, or media access control (MAC) address, which differentiates the device it is attached to from all others on the network.

Client-server/workstation

As information technology advanced, standalone terminals have increased in processing power; transforming them into workstations. The need for a host to be the only device to perform data processing has become obsolete. Now, with the implementation of the client-server network model, both the client and the server share data processing.

Client

A client is a terminal with limited computing and processing capability. Today, application programs such as spreadsheets and small databases can be created and process small amounts of data without outside support. However, as more computers are networked together, security needs to be centralized. Greater processing power is necessary to query or process data from large databases. In this case, you should use a server.

Server

A server computer is a computer system that has been designated for running specific server applications.It is common to use one server computer per server application in order to limit the amount of damage caused by a failure or security breach of any single server application or computer. A server or server appliance also applies to network-connected computer appliances or appliance hardware that provides specific services to the network. The simplest server appliances include switches, routers, gateways, print servers, and network modulator-demodulators (modem). Servers should not be confused with mainframes; servers are usually smaller, much more numerous, and less centralized than mainframes. They frequently host resources that they make available on a controlled and shared basis to client computers, such as printers (print servers) and file systems (file servers). This sharing permits better access control and reduces costs by reducing hardware duplication.

The server can process large amounts of data and provide a variety of services. Some servers are configured to handle millions of transactions that modify or query data from gigantic databases. Others can perform directory and authentication services for managing access to resources on a worldwide enterprise network, like the global information grid (GIG).

Workstation

A workstation is a high-end computer designed for technical applications. Individual workstations connect to the server to provide access to resources, resource sharing, file sharing, and email capabilities. They are intended to be used by one person at a time, but other users can also access them remotely when necessary.

Client server network

The client-server network architecture is often a centralized model for security, data storage, for running applications, and for network administration.

Client-server networks, also referred to as *server-based networks*, have the following characteristics:

- Scalable model that can support small networks of less than 10 users, as well as large networks with thousands of users.
- Employed specialized computers that provide services to the client workstations.
- Provide *services* such as database applications, file storage, and printing.
- High level of security based on multiple levels of access permissions (i.e., file, user, and shared drive).
- Single network administrator, or a team of network administrators, can centrally manage it.

The client-server model usually requires special hardware and software implementations. The model takes advantage of the users' workstation, called the client, to distribute part of the work between itself and the server. One way that the client participates is by running a client version of an application locally. The server can then take part in the major task of storing large amounts of data and processing requests made by many clients. The server is usually a much more powerful computer that is capable of handling thousands of simultaneous requests.

Type of servers

There are several types of common servers, such as file and email servers, that are also used at most companies. The following servers are examples of many primary types: Application server, Database server, Messaging or mail server, Print server, and Web server.

Application server

When there is a heavy demand for an application, an application server improves performance and security by keeping the data and the application on the same computer. Many websites integrate two application servers: a web server and a database server.

Database server

A database is an application that stores records that contain information. Many companies keep large databases on servers so that clients can ask the server to process a database search or to generate a report.

Messaging or mail server

These servers answer requests for mail by clients or route mail messages to appropriate mail servers.

Print server

As networks grow, so do the printing demands of the users. Print servers help balance the load of printing by allowing users to print simultaneously to the server. The print server stores the print jobs in a print queue—a temporary folder—until the printer is available.

Web server

Also known as hypertext transfer protocol (HTTP) servers, web servers give users access to information from any computer that has Internet access. The client computer runs an application called a browser that requests information from the web server.

Virtual private network

A virtual private network (VPN) provides a private tunnel through a public cloud (the Internet). A VPN enables a group of two or more computer systems to communicate over the public Internet. VPNs may exist between an individual machine and a private network or a remote LAN and a private enterprise network. Secure VPNs use tunneling and security protocols to maintain the privacy of data transactions over the Internet.

A VPN is a virtual network as opposed to a real private network. The idea is to make a private network that provides a secure tunnel for the private exchange of data between two or more parties. If this were done over a real private network, the dedicated lines and service required would be cost

prohibitive. However, when the secure tunnel is implemented over a public network such as the Internet, there is no added cost to the service already in place. The two main drivers for using a VPN are remote access and extranet connections.

Remote access is a requirement for our networks. Users that are in a temporary duty location may have a need to access their home network. A VPN allows for a secure, encrypted connection for the remote users, and can work over high-speed as well as dial-up connections, allowing for flexibility in operations.

A VPN can also work as an extranet connection. This allows outside users access to data on the network, through a secure web browser connection. The users will still need to authenticate themselves before they can gain access.

010. Overview of standard systems and applications

Besides the five basic uses you learned about earlier, your computer is a portal to many different health information technologies. These systems are designed to support specific operations, management, and decision-making. The following are typical systems you may work with in MTFs as a Health Service Manager.

Standard systems

Standard systems are those systems that are standardized across more than one command, or a major system requiring centralized oversight to plan, implement, or maintain. Standard systems in your MTFs include some of the following applications.

Armed Forces Health Longitudinal Technology Application

The Armed Forces Health Longitudinal Technology Application, better known as AHLTA, is a clinical information system that generates and maintains a comprehensive, life-long, computer-based patient record for each Military Health System beneficiary. The system provides anytime, anywhere delivery of patient records to the point of care, and combines structured documentation with automated coding compliance. When a patient has an appointment with their primary care manager (PCM), the technicians, nurses, and providers update this system with the patients' health information.

Composite Healthcare System

The Composite Healthcare System (CHCS) serves as the foundation for the Department of Defense's electronic health record (AHLTA). The integration of this information system means that all data are entered once and authorized users have access to all data needed to perform their functions. Some of the more common CHCS functions you will use as a HSM are patient registration, patient appointment and scheduling, inpatient and outpatient order entry and results reporting, admissions and dispositions, and Medical Service Accounting.

Defense Enrollment Eligibility Reporting System

The Defense Enrollment Eligibility Reporting System (DEERS) provides a uniform means of determining eligibility for personnel and health care benefits for active duty members, retirees, family members, and survivors. It prevents fraud, waste, and abuse in using benefits by allowing you, as a HSM to conduct eligibility checks to verify actual benefits. In addition to benefits eligibility, this system allows beneficiaries to provide on-line updates of their data (e.g., address, birth, marriage, etc.), supports medical/dental records tracking between MTFs, and provides centralized non-availability statements for TRICARE claims processing.

Defense Medical Human Resources System-internet

The Defense Medical Human Resource System-internet (DMHRSi) is a web-based, Tri-Service, decision support system that enables the MHS to manage medical human resources across the

enterprise. It does this by allowing ready access to essential manpower, personnel, labor cost assignment, education, training, and personnel readiness information.

Medical Expense and Performance Reporting Systems-Expense Assignment System IV

This server system/WEB application is used to collect workload, financial, and personnel data from many other standard systems to include the DMHRSi. It provides specific reports to the executive staff (e.g., commander, department chiefs, etc.) regarding the effective use of resources. A health service manager typically manages this system in the MTF's resource management operations (RMO).

Essentris

Essentris is used in acute hospital environments, providing point-of-care data captured at the patient's bedside for physiological devices, fetal/uterine devices, ventilators and other patient care machines. It allows worldwide documentation of inpatient records for all beneficiaries. Essentris is also used to assist injured service members returning from a theater of operations to Landstuhl Regional Medical Center in Germany for acute care. Information captured is accessible to other providers in the continuum of care, ensuring continuity of care for service members returning to the U.S. for additional care in the Departments of Defense and Veterans Affairs facilities. Essentris helps reduce the majority of paper-based inpatient documentation at DOD military treatment facilities.

Integrated Clinical Data Base

The Integrated Clinical Data Base (ICDB) is designed to provide a single window of patient centric information at the point of care, and it is a single, open architecture standard for healthcare informatics. The ICDB provider portal presents clinical data extracted from other sources. It can be used as a convenient way to access patient information, but it should not be used as the sole source of information for critical decision-making.

Theater Medical Information Program-Joint

The Theater Medical Information Program-Joint (TMIP-J) is a family of systems designed to aid deployed medical personnel in all levels of care in the theater of operations. While AHLTA and CHCS are used to capture medical care at home station MTFs, TMIP-J is used to capture care in deployed environments. It is the electronic health record for warfighters in their theater. TMIP-J ensures complete clinical care documentation, medical supply and equipment tracking, patient movement visibility, and health surveillance. This system supports all echelons of care through an aggregation of medical data and provides immediate access to a patient's history from the battlefield to the home front. In addition, TMIP-J provides support in integrating medical capabilities under a joint concept of operations to assist the medical commander/theater surgeon and to support the delivery of seamless combat medical care.

Transportation Command Regulating and Command & Control Evacuation System

Transportation Command (TRANSCOM) Regulating and Command & Control Evacuation System (TRAC^{2}ES) is a standard system that supports patient movement in peacetime, contingency/wartime, and natural disasters. It provides global theater and regional/domain coverage and supports patient movement operations from single patients through mass casualty events. The system provides patient movement monitoring, forecasting, and planning; supporting both fixed and deployable operations. It also provides in-transit visibility, lift-bed solutions, decision support, and meets patient medical treatment needs by matching medical treatment capability (bed) with available lift capability (lift-bed).

Medical Readiness Decision Support System Unit Level Tracking and Reporting Application

Medical Readiness Decision Support System Unit Level Tracking and Reporting Application, or MRDSS ULTRA, provides enhanced global visibility of medical materiel, personnel, and their training so those assets are efficiently managed and deployed. MRDSS ULTRA is the official system

of record for the management of expeditionary medical personnel and resources for the AFMS and the single authoritative source of readiness training data for medical personnel and unit task code apportionment through the medical resource letter. This is what your unit deployment manager (UDM) will use to ensure you meet all requirements to deploy.

Health information technology applications

These applications are web-based information that is available to everyone that has access to the internet. Over the years, the amount of information has steadily increased. Technology has made it easier to do research and collaboration by way of the internet. Medical facilities are using the web to take advantage of the vast resources available to them. The following applications are only a few of the many medical sites available.

Knowledge Exchange

The Knowledge Exchange (Kx) is the Air Force Medical Service *intranet* site. The Kx stores, shares, and exchanges knowledge among all members of the AFMS. At the heart of the Kx is an industrial strength document repository, complete with a robust security model and capacity to store terabytes of documents. The Kx contains over 350 distinct sites. They are arranged in a hierarchical, formal organization, and AFMS function. Once you become familiar with the site, you will be able to access guidance, templates and forms, and contact the air force functional expert that can clarify questions members in the field may have by accessing https://kx2.afms.mil/Pages/default.aspx

Military Health System Learn

MHS Learn is a centralized, web-based platform that provides the military medical workforce and the beneficiary population with a single source for managing, delivering, and tracking all military medical application learning. You can access multiple training and medical sites from MHS Learn at https://mhslearn.csd.disa.mil/ilearn/en/learner/mhs/portal/home.jsp

Medical Enterprise Service Desk

The Medical Enterprise Service Desk (MESD) is the first line of help for customers to contact for IT-related problems. It is your single source of support for AF military medical health information technology worldwide, 24 hours per day, seven days per week. You contact this office when you have computer, system or application problems (fig. 2–12) at this site: https://kx2.afms.mil/kj/kx10/mesd/Pages/home.aspx

Figure 2–12. Medical Enterprise Service Desk.

Micromedx

The health care providers and nurses within the MTF typically use this system. It provides evidence-based clinical knowledge solutions that empower medical professionals to make better decisions for improving patient outcomes, decreasing medication errors, and enhancing disease and condition management. You can access it at http://www.micromedex.com/.

Military Health System

The Military Health System is an official Military Health System and Defense Health Agency website. Similar to major new websites, the goal of this site is to keep all medical personnel, no matter what service, informed on all the issues and organizations within the military health system and can be accessed at: www.health.mil.

TRICARE

This portal allows MHS beneficiaries to find a doctor, compare plans, view their referrals, enroll into a purchase plan, manage prescriptions and find the latest TRICARE news. This website is helpful for

beneficiaries because it provides current TRICARE news, training on the different types of TRICARE plans, and a plan chooser and this site can be accessed at http://www.tricare.mil/.

TRICARE Online

TRICARE Online provides basic medical information for beneficiaries and military staff. This is an important website for *beneficiaries* because they can schedule and view appointments; access approved health content; access personal health information; use pharmacy tools; check medications; access military staff applications, and much more. http://www.tricareonline.com/welcome.do

WebMD

This website provides valuable health information, tools for managing your health, and support to those seeking medical information. Patients often refer to this website. They can use it to self-diagnose or check their symptoms before making an appointment. Although it is not a doctor and does not give an official diagnosis, it can help patients determine if they should schedule an appointment and this site can be accessed at http://www.webmd.com/.

Self-Test Questions

After you complete these questions, you may check your answers at the end of the unit.

009. Overview of systems

1. What are Microcomputers?

2. What are the five basic uses for a microcomputer?

3. What is a notebook?

4. What takes video, still photographs, or both, digitally by recording images using an electronic image sensor?

5. What is a mother board?

6. What is the hard disk?

7. What are two types of ports?

8. What are some examples of hardware?

9. What are the two types of network cables you will typically find?

10. What is typically connected back to a switch and is required to link network devices?

11. What type of memory is temporary electrical storage space that holds program instructions and program data?

12. What are some examples of Auxiliary Storage?

13. What is software that allows the user to interface with the computer?

14. What information should you back up?

15. What devices can you use to back up data?

16. Where does Microsoft office suite store data from all its programs unless a different location is specified?

17. What are two tools for managing disks and volumes?

18. A terminal with limited computing and processing capability is called what?

19. What is a high-end computer designed for technical applications?

20. List some types of servers

21. What does a VPN enable?

010. Overview of Standard Systems and Applications

1. What is the definition of standard systems?

2. What are some examples of a standard system?

3. What standard system is a medical clinic information system that generates and maintains a comprehensive, life-long, computer based patient record for beneficiaries?

4. What standard system is designed to provide a single window of patient centric information at the Point of Care, also, a single, open architecture standard for healthcare infomatics?

5. What standard system supports patient movement in peacetime, contingency/wartime, and natural disasters?

6. What are health information technology applications?

7. What are some examples of health information technology application?

2–2. Systems Management

As you can see, there are many tools available to enhance health care, and numerous hardware tools to enable this. In order to ensure program integrity and system accountability, the systems flight manages the availability, credibility and certification of software and hardware. In this following lesson, you will learn some of the responsibilities the systems flight has.

011. Systems management

Command, control, communication, and computers are vital to all Air Force activities. Health care workers throughout the AFMS must have the ability to collect, store, maintain, and retrieve timely and accurate information. This information is essential for patient care, organizational needs, and to commanders. Successfully managed Health Information Technology has established guidance, with unifying principles, and a minimum set of standardized practices. Each requirement and process has a common vision and understanding that supports what the MTF and all AFMS customers need in order to accomplish their mission. Here, some of the HIT requirements and processes.

Organization information assurance officer

The organization information assurance officer (OIAO) manages the computer security (COMPUSEC) program. One of the OIAOs *primary* duties is to develop a system's security policy. This policy is a set of rules and practices regulating how information is managed, protected, and distributed by an information system. It explains the requirements for a particular system and states how that system will satisfy those requirements. The security policy also serves as a basis for countermeasures that are in place and governs how the system is operated on a day-to-day basis. The OIAO is responsible for ensuring all personnel who use the unit's information system takes and understands the information awareness (IA) training available on the Advance Distance Learning

System (ADLS). All users must be trained prior to being granted system access and annually thereafter.

Client support technician

The client support technician (CST) works in *conjunction* with the information assurance officer (IAO) in the organization to monitor users or system activities. Normally, CSTs are responsible for workstations in their units. CSTs provide continuous training to systems users. CSTs also ensure that the security safeguards in place to protect their data and systems are effective and unit personnel are following security policies and procedures. They are also an extension of the Medical Enterprise Service Desk. They provide hands-on maintenance when problems cannot be resolved remotely by the MESD.

Before CSTs are given elevated privileges to the AF Network, they are required to obtain commercial certifications for the duties they perform. Members assigned to systems will have 6 months to obtain the appropriate certification. CSTs must maintain their certification for the duration of their systems assignment. The two most common certifications members must obtain to perform these duties are Comp TIAs A+ or Security+ certifications.

Metrics

The MHIT flight commander or equivalent implements performance metrics to track the quality of service provided to the MTF. Tracked metrics should include, but are not limited to, average daily/weekly/monthly work orders, average work order resolution times, end user satisfaction levels, percentage of first call resolution, key application availability, network availability, total MHIT staff/total user ratio, and information protection training compliance.
NOTE: Most of these metrics are already established and available through the MESD dashboard on their Kx site.

Help desk operations

Although the MESD provides initial information technology (IT) support to MTF customers, every MTF MHIT flight provides on-site helpdesk services during normal business hours. Larger MTFs with 24-hour inpatient and/or emergency services have 24-hour IT help or after duty hours IT service on-call coverage. Each work order (trouble tickets) is documented by the MESD to capture workload. Tickets unable to be resolved remotely by the MESD are transferred to the local MTF helpdesk for resolution. This is all accomplished through a common, centralized ticketing system called Remedy.

Medical enterprise service desk contact

Each medical health information technology flight publicizes the MESD phone number and web form for customers to submit helpdesk requests. The common, centralized enterprise ticketing system, Remedy, will be used. The MESD provides IT support 24 hours a day, 7 days a week.

Work orders

Customer helpdesk support requests are logged, and they receive a unique work order number. The customer is informed of resolution progress thereafter, until the ticket is closed, with complete documentation in the resolution section of the work order. In the case of projects, status updates should also be made regularly to the customer. Work order status is consistently and reliably updated by the MHIT or centralized helpdesk. Work orders are not closed without final consultation with the customer to ensure the problem was resolved satisfactorily.

Work order priorities

There are typically three main priorities assigned to IT work orders/trouble tickets. The response time should be calculated from initial customer contact. The definitions of the priorities with the response times should be advertised to the MTF staff and MHIT extenders. The MTF chief information officer (CIO) *must* educate customers on work order *priority* and expected service *response* times.

General definitions and associated response times are in the following table.

Level	Affect	Response Time
Immediate	Clinical/patient care work stoppage	15 minutes
Elevated	Degradation of work flow	1 hour
Normal	All other routine	2 hours

Support tiers

Support tiers identify the level of access and knowledge required to solve a system issue. There are *four* tiers used in the help desk environment.

Tier 0

Tier 0 (zero) problem can be resolved through self-service methods.

Tier 1

Tier 1 (one) problems are resolved by helpdesk personnel by way of telephone or remote management assistance and consist of a Problem Type and a Category. The Tier 1 level is typically performed by the MESD.

Tier 2

Tier 2 (two) problems usually involve hands on assistance by the MTF helpdesk staff or local CST with the user due to the complexity of the issue.

Tier 3

Tier 3 (three) problems are escalated to resources outside the MTF, such as the Network Control Center (NCC), the MAJCOM/Air Force Medical Operating Agency (AFMOA), Business and Enterprise Systems Directorate (formerly the Standard Systems Group) at Gunter Annex, Alabama, MHS Helpdesk, or the system vendor.

System accreditation

The DOD information assurance certification and accreditation process (DIACAP) was implemented to create a standard certification and accreditation (C&A) approach common to all departments in the DOD. Certification is the evaluation and validation of information to establish the degree to which it complies with assigned IA controls. Accreditation, on the other hand, is the formal statement that an information system is approved to operate in a particular security mode using a prescribed set of safeguards at an acceptable level of risk. In previous processes, the C&A was usually completed as a separate process accomplished just prior to connecting an HIT to the network. DIACAP takes a different approach. It is a “cradle to grave” process meant to track every HIT and network from inception to retirement. DIACAP is required for every DOD owned or controlled system. This system enables users to obtain new communications and information capabilities and ensures compliance with established requirements. The process starts when the user identifies a mission need and requests OIAO assistance with defining the requirement and developing a technical solution for that need.

New requirements that do not already have an approved system in place to meet the need will have to go through the DIACAP process. There are five-phases, as indicated in figure 2–13.

Phase I: Initiate and plan IA certification and accreditation

This phase is initiating and planning for C&A using DIACAP. Some of the activities in this phase include system registration with the Air Force IA program, assignment of IA controls based on mission assurance category and confidentiality level, DIACAP team assembly, and creation of the DIACAP Implementation Plan (DIP).

DIACAP Activity 1 ***Initiate and Plan IA C&A***
Register System with DoD Component IA Program
Assign IA Controls
Assemble DIACAP Team
Initiate DIACAP Implementation Plan (DIP)
DIACAP Activity 2 ***Implement and Validate Assigned IA Controls***
Execute DIP
Conduct Validation Activities
Prepare POA&M
Compile Validation Results in DIACAP Scorecard
DIACAP Activity 3 ***Make Certification Determination and Accreditation Decision***
Certification Determination
Issue Accreditation Decision
DIACAP Activity 4 ***Maintain Authorization to Operate and Conduct Reviews***
Maintain Situational Awareness
Maintain IA Posture
Conduct Reviews (Review of IA Controls must occur at least annually)
Initiate Re-accreditation
DIACAP Activity 5 - Decommission
Retire System

Figure 2–13. DOD Information Assurance Certification and Accreditation Process.

Phase II: Implement and validate assigned information assurance (IA) controls

In this phase, the DIP is executed, validation activities are conducted, and a plan of action and milestones (POA&M) document is created. The POA&M identifies the tasks that must be accomplished along with the scheduled completion dates. Additionally in this phase, validation results are compiled in a DIACAP scorecard.

Phase III: Make certification determination and accreditation decision

In this phase, the appropriate agencies review the recommendation and issue either an authorization to operate (ATO), an interim (temporary) authorization to operate (IATO), or a denial of authorization to operate.

Phase IV: Maintain authorization to operate and conduct reviews

In this phase, the system is in actual operation. The controls are reviewed at least annually, and if there is a significant change, the approval process must be re-initiated.

Phase V: Decommission

With decommissioning, the system is retired.

012. Department of Defense perform software and hardware inventory

Equipment inventories are conducted to verify accountability of the unit's information technology equipment (ITE) and software. The asset inventory management (AIM) module of the Air Force Equipment Management System (AFEMS) is the official equipment inventory for the Air Force. This system must be used by all activities and is managed by the communications squadron. Commanders are accountable for the equipment assigned to their organization and must appoint an information technology equipment custodian (ITEC) to oversee and manage such equipment.

The communications squadron commander usually appoints the base equipment control officer (ECO), who resides in the communications squadron, to oversee and assist unit ITECs. There are unit specific ITECs in the medical groups and other base units who require letters of appointment signed by their respective commanders that are then submitted to the ECO. It is important to remember that the term equipment refers to both hardware and software.

Hardware inventory

The equipment inventory must be as accurate and complete as soon as possible. It is utilized as source data for retiring and replacing old, outdated equipment and for purchasing new equipment and maintenance contracts. Hardware inventories are required at least *annually*, unless otherwise directed.

Equipment custodian folder

The ITEC must establish and maintain a six-part folder or utilize the electronic records management system. You, as the equipment custodian (EC), will keep this folder in your office, and the EC folder should contain, at a *minimum*, the following information:

1. A copy of the current EC appointment letter.
2. Initial training and any required annual refresher training.
3. The *last two* years of inventories (with all signatures) and transfer paperwork.
4. Copies of any excess equipment request/turn-in.
5. Equipment that was added since last annual inventory.
6. Any equipment transfers.
7. A copy of report of surveys, if any.
8. A copy of the local guidebook and Air Force Manual (AFMAN) 33–153, *Information Technology (IT) Asset Management (ITAM)*.

The base ECO will tell you when your annual inventory is due; however, you should not wait for them to notify you. If you have a lot of equipment to keep track of, you may need more time than they give you. Once you know you need to conduct an inventory, follow the next steps.

Inventory listing

Print the AFEMS-AIM inventory listing. If you do not have access to AIM, ask your base ECO for an inventory listing.

Account for all items

When you account for all items, make sure you physically see it. You are responsible for this piece of equipment, so do not take someone's word for it. With each piece of equipment, you want to scan the barcode labels attached to the equipment. When you scan it, make sure the serial numbers match the barcode and equipment item. You also want to make sure the building and room numbers are correct on the roster. If not, annotate the correct building and room numbers on the listing. The following are some actions you may need to take to account for all items on your inventory.

Base-wide search

If you have thoroughly looked through the MTF, and you cannot find a piece of equipment, request the base wide search through the base equipment custodian officer.

Lost or damaged equipment

Lost, damaged, or destroyed equipment requires the completion of a report of survey (ROS). Forward a written request to the commander to initiate the report of survey, provide a copy of the request to the ECO in accordance with (IAW) AFMAN 23–220, *Reports of Survey for Air Force Property*. Forward completed ROSs to the ECO to adjust the property records. If you have lost or damaged equipment, do not wait until the annual inventory to take corrective actions. Identify lost or damaged equipment immediately to the ECO and begin ROS procedures.

Temporary issue

AF Form 1297, Temporary Issue Receipt, is used to issue equipment on loan for *90 days or less*. File the original in the EC folder until the equipment is returned. Although the equipment is out, it needs to be physically accounted for.

Found on base equipment

Found on base equipment (FOB) is equipment that you have in your area of responsibility, but is not on your inventory listing. Report all computer equipment items not listed on your account to the responsible ECO for proper accountability.

Transfer of equipment

It is the responsibility of the losing custodian to complete the local transfer of equipment form, sending the completed document to the ECO.

NOTE: Seek guidance from the ECO if transfer is to take place outside of your organization.

Excess equipment

In accordance with AFMAN 33–153, the ITEC must notify the ECO in writing when equipment becomes excess to the requirement for which it was initially approved and acquired. Make notification at least 30 days before the equipment goes off-line to allow completion of the screening cycle while the equipment is still in use. This will eliminate the need to store excess assets. You will not cannibalize, ship, or transfer excess equipment to any other organization without prior approval from the ECO.

Notification of excess equipment

Excess equipment notification is made to the ECO and must include the barcode number, serial number, model, description, and the condition (serviceable or unserviceable), as they appear on the equipment custodian inventory.

Equipment storage and final distribution

Store all equipment intact, in a secure, environmentally controlled location to prevent damage, deterioration, or cannibalization until the equipment is finally disposed of. Upon receipt of disposition instructions from the ECO, the ITEC will transfer excess equipment to their local defense reutilization and marketing office (DRMO) or other agency, as instructed. Send a copy of the completed transaction to the ECO and file a copy of all documentation in the ITEC folder.

Inventory changes

Once you are done with the inventory, follow local policies to notify the ECO. The following table has changes that must be reported.

Reported Changes	
Type Changes	**Action Taken**
Additions	List all equipment not identified on the equipment listing.
Changes	Draw a single, non-obliterating line through the old data, enter new data, and attach copies of any/all available supporting documents.
Transfers	Document equipment transfers between EC accounts; get form from ECO.

Reported Changes	
Type Changes	**Action Taken**
Deletions	Draw a single, non-obliterating line through the equipment entry, annotate the item with a brief explanation of its disposition, and attach all supporting documentation.

Sign inventory listing

Sign the completed inventory listing to acknowledge responsibility for all items listed. The *commander* will sign the commander's certification statements indicating that the appointment letters are *accurate*, ECs have completed training, a physical inventory was accomplished, and that all equipment listed is mission essential.

Send to equipment control officer

Provide the ECO a copy of the inventory list to include all documentation of equipment disposition. Maintain a copy of documents for your local files.

Adjustment

If there were adjustments to your inventory roster, the base ECO will send you an updated inventory listing. Upon receipt of the adjusted inventory listing (with ECO, EC, and commander/director's signatures) review for errors; if none, file and maintain for possible review by audit authorities. If errors are found on the new listing, return it to the ECO immediately.

Joint physical inventories

The outgoing and incoming ECs must perform a joint physical inventory of all accountable equipment, following the same procedures as the annual physical inventory. Additional requirements for joint physical inventories are signing and procedures for missing equipment that are explained below.

Sign

Upon completion of the joint physical inventory, both losing and gaining EC must sign, where specified, on the final page of the inventory listing.

Missing equipment

After a methodical search, any equipment noted as missing during the joint inventory must be recorded for inventory deletion and lost or damaged equipment. The statement in figure 2–14 is added to the bottom of the last page of the inventory listing.

A REQUEST FOR REPORT OF SURVEY HAS BEEN FORWARDED TO OUR COMMANDER FOR ALL ITEMS NOT ACCOUNTED FOR.

(signed) _losing EC_ & _gaining EC_

Figure 2–14. Joint Inventory Statement.

Attach a copy of the letter requesting initiation of the report of survey to both copies of the joint inventory.

Report of survey

A ROS may be required for missing, damaged or destroyed hardware. Procedures for conducting a ROS can be found in AFMAN 23–220. CIOs must ensure the current ITECs perform a full inventory of ITE assets before assigning a new person to that position. A ROS must be initiated IAW AFMAN 23–220 for lost, damaged, or destroyed items valued *over $500*, or if there is evidence of abuse, gross negligence, willful misconduct, deliberate unauthorized use, fraud, or theft is found, regardless of cost. The MHIT flight contacts the MTF ROS Monitor for local procedures.

Software inventory

Specific processes for software management vary widely from base to base but should be derived from AFMAN 33–153 and the base specific variations generally include all of the below:

Communications squadron scan

Your local NCC, or the integrated network operations security center (iNOSC), will implement monthly or quarterly scans of your computer systems to ascertain what software is loaded on each system. Your location will determine the frequency of these scans and the actions associated with them. Your local systems office may be charged to remove any unauthorized software or the office that instituted the scan may remotely remove it. This scan is accomplished annually at a minimum.

Adding software

No software should be added to the network without completing the proper documentation and adequate funding.

Removal of illegal software

If unauthorized software is located on a government computer system it must be removed, either by remote scan or a visual spot check. Legal software is authorized on the network and your Health Information Technology Flight will assist you by providing proper procedures, including a list of all authorized software.

Rescan network

If illegal software is found on the network, the scanning agency will conduct a rescan to verify corrective actions were taken to remove the unauthorized software. Network scans are ran periodically to ensure continued compliance.

License agreements

All software purchased is licensed to run on either a single or multiple computer systems. Each license is your agreement that you will abide by the software producers requirement for use. Failure to comply with the end user license (EUL) is considered copyright infringement and is punishable by fines and possible jail time. Software licenses are maintained in a secure location and made available for review upon request.

Self-Test Questions

After you complete these questions, you may check your answers at the end of the unit.

011. Systems management

1. Who is responsible for ensuring all computer users are trained in computer security awareness and local operating instructions?

2. Who implements performance metrics to track the quality of service provided by the MTF?

3. What are the typical three main priorities assigned to IT work orders/trouble tickets?

4. What support tier are problems resolved by helpdesk personnel using the telephone or remote management assistance?

5. What tier are problems that need to be escalated to resources outside the MTF, such as the Network Control Center?

6. What system does the DOD use for standard certification and accreditation?

7. What are the 5 phases of the DIACAP?

012. Department of Defense perform software and hardware inventory

1. What is the official equipment inventory management system for the Air Force?

2. Who tells you when the annual inventory is due?

3. What form do you complete when equipment is on loan for 90 days or less?

4. Whose responsibility is it to complete the local transfer of equipment form?

5. Where does equipment go when it is finally disposed?

6. When is a Report of Survey required?

7. Who can assist you with the requirements for requesting new software?

Answers to Self-Test Questions

009

1. A computer with a microprocessor as its CPU. It is the type of personal computers we use at home and in the MTF.
2. Word processing is used to prepare documents such as letters and forms, spreadsheets are helpful when working with numbers and mathematical formulas, databases assist with tracking large amounts of data for reports, email messaging enhances communication, and presentations allow slide show briefings.
3. Also referred to as a laptop, it is a personal computer designed for mobile use and small enough to sit on one’s lap while in use.

4. A digital camera (or digicam).
5. This is the main circuit board to which all of the other internal components connect.
6. It is a large-capacity permanent storage that is used to hold information such as programs and documents.
7. USB and display ports.
8. Computer routers, switches, hubs, and network cables.
9. Twisted pair and fiber optics.
10. Wireless access point.
11. RAM.
12. CD/DVD-R/RW drives, and USB devices.
13. The OS.
14. Most commonly office documents such as Word, Excel spreadsheets, PowerPoint, Access database and government forms. Also back-up local e-mail (outlook), .pst, and internet favorites if utilized.
15. Government issued USB drive, CD, and network drives.
16. In My Documents.
17. Disk space clean up and defragment.
18. A client.
19. A workstation.
20. Application server, database server, messaging or mail server, print server, and web server.
21. Enables a group of two or more computer systems to communicate over the public Internet.

010

1. Those systems that are standardized across more than one command or a major system requiring centralized oversight in its planning, implementing, or maintaining.
2. AHLTA, CHCS, DEERS, DMHRSi, Essentris, ICDB, MEPRS-EASIV, TMIP-J, TRANSCOM TRAC2ES, and MRDSS ULTRA.
3. AHLTA.
4. ICDB.
5. TRAC2ES.
6. Web-based information is available to everyone that has access to the internet.
7. Kx, MHS Learn, MESD, Micromedx, Military Health System, TRICARE, TRICARE Online, and WebMD.

011

1. The OIAO.
2. The MHIT flight commander or equivalent.
3. Immediate, Elevated, and Normal.
4. Tier 1.
5. Tier 3.
6. DIACAP.
7. Phase I: Initiate and plan IA C&A; Phase II: Implement and validate assigned IA controls; Phase III: Make certification determination and accreditation decision; Phase IV: Maintain authorization to operate and conduct reviews; and Phase V: Decommission.

012

1. The AIM of AFEMS.
2. The base ECO.
3. The AF Form 1297.
4. Losing custodian.
5. DRMO or other agency, as instructed.

6. For lost, damaged, or destroyed items over $500, or if evidence of abuse, gross negligence, willful misconduct, deliberate unauthorized use, fraud, or theft is found regardless of cost.
7. Your Health Information Technology Flight.

Do the unit review exercise before going to the next unit.

Unit Review Exercises

Note to Student: Consider all choices carefully, select the *best* answer to each question, and *circle* the corresponding letter. When you have completed all unit review exercises, transfer your answers to the Field-Scoring Answer Sheet.

Do not return your answer sheet to the Air Force Career Development Academy (AFCDA).

23. (009) What are examples of *internal* memory?
    a. CMOS, RAM, ROM, CM.
    b. CMOS, CD, ROM, CM.
    c. RAM, USB, CM, DVD.
    d. RAM, ROM, USB, CD.

24. (009) The following are all *types* of servers *except*
    a. Print.
    b. Word.
    c. Database.
    d. Messaging.

25. (010) What standard system is the DOD standard automated system that you will use as an HSM for patient registration, patient appointment, and patient scheduling?
    a. AHLTA.
    b. CHCS.
    c. Essentris.
    d. ICDB.

26. (010) What is used in acute hospital environments, providing point-of-care data captured at the patient's bedside for physiological devices, fetal/uterine devices, ventilators, and other patient care machines?
    a. AHLTA.
    b. CHCS.
    c. Essentris.
    d. ICDB.

27. (010) What information systems application is the Air Force Medical Service's *intranet* site?
    a. Kx.
    b. MHS.
    c. TRICARE.
    d. TRICARE Online.

28. (011) What is the response time for trouble tickets/work orders if the level is elevated?
    a. 15 minutes.
    b. 30 minutes.
    c. 1 hour.
    d. 2 hours.

29. (011) How many support tiers are used in the help desk environment?
    a. One.
    b. Two.
    c. Three.
    d. Four.

30. (012) Inventories *must* be kept in the equipment custodian folder for this number of years.
    a. 2.
    b. 3.
    c. 4.
    d. 5.

31. (012) After you sign the inventory listing, who signs the certification statements signifying that the appointment is accurate?
    a. NCOIC.
    b. OIC.
    c. Commander.
    d. Communications Squadron.

Please read the unit menu for unit 3 and continue ➔

Student Notes

Unit 3. TRICARE Operations

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IN THE PREVIOUS two units, you learned about the Air Force Medical Service organization and systems. The one thing those two units had in common is that they were both Air Force specific. During this next unit, you will read about TRICARE, Health plan analysis, and patient privacy regulations. This unit applies to all beneficiaries, regardless of service. Once you read this unit, you can apply your newfound knowledge to assist all beneficiaries, regardless of service affiliation. As you probably know by now, this is the wave for the future.

3–1. TRICARE Health Plan

TRICARE is a type of Health Maintenance Plan, or health maintenance organization (HMO), that pertains to all DOD beneficiaries (fig. 3–1); simply, TRICARE is a health plan whose primary purpose is to take care of the Department of Defense beneficiaries. Nearly 9.7 million individuals are eligible to receive care through the Military Health System (MHS). Currently there are 56 inpatient hospitals and medical centers, and 365 ambulatory care clinics within the MHS.

Figure 3–1. TRICARE.

Since there are so many beneficiaries with different medical requirements, TRICARE offers multiple plans that beneficiaries can choose from. This is essential for you to know because you are the subject matter expert within the medical facility on TRICARE. Whether working in outpatient records, beneficiary services, or an outpatient clinic, you will need to have basic knowledge of TRICARE. Just because you are the "guru", does not mean you have to be an expert, but you should be able to understand the key points enough to assist beneficiaries as needed. However, before you start to learn about the different types of plans, you should know how TRICARE care has evolved.

013. Evolution of TRICARE

There was a time in DOD where "hospitals" did not exist. It was not until July *1776* that Congress did establish the *first* 'hospital' in Massachusetts. It was staffed with a chief physician, four surgeons, a pharmacist, and some nurses. Then, nurses were typically wives or widows of military personnel. This was the hospital staff that provided care to patients. With the success of military medicine, in

1818 the Secretary of War, John D. Calhoun, established multiple bureaus within the war department, and this included a permanent medical department.

In 1884, Congress established the first health system for military members. This was a simple plan, but a big change because it covered both military members *and* their families. Congress stated, "Medical officers of the Army and contract surgeons shall whenever possible attend the families of the officers and soldiers free of charge." Remember, the Air Force was not established until 1947, so when Congress refers to Army, they meant armed forces.

The next major change in health coverage did not occur until 7 December 1956. This is when the *Dependents Medical Care Act* was signed into law. This *authorized* the services to send active duty, dependents, and retirees downtown to get care. This act paved the way for the Civilian Health and Medical Program for the Uniformed Services (CHAMPUS). CHAMPUS was signed into law nine months later on 1 October 1966. Although there were some minor adjustments to this program, CHAMPUS successfully served the military for 30 years.

Since the Cold War ended in 1991, the US military had many challenges to its organization and mission. There were fewer combat forces and less people on active duty. A decrease in operational forces meant fewer people were required for support services, to include the medical services. In fact, the number of doctors, nurses, and medical technicians in the military service declined as much as 50 percent in some locations. Because hospital staffing decreased so much, 35 percent of the military hospitals that existed in the US in 1987, closed. Yet, the total number of people seeking healthcare through the MHS had dropped by only 9 percent

Something had to change! The MHS, which operated effectively for decades, was now facing many new obstacles and challenges. A massive change in how the medical community conducted business was inevitable. The MHS needed to ensure beneficiaries continued to receive quality health services.

Finally, in 1993, Congress revised CHAMPUS, and transformed it into TRICARE. This new program was designed to expand access to care, assure high-quality care, control healthcare costs, and improve medical readiness. This innovative program also helped resolve several issues affecting the MHS. TRICARE ensured that the increasing number of beneficiaries would still be able to receive care, even though MTFs had decreased their staffing. It also established a "level playing field" for payments. This in turn, enabled the military health plan to compete with beneficiaries with "like" civilian plans.

The "TRI" in "TRICARE" originally referred to the three main benefit plan options. The three plans were TRICARE Prime, TRICARE Standard, and TRICARE Extra (which was the old CHAMPUS). Since TRICARE was implemented, there have been several iterations of the program. For example, TRICARE originally had 12 regions; however, in 2004 TRICARE restructured into three stateside regions (you will learn about this in the next lesson).

TRICARE is one of the most interesting and challenging areas to work within the MTF. It is interesting because you get to meet, and help, many people: not only Air Force service members, but also their dependents and other service members.

014. TRICARE program features

As you can imagine, when TRICARE was established, beneficiaries had many questions when choosing the appropriate plan for their family. To help them understand the options, each MTF had a TRICARE service center (TSC). This office's primary purpose was to assist beneficiaries with any plan, coverage, or claims information. Now that the program is established and there is a plethora of information available, stateside TSCs have gone away. However, TSCs do exist at overseas bases, not including Alaska or Hawaii. Even though most of the TSCs have gone away, there are still individuals within the facility that can answer beneficiary questions. The beneficiary counseling assistance coordinator (BCAC), usually a civilian, works with beneficiaries to make sure they are enrolled in the appropriate TRICARE plan for them. Although there are individuals within the MTF

designated to work with beneficiaries and their TRICARE questions, as a HSM, you should be familiar with the programs and be able to assist beneficiaries as necessary.

Did you know that there are two distinct types of care? There is direct care and purchased care. Direct care is healthcare provided within a MTF, and purchased care is healthcare received from a civilian TRICARE-authorized or host nation provider. Before you start to discover different types of plans available for beneficiaries to enroll into, becoming familiar with the following basic terms will make interpreting the plans easier.

Authorized provider

An authorized provider is someone that provides care under TRICARE to beneficiaries. This authorized provider *must* be licensed by a state, accredited by a national organization or meet other medical community standards, and certified to provide benefits. Before an authorized provider is paid for services, regional TRICARE contracts verify the providers' status. If a provider is *not* authorized, TRICARE *cannot* help or pay any bills (fig. 3–2).

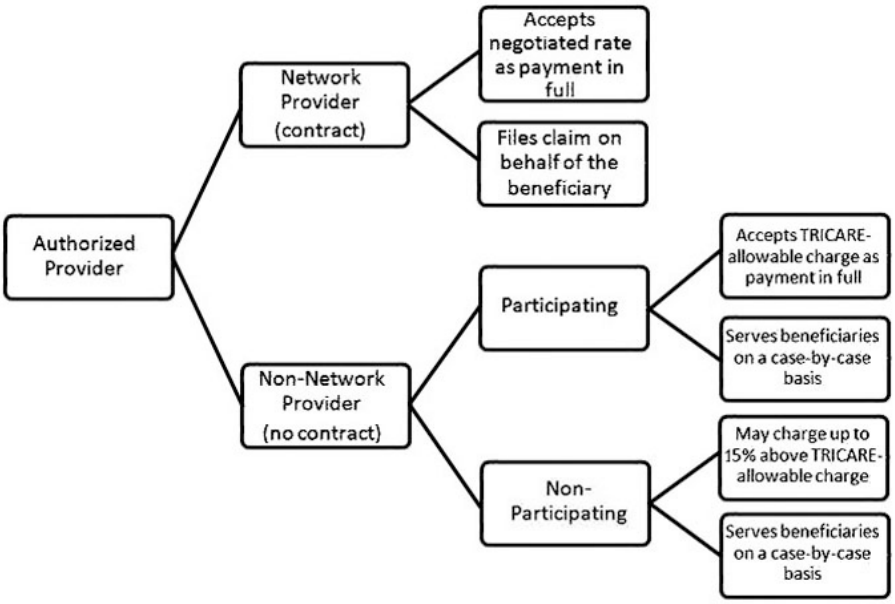


Figure 3–2. Authorized Provider Diagram.

Network

The network is a system of providers and facilities that link with other providers or facilities that are contracted to provide care to beneficiaries. The agreements for healthcare delivery made by the contractor with the MTFs are also included in this definition.

Continental United States network

A Continental United States (CONUS) network is a stateside individual, institution, or organization that serves TRICARE beneficiaries. The CONUS network is set up through a contractual agreement with a regional contractor.

Overseas continental United States network

The overseas continental United States (OCONUS) network includes a host nation individual, institution, or organization certified to provide care to overseas beneficiaries. However, the beneficiaries must enroll in either TRICARE Overseas Program (TOP) Prime or TOP Prime Remote.

Network provider

A provider that is under contract with a TRICARE regional office to provide care to beneficiaries is a network provider. The network provider can be a person or an institution and they provide service at a rate stated in the contract. Network providers agree to follow program requirements, file claims, and handle other paperwork for beneficiaries.

Non-network provider

Non-network providers provide care to beneficiaries but do *not* sign agreements with regional contractors. However, they *still* have to be authorized for TRICARE to pay the claim. The following are types of non-network providers.

Participating provider

A participating provider "participates" in TRICARE and agrees to the TRICARE allowable charge for their service. The TRICARE allowable charge is the maximum amount TRICARE will pay for a procedure or service. Individual providers can participate on a case-by-case basis. The Provider files the claim on behalf of the beneficiary and receives the check, if any, from TRICARE.

Non-participating provider

A provider who provides medical services to a TRICARE beneficiary, but does not agree to the TRICARE allowable charge is a non-participating provider. A provider is either a hospital or other authorized institutional provider, a physician or other authorized individual professional provider, or other authorized provider. With these types of providers, the beneficiary will pay the provider the full amount and TRICARE will pay the beneficiary the TRICARE allowable charge. These providers may bill beneficiaries up to 15 percent *above* the TRICARE-allowable charge. TRICARE will pay the beneficiary the allowable rate, and the beneficiary will pay the entire billed amount. Non-network OCONUS are host nation, non-network providers who do *not* have an established relationship with TRICARE. These types of providers may require beneficiaries to pay up front and file their own claims.

Non-authorized provider

A *non*-authorized provider is a provider whose professional status is *not* recognized by TRICARE. Providers may be non-authorized because they are in the following categories:

- Do *not* meet state licensing or training requirements.
- *Don't* seek to, or decline to, treat TRICARE-eligible beneficiaries.
- Are *not* in a provider class recognized by TRICARE.
- Provide care *outside* TRICARE's benefit structure (e.g., acupuncture).

TRICARE *denies* claims from *non*-authorized providers, *except* in emergencies, based on submitted claims and supporting documentation (if needed) (fig. 3–3).

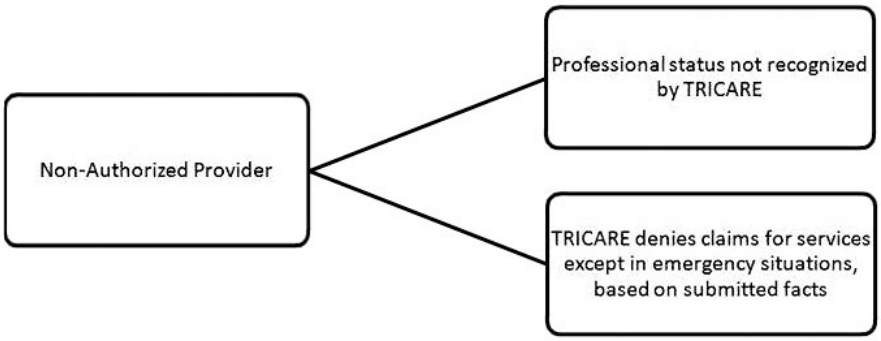


Figure 3–3. Non-Authorized Provider Diagram.

Balance billing

Balance billing occurs when a provider bills a beneficiary for the difference between billed charges and the TRICARE allowable charge after TRICARE, any other health insurance (if applicable), and the beneficiary have paid their required amounts (see below example). Network and participating providers cannot balance bill.

Billed Charges	$732.00
Other Insurance Cover	- $200.00
TRICARE Cover	- $400.00
Bill to the Beneficiary	$132.00

Billed charge

The total cost the provider has proposed, without any discounts or reduced fees.

Capitation

Capitation is a set amount of money that a managed care plan gives to a doctor or hospital to care for a patient, regardless of the actual costs incurred.

Case management

This is a method of managing healthcare plans for members with a catastrophic cap or high-cost medical condition. The goal is to coordinate the care so it improves continuity and quality of care as well as lower costs.

Catastrophic Cap

A catastrophic cap is the *maximum* amount a family pays out-of-pocket for TRICARE-covered services or supplies per fiscal year (October 1–September 30). Payments that contribute towards this include the following:

1. Deductibles.
2. Cost-shares.
3. Prescription co-payments.
4. Prime enrollment fees.

Catchment area

Catchment areas are geographic areas determined by the Assistant Secretary of Defense-Health Affairs (ASD/HA). Under TRICARE, a catchment area is a planning tool to identify the eligible population. It also defines areas where the Managed Care Support Contractors must offer the TRICARE Prime benefit.

Co-payment

The *fixed* amount that TRICARE Prime enrollees will pay for care in the civilian provider network is a co-payment. TRICARE Prime active duty family members are *not* required to pay copayments (*except* for pharmacy services).

Cost share

This is the *percentage* of the TRICARE-*allowable* charge beneficiaries and the government pays under TRICARE Standard/Extra options. The cost-share amount depends on the sponsor's status.

Contracting officer technical representative

Every MTF has a contracting officer technical representative (COTR) assigned. This individual is responsible for developing and implementing surveillance programs to monitor the TRICARE support contractor's performance. They monitor the performance to make sure contractors are meeting the specifications.

Deductible

The annual amount a beneficiary pays under TRICARE Standard/Extra options for covered outpatient services before TRICARE begins to share costs.

Defense Health Agency

The DHA was established on 1 October 2013. The agency manages the MHS, to include those activities previously managed by the TRICARE Management Activity (TMA).

Defense manpower data center

This defense manpower data center (DMDC) office is responsible for the DEERS data repository. They also provide customer service to beneficiaries trying to establish, maintain, or determine their eligibility. DMDC also sends beneficiaries certificates of creditable coverage upon loss of eligibility.

Direct care system

MTFs are the system of military hospitals and clinics *located around the world* and are usually located on or near a uniformed service/military installation. Typically, this is where TRICARE beneficiaries receive a majority of their care. Active duty service members (ADSM) and TRICARE Prime-enrolled active duty family members (ADFM) have the highest priority for MTF care. Non-TRICARE Prime enrollees receive care at an MTF on a space-available basis.

Enrollment fees

The amount paid by some beneficiaries to enroll in and receive the benefits of the TRICARE Prime option.

Explanation of benefits

This is a statement informing beneficiaries and providers of actions taken on a claim for healthcare coverage. Insurance carries, healthcare organizations, or TRICARE can prepare one.

Foreign fee schedule

A foreign fee schedule is a payment for providers' services. The fee schedule is country-specific and calculates deductibles and cost-shares.

Healthcare finder

Healthcare finders (HCF) are generally registered nurses (RN) or designees who help you make an appointment with a provider in the MTF or assist you in getting care with a TRICARE-authorized provider. They work with PCMs to locate the specialty care patients require. The HCF manages and performs the duties necessary to operate the HCF system. The HCF system is a mechanism established by the contractor in each catchment area in a region to facilitate beneficiaries' referrals to military and/or civilian healthcare facilities.

Health maintenance organization

An HMO is a health plan in which a member pays for medical care. This usually *includes* primary and preventive care. The primary purpose of an HMO is to coordinate care and eliminate unnecessary care and costs. HMOs typically have copayments rather than cost-shares. The TRICARE Prime options are similar to HMOs.

Host nation provider

This is a hospital, clinic, laboratory, individual doctor, or provider certified to practice or deliver healthcare in a foreign country.

Managed care

This is a concept where an organization delivers healthcare to enrolled members and controls costs by closely supervising and reviewing the delivery of care. The following describes the regions and the managed care support contractor (MCSC) functions:

- Each of the regions in the United States has an MCSC.
- The MCSC's role is to help support and augment the services available at MTFs by developing a network of civilian hospitals and providers to meet the healthcare needs of the TRICARE beneficiaries.

Out-of-pocket costs

The amount of money a beneficiary pays for services. This includes enrollment fees, cost-shares, deductibles, copayments, and personal expenses for the point of service (POS) option and for non-covered services.

Primary care manager

The PCM is a patient's principal provider for routine medical needs. PCMs make referrals for tests/specialty care and monitor the adequacy and continuity of needed care. Usually PCMs are physicians, but some are physician assistants, nurse practitioners, and independent duty medical technicians practicing under the supervision of a physician.

Point of service option

The POS option allows TRICARE Prime beneficiaries to self-refer for nonemergency care. The referral would go to an authorized civilian provider, in or out of the network. If a beneficiary applies, they may have to pay deductibles and cost shares. In order not to pay, they would need to talk to their PCM or HCF for preauthorization. This option is not applicable to emergency care, and active duty service members cannot use this option.

Referral

Referring is the practice of sending a patient to another program, practitioner, or specialty for services or advice that the referring source is not prepared or qualified to provide.

Service point of contact

The service point of contact (SPOC) is a person that coordinates civilian healthcare for service members enrolled in TRICARE Prime Remote. This person (office) reviews a service member's record for "fitness for duty" conditions.

Specialty care

Specialty care is medical care from a physician, dentist, or other healthcare professional. This person usually has specialized advanced education and training (i.e., orthopedics, neurology, general surgery).

TRICARE-allowable charge

The maximum amount TRICARE pays for a procedure or service is referred to as the TRICARE allowable charge. The TRICARE-allowable charge varies depending on the location of care and type of provider (network versus non-network).

TRICARE management activity (TMA)

From February 1998 to 1 October 2013, the TMA managed the TRICARE healthcare program for active duty members and their families, as well as others who are entitled to DOD medical care. As a chartered organization, TMA operated under the authority of the Assistant Secretary of Defense-Health Affairs (ASD-HA). TMA has transitioned to the DHA.

TRICARE Prime service area

TRICARE Prime service area (PSA) is a geographic area where TRICARE Prime benefits are available. At a *minimum*, this includes areas around MTFs and base realignment and closure (BRAC) sites.

TRICARE regional concept

With the basic terminology under your belt, it should be easier to grasp the different options. First, it is necessary to see the division of the regions. The division of regions does not affect coverage, however, it does affect how beneficiaries enroll, disenroll, and even file claims.

TRICARE has four geographic health service regions: three in the United States and one encompassing all overseas locations. Each region has a MCSC, and often referred to as the regional contractor. The regional contractor works with the MTF, civilian hospitals, and civilian providers to ensure they are meeting the needs of TRICARE beneficiaries.

Stateside

Each of the three stateside TRICARE regions is overseen by DHA: TRICARE Regional Office (TRO)-North, TRO-South, and TRO-West (fig. 3–4). The TROs are government offices that oversee integrated healthcare delivery systems in their regions. Their primary responsibility is to ensure all

parties meet their responsibilities identified in the contract. Each TRO is led by a regional director, which answers directly to the Deputy Director of DHA.

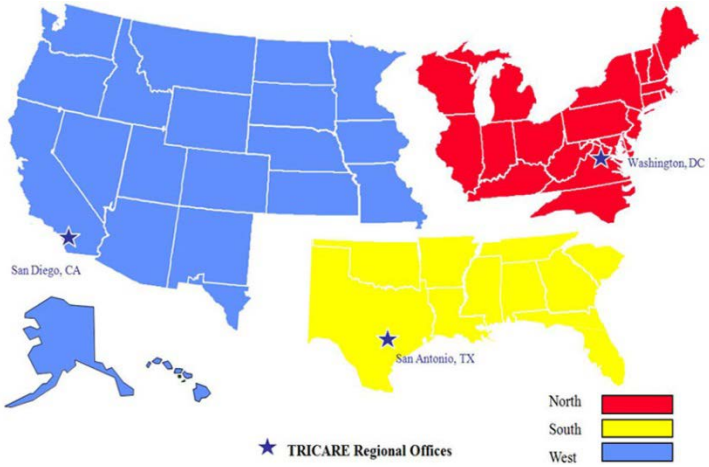


Figure 3–4. Stateside TRICARE regions.

TRICARE West – United Healthcare Military and Veterans

TRICARE West includes: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Iowa (excluding Rock Island Arsenal area), Kansas, Minnesota, Missouri (except the St. Louis area), Montana, Nebraska, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Texas (the southwestern corner, including El Paso), Utah, Washington, and Wyoming.

TRICARE North – Health Net Federal Services

TRICARE North includes: Connecticut, Delaware, the District of Columbia, Illinois, Indiana, Iowa (Rock Island Arsenal area), Kentucky (*except* Fort Campbell), Maine, Maryland, Massachusetts, Michigan, Missouri (St. Louis area), New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, Vermont, Virginia, West Virginia, and Wisconsin.

TRICARE South – Humana Military

TRICARE South includes Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, Oklahoma, South Carolina, Tennessee, Texas (*excluding* the El Paso area), and the Fort Campbell area in Kentucky.

TRICARE overseas program

The TOP is TRICARE's healthcare program outside the CONUS (fig. 3–5). The TOP offers healthcare coverage to beneficiaries living and traveling overseas while allowing for significant cultural differences unique to foreign countries and their health practices. Cultural differences may apply to things like location of care (e.g., a provider comes to a patient's home) or the way care is provided (e.g., medical services commonly performed by a doctor in the United States may be performed by a physician's assistant, depending on the country).

Figure 3–5. Overseas TRICARE regions.

TRICARE regional offices

The TRO represents the new management organization for managing regional contractors and overseeing an integrated healthcare delivery system in the three United States-based TRICARE regions. The TRICARE overseas regional office is headquartered in the DHA with three subordinate overseas area offices. Within each region, the regional director is the health plan manager; they have visibility of both the contract and direct care assets, and they coordinate with the services to develop an integrated health plan.

TRICARE area offices

The TRICARE area offices (TAO) monitor care in an overseas region and are responsible for developing and delivering plans for healthcare delivery. The following three overseas areas make up the overseas region:

1. TRICARE Eurasia-Africa (encompasses Africa, Europe, and the Middle East).
2. TRICARE Latin America and Canada (TLAC) (encompasses Canada, the Caribbean basin, Central and South America, Puerto Rico, and the U.S. Virgin Islands).
3. TRICARE Pacific (encompasses Asia, Guam, India, Japan, Korea, New Zealand, and Western Pacific remote countries).

TRICARE service centers

Available in overseas locations, TSCs have beneficiary service representatives that perform the following functions:

1. Explain TRICARE benefits, enrollment, and eligibility information.
2. Assist with TRICRE Prime enrollments.
3. Select a PCM and assist beneficiaries with the PCM change form.
4. Inform beneficiaries of their claims' status and help them resolve claims issues.
5. Provide information about TRICARE network providers.
6. Help beneficiaries report fraud.

TRICARE program options

Now that you have some of the terminology and understand the TRICARE regional concept, it should be easier to understand the program options.

Imagine this; you are done with your upgrade training, and working in the TOPA flight at Lackland AFB, in San Antonio, Texas. Your BCAC is going on leave, and your supervisor, TSgt Smith, offered you an opportunity to excel. She asked if you would like to assist beneficiaries when they have questions on the different types of TRICARE plans when they come in. You know this is an honor, and although it sounds a little intimidating, you jump at the chance. As your supervisor walks away, you think, "what did I get myself into?!"

This next lesson explains the different programs and helps you excel at this opportunity. Once you understand the eleven programs options, you will be able help beneficiaries select the best plan for them. The eleven programs are in the following table.

TRICARE Programs	
TRICARE Prime	TRICARE Standard and Extra
TRICARE Prime Remote	TRICARE Standard Overseas
TRICARE Prime Overseas	TRICARE for Life
TRICARE Prime Remote Overseas	TRICARE Young Adult
TRICARE Reserve Select	TRICARE Retired Reserve
US Family Health Plan	

TRICARE Prime

TRICARE Prime is the HMO-type option where beneficiaries enroll for one year at a time. They agree to seek healthcare from the network in the region they are assigned. This option offers the lowest out-of-pocket costs for beneficiaries, and is only available in the United States in Prime Service Areas. Under TRICARE Prime, each enrollee is assigned a PCM, who serves as a gatekeeper for obtaining necessary healthcare. Active duty service members are required to enroll in TRICARE Prime. The eligible beneficiaries for TRICARE Prime are listed in the following table.

Eligible Beneficiaries
Active duty service members and their families.
Retired service members and their families. *
Activated Guard/Reserve members and their families.
Non-activated Guard/Reserve members and their families who qualify for care under the Transitional Assistance Management Program.
Retired Guard/Reserve members (age 60 and receiving retired pay) and their families.*
Survivors.
Medal of Honor recipients and their families.
Qualified former spouses.

** When retired service members and their families become eligible for TRICARE For Life, they are no longer able to enroll in TRICARE Prime*

Getting care

Beneficiaries have an assigned PCM who provides most of their care. The PCM will refer the beneficiary to a military or network provider for specialty care as required.

Enrollment

Enrollment is required, and there is no fee.

Associated costs

The associated costs are in the table below.

	Active Duty	**Active Duty Family Member**
Annual Deductible	None	None
Point of Service Deductible	Not available	$300 per individual, $600 per family
Outpatient Visit Cost	$0	$0
Point of Service	Not available	Additional cost
Catastrophic Cap	$0	$1,000

TRICARE Prime Remote

TRICARE Prime Remote (TPR) is a stateside option that provides healthcare to active duty service members who live and work greater than 50 miles, or one hour's drive time, from a MTF. Like Prime, it provides healthcare coverage through a civilian network or TRICARE-authorized providers, and referrals and authorizations are required for TRICARE-covered specialty care. Most care is received from a PCM, and there are typically no claims to file. The eligible beneficiaries for TRICARE Prime Remote are listed in the following table.

Eligible Beneficiaries
Active duty service members and their families
Active duty family members if they live with the sponsor
Activated Guard/Reserve family members

Getting care

Beneficiaries have an assigned PCM who provides most of their care to include a military or network provider. The PCM refers beneficiaries to specialists as required, works with your regional contractor for referrals/authorizations, accepts your copayment and files claims for you.

Enrollment

Enrollment is required and there is no fee.

Associated costs

The associated costs are in the table below.

	Active Duty	**Active Duty Family Member**
Annual Deductible	None	None
Point of Service Deductible	Not available	$300 per individual, $600 per family
Outpatient Visit Cost	$0	$0
Point of Service	Not available	Additional cost
Catastrophic Cap	$0	$1,000

TRICARE Prime Overseas

TRICARE Prime Overseas is an overseas option that provides healthcare to active duty service members who live and work overseas near a military hospital or clinic. Like Prime, it provides healthcare coverage through a civilian network or TRICARE-authorized providers. However, referrals and authorizations are required for TRICARE-covered specialty care. Most care is received from a PCM. The eligible beneficiaries for TRICARE Prime Overseas are listed in the following table.

Eligible Beneficiaries
Active duty service members and their families
Command-sponsored active duty family members

Getting care

Beneficiaries will receive most of their care from the PCM at a MTF. The PCM will refer them to specialists for care as needed.

Enrollment

Enrollment is required, and there is no enrollment fee.

Associated costs

The associated costs are in the table below.

	Active Duty	**Active Duty Family Member**
Annual Deductible	None	None
Point of Service Deductible	Not available	$300 per individual, $600 per family
Outpatient Visit Cost	$0	$0
Point of Service	Not available	Additional cost
Catastrophic Cap	$0	$1,000

TRICARE Prime Remote Overseas

TRICARE Prime Remote Overseas offers TRICARE Prime coverage to active duty service members permanently assigned to designated remote locations overseas and their eligible command-sponsored family members. Only active duty and their beneficiaries who meet the Joint Federal Travel Regulation (JFTR) definition of command-sponsored are eligible for TRICARE Prime Remote Overseas enrollment.

Eligible beneficiaries are listed in the table below.

Eligible Beneficiaries
Active duty service members and their families
Command-sponsored active duty family members

Getting care

Patients get most of their care from the PCM at a military hospital or clinic. The PCM will refer them to specialists for care as required.

Enrollment

Enrollment is required, and there is no enrollment fee.

Associated costs

The associated costs are in the table below.

	Active Duty	Active Duty Family Member
Annual Deductible	None	None
Point of Service Deductible	Not available	$300 per individual, $600 per family
Outpatient Visit Cost	$0	$0
Point of Service	Not available	Additional cost
Catastrophic Cap	$0	$1,000

TRICARE Standard and Extra

TRICARE Standard is a fee-for-service program, meaning that each service utilized outside the MTF requires a fee. This option offers the beneficiary the freedom to seek care from any TRICARE-authorized provider. Referrals are not required, but some care may require prior authorization. Beneficiaries may have to pay for services up front and file claims for reimbursement. Individuals pay current TRICARE deductibles, cost shares, and abide by TRICARE rules.

TRICARE Standard is available overseas. TRICARE Extra is a preferred-provider option where a TRICARE Standard beneficiary receives a cost-share discount for using a TRICARE network provider (normally five percent). Enrollment is not required. TRICARE Extra **is not** available overseas. Eligible beneficiaries are listed in the table below.

Eligible Beneficiaries
Active duty family members
Retirees and their family members
National Guard and Reserve families

Getting care

Beneficiaries can get care from any TRICARE authorized provider, network or non-network provider. Referrals are not required; however, some services may require prior authorization.

Enrollment

Enrollment is not required, and there is no enrollment fee. TRICARE Standard is available overseas; however, TRICARE Extra is *not*.

Associated costs

The associated costs are in the table below.

	Active Duty Family Member E4 and below	Active Duty Family Member E–5 and above	All others
Annual Deductible	$50 per individual, $100 per family	$150 per individual, $300 per family	$150 per individual, $300 per family
Extra Option - Outpatient Visit Cost network provider	15% of negotiated fee after the annual deductible is met	15% of negotiated fee after the annual deductible is met	20% of negotiated fee after the annual deductible is met
Standard Option – Outpatient visit cost with non-network provider	20% of allowable charges after the annual deductible is met	20% of allowable charges after the annual deductible is met	5% allowable charges after the annual deductible is met
Catastrophic Cap	$1,000 per family, per fiscal year	$1,000 per family, per fiscal year	$1,000-$3,000 per fiscal year

**The annual deductible is waived for Guard/Reserve family members whose sponsor was activated in support of a contingency operation. **

TRICARE Standard overseas

TRICARE Standard Overseas is a fee-for-service option, which allows you the most flexibility in getting care, but will cost you more out-of-pocket than one of the overseas Prime options. Beneficiaries may seek care from any TRICARE authorized provider, network or non-network. Referrals are not required but some care may require prior authorizations. Additionally, beneficiaries may have to pay for services when they receive it and file a claim for reimbursement. Eligible beneficiaries are listed in the table below.

Eligible Beneficiaries
Active duty family members
Retirees and their family members
National Guard and Reserve families

Getting care

Beneficiaries may get care from any qualified host nation provider. Referrals are not required, but some services may require prior authorization. If they live near a military hospital or clinic, the beneficiary must have a non-availability statement before receiving inpatient care at a host nation facility.

Enrollment

Enrollment is not required, and there is no enrollment fee.

Associated cost

The associated costs are in the table below.

	Active Duty Family Member E4 and below	Active Duty Family Member E–5 and above	All others
Annual Deductible	$50 per individual, $100 per family	$150 per individual, $300 per family	$150 per individual, $300 per family
Outpatient Visit Payment	20% of billed charges for covered services after the annual deductible is met	20% of billed charges for covered services after the annual deductible is met	25% of billed charges for covered services after the annual deductible is met
Catastrophic Cap	$1,000 per family, per fiscal year	$1,000 per family, per fiscal year	$1,000-$3,000 per fiscal year

TRICARE Reserve Select

TRICARE Reserve Select is a premium-based health plan available for purchase worldwide. Beneficiaries must qualify for, and purchase, the plan in order to participate. They receive care from any TRICARE authorized provider, network or non-network. Referrals are not required, but prior authorization may be required. Beneficiaries may have to pay for services when received, and submit healthcare claims for reimbursement. Eligible beneficiaries are listed in the table below.

Eligible Beneficiaries
National Guard and Reserve
National Guard and Reserve families

Getting care

Beneficiaries may get care from any TRICARE authorized provider, network or non-network, without a referral; however, some services require prior authorization.

Enrollment

Beneficiaries must purchase TRICARE Reserve Select and pay monthly premiums.

Associated cost

The cost varies depending on the type of provider seen, and there are fewer out-of-pocket costs from TRICARE network providers. The associated costs are in the table below.

	National Guard or Reserve member E–4 and below	National Guard or Reserve member E–5 and above
Annual Deductible	$50 per individual, $100 per family	$150 per individual, $300 per family
Outpatient Visit Payment	Network Provider: 15% of the negotiated rate after the annual deductible is met. Non-network Provider: 20% of the TRICARE allowable charge after the annual deductible is met.	
Catastrophic Cap	$1,000 per family, per fiscal year. Monthly premium payments don't apply toward the CAP	

TRICARE Retired Reserve

TRICARE Retired Reserve is a premium-based health plan that qualified retired reserve members and survivors may purchase. Beneficiaries must qualify for, and purchase, the plan to participate. They receive care from any TRICARE-authorized provider, network or non-network. Referrals are not required, but prior authorization may be required. Costs vary depending on the type of provider seen; however, fewer out-of-pocket costs are gained from TRICARE network providers. Finally, beneficiaries may have to pay for services when they get care, and then submit healthcare claims for reimbursement. Eligible beneficiaries are listed in the table below.

Eligible Beneficiaries
National Guard and Reserve
National Guard and Reserve families

Getting care

Beneficiaries may get care from any TRICARE authorized provider, network or non-network, without a referral; however, some services require prior authorization.

Enrollment

Beneficiaries must purchase TRICARE Retired Reserve and pay monthly premiums.

Associated costs

The associated costs are in the table below.

Annual Deductible	$150 per individual or $300 per family
Outpatient Visit Payment	Network Provider: 20% of the negotiated rate after the annual deductible is met. Non-network Provider: 25% of the TRICARE allowable charge after the annual deductible is met.
Catastrophic Cap	$3,000 per family, per fiscal year; monthly premium payments don't' apply toward the Cap

TRICARE Young Adult

TRICARE Young Adult is a voluntary, premium-based program that extends TRICARE coverage to certain family members under the age of 26 who have lost, or will lose, TRICARE eligibility due to age.

Getting care

Most care is received from a primary care manager. The PCM will provide a referral as needed.

Enrollment

Beneficiaries must qualify for, purchase TRICARE Young Adult, and pay monthly premiums in order to participate in TRICARE Young Adult.

Associated costs

The associated costs are in the following table.

Type Cost	Children of active duty service member	Children of retired service members
Annual Deductible (2014)	$180 per month (Initial two-month premium payment required)	
Outpatient Visit Payment	$0, as long as they receive care from their PCM or referral	$12 per visit
Inpatient Visit Payment	$0, as long as they receive care from their PCM or referral	$11 Per day ($25 minimum)
Catastrophic Cap	$1,000 per family, per fiscal year	$1,000 - $3,000 per fiscal year

Uniformed Service Family Health Plan

The Uniformed Service Family Health Plan (USFHP) is a TRICARE Prime-like option available at community-based, not-for-profit healthcare systems in six areas of the United States (fig. 3–6). To enroll, eligible beneficiaries must be registered in DEERS and live within one of the designated USFHP service areas. Covered benefits are available only from USFHP-approved providers, except during a medical emergency. Active duty service members cannot enroll in the USFHP. Some of the main features include enhanced benefits and services, including discounts for eyeglasses, hearing aids, and dental care in some areas. There are minimal out-of-pocket costs with no claims to file.

Getting care

Beneficiaries get all care from their designated US Family Health Plan provider. They will not access care from Medicare providers, military hospitals/clinics, or TRICARE-authorized providers. Beneficiaries receive most care from an assigned primary care physician from their plan's network who will provide referrals for specialty care.

Enrollment

Enrollment is required and includes a one-year commitment to receive care from the plan. The only exception is if the beneficiary moves to an area where the plan is not offered. There is no enrollment fee for active duty families; however, retirees, their families, and all others must pay an annual enrollment fee to participate.

US Family Health Plan Designated Providers

Johns Hopkins Medicine
Serving Maryland, Washington DC, and parts of Pennsylvania, Delaware, Virginia, and West Virginia
1-800-808-7347 (toll free)
www.hopkinsmedicine.org/usfhp

Martin's Point Health Care
Serving Maine, New Hampshire, Vermont, upstate and western New York, and the northern tier of Pennsylvania
1-888-241-4556 (USFHP line)
www.usfhp.com/martinspoint

Brighton Marine Health Center
Serving Massachusetts (including Cape Cod), Rhode Island and northern Connecticut
1-800-818-8589
1-888-815-5510
www.usfamilyhealth.org

CHRISTUS Health
Serving southeast Texas and southwest Louisiana
1-800-67USFHP (1-800-678-7347)
http://christus.usfhp.com

Pacific Medical Centers (PacMed Clinics)
Serving the Puget Sound area of Washington State
1-888-958-7347
www.pacificmedicalcenters.org

Saint Vincent Catholic Medical Centers of New York
Serving New York City, Long Island, Southern Connecticut, New Jersey, and Philadelphia and area suburbs
1-800-241-4848
www.usfhp.net

Figure 3–6. US Family Health Plan Designated Providers.

Associated cost

The associated costs are in the table below.

	Active duty family members	All others
Annual Deductible (2014)	$0	$0
Outpatient Visit Payment	$0, as long as they receive care from their PCM or referral	$12 per visit ($0 if enrolled in Medicare Part B)
Catastrophic Cap	$1,000 per family, per fiscal year	$1,000 - $3,000 per fiscal year

TRICARE for Life

TRICARE for Life (TFL) combines TRICARE Standard coverage with Medicare to provide wrap-around medical coverage to dual-eligible (TRICARE and Medicare) beneficiaries. Before understanding TFL, you need to know what Medicare is and how it works.

Medicare

Medicare is a health insurance program where age, disability, or disease determines eligibility. This includes individuals age 65 *or older*, individuals *under* age 65 with *certain* disabilities, individuals of any age with end-stage renal disease (ESRD), individuals of any age with amyotrophic lateral sclerosis (ALS), commonly known as Lou Gehrig's disease, and individuals of Lincoln County, Montana who have an asbestos-related disease.

Medicare Part A

Medicare Part A (Hospital insurance), funded through payroll taxes, helps cover inpatient care and costs in hospitals, skilled nursing facilities, hospice care, and home healthcare. If a beneficiary paid into Medicare for 40 quarters, he or she is entitled to premium-free Medicare Part A at age 65.

If eligible for premium-free Medicare Part A, a beneficiary receives a Notice of Award, the official letter from the Social Security Administration (SSA), advising the beneficiary of his/her entitlement to premium-free Medicare Part A and enrollment in Medicare Part B (or enrollment in Medicare Part B only), which is discussed below. If not eligible for premium-free Medicare Part A based on their own work history, beneficiaries should contact the SSA to find out if they may qualify under their spouses' or divorced spouses' social security number.

Medicare Part B

Medicare Part B (Medical insurance) helps cover medically necessary outpatient services, such as doctor services, outpatient hospital care, home health services, some preventive health services, and other medical services. In this program, an individual's reported income establishes the premiums. Beneficiaries should enroll in Medicare Part B when first eligible to avoid paying higher Medicare premium penalties due to delayed enrollment.

The DMDC automatically notifies TRICARE beneficiaries approximately three months before their 65th birthday of the requirement to enroll in Medicare Part B. There are exceptions to the Medicare Part B enrollment requirement. The following beneficiaries do not have to enroll in Medicare Part B to remain TRICARE eligible:

1. ADSMs and ADFMs who are entitled to premium-free Medicare Part A do not have to enroll in Medicare Part B while the sponsor is on active duty to maintain TRICARE eligibility.
2. Medicare Part B MUST be in effect on or before the sponsor's retirement date, whether a medical or regular retirement, to avoid a break in TRICARE coverage.
3. If the beneficiary enrolls in Medicare Part B after the sponsor's retirement date, there may be a break in TRICARE coverage until Medicare Part B takes effect.
4. TRICARE Reserve Select and TRICARE Retired Reserve enrollees who are entitled to premium-free Medicare Part A are not required to have Medicare Part B to qualify for these programs.

TRICARE for Life, who is eligible?

Beneficiaries can purchase TRICARE for Life if they are entitled to premium-free Medicare Part A and who purchase Medicare Part B, regardless of their age or place of residence. Under Federal law, TRICARE beneficiaries entitled to premium-free Medicare Part A must have Medicare Part B to remain TRICARE eligible. Beneficiaries will lose their TRICARE benefits and their claims will be denied if they do not have Medicare Part B, if they are disenrolled from Medicare Part B, or if they stopped paying their Medicare Part B premiums.

TFL benefits start on the first day that Medicare Part A and Part B are in effect. Dual-eligible beneficiaries under age 65 may enroll in TRICARE Prime if available in their local area. Prime enrollment fees are waived for those who have Medicare Part B. TRICARE for Life offers secondary coverage to TRICARE beneficiaries who have both Medicare Part A and B.

Getting care

Beneficiaries can get care from any authorized TRICARE provider.

Enrollment

Enrollment is not required, but beneficiaries must have Medicare Part A and Part B to participate

Catastrophic cap

The catastrophic cap varies depending on the sponsor's military status as noted below:

- Active duty families: $1,000 per family per fiscal year.
- National Guard and Reserve families: $1,000 per family, per fiscal year.
- Retired families (and all others): $3,000 per family, per fiscal year.

TRICARE special program

This supplemental program is tailored specifically to beneficiaries' health concerns or conditions. Some have specific eligibility requirements based on the beneficiaries' category, plan, or status. Some are for specific beneficiary populations, while other offer services for specific health conditions. Finally, some are limited to a certain number of participants or a certain geographic location. Some of the categories include those listed below.

Cancer clinical trials

The DOD has collaborated with the National Cancer Institute (NCI) to offer Cancer Clinical Trials to eligible TRICARE beneficiaries. The Cancer Clinical Trials provide NCI-sponsored cancer prevention and treatment studies as a TRICARE-covered healthcare benefit. TRICARE will cost share all medical care and testing needed to determine eligibility and all medical care needed due to participation in an NCI study.

Continued healthcare benefit program

The continued healthcare benefit program (CHCBP) is a premium-based plan that offers temporary transitional health coverage, for 18-36 months, after TRICARE eligibility ends. If qualified, beneficiaries may purchase the CHCBP within 60 days of losing TRICARE eligibility.

Line of duty care

National Guard or reserve members qualify for line of duty care if they are injured or become severely ill in the line of duty. This includes when traveling directly to or from their place of duty. To receive healthcare for these injuries or illness, the member's unit must issue a line of duty (LOD) determination. Those beneficiaries that belong to the U.S. Coast Guard require a notice of eligibility (NOE).

TRICARE pharmacy program

TRICARE's pharmacy benefit is available to all eligible uniformed service members, retirees, and family members, including beneficiaries age 65 and older. TRICARE pharmacy benefit provides home delivery, retail, and specialty pharmacy services. The program is designed to provide the medication beneficiaries need, when they need them and in a safe, convenient, and cost-effective manner.

TRICARE dental plan options

There are *three* main dental plan options available for beneficiaries.

TRICARE active duty dental program

Active duty service members get most of their dental care at military dental clinics. If care is needed outside of the military dental clinic, the active duty service member needs to use the TRICARE Active Duty Dental Program. The beneficiary may schedule the appointment as long as the treatment is less than $750 per service or appointment, and the total cost of a treatment plan is less than $1,500 when completed within one year. This is available in the United States, U.S. Virgin Islands, Guam, Puerto Rico, American Samoa, and Northern Mariana Islands. All other overseas locations utilize international SOS.

Eligible beneficiaries are listed in the table below.

Eligibility
Active duty service members.
Service members who need in the LOD care.
Foreign force members stationed in the U.S.
Guard and reserve members who:
Are on active duty orders.
Have issues delayed-effective-date orders.
Is covered by the Transitional Assistance Management

TRICARE dental program

This is a voluntary dental plan that is available worldwide, and offers coverage for exams, cleanings, fluorides, sealants, x-rays, fillings, including white fillings on back teeth, root canals, gum surgery, oral surgery and tooth extractions, crowns and dentures, orthodontics and braces, scaling and root planning (deep cleaning) for diabetics, and additional cleaning for pregnant women. Eligible beneficiaries are listed in the table below.

Eligibility
Family members of an active duty service member
Family members of a National Guard/Reserve member
National Guard/Reserve member who isn't on active duty

TRICARE retiree dental program

The TRICARE Retiree Dental Program is a voluntary dental plan that is available in the United States and all overseas areas. This program offers coverage for exams, cleanings, fluoride, sealants, x-rays, fillings, root canals, gum surgery, oral surgery, extractions, crowns, dentures, and orthodontics. Eligible beneficiaries are listed in the table below.

Eligibility
Retired Service members
Family members of a retired service member
Retired Guard/Reserve members
Family members of retired Guard/Reserve member
Medal of Honor recipient
Family members of Medal of Honor recipient
Survivors

Assisting beneficiaries with TRICARE benefits

As you can see, enrollment is automatic with most of the plans; however, there will be times you may need to assist beneficiaries with enrollment. Do you remember in the beginning of this lesson when your supervisor, TSgt Smith, asked you to fill in for the DCAC? Well, it is time. You are sitting at the TOPA front desk, and SrA James walks up to your window. Someone that appears to be his wife accompanies him.

He states he needs help choosing a TRICARE plan. He is active duty and has been working at this base for a while, but just got married. He asked for your assistance choosing the right plan for his wife. After you congratulate them, invite them to sit down, and introduce yourself, you start to review the different plans.

Location, location, location!

When reviewing the different plans, first consider the location where the beneficiary will seek care. The location will exclude, or include, plans available for beneficiaries. Some programs, such as

TRICARE Prime Overseas are only available OCONUS, while others, like US Family Health Plan, are only available in certain areas.

SrA James verifies he does not have orders to PCS and his wife will stay with him in the local area. With this information, you can rule out five of the plans: TRICARE Prime Remote, TRICARE Prime Overseas, TRICARE Prime Remote Overseas, TRICARE Standard Overseas, and US Family Health.

Status

Is the beneficiary active duty, reserve, retired, or a child dependent? If so, there are specific programs for beneficiaries who are in the reserve components or is a dependent child.

SrA James told you that he is active duty, which means that TRICARE Retired Reserve and TRICARE Reserve Select are not an option for him. Additionally, he would like to enroll his wife, which would exclude TRICARE Young Adult.

Medicare eligible

Remember, if your beneficiary is *over* 65, they are not eligible for some programs. However, SrA James is a Senior Airman, and does not look to be 65; nevertheless, you verify his age. Once you confirm he is less than 65 years old, you can rule out TRICARE for Life.

What is left?

Once you explain to SrA and Mrs. James why the above nine plans are excluded, you show SrA James the two TRICARE Plans his family is eligible for: TRICARE Prime and TRICARE Standard and Extra. You know that each plan has their own benefits and drawbacks, so you ask them more questions. After further conversation, you discover the couple is on a budget and prefers not to pay out of pocket cost. Once they make that decision to enroll in TRICARE Prime, you direct them to the TRICARE.mil website for enrollment and detailed information on the plan they chose.

Although this is the program most eligible beneficiaries will choose, you should not automatically direct beneficiaries to this program. Give them all the information, and then let them choose.

Patient travel

Patient accountability management is for beneficiaries traveling to another medical facility for medical appointments and/or specialty care outside of a specified geographical area. This includes beneficiary enrollees traveling to any MTF by way of military air (aeromedical evacuation), civilian commercial airline, train, bus, personally owned conveyance, personally owned vehicle, or other means of travel recognized by the Joint Federal Travel Regulation. This applies to active duty service members and TRICARE Prime enrollees. The following are the appropriate steps to take with each member prior to, and upon return of their travel.

Preparing for travel

Members requiring travel to another facility for a medical appoint will present themselves to the patient travel representative at least five duty days before they are scheduled to leave. You as the patient travel representative will complete the following steps:

1. Ensure the beneficiary was referred to another treatment facility for medical care (elective care is not authorized).
2. Contact that medical facility to ensure the appropriate appointments are scheduled.
3. Schedule on base lodging if possible.
4. Brief the beneficiary on travel.

Include the following points when briefing beneficiaries as they prepare to travel for medical care:

1. To review their travel authorization before the date of travel.
2. Let them know the allowed per diem for the trip, and that expenses exceeding the per diem limit will not be reimbursed.
3. To keep all receipts that pertain to travel.

4. To obtain a lodging non-availability statement if they are not staying on base.
5. That beneficiaries must report to the patient travel representative within five days upon their return.

The referring physician authorizes a non-medical attendant; however, you do need to ensure they meet the following guidelines. Only one non-medical attendant (NMA) is authorized per travel with the following requirements.

- NMA must be at least 21 years of age.
- The traveling patient must have a NMA form signed and approved by the PCM and Medical Chief of Staff or designated approving official.
- Must retain all cost receipts pertaining to travel and meals for authorized reimbursement.

Active duty members will process authorizations ADSM will upload applicable receipts and letters to file with the travel reimbursement voucher using the Defense Travel System (DTS).

Returning from travel

ADSMs will submit a travel reimbursement voucher using DTS within five days with the following stipulations applying:

1. Patient and attendant cannot both be reimbursed for the same travel expense (e.g., both cannot claim and be paid for mileage cost when traveling by a privately owned vehicle).
2. Non-active duty NMAs are authorized temporary duty (TDY) allowances when supporting active duty patients.

Non-active duty TRICARE Prime enrollees will also complete a travel voucher within five duty days of returning.

015. DOD TRICARE online and sources of health plan information

There is quite a bit of information that you need to know about the different plans TRICARE offers. As a HSM, you should know the key points, and know where to go to find out more information. Be careful! Do not be fooled by pretty, non-sponsored websites. If you go to the internet and search TRICARE, you will see many sites that provide information on TRICARE. Although the creators of those sites have good intentions, they may provide outdated information or not maintain the sites as often as necessary. Generally, you should be able to trust the ".mil" sites; however, the following two sites you can depend on and refer other to: TRICARE.mil, and TRICAREonline.com.

TRICARE.mil

This website is the *official* website for TRICARE. It has all the information beneficiaries need so they can choose the right plan for them and their families (fig. 3–7).

CARE plans

If you open this link: http://tricare.mil/Welcome/Plans.aspx, all eleven plans you read about in the last section have a link on this site: TRICARE Prime, Prime Remote, Prime Overseas and so forth. There are two *convenient* tools on this page: *plan finder* and *compare plans*. The plan finder link takes beneficiaries through a series of questions to aid in narrowing down plan options; *compare plans* allows beneficiaries to compare each plan side-by-side.

Briefings

The TRICARE.mil website also has standardized briefings (http://tricare.mil/Briefings.aspx). Staff can use these tools to brief patients, or beneficiaries can reference them for more information. Each briefing is shown in two parts; the top half of the brief is the PowerPoint presentation, and the bottom half has more information for briefers to reference.

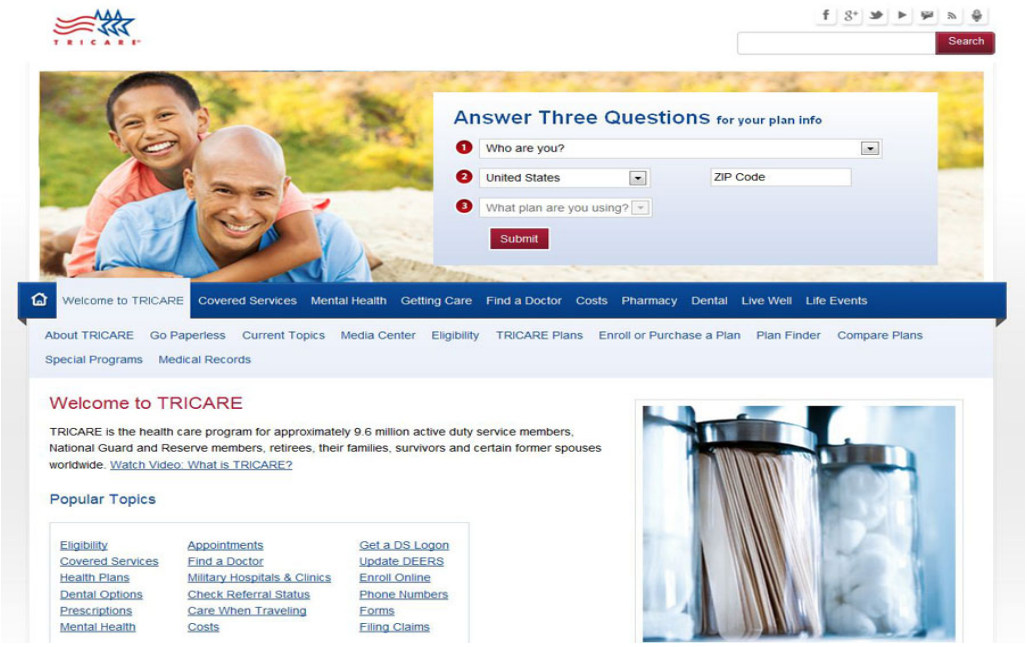


Figure 3–7. TRICARE.mil Website.

TRICAREU

Another great resource that provides training is TRICARE University at: http://www.tricare.mil/tricareu/. This website has options for online or classroom training. There is even a TRICARE Fundamentals Online Certification Course.

TRICARE Online

TRICARE Online (TOL) is a tool that *provides* access to available services and information that the patients can access to improve their healthcare experience. This allows beneficiaries to access their appointments, prescriptions, and personal health information from a secure website. Beneficiaries do have to create an account, as long as they are 18 or older, and have been treated at a MTF. Just like any website, certain people within the MTF have responsibilities to ensure the website is established and running smoothly (fig. 3–8).

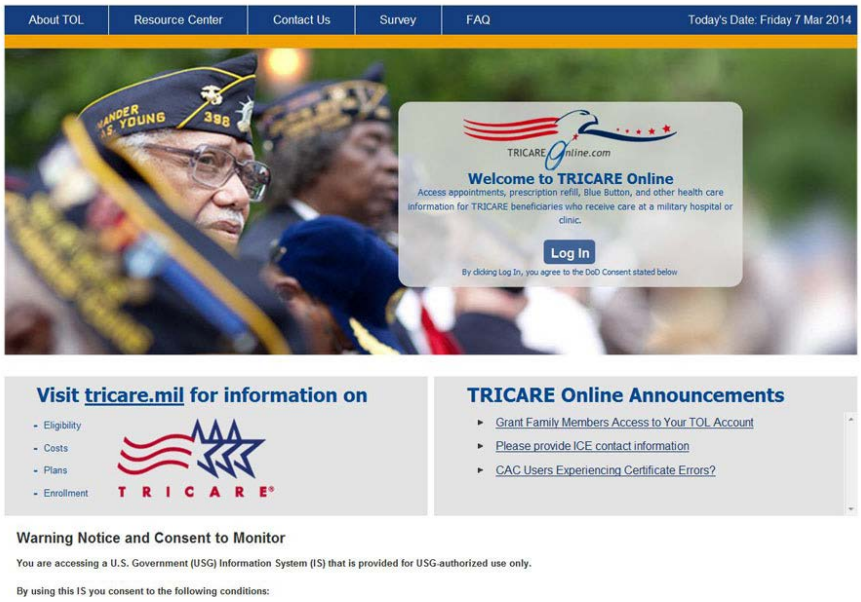


Figure 3–8. TRICARE On Line Website.

MTF responsibilities

Each MTF has personnel to fill the following TRICARE online sustainment team positions. One person can do multiple duties, or many individuals can accomplish the duties.

MTF TOL project officer

This person is the *champion* for the websites' implementation and sustainment. Managed care personnel normally fill this functional (*not* technical) position. This person typically has an in-depth knowledge of clinic operations. They are also the commander's personal representative for the project, and must be able to interact with the FOAs and MAJCOMs as required. Some of their responsibilities include:

- Attend Medical Group staff meetings as needed to disseminate new TOL information.
- Ensure the maintenance of an MTF TOL web page; information should not be older than six months.
- Maintain MTF TOL sustainment plan.
- Coordinate new capability activation tasks with team members.
- Oversee activities of MTF TOL team.
- Coordinate account permissions and facilitate activation of accounts.
- Establish business practices to incorporate into newcomers briefings.
- Recommend that at least 80 percent of all appointment slots are available for booking.
- Work appropriate personnel to ensure successful marketing and sustainment.

MTF TOL system administrators

The TOL system administrators is responsible for the technical aspect. This individual interprets guidance and understands basic TOL features. These individuals coordinate with higher headquarters for hardware and software. They also troubleshoot and resolve any system or technical issue the MTF may have. Finally, they ensure that if any changes occur in the CHCS, the same change takes place on the website.

TOL appointing subject matter expert

The TOL appointing subject matter expert (SME) is an individual responsible for understanding, preparing, monitoring, and maintaining the MTF for TOL's web-enabled appointing functionality. The Appointing SME will work with multiple offices to prepare and standardize CHCS appointing templates. The templates do have to meet specific requirements for successful online appointing. The SME ensures the team knows the appointment business rules. Finally, they ensure that at least 80 percent of all CHCS appointments are available for booking.

Provider and clinic marketing point of contacts

Marketing has the *most* important function for TOL success. In order for TOL to succeed, the staff needs to understand and support the program. Providers and clinic point of contacts (POC) will support, while the Marketing POC will develop a marketing strategy that targets the MTF's population, and further define marketing strategies for specific clinics as needed.

Self-Test Questions

After you complete these questions, you may check your answers at the end of the unit.

013. Evolution of TRICARE

1. When hospitals were first established, who typically worked as nurses in the hospitals?

2. When was the Act that led to CHAMPUS signed into law?

3. What was TRICARE designed to do?

4. What did the “TRI” in “TRICARE” originally refer to?

014. TRICARE program features

1. What are the two distinct types of care?

2. What is a network provider?

3. A provider that accepts TRICARE and agrees to the TRICARE allowable charge for their service is classified as what type of provider?

4. What type of provider furnishes care to beneficiaries but does not sign agreements with regional contractors?

5. What is a non-network, non-participating provider?

6. What providers are prohibited from balance billing?

7. What payments contribute to the catastrophic cap?

8. Under what system do TRICARE beneficiaries receive a majority of their care?

9. Who has the highest priority for MTF care?

10. What is an HMO?

11. Who makes referrals for tests/specialty care, and monitor adequacy and continuity of needed care?

12. What are the four geographic health service regions?

13. Where is the TRICARE overseas regional office headquartered?

14. What are the eleven different program options?

15. What plan offers the lowest out of pocket cost for beneficiaries, and is only available in the US Service Area?

16. How does an active duty member receive care in TRICARE Prime Remote?

17. Who is eligible for TRICARE Prime Overseas and TRICARE Remote Overseas?

18. What is the catastrophic cap for active duty family members enrolled in TRICARE Standard and Extra?

19. Who is eligible for TRICARE Reserve Select?

20. What is a voluntary, premium based program that extends TRICARE coverage to certain family members under the age of 26 who have (or will lose) their eligibility due to age?

21. What community-based, not-for-profit healthcare systems participate in Uniformed Service Family Health Plan?

22. TRICARE for Life is a program for what beneficiaries?

23. Who does the DOD work with to offer cancer clinical trials for eligible TRICARE beneficiaries?

24. Who is eligible for the TRICARE Pharmacy Program?

25. When assisting beneficiaries with choosing the right TRICARE program for their family, what should you consider first?

015. TRICARE online and sources of health plan information

1. What website has all the information beneficiaries need to choose the right program for them?

2. What site allows beneficiaries to access their appointments, prescriptions, and personal health information from a secure website?

3. Maintain TOL sustainment plan, oversee the activities of MTF TOL Team, and establish business practices to incorporate into newcomers briefings are whose responsibilities?

4. What is the function of the MTF TOL Systems Administrator?

3–2. Beneficiary Services

In the earlier lesson where you helped SrA and Mrs. James understand the different programs, you likely used marketing material that aided in explaining the different programs. The BCAC does the same thing. The BCAC is an entity within the MTF that is responsible for assisting beneficiaries with using and understanding their health benefits. They use the material that the marketing team created to help beneficiaries understand the different options. Likewise, you and the DCAO use the marketing teams' publications to assist beneficiaries. In this lesson, you will learn the roles and responsibilities of the BCAC and DCAO and how the marketing tools aid you when in processing and out-processing beneficiaries.

016. TRICARE marketing

Think about it; how often do you blindly buy a product knowing little if anything about it? What questions would you want answered? Most consumers want to know something about a product before buying, and healthcare is no exception. When TRICARE was introduced in November 1993, it was a rocky transformation. Many beneficiaries were fearful of the change, and there were problems educating them about TRICARE.

Successful organizations rely heavily on designing products and services in terms of the target markets' needs and desires. Once they do this, they use effective communication and distribution to inform, motivate, and service the market. The goal of the TRICARE marketing effort is constant: to support the successful worldwide distribution of program information for the uniformed services. To achieve this, we need to have an effective strategy.

Private industry has shown the military that effective marketing strategies are essential to product survival and organizational growth. TRICARE is not the only segment of the Air Force to reap the benefits of an effective marketing campaign. The recruiting service has understood this concept for years and continues to utilize an effective marketing campaign to reach its target audience in hopes of realizing its enlistment quotas. More than just cool commercials and impressive recruiter vehicles, they have even entered the world of Winston Cup auto racing by sponsoring one of their NASCAR

drivers. On any given Sunday, you can watch a NASCAR driver zoom around one of the many NASCAR tracks with the new Air Force logo plastered on the hood! Now that is cool!

Strategy

Marketing is much more than advertising or promotional materials. Marketing is a foundation for building a business strategy; it is both creative and analytical, and is researched-based. It serves as a foundation for business and service objectives, and it is driven by the relationship with the customer. It demands market knowledge and action. The *key* to success of TRICARE is an *innovative* marketing program. This program offers the products and services the customer wants and needs. Combined with supporting quality and managing healthcare costs, the clear tactics are to inform and guide the beneficiary to their right choice.

Marketing

One of the major goals of a marketing program is to develop communication products that meet the customers' needs. Specific marketing programs should address local needs and requirements; however, all marketing programs need to consider the following elements.

Market to providers and staff

Healthcare programs depend on the understanding and support of those that have daily contact with beneficiaries, such as the physicians, nurses, receptionists, appointment specialists, and other staff members. The first priority for introducing or sustaining TRICARE is to *ensure all who work within the system understand their role*. They must be able to explain TRICARE to beneficiaries and help them feel confident that they will get the care they need, when they need it. Having a staff knowledgeable about TRICARE will lead toward better customer service on the part of the entire hospital/clinic staff.

Market to commanders/senior non-commissioned officers

High priorities for marketing outreach are commanders/senior non-commissioned officers. The military line leadership must know the program. Direct a concerted marketing effort toward briefing leaders and providing materials to sustain knowledge and support.

Market to beneficiaries

Educating beneficiaries is the focus. Outreach programs should include the following: briefings/presentations, enrollment packages, newspaper articles/public service advertising, and signage.

Briefings and presentations

Outreach initiatives to small groups, military units, spouse organizations, and retiree organizations proved to be an effective medium. Presentations are most effective when done jointly by a knowledgeable, uniformed representative. Presentations organized and sponsored by unit commanders provide optimum opportunity for enrolling beneficiaries. Presentations should be tailored locally and satisfy the question, "How do I get healthcare?" They should also clearly explain getting care while traveling, after-hours care, and the point of service option.

Enrollment packages

It should be attractive, easy to read, and contain all pertinent information about TRICARE and about how to enroll in TRICARE Prime at the MTF.

Newspaper articles and public service advertising

Base newspapers, base cable stations, local community newspapers, cable outlets, and radio are important mediums to the general marketing program. Make sure there is a continuous stream of information available to beneficiaries from these sources. While many articles will be informational in nature, some should also be anecdotal and include interviews with beneficiaries and providers. You also want to integrate TMA articles into local marketing plans.

Signage

Make an effort to provide such linkage by displaying the TRICARE logo on hospital/clinic signs, office signs, and particularly in waiting rooms. This signage should be a permanent (not temporary) part of the infrastructure.

The national TRICARE logo may be "regionalized" by adding the region's name to the right of the word "TRICARE" in either of the logo's two colors (red and blue). Use Helvetica typeface in upper and lower case in the same size as the word "TRICARE." Use the logo on all TRICARE materials, whether produced by the TRICARE contractor or the government. Do not use any other logo or design to represent TRICARE. Print the logo only in its specified colors (red and blue) or in black. The exception to this is if you are printing in a single color, such as blue; the logo may be printed in that same color. Consider additional marketing such as web pages on the internet, wall posters, tent carts, fliers, and banners to establish the image and presence of TRICARE further. The MTF executive staff should review its website at least monthly to ensure the information is accurate and current.

Standardize marketing materials

TOL has created a repository of current/up-to-date marketing materials for utilization throughout DOD that effectively markets the TRICARE benefit.

As mentioned earlier, marketing is more than just advertising and promotional materials; it is the foundation for building a business strategy, and requires both creative and analytical thinking. It serves as a foundation for business and service objectives. The relationship with the customer drives this, and *it demands market knowledge and action.* An innovative marketing strategy, which successfully communicates with the customer, is the key to the success and acceptance of TRICARE.

The key to the success is an innovative marketing program that offers the products and services the customer wants and needs, which supports quality and managing healthcare costs, combined with clear tactics to inform and guide customer choice.

017. Beneficiary counseling and assistance coordinator responsibilities

At one time referred to as the health benefits advisor (HBA), the BCAC is the individual at an MTF who is responsible for providing information about the Uniformed Services Health Benefits program, and who assists beneficiaries in obtaining healthcare benefits through the military healthcare delivery system and TRICARE. BCACs act as a preventive mechanism for troubleshooting TRICARE and MHS issues and concerns.

The *primary* role of the BCAC is to serve as beneficiary advocate and problem solver, providing dedicated service to all MHS beneficiaries. In addition, the BCAC ensures health benefit information and assistance to access healthcare services is available to all eligible beneficiaries. The following are the roles and responsibilities the BCACs use when completing their duties:

- Receive inquiries directly from beneficiaries, DOD Components, other agencies, and various interested parties.
- Coordinate with appropriate points of contact throughout the MHS to include DHA, TROs, overseas TAO, MCSCs, pharmacy, dental, fiscal intermediaries and MAJCOM Command Surgeon, AFMOA, or specific service points of contact to meet a beneficiary's need for information or assistance.
- Facilitate issue resolution through open communication with all involved parties.
- Ensure TRICARE information and assistance with accessing healthcare services is available across the TRICARE system for eligible beneficiaries.
- Help beneficiaries address and resolve healthcare benefit concerns.

- Counsel beneficiaries regarding their healthcare benefits, consulting with other agencies as needed, to clarify information on various TRICARE basic benefit programs and supplemental programs to include TRICARE for Life, dental programs, and other demonstrations/projects.
- Work with functional experts to provide enrollment, benefit, and claims processing assistance. BCACs will describe or seek clarification on eligibility requirements and benefits based on the category of beneficiary seeking assistance.
- Disclose protected health information (PHI), responds to beneficiary, leadership, and congressional inquiries regarding healthcare matters, as directed, and with appropriate legal authority.
- Address access to healthcare complaints, ensuring that beneficiaries get the appropriate benefits and services to which they are entitled.

018. Debt collection assistance officer responsibilities

Each MTF is required to have a DCAO available to assist beneficiaries with debt collection. Their *primary* purpose is determining the validity of the collection agent claims and negative credit reports received for debts incurred because of medical and dental care under the TRICARE program. They also take all measures necessary to resolve the issues presented. In many cases, the BCAC is dual-hatted, serving as the DCAO as well. Again, local policy dictates the structure. As such, DCAO responsibilities also include the following:

1. Conduct a staff assist of all casework and resolution for all cases.
2 Collect copies of all pertinent documentation available from the beneficiary concerning the case; that is, provider bills and notices, TRICARE explanation of benefits (EOB), letters from providers, or credit agencies to name a few.
3. Obtain a Privacy Act Notice and advisement from the beneficiary to maintain information regarding the assistance offered by the DCAO.
4. Assign a case number and forward the beneficiary documentation to the MCSC's Priority Collections Unit in the region where service was rendered (or appropriate Dental Collection Unit), for expedited investigation.
5. Notify, by telephone or in writing, the provider(s) and collection or credit-reporting agency, that the MCSC case manager is reviewing the beneficiary's case.
6. Track the timeframe for case resolution.
7. Prepare and forward the case completion letter to the beneficiary upon receiving written determination of the investigation outcome. If applicable, the DCAO will confirm within 30 days of case resolution, that the provider/beneficiary has received payment.
8. Provide written guidance on further action available to the beneficiary when appropriate; for example, contact numbers for local Judge Advocate General (JAG) offices, family support centers, and financial assistance resources, such as the Air Force Aid Society. Additionally, provide the beneficiary a fact sheet explaining the beneficiary's rights under the Fair Debt Collection Practices Act.

For a case to qualify as a debt collection case, the beneficiary must present one or both of the following:

1. A letter from a collection agency indicating that the beneficiary has been sent to collection for non-payment, partial payment, or denial of claim for services of a TRICARE-associated claim.
2. A negative credit report secondary to the above.

019. In-processing and out-processing beneficiaries

As you can see, an effective marketing strategy can produce effective publications. One of the most important times publications can make an impact is when people in process and out-process a base. DOD does *require* all active duty personnel attend in- and out-processing and efficient marketing material eases the transition for the beneficiaries.

In-processing beneficiaries

As you know, when someone in-processes a new facility, they may have many questions. Part of your job as a HSM is to help them with the transition. Each MTF works in conjunction with the base military personnel flight to establish guidance as to when and where the medical in processing will happen. Some bases will conduct their in-processing brief the same day as the base in processing, while others will conduct their brief on a separate day. Additionally, each MTF determines what information will be given to the beneficiary during the in processing. For example, large inpatient hospitals would provide information on their inpatient services; whereas, small clinics would provide information on surgical services provided downtown. Although you may determine what the content of the brief is, ensuring the considerations in the following table are met will provide the beneficiary with a smooth transition.

In-processing Considerations	
TRICARE enrollment options	MTF/TRO/Managed Care Support Contract
Choosing a new PCM	TRICARE Service Center points of contact
How to contact their provider or clinical support team	Exceptional Family Member Program (EFMP)
How to change PCMs	EFMP program support
Benefits of TRICARE Prime, including Point of Service	Family Advocacy Program (FAP)
Local polices on TRICARE Prime enrollment	How to get a TRICARE card
Local polices on CHCS registration data collection	How to schedule/cancel appointments
How to enroll family members in the dental plan	Out of area care procedure
Services available at the local MTF	How to access care after hours
How to access services not available at the local MTF	Services available in the network
Records custody policy	Mental Health
Local prescription services	Recommended preventive services
Immunizations review and update	How to file a civilian medical/dental claim
PRP, presidential support program (PSP),, and other sensitive duties program overview	Contact information of the BCAC and DCAO
How to enroll/update TRICARE On-Line profiles	Collect records
How to obtain documented personal health status information	How to participation in secure messaging
Co-payments and cost-share/deductible fees for care outside the direct care system	

Out-processing beneficiaries

When members make a permanent change station (PCS), they do need to out-process the base. This includes the MTF. Just like in processing has flexibility with the time and content of in-processing beneficiaries, so does out-processing. Again, the more, and better, information provided to the beneficiary, the smoother their transition will be. These out-processing considerations are listed below.

Out-processing Considerations	
Health records custody policies	Process to file medical claim for care while in transit
How to locate a TSC or MTF at next assignment	How to avoid point of service charges while in transit
How to get prescriptions or appointments while in transit	How to transfer/change PCMs at new MTF
Print laboratory/radiology results and place in records within 10 days of final out	

Additionally, although not a specific TOPA function, each MTF has a local process to identify critical health conditions and communicate required follow-up recommendations to gaining MTFs. At a minimum, the out-processing clinical review mechanism must identify, detail, and communicate the following:

- Recent identification and/or clinical management efforts to control chronic disease condition.
- Poorly controlled chronic disease conditions requiring regular, uninterrupted follow-up.
- Current pregnancy or medical diagnoses requiring obstetrics follow-up.
- Newborns with follow-up requirements.
- Pending radiographic, laboratory, and pathologic specimens.
- Pending/incomplete referrals or referrals where a result has not been obtained.

Self-Test Questions

After you complete these questions, you may check your answers at the end of the unit.

016. TRICARE marketing

1. What is a foundation for building a business strategy?

2. What is one of the major goals of a marketing program?

3. What marketing elements should marketing programs consider?

017. Beneficiary counseling and assistance coordinator responsibilities

1. What is the primary role of the beneficiary counseling and assistance coordinator?

2. Who should the BCAC work with to provide enrollment, benefit, and claims processing?

018. Debt collection assistance officer responsibilities

1. What is the primary purpose of the DCAO?

2. For a case to qualify as a debt collection case, what must be presented to the DCAO?

019. In-processing and out-processing beneficiaries

1. Who requires that all active duty personnel attend in- and out-processing programs and that these programs include information on TRICARE benefits?

2. What type of briefing ensures that all members departing PCS obtain the most up-to-date information regarding the TRICARE benefit?

3. What are some things that should be passed on to the gaining MTF?

3–3. Healthcare Analysis

Health Plan Analysis provides insights into the latest trends that drive local MTF-level business processes and helps decision makers with strategy development. Like most major organizations, the MHS uses operational systems to assist with day-to-day activities. These are real-time (or near real-time) systems that automate activities necessary to operate a business. The data that is collected is often a by-product of "getting business done." The by-product of the business process is that the health system knows who got what drugs, when, and so on. This is known as "operational data."

020. National Defense Authorization Act benefit changes

Considering all that you learned about TRICARE and the different plans and tools available to you, have you ever considered how they came about? Have you ever wondered how the Department of Defense–or even the Air Force gets their authorization or direction on what they should or should not do? You may have an idea that Congress provides some type of authorization or direction to the DOD, but how do they do this? Just as the Air Force has Air Force instructions, the *Senate and House* have their "instructions," which they call the National Defense Authorization Act (NDAA). It is the Department of Defense tool to authorize the services to address programs. In the Act, it can start, change, or get rid of programs and activities.

The NDAA is broken up into sections, which are titles. Each title covers different functional areas, and Title VII refers to Healthcare Provisions. Under Title VII, there are subtitles, and under each subtitle are sections. Although Title VII will *always* be Healthcare Provisions, the subtitles and sections will *change every year* according to what actions congress wants the MHS to take.

The NDAA is presented *annually* from Congress, and although they may come into law, the implementation dates are staggered due to many factors.Some of the factors may include funding, public reviews/comments, contract awards, and additional policy. Staggering implementation dates allows each of the services to prepare through the appropriate agencies.

021. Data driven decisions

It is Friday night and you are going out with your friends. While making the plan for the evening, you volunteered to be the designated driver. While out, you stick with the plan and drink water all night. It is getting a little late, and your friends are ready to go home. Everyone gets in the car, puts on their seat belt getting ready for you to pull out of the parking lot. "*WOO…WOO* "– red and blue flashing lights come up behind you. Your heart rate speeds up a little; however, you are not doing anything wrong so you pull over in confidence. While waiting for the police officer to walk up, you get out your insurance card and driver's license, and then you try to determine why he pulled you over.

You were doing the speed limit, your inspection is current, and everyone had his or her seat belt on. As the police officer walks up to the car, he smells a strong alcohol odor coming from the car. The first thing he asks you to do is step out of the car. You pause; however, do not question him and you do as he requests. As soon as you get out of the car, he arrests you for driving while intoxicated.

Now, that does not sound right, does it?

He did not talk to you, let alone do any field sobriety or blood alcohol test. He arrested you because of a strong odor of alcohol coming from the car, but he did not use any of the tools he has to assess your sobriety.

In a normal situation, the police officer should have talked to you and asked if you had been drinking. If he questioned your story and thought you were intoxicated, he would have had you complete a field sobriety test and, if warranted, a blood alcohol test. The tools the police officer has available to him are *data driven* tools that a police officer uses to make a *data driven* decision. If he did *not* do this, he could be making a big mistake.

Just as the police officer needs data before making a decision, you need data before you make decisions. You already do this, but probably do not recognize it. Have you ever checked the weather in the morning to see if you need a jacket or umbrella? How about when you want to go see a movie, do you just go and see whatever is available, or do you consider the reviews and find out what time a specific movie is playing?

This skill is just as crucial to complete in the workplace. Using data to aid in the decision making process *removes* the "emotion" and focuses *solely* on the facts. Before bringing up an idea, or taking action on something, you want to make sure you have, and have evaluated, essential data. A health plan analysis provides insights into the latest trends that drive local MTF-level business processes and helps decision makers with strategy development.

Like most major organizations, the MHS uses operational systems to assist with day-to-day activities. These are real-time (or near real-time) systems that automate activities necessary to operate a business.The data that is collected is often a by-product of "getting business done." The by-product of the business process is that the health system knows who got what drugs, when, and so forth. This is referred to as "operational data." Leaders use data to help guide their decision-making, setting, and prioritizing goals, and continuous process improvement within their organizations.

022. Informatics

Health informatics is the study of resources and methods for managing health information. It develops innovative ways to put information and knowledge to use in promoting health and improving healthcare. Healthcare providers, researchers, and patients can use informatics tools, processes, and behaviors with the goal of doing the right thing, in the right way, at the right time to improve healthcare for all. Health informatics is a growing field in civilian healthcare systems as well as in the MTFs. As a 4A0X1, you should become the experts at identifying useful information, data, tools, reports, and so forth, to clinical and administrative staff and others in leadership roles. You should be able to advise them on how the information can be used to help make informed clinical and business decisions about how the MTF can provide effective healthcare to the population.

TRICARE Operations center tools

The TRICARE Operations Center (TOC) provides a centralized collection of CHCS and MHS Mart (M2) data, and offers a suite of web-based report tools to assist the entire MHS with a sustainable, near real-time source of information. All MTFs upload selected business data to the TOC on a nightly basis, which is then processed, and displayed by way of standardized reports. The TOC tools transform MTF data into useful management information, and make the results available through a series of graphical and tabular tools.

The *most* simplified description of the TOC entails these *three* basic elements:

1. Get Data.
2. Process Data.
3. Display Data.

Some of the tools available on the TOC include those listed here:

Access to care summary reports

The access to care (ATC) summary report answers "Am I meeting ATC standards?"

This is generated monthly—using data from the previous month—and shows the total number of appointments booked, the number of appointments that must meet the ATC standards, the percentage of appointments that met the standard, and the average number of days it took to meet the standard for each of the ATC categories: Acute, Routine, Wellness, and Specialty.

Access to care management report

This report is generated monthly and shows the total number of booked appointments for each of the following statuses: total scheduled, kept, left without being seen (LWOBS), canceled by the clinic, canceled by the patient, no show, walk-in, sick call, and a total of all encounters (scheduled and unscheduled visits).

Access to care appointment utilization report

This report answers, "How many appointments were left unbooked?"

This report is generated as an aggregated monthly report that provides a uniform look at appointment templates at multiple levels: MHS, TRICARE Region, Branch of Service, Facility, Clinic, and Provider. This is an MTF-level management report to evaluate the percentage of unused appointment slots to determine how well a clinic's work plan (schedule/template) supports TRICARE Prime access standards.

Detail code usage and summary report

This report answers, "What detail codes were used to further specify appointment slots?"

This report provides a list of individual detail codes, which further define appointment types and access at the clinic and facility level. The Detail Code Usage and Summary Report are generated on a weekly and monthly basis using data from the previous week. Visit the TOC website at https://mhs.health.mil/toc to find other useful tools.

Biometrics data quality assurance service system

Biometrics Data Quality Assurance Service System (BDQAS) is a program that *aggregates* data and *measures* daily transmission and completeness from source data collection systems (SDCS). In addition, it provides overall management of the data collection process for the AFMS. It supplies biometric data analysis, operational productivity reports, trending, and quality support for AFMS Compliance for 77 MTFs for:

1. Comprehensive Ambulatory Professional Encounter Record (CAPER).
2. Daily Outpatient Workload Detailed Report (DOWDR).
3. Standard Inpatient Data Record (SIDR).

The BDQAS website (https://bdqas.afms.mil) provides users access to policies, guidance and a comprehensive set of analyses of performance workload metrics. These tools can aid the MTF in the on-going mission of improving data quality and the health of our population. The Data Metrics website (https://bdqas.afms.mil/data_metrics/data_metrics.htm) is divided into the following categories:

1. Ambulatory metrics.
2. Inpatient metrics.
3. Clinical coding reports.
4. Data quality (DQ) Reports.
5. Worldwide workload report (WWR) metrics.
6. Online Help Documents Ambulatory Data Management.

Ambulatory data management completion reports and compliance

The primary objective of the Ambulatory Data Management (ADM) is to transmit outpatient data to the central DOD database through the CAPER. Error messages detail what records did not transmit successfully. ADM tracks those CHCS appointments that do not have an associated ADM record.

The data collection strategy of ADM is to create an encounter record for each outpatient appointment. The encounter record is an online data entry form whereby the data items documented by providers are compiled in the MTF database through the CHCS. Since the deployment of the Ambulatory Data System (ADS), some MTFs have developed their own alternatives to this encounter-form-based method of data collection. The following reports are available within the CHCS' ADM module:

1. Appointments with No ADM records by clinic.
2. ADM patients with third party insurance.
3. ADM compliance.
4. ADM records with unresolved coding issues.
5. ADM record interface transmission status.

ADM completion reports provide a quick profile of how many CAPER (ambulatory) encounters are entered by the Programmable Graphic User Interface (PGUI), ADM, and AHLTA (electronic record). The DOWDR (outpatient) count shows the true total workload.

As a HSM, you may be required to provide the ADM compliance rate to the MTF DQ Manager for inclusion into the data quality management control (DQMC) review list. ADM compliance is measured by determining if the data is entered into the application in an accurate, complete, and timely manner. Measure ADM compliance by answering the following questions on the DQMC review list:

1. Were all rejected records corrected and retransmitted?
2. Were the system outputs transmitted to central repositories by date specified in guidelines?
3. Was there compliance with TMA or Service-Level guidance for timely submission of data?

The MTF DQ Manager and members of the DQ Assurance Team (or other designated structures) will forward the completed DQMC review list to the MTF Executive Committee and Commander for review, coordination, and action to meet timelines for completing the Commander's Data Quality Statement.
NOTE: Complete the end of day (EOD) processing *prior* to processing ADM!

Composite health care system ad hoc reports

The CHCS produces various standard reports and you can request specific reports be run on demand, nightly, weekly, or on a monthly basis. One example of a standard report is the Admissions and Dispositions report. However, there may come a time when you need to provide a report on an *ad hoc* basis. Ad hoc reports are *non*-standardized reports that are not necessarily required on a scheduled basis and CHCS provides the capability to produce these reports. You can find pre-made Ad Hocs on the AFMS Knowledge Exchange at https://kx2.afms.mil/kj/kx2/DataQuality/Documents/Forms/ShowFolders.asp, and the DOD DHA Enterprise is located here: https://www.mcis.osd.mil/app/car/. If you want to learn more about how to build a custom Ad Hoc, you can log onto MHS Learn at https://mhslearn.csd.disa.mil. Alternatively, your MTF CHCS System Administrator and/or MTF CHCS trainer can provide information on how to produce these reports.

023. Resource sharing

Keys to a seamless care system is the combination of program flexibility and empowerment at the local level. MTF commanders and leaders at all levels have new options in applying resources to achieve increased quality of, and improved access to, healthcare services at an affordable cost. Prominent among these options is resource sharing. Resource sharing is designed to help improve the

MHS by making the best use of available resources to enhance productivity.

A key strength of the TRICARE program is the also a combination of program flexibility and empowerment at the local level for the same reasons above. Prominent among these options are resource sharing and resource support. These features of the MCS contracts are designed to help optimize the MHS by making the best use of available resources to enhance the productivity of the direct care system, subject to constraints under which the MHS operates.

Resource sharing

Resource sharing consists only of external resource sharing. This enables military healthcare personnel, active duty, and civilians to provide covered medical services to active duty and TRICARE beneficiaries in a network facility. Although both internal and external resource sharing is authorized by regulation, current policy is that only external resource sharing is implemented.

Under the TRICARE program, *MTF commanders may establish* resource-sharing agreements with the managed care support (MCS) contractor for sharing resources between the two parties.In an effort to enhance the MTF's capability, resource sharing allows the MCS contractor to provide personnel, equipment, equipment maintenance, and supplies.

Resource sharing is based on the assumption that costs associated with the provision of these resources is more than offset by *decreased* TRICARE costs, and result in overall cost avoidance to both the contractor and the government.Before a military provider can practice in the network facility, the MTF commander ensures that the military provider has active clinical privileges with the network facility. The MTF commander also ensures that external resource sharing providers have a license to practice medicine in a United States' jurisdiction during the term of the resource sharing agreement.

While performing healthcare functions authorized by the MTF, military healthcare professionals are acting within the scope of their duties and the United States government is responsible for their actions.

External resource agreements include a description of the contractor's proposed methodology for developing a detailed cost analysis for each resource-sharing proposal. The cost analysis should include the MTF's actual cost of providing the services, the monetary benefits received by the contractor, projected workload, administrative costs, workload credit split for the contractor and the MTF, and the contractor's actual cost of providing services in support of external resource sharing providers.

Managed care and other local support contractor agreements

MCS contracts structure so that government savings associated with resource sharing and resource support are anticipated by the offerer and realized up front by the government in the form of a reduced bid price. The MCS bid price formula requires offerers to lower the amount they bid in healthcare costs based on projected resource sharing investments and on government estimates of anticipated assumed resource support savings. As a result, significant contract savings have already been identified for resource sharing and resource support, and are already realized by the government included in the form of a lower bid price. Actually achieving these savings requires an energetic and cooperative approach by the contractor and the government to explore, analyze, negotiate, and monitor agreements. Failure to exploit fully the opportunities for resource sharing, and to a lesser extent, resource support, can result in an increase in MCS contract costs over those projected by the contractor, with the government at risk for absorbing a share of the cost overrun.

Managed care support contractor

Regional contractors providing managed care support to the MHS. The MCSC is responsible for assisting the MTF commanders in operating an integrated healthcare delivery system and combining resources of the military's direct medical care system.

The MCSCs are typically responsible for a variety of functions at the regional level, including the following:

Managed Care Support Contractor Responsibility	
Establishing/maintaining the TRICARE Prime provider network.	Operating OCONUS TSCs and BCAC/DCAO services at CONUS MTFs.
Establishing and maintaining a retail pharmacy network.	Delivering customer service.
Providing support, that is, enrollment, disenrollment, and claims.	Operating beneficiary information lines.
Providing educational information to beneficiaries and providers.	Authorizing healthcare through HCFs.
Performing centralized appointments and referral functions.	Quality management programs.
Managing Nurse Advice Line.	Medical review functions.

Resource sharing and the managed care support contractor

As mentioned above, resource sharing allows the MCS contractor, through agreements with MTF commanders, to provide personnel, equipment, equipment maintenance, and supplies necessary to enhance the capability of the MTF to provide healthcare to TRICARE beneficiaries. Resource sharing is based on the assumption that costs associated with the provision of these resources will be more than offset by *decreased* TRICARE costs and result in overall cost avoidance to both the contractor and the government. New MTF marginal costs occasioned by a resource sharing agreement may be appropriately included in the resources provided by the contractor, but costs that are already in the MTF's base should not be included. In most cases, this will involve crediting the contractor with the full amount of the workload enabled by the resource sharing agreement. This does not provide the contractor with any additional funds, but it does protect all parties (the contractor, MTF, and the government) from a negative bid price adjustment due to increased resource sharing workload.

Resource support and alternatives

Resource support is an alternative to resource sharing which provides additional flexibility to MTF commanders. Under resource support, the *MTF commander may request* a task order for personnel, equipment, equipment maintenance, and/or supplies. The TRO, working with the MTF commander, negotiates a price with the contractor, and arranges for that resource to be paid directly out of funds available to the MTF. Unlike resource sharing, the contractor receives no credit for workload enabled by resource support. Resource support should be given strong consideration when resource sharing cannot be mutually agreed upon, but there remains a compelling reason for the MTF to fund the initiative with its own resources.

It is TRICARE's *policy* to consider *resource sharing* as the *first* alternative in initiatives to recapture TRICARE workload for which the government and the contractor are jointly at risk. MTF commanders need to make a good faith effort to work with the contractor to execute sound resource sharing agreements.

In lieu of resource sharing, MTFs may use a mix of options including direct labor, borrowed labor, non-MCS contracts, resource support, or other federal sharing agreements to efficiently accommodate or retain internal workload, which was not reported as TRICARE beneficiaries workload and therefore, not part of the contractor's up-front bid. Additionally, in newer versions of MCS contracts, with revised financing, where the MTF has sole risk for part of the TRICARE beneficiaries' eligible population, it is envisioned that resource sharing will play a significantly smaller role and resource support, or other options, a significantly greater role. Nevertheless, in comparing the cost effectiveness of resource sharing to other alternatives to recapture workload, such as personal service contracting or resource support, consider resource-sharing savings already realized by the government.

Veterans Administration agreements

It is DOD's policy, in implementation of the June 1995 Memorandum of Understanding (MOU) between DOD and the Veterans Affairs (VA), that TRICARE preferred provider networks should include VA health facilities. Inclusion of VA facilities in TRICARE networks enables the DOD to maximize the availability and accessibility of healthcare for TRICARE beneficiaries while enabling VA facilities to make cost-effective and efficient use of healthcare resources. To ensure consistency with the overall healthcare responsibilities, arrangements to include VA facilities as a TRICARE network provider must be in place. This agreement is between the VA health facility and the appropriate TRICARE regional managed care support contractor.

Including VA health facilities in the TRICARE preferred provider networks is in addition to the continuation of agreements between the DOD's MTFs and VA health facilities sharing resources to enhance facility operation and provide alternative sources for supplemental care. Under these arrangements, the cost-effective operation of MTFs is enhanced through the availability of shared VA resources, including equipment, supplies, and non-healthcare services such as housekeeping, laundry, training, and administration. In addition, these arrangements enable MTFs to utilize VA resources as alternative sources of healthcare services necessary to augment the MTF capability consistent with ASD-HA Policy 98–006, "Implementation of Supplemental Care Program Policy Changes," dated October 18, 1995. For example, MTFs direct patient referrals to VA facilities for computed tomography (CT) or magnetic resonance imaging (MRI) scans or pathology services augment the MTF's capabilities and enable the patient to remain under the clinical management of the MTF.

It is important that our MTFs and TRICARE contractor preferred provider networks perform as a single, integrated healthcare enterprise without ineffective and inefficient duplication of effort. Therefore, *TROs perform periodic reviews* of MTF and VA facility resource sharing agreements to *ensure* compatibility with agreements including VA facilities as network providers. That is, MTF and VA resource sharing agreements will continue to share operational resources (i.e., equipment, supplies, and non-healthcare services) and provide supplemental care with MTFs. All other healthcare services furnished by VA health facilities are arranged through their participation in the regional contractor's preferred provider network. TROs ensure that all reviewed and approved agreements comply with this policy and will continue to promote the inclusion of VA medical facilities as TRICARE network providers.

Self-Test Questions

After you complete these questions, you may check your answers at the end of the unit.

020. National Defense Authorization Act Benefit Changes

1. What is the National Defense Authorization Act?

2. In the NDAA, what Title addresses health concerns?

3. What are some factors that may affect implementation dates?

021. Data driven decisions

1. From the text, what is an example of data driven decisions?

2. What does the MHS use to assist with day-to-day activities?

022. Informatics

1. What is health informatics?

2. What three basic elements describe the TOC?

3. What report answers “how many appointments were left unbooked?”

4. What are the categories the data metrics website is divided in to?

5. What reports are available within the ADM module in CHCS?

6. What system produces various non-standard reports that are not necessarily run on a consistent basis?

023. Resource sharing

1. With whom do MTF commanders establish resource-sharing agreements?

2. What can the MCS contractor provide through resource sharing?

3. What allows the MCS contractor, through agreements with MTF commanders, to provide personnel, equipment, equipment maintenance, and supplies necessary to enhance the capability of the MTF to provide healthcare to TRICARE beneficiaries?

4. What is an alternative to resource sharing which provides additional flexibility to MTF commanders?

5. Who makes a good faith effort to work with the contractor to execute sound resource sharing agreements?

6. Why does the TRO perform periodic reviews of MTF and VA facility resource sharing agreements?

3–4. Health Information Privacy

The duties discussed in this unit are performed by many HSMs, and each function is important to the success of the Air Force mission. For instance, as the HSM in charge of your MTF Release of Information program, you will need in depth knowledge of the different acts and laws that govern this program. One wrong decision could be very costly to you and the MTF. What should you do if you receive a request from a patient for a copy of their medical records? What if the same patient also requests a copy of their mental health records? Do you give them a copy, or are there certain precautions you should take?

What would you do if you get a request from a lawyer's office for copies of beneficiaries' medical records? What are some questions that should be addressed before the information is released? This lesson will answer those questions, and more. You will first review the guidance that governs release of information, and then you will learn the steps you should take when releasing information.

024. Guidance over patient privacy

Medical personnel must comply with the privacy act, Freedom of Information Act (FOIA), Health Insurance Portability and Accountability Act (HIPAA), Drug Abuse Offense and Treatment Act, and the Comprehensive Alcohol Abuse amendments. Each of these laws must be complied with regarding maintenance, access, and disclosure of information from health records and related documentation. Personnel must periodically contact the staff judge advocate's (SJA) office concerning changes to directives. As you know, records are property of the DOD; however, there are times where information is required for another reason.

Privacy Act

The intent of the Privacy Act, established in 1974, is to protect personal information that can be used to distinguish or trace an individual's identity. This type of information is *defined* as personal information, which if lost, compromised or disclosed without authorization, could result in substantial harm, embarrassment, inconvenience, or unfairness to an individual. Some categories of personally identifiable information (PII), when maintained by the Department of Air Force, are sensitive as stand-alone data elements. The Privacy Act applies to all establishments, not just medical facilities. PII is the term used to identify this type of information. Examples of PII include but are *not* limited to the following in the table below.

PII Examples	
Name and other names used.	Social Security Number, full and truncated.
Driver's license and other identification numbers.	Citizenship, legal status, gender, race/ethnicity.
Birth date, place of birth.	Home and personal cell phone numbers.
Personal e-mail address, mailing, and home address.	Religious preference.
Security clearance.	Mothers' middle and maiden names.
Spouse information, marital status, child(ren) information.	Emergency contact information.
Biometrics.	Military records.

Examples of non-sensitive PII elements include but are *not* limited to the following table.

Examples of non-sensitive PII	
Office location.	Business telephone number.
Business e-mail address.	Badge number.

Any organization that collects this type of information is required to follow the privacy act because, in essence, they are making a record on an individual. The privacy act defines a "record" as: "any item, collection, or grouping of information about an individual that is maintained by an agency, including, but not limited to, education, financial transactions, medical history, and criminal or employment history, and that contains the name, or identifying number, symbol, or other identifying particular assigned to the individual, such as a finger, voice print, or photograph." Medical records, hardcopy, electronic, and shadow files are maintained within a system of records that is protected by the Privacy Act.

As you would assume, with any personnel protection, you need to ensure patients are aware of this protection, and that you are abiding by it. The DD Form 2005, Privacy Act Statement - Healthcare Records, does this. The DD Form 2005 is not a consent form, which means it is not necessary for patients to sign it. It serves as evidence that, as prescribed by the Privacy Act, the individual knows the purpose and uses of the information collected. It also implies that patients know of his/her rights and obligations when providing their data. When the privacy act statement is on the reverse of AF Form 560, Authorization and Treatment Statement, or on the record folder, you do not have to use the DD Form 2005.

FOIA

The public has a right to information concerning the activities of its government. The DOD policy is to conduct its activities in an open manner and provide the public with a maximum amount of accurate and timely information concerning its activities, always consistent with the legitimate public and private interests of the American people. A record requested by a member of the public, who follows rules established by proper authority in the DOD, will have access to the requested record. The record could be the entire record or part of the record. Information (entire records or partial information) will *not* be released if it could cause harm. FOIA describes a record as: "the product(s) of data compilation, such as all books, papers, maps, photographs, machine readable materials, inclusive of those in electronic form or format, or other documentary materials, regardless of physical form or characteristics, made or received by an agency of the United States Government under federal law in connection with the transaction of public business and in Department of Defense possession and control at the time the FOIA request is made."

Anyone can file a FOIA request, but it *must* be submitted by way of a written request. The written request must reasonably describe the record(s) the individual is looking for, and it must indicate a willingness to pay fees associated with processing. Written requests may be received by postal service or other commercial delivery means such as by facsimile, or electronically. However, requests received by facsimile or electronically must have a postal mailing address included since it may not be practical to provide a substantive response electronically. The request is properly received when the above conditions have been met and the request arrives at the base FOIA office. If you get a FOIA request sent directly to you, coordinate the request with the base FOIA Officer.

Drug Abuse Offense and Treatment Act, and Comprehensive Alcohol Abuse Amendments

You must know the laws governing these acts because they contain very specific instructions pertaining to the confidentiality of information in drug and alcohol abuse records. The drug and alcohol laws *take precedence over* other directives pertaining to access and release of medical information. The SJA reviews health records (inpatient and outpatient) that contain reference to drug or alcohol abuse, or rehabilitation, for a determination of releasability and for guidance on the nature of the reply.

If it is determined that the record is *not* releasable under the drug and alcohol abuse acts, the requester is informed that release of the requested record is prohibited by law. If *only* a portion of the record is *not* releasable, the releasable portion is provided, and the requester is informed that the records released are all that are allowed to be released under the law. The patient, or his or her legal representative, must give specific authorization in writing before releasing information pertaining to

drug and alcohol abuse, or rehabilitation, from a health record. To comply with the federal laws, consent for the release of information must include information in the following table.

Release Consent requirements	
Name of facility to release information.	Name of patient.
Name and title of person/organization to receive information.	Purpose or need for information.
Extent or nature of information to be released.	Date consent signed.
Signature of patient or person authorized to sign for the patient.	Statement that the consent can be revoked at any time.
Statement that future disclosure of the information without written consent of the person is prohibited.	

The following sample format includes all of the necessary information to allow drug or alcohol abuse or rehabilitation information to be released. Check with your supervisor for the specific release form your MTF uses for this purpose.

Once again, there are some exceptions to these restrictions. Information in drug and alcohol abuse related records may be released under the following conditions:

- Within the Armed Forces or between the AF and those VA components furnishing healthcare to veterans.
- To medical personnel to the extent necessary to meet a bona fide emergency.
- To qualified persons for specific research, management, and financial audits or program evaluation.
- By an appropriate court order of competent jurisdiction after application showing good cause.

On the granting of such order, the court, in determining the extent to which any disclosure of all, or any part of any record is necessary, imposes appropriate safeguards against unauthorized disclosure. Whenever information is released under the guidelines of the drug and alcohol abuse acts, the disclosure must include the Prohibition on Redisclosure statement as follows:

> "Prohibition on Redisclosure: This information has been disclosed to you from records whose confidentiality is protected by federal law. Federal regulations prohibit you from making any further disclosure of this information without the specific written consent of the person to whom it pertains. A general authorization for the release of the medical or other information is not sufficient for this purpose."

Health Insurance Portability Accountability Act

The Health Insurance Portability Accountability Act, or HIPAA, was enacted August 21, 1996. The purpose of the act is to improve the portability and continuity of health insurance coverage, improve access to long-term care services and coverage, and to simplify the administration of healthcare. In general, HIPAA and the Privacy Act covers protected health information. The primary component of HIPAA's administrative simplification provisions is the protection and privacy of individually identifiable health information. Protected health information (PHI) is identifiable health information. There are six basic rules that HIPAA sets forth: use of information, acknowledgement of notice of privacy practices, disclosure or release, patient rights to access, accounting of disclosures, and restrictions on information. Below are brief definitions; however, you will read more on them later in this lesson.

Use of information

Patient's PHI is only for treatment, payment, and healthcare operations without written authorization from the patient, or other disclosures required by law.

Acknowledgement of notice of privacy practices

Each patient, or guardian, will receive a copy of the MHS Notice of Privacy Practices. Documentation is on the HIPAA acknowledgement label that is placed on the bottom middle exterior of the health records' jacket.

Disclosure or release

You can disclose records for various reasons without the patient's authorization. Complying with subpoena, court order, or public health requirements, as well as specific national security requirements, are some examples.

Patient rights to access

Patients have the right to access their health record information. The health record is the property of the United States Government; the information contained in the record belongs to the patient. Patients can request copies of information in their record just as it is allowed in the Privacy Act.

Accounting of disclosure

The patient can request an accounting of every disclosure, up to six years preceding the date of the request. This is limited to disclosures that are *not* part of treatment, payment, healthcare operations, or disclosures authorized by the patient. Authorized disclosures are tracked using a locally generated form until DOD implements the use of an automated accounting of disclosure tracking system.

Restrictions on information

According to HIPAA and the MHS Notice of Privacy Practices (NoPP), a patient has the right to request restrictions on uses and disclosures of their medical or dental information. Requests for restrictions are in writing. However, it does not mandate that the MTF be required to agree to the restriction. You can deny the restriction if the MTF could not reasonably accommodate the request, if it conflicts with this instruction, or any other applicable DOD or Air Force directive, or for other appropriate reasons.

Medical group commander responsibility

The medical group commander maintains overall responsibility for the implementation and administration of local MTF HIPAA privacy and security programs. They are also responsible to ensure comprehensive medical group instructions (MDGI) are developed to integrate all documentation requirements and implementation specifications into local business practices. Finally, the commander designates, in writing, a HIPAA privacy officer (HPO).

Health Insurance Portability Accountability Act officer responsibility

The HIPAA officer is the focal point of the program. This person oversees all ongoing activities related to the development, implementation, and maintenance of MTF policies and procedures covering the access to, and privacy of, patient health information.

The HIPAA officer ensures adherence to the MHS policies and procedures covering these same areas. They also ensure the MTF complies with federal laws and regulations, and with the healthcare organization's information privacy practices. Many activities required by the HIPAA privacy officer overlap with patient administration duties and require interaction with senior level personnel and coordination with external agencies. Therefore, it is appropriate that a competent and experienced person is appointed. Some of their responsibilities include the following:

1. Develops policies and procedures for local implementation of the HIPAA Privacy regulation.
2. Ensures the entire MTF workforce receive initial and refresher privacy training.
3. Ensures continuous assessment, implementation, monitoring, and revision of the MTF HIPAA Privacy programs.
4. Coordinates on the review process for applicable MDG policies and procedures to ensure alignment with current HIPAA practices.
5. Establishes, recognizes, and shares best practices relative to managing the privacy of health information.
6. Ensures a mechanism is in place at the MTF for receiving, documenting, tracking, investigating, and taking action on all complaints concerning the organization's privacy policies and procedures in coordination and collaboration with other similar functions, and when necessary, legal counsel.

Training

One of the major responsibilities that the HIPAA privacy officer has is to oversee, direct, and ensure delivery of HIPAA privacy/security training and orientation to all MTF employees. This applies to all MTF workers, to include volunteers, students, and those visiting TDY. Each member must have the initial training and a refresher training every 12 months thereafter. MHS-Learn provides and documents the initial and refresher Air Force training. In addition to the Air Force approved refresher training, members must complete local facility training. This is required within 30 days of assignment.

Not only do the MTFs' personnel require HIPAA training, but also new commanders and first sergeants. The HIPAA privacy officer, or someone within the medical group leadership, will provide general training to them within the first 90 days using the standardized AFMS briefing template.

Notice of privacy practices labels

The AFMS utilizes the MHS NoPP labels, which explains how an MTF may use and disclose the patient's PHI. It also describes the patients' rights regarding the use of PHI and contact information for complaints or issues.

NOTE: Each MTF must have procedures established to meet all the administrative elements found in the NoPP.

In instances where the MTF has a direct treatment relationship with a patient, the MTF must ensure the patient has received the MHS Notice of Privacy Practices, and must obtain a written acknowledgement of receipt. The patient, parent, or guardian must sign acknowledging their receipt of a copy of the NoPP. This should be located on the backside (exterior) of the outpatient medical or dental record.

You also want to ensure copies of the MHS NoPP pamphlet are readily available throughout the MTF so beneficiaries are able to review and take with them. Additionally, an MHS NoPP poster is hung in locations where patients are able to read the notice. In addition, on the posters' lower right hand corner is the MTF HIPAA privacy officer contact information.

Applying the directives

The policies above do not contradict each other; however, they may not identify or agree on the same requirements or restrictions. For example, an authorized routine use of medical records under HIPAA may not necessarily be a disclosure that is allowed under the Drug Abuse Offense and Treatment Act. Additionally, if you release PHI to a commander (uncovered entity), the information is no longer PHI. However, the privacy act of 1974 still covers this, so it is PII; therefore, it is essential that you consult all directives when releasing information. Any questions or concerns go to the SJA or in house medical legal counsel (MLC).

025. Release of information

As you are well aware by now, almost every activity in your career field has a set of procedures to follow. Releasing medical information is no exception. Because this is a very sensitive area, with implications for legal issues, you need to be very familiar with the guidelines. If you work in the release of information office long enough, new situations will arise. Always remember to research before you release medical information. If you need clarification, then talk with your supervisor, chain of command, MLC, or base legal office. Complying with Air Force directives and laws are of critical importance! In the following paragraphs, you will learn more about releasing information and the process used to release medical information.

Patient authorization required

Always assume that patients must approve any release of their medical information. Below are some situations that you may encounter while working with release of information and the precautions you need, or want, to take.

Patient copy

You can release information directly to the patient or to a representative they designate in writing. You can make copies of pertinent pages for the patient if they leave the area and require medical care. Patients are authorized one copy of their medical records at no cost, either paper or electronic. Additional copies are provided at a cost, which you will read later in this lesson.

Referral downtown

If the MTF refers a patient downtown, all supporting medical paperwork should be available at the appointment. Ultimately, the referring provider is responsible to give the patient the needed paperwork. This includes inpatient or outpatient records that are either paper or electronic. The copies are provided free of charge.

However, there will be times when a patient does not have the necessary documents for the referral visit. In these cases, copy the pertinent section/document(s) and provide the copy to the patient. Expect these types of requests so the patient can provide this information to the referral provider *at the time* of the appointment. Unless the referring or accepting physician specifically makes a request, do *not* copy the *entire* medical or dental record. Faxing and mailing copies of pertinent documentation is acceptable as long as it has been coordinated.

Disclosing the medical records of minors

In most cases, you may disclose the medical records of minors to their parents or legal guardians. Something to be aware of is that the laws of each state define the age of majority. Consult with the servicing legal office and MTF for guidance about the age of majority in overseas locations.

Some of the following are examples and authorized release; un-emancipated minors, physically or mentally challenged persons, a parent or guardian signs the written authorization and furnishes a copy of the court order appointing guardianship. Consult with the SJA or in-house MLC if your request does not apply or if you have any questions. Additionally, when you release minors' records to their parents, they can see sensitive issues (i.e., birth control, abortion, sexually transmitted disease {STD} treatment, etc.), so make sure to consult with the MLC and/or SJA before you release the information.

Adopted infants

Adopted individuals birth records are releasable; however, take special care concerning release of information. Before releasing the information, delete *all* references to the child's natural parents from the copied documents. Then, stamp the inpatient record folders of these particular newborn infants with the phrase: "Release of Information Restricted according to Air Force Instruction (AFI) 41–210, *TRICARE Operations and Patient Administration Functions*."

Do *not* forward AF Form 560, Authorization and Treatment Statement; the record of inpatient treatment; Standard Form (SF) 502, Medical Record-Narrative Summary (Clinical Resume); or SF 535, Clinical Record - Newborn. Your MTF has local procedures about identifying all outpatient records of newborns released for adoption. It is extremely important to review the outside of medical record covers for any markings concerning release, or denial, of medical information contained in the file.

Insurance agencies, worker's compensation boards and other third party recipients

You will receive requests from third parties (i.e. insurance agencies, worker's compensation, etc.) requesting medical information on patients that may have been treated in the MTF. Although they are working on behalf of the patient, and the patient may want their records forwarded, you *must* have a *signed* request *from* the patient.

When you answer requests for information on injury cases that appear to involve medical affirmative claims action, send a copy of the form to the SJA. Also, include the following statement in the form: "You are not authorized to release this information to any party without the permission of the patient, his/her legal representative, or this medical facility." Additionally, record any requests identified as a potential third party liability case on an AF Form 1488, Daily Log of Patients Treated for Injuries. This

includes requests received from an attorney, a worker's compensation appeals board, or an insurance company in a case involving work-related injury or disease. Forward these requests to the clinic the patient was seen in to have the AF Form 1488 completed and then have the clinic forward the AF Form 1488 to the Resource Management Office.

Patient authorization not required

You do need to have a signed patient authorization for a majority of the requests you receive, but there will be a hand full of times when you do not need a patient's authorization. The following scenarios are vague descriptions of disclosures you may encounter as you receive requests to release health information. Just remember, each case is unique so you may have to refer back to the guidance for clarification.

Unit requests record access

There are exceptions to protecting patient privacy to ensure the military mission is properly executed. However, balance access with the recognized sensitivity of medical records, which often contain information of a very private nature. Disclosure of PHI should be released IAW the minimum necessary rule. PHI properly disclosed to command authorities remains subject to the Privacy Act rules. The information in the commander's possession is no longer HIPAA-protected, as HIPAA only applies to covered entities.

Established procedures

The MTF HPO will establish procedures for communicating with local units and for maintaining current designee listings from each unit. The HPO will provide MTF work centers with a current listing of designees to use in verifying the identity of commanders and their respective representatives. The MTF HPO will establish procedures to ensure routine disclosures of PHI, such as appointment rosters, preventative individual medical readiness (PIMR) reports, and quarters notifications are releasable only to authorized commanders or their respective designees and accounted for accordingly.

Commander and designee access

A commander is an officer that has command authority over the individual as determined by the G-series orders process. Personnel permanently assigned to the position of deputy/vice commander and first sergeant are designated as commander designees by virtue of their position and do not require an appointment letter. Individuals filling these positions on a temporary or interim basis are appointed in writing. Commanders designate by name, in writing, any additional personnel that he or she authorizes to act on their behalf to receive PHI. Designees should be a limited number, and the letter must be for a specified period and for a specified and directed purpose.

Before a commander or his/her designee gains access to an individual's PHI, he or she must establish the information is required for mission-related purposes. In instances where the MTF is uncertain if the commander or designee has established a need for the information, the HPO shall seek the advice of the SJA or in-house MLC, who in turn will consult with the appropriate MLC.

Review process

Verification of identity is required before releasing PHI to commanders or their respective designees. The MTF must ensure the individual to whom the PHI pertains is under the command authority of the requestor, and that the information requested pertains to the military mission, fitness for duty, or other permissible disclosure. The MTF Commander, or their designee, may provide a summary of the pertinent health information to the requesting commander or designee IAW the minimum necessary rule.

Original record review

You should provide access to the original record, if specifically required, for clarification purposes or other clear need. If the commander or designee requires the original record, they will send official correspondence directly to the MTF commander. The request will state why the original record is

required and why a summary is not sufficient. If approved, the commander reviews the record with a provider that can advise on the medical record data. This will ensure proper interpretation and allow the provider to answer questions the commander may have.

Office of Special Investigations

You can disclose records to another U.S. governmental agency for a civil or criminal law enforcement activity. Law enforcement personnel must authorize the activity, and the head of the agency must make a written request to your facility. The request must specify the exact portion desired, and the specific law enforcement activity. This includes disclosure to another agency or unit of a state or local government, but does not apply to foreign agencies. Disclosure to foreign agencies is established as a routine use, if appropriate.

Blanket requests are not permitted. Requests must be specific and limited in scope. It should only request information that could reasonably accomplish the mission. You will not disclose an entire medical record, except when it is specifically justified as the amount that is reasonably necessary to accomplish the purpose of the disclosure. The agent must provide a signed and dated statement that contains patient information, the investigation number, and a certification by the agent that the examination is required as part of the official investigation.

Special agents are able to access health records with proper identification. In addition, if you provide the agent any copies, ensure you obtain a signed receipt for any material or document/record copies furnished.

Do not file the statement or document receipt in the patient's health record. Maintain the statement in a separate folder in the general correspondence file until the investigation is closed.

Court order of competent jurisdiction

A subpoena does not qualify under this exemption unless it comes directly from a judge. Medical records can only be released with a valid court order, or a subpoena signed by a judge.

Department of Veterans Affairs

You can release PHI to the Department of Veterans Affairs (DVA) to process a claim in which the person's medical history is relevant, or upon the separation or discharge of the individual from the uniformed service for the purpose of a determination by the DVA of the individual's eligibility for, or entitlement to, benefits. If the patient has not authorized the release of information to the DVA, account for the disclosure.

Federal and state hospitals and prisons

Release PHI to federal and state hospitals and prisons for further medical treatment of a person in their custody. When processing a patient to go to a corrections facility, give the First Sergeant or prisoner escort the original health records of active duty members in a sealed envelope. Disclosures under this paragraph do not need to be tracked.

Emergency situations

You can disclose health information if there is a case that shows compelling circumstances affecting the health or safety of an individual. This permits disclosure if it's within the time it takes to get a signed consent could cause harm to the health or safety of the patient. The individual to whom the records pertain need not be the individual whose health or safety is in peril.

Required reporting

Mandatory reporting laws for domestic abuse require medical providers to adhere to state reporting requirements. These types of cases are also sent to the family advocacy officer. There are times where your local SJA or in-house MLC will need to get involved. The DOD has programs that restrict reporting (i.e., sexual assaults); however, some states require medical providers to report to civilian authorities. In this case, contact the sexual assault response coordinator (SARC). Finally, contact your local SJA or in-house MLC on state notification (if required).

Medical record documentation under restricted reporting must contain sufficient information to allow for continuity of care and coding. Place the following wording in bold type at the top of each notation in the AHLTA or paper record:

"Restricted from disclosure unless and until determined to be releasable by the MTF Commander or designee. Do not release without specific patient authorization or as specifically authorized by DOD or AF policy."

Electronic records in AHLTA are also securable by using a break the glass (‖) function with the above notation in place. This highlights those entries as restricted and prompts additional review prior to being released or undergoing an electronic review.

Patient request to restrict access

There are times where your patients will not want their information released. If so, they can request to restrict release of their medical information in writing, using DD Form 2871, Request to Restrict Medical and Dental Information. The MTF Commander, or designee, must respond to information restriction requests as soon as practicable (fig. 3–9).

The medical group (MDG) commander, or designee, must act on requests to restrict information in a timely manner and do so in writing. The commander will weigh the needs of the patient with the burden that would be put on the facility to comply with the request.

If the request is approved, the restriction will not be applicable above the authority level that authorized it. This means if the medical group commander approves it, then the request is effective for the people that fall under his command. If granted, the patient should be informed that the restriction is not permanent, and only applies to the individual and MTF that granted the request. The restriction can later be rescinded (upon written notice to the patient) if complying with the restriction becomes too cumbersome. The restriction may have a waiver in emergencies to save life or limb.

Authorization requirements

Now that you have seen some situations that require patient authorizations before a release, do you know what a valid request is? Do you know what to look for when you get a request? The next section will answer these questions, and provide you more information on actually releasing information.

If patients would like a copy of their medical information released, they need to complete a DD Form 2870, Authorization for Disclosure of Medical or Dental Information (fig. 3–10). There will be times that you receive a request that is not on this form, and that is fine as long as it is meets the requirements. The information in the following table is required in order to release any type of information.

Patient signature and date	Description of the information to be released
Written in plain language	The name/organization authorized to make the request
Purpose of the request	The name/organization where the information is going
An expiration date for the authorization	The individual's right to revoke the authorization in writing
The name/organization authorized to release the information	

Do not send any information if it meets the requirements in the following table .

Known to be revoked	Incomplete
Any information provided is false	Expired
Compound authorization (multipurpose)	A conditional authorization

If the authorization does not meet the minimum requirements, or is not releasable due to the above list, return it to the requester. Use a locally developed transmittal letter, or the form furnished by the requester, and explain why the request cannot be filled.

REQUEST TO RESTRICT MEDICAL OR DENTAL INFORMATION

PRIVACY ACT STATEMENT

In accordance with the Privacy Act of 1974 (Public Law 93-579), the notice informs you of the purpose of the form and how it will be used. Please read it carefully.

AUTHORITY: Public Law 104-191; E.O. 9397 (SSAN); DoD 6025.18-R.
PRINCIPAL PURPOSE(S): This form is to provide the patient with a means to request a restriction on the use and disclosure of his/her protected health information.
ROUTINE USE(S): To other entities or physicians for: judicial and administrative purposes; health oversight; research; law enforcement; public health; to avert a serious threat to health and safety; organ, eye, or tissue donation; decedents; Worker's Compensation; victims of abuse, neglect, or domestic violence; specialized government functions; and required by law.
DISCLOSURE: Voluntary. Failure to sign the authorization form may result in a release of the protected health information.

This form will not be used to request restrictions on the use or disclosure of any alcohol or drug abuse patient information from medical records of an alcohol or drug abuse treatment program.

SECTION I - PATIENT DATA

1. NAME *(Last, First, Middle Initial)*	2. DATE OF BIRTH *(YYYYMMDD)*	3. SOCIAL SECURITY/IDENTIFICATION NUMBER
Heckman, Kenneth	18820930	###-##-####
4. PERIOD OF TREATMENT: FROM - TO *(YYYYMMDD)* 20050215-20150215	**5. TYPE OF TREATMENT** *(X one)* ☐ OUTPATIENT ☐ INPATIENT ☒ BOTH	

SECTION II - RESTRICTIONS

6. REQUEST (RESTRICTION) IS DIRECTED TO THE TRICARE HEALTH PLAN OR THE FOLLOWING PHYSICIAN/FACILITY:

a. NAME OF PHYSICIAN, FACILITY, OR TRICARE HEALTH PLAN	b. ADDRESS *(Street, City, State and ZIP Code)*
Dr Jones James at Saylor Hospital i	123 Willow Lane San Antonio, Texas 78123
c. TELEPHONE *(Include Area Code)* (210) 555-1234 / **d. FAX** *(Include Area Code)* (210) 555-5432	**7. PURPOSE OF RESTRICTION** *(Optional)* No longer receiving care from him, pending litigation
8. REQUESTED DATES OF RESTRICTION *(YYYYMMDD)* a. START: 20150215 / b. END:	

9. SPECIFY MEDICAL INFORMATION TO BE RESTRICTED *(Use back for additional space)*
Any documentation relating to back surgery

SECTION III - PLEASE READ AND SIGN BELOW

I understand that:
1. The Military Treatment Facility (MTF)/Dental Treatment Facility (DTF)/TRICARE Health Plan is not required to approve this request for restriction.
2. If approved by an MTF/DTF, this restriction only applies to the MTF/DTF that granted approval. It is not transferable to other providers, MTF's or DTF's.
3. If approved, the MTF/DTF/TRICARE Health Plan is not required to abide by this restriction if the health information is needed to provide emergency treatment or services.
4. If approved, this restriction does not prevent me from having access to my own health information or to an accounting of how my health information has been used.
5. If this request for restriction is approved, the MTF/DTF/TRICARE Health Plan still has the right to use or disclose my health information under the following circumstances: judicial and administrative purposes; health oversight; research; law enforcement; public health; to avert a serious threat to health and safety; organ, eye, or tissue donation; decedents; Worker's Compensation; victims of abuse, neglect, or domestic violence; specialized government functions; and required by law.
6. Once approved, this restriction can be terminated under the following circumstances:
   a. If I request the termination in writing.
   b. If I request the termination orally and it is documented by the MTF/DTF.
   c. If the MTF/DTF/TRICARE Health Plan informs me that it has decided to terminate the restriction. In this situation, the termination only applies to the health information created or received after the termination is in effect.

10. SIGNATURE OF PATIENT/GUARDIAN	11. RELATIONSHIP TO PATIENT *(If applicable)*	12. DATE *(YYYYMMDD)*
		20150215

SECTION IV - FOR PROVIDER/FACILITY USE ONLY

13. X AS APPLICABLE:	14. SIGNATURE OF APPROVING OFFICIAL
☐ REQUEST APPROVED ☐ REQUEST IS DISAPPROVED ☐ RESPONSE ATTACHED	
15. IMPRINT OF PATIENT IDENTIFICATION PLATE WHEN AVAILABLE	SPONSOR NAME: FMP/SPONSOR SSN: SPONSOR RANK: BRANCH OF SERVICE: PHONE NUMBER:

DD FORM 2871, DEC 2003 Adobe Professional 7.0

Figure 3–09. DD Form 2871, Request to Restrict Medical or Dental Information.

Not all medical documentation should be released, especially if there is a potential for harm. Be cautious when patients request copies of their medical record, especially if they ask for copies of their mental health records. Do *not* release information if it would do more harm than good. If you notice the request includes potential sensitive information (e.g., sexual assault, mental health, etc.), bring this to the attention of the provider and SJA, or your in-house MLC as required.

The provider will determine if direct disclosure to the patient could have an adverse effect on the physical or mental health, safety, or welfare of the individual, or other persons with whom he/she may have contact. If the provider determines there could be harm then some, or none, of the records will be released to the patient.

REQUEST TO RESTRICT MEDICAL OR DENTAL INFORMATION

PRIVACY ACT STATEMENT

In accordance with the Privacy Act of 1974 (Public Law 93-579), the notice informs you of the purpose of the form and how it will be used. Please read it carefully.

AUTHORITY: Public Law 104-191; E.O. 9397 (SSAN); DoD 6025.18-R.
PRINCIPAL PURPOSE(S): This form is to provide the patient with a means to request a restriction on the use and disclosure of his/her protected health information.
ROUTINE USE(S): To other entities or physicians for: judicial and administrative purposes; health oversight; research; law enforcement; public health; to avert a serious threat to health and safety; organ, eye, or tissue donation; decedents; Worker's Compensation; victims of abuse, neglect, or domestic violence; specialized government functions; and required by law.
DISCLOSURE: Voluntary. Failure to sign the authorization form may result in a release of the protected health information.

This form will not be used to request restrictions on the use or disclosure of any alcohol or drug abuse patient information from medical records of an alcohol or drug abuse treatment program.

SECTION I - PATIENT DATA

1. NAME *(Last, First, Middle Initial)*	2. DATE OF BIRTH *(YYYYMMDD)*	3. SOCIAL SECURITY/IDENTIFICATION NUMBER
Heckman, Kenneth	18820930	###-##-####

4. PERIOD OF TREATMENT: FROM - TO *(YYYYMMDD)*	5. TYPE OF TREATMENT *(X one)*
20050215-20150215	[ ] OUTPATIENT [ ] INPATIENT [X] BOTH

SECTION II - RESTRICTIONS

6. REQUEST (RESTRICTION) IS DIRECTED TO THE TRICARE HEALTH PLAN OR THE FOLLOWING PHYSICIAN/FACILITY:

a. NAME OF PHYSICIAN, FACILITY, OR TRICARE HEALTH PLAN	b. ADDRESS *(Street, City, State and ZIP Code)*
Dr Jones James at Saylor Hospital i	123 Willow Lane San Antonio, Texas 78123

c. TELEPHONE *(Include Area Code)*	d. FAX *(Include Area Code)*	7. PURPOSE OF RESTRICTION *(Optional)*
(210) 555-1234	(210) 555-5432	No longer receiving care from him, pending litigation

8. REQUESTED DATES OF RESTRICTION *(YYYYMMDD)*
a. START: 20150215 b. END:

9. SPECIFY MEDICAL INFORMATION TO BE RESTRICTED *(Use back for additional space)*
Any documentation relating to back surgery

SECTION III - PLEASE READ AND SIGN BELOW

I understand that:
1. The Military Treatment Facility (MTF)/Dental Treatment Facility (DTF)/TRICARE Health Plan is not required to approve this request for restriction.
2. If approved by an MTF/DTF, this restriction only applies to the MTF/DTF that granted approval. It is not transferable to other providers, MTF's or DTF's.
3. If approved, the MTF/DTF/TRICARE Health Plan is not required to abide by this restriction if the health information is needed to provide emergency treatment or services.
4. If approved, this restriction does not prevent me from having access to my own health information or to an accounting of how my health information has been used.
5. If this request for restriction is approved, the MTF/DTF/TRICARE Health Plan still has the right to use or disclose my health information under the following circumstances: judicial and administrative purposes; health oversight; research; law enforcement; public health; to avert a serious threat to health and safety; organ, eye, or tissue donation; decedents; Worker's Compensation; victims of abuse, neglect, or domestic violence; specialized government functions; and required by law.
6. Once approved, this restriction can be terminated under the following circumstances:
   a. If I request the termination in writing.
   b. If I request the termination orally and it is documented by the MTF/DTF.
   c. If the MTF/DTF/TRICARE Health Plan informs me that it has decided to terminate the restriction. In this situation, the termination only applies to the health information created or received after the termination is in effect.

10. SIGNATURE OF PATIENT/GUARDIAN	11. RELATIONSHIP TO PATIENT *(If applicable)*	12. DATE *(YYYYMMDD)*
		20150215

SECTION IV - FOR PROVIDER/FACILITY USE ONLY

13. X AS APPLICABLE:	14. SIGNATURE OF APPROVING OFFICIAL
[ ] REQUEST APPROVED [ ] REQUEST IS DISAPPROVED [ ] RESPONSE ATTACHED	
15. IMPRINT OF PATIENT IDENTIFICATION PLATE WHEN AVAILABLE	SPONSOR NAME: FMP/SPONSOR SSN: SPONSOR RANK: BRANCH OF SERVICE: PHONE NUMBER:

DD FORM 2871, DEC 2003 Adobe Professional 7.0

Figure 3-10. DD Form 2870, Authorization for Disclosure of Medical or Dental Information

Accounting for disclosure

A patient may request an accounting of every disclosure for the previous 6-year period. This does not currently include uses of PHI for treatment, payment, or healthcare operations. The disclosure categories are included in the following table.

Information about decedents	To avert serious threats to health or safety
As required by law	Cadaver organ, eye, or tissue donation purposes
Health oversight activities	Inmates in correctional institutions or in custody
Judicial and administrative proceedings	Law enforcement purposes
Medical facility patient directories	Public health activities
Research purposes	Specialized government functions
Victims of abuse	Neglect or domestic violence
Workman's compensation	

Disclosure considerations

When releasing any type of information identified in the table above, you should use the following guidelines:

1. Would the subject have a reasonable expectation of privacy in the information requested?
2. Is disclosing the information in the public interest?
3. Balance the public interest against the individual's privacy interest. Do not consider the requester's purpose, circumstances, or proposed use.

Recording disclosure

Most disclosures made that are not for treatment, payment or healthcare operations, or pursuant to the patient's authorization must be tracked. It is the HPO's responsibility to establish a mechanism to track PHI disclosures. The protected health information management tool (PHIMT) is the primary method of documenting all accountable disclosures. If the MTF elects to use an alternative tool, it must be coordinated through the AFMOA HIPAA team and approved by the Air Force HIPAA privacy officer at the Air Force Medical Support Agency (AFMSA) prior to implementation. Coordinating approval through the appropriate agencies will ensure the tracking mechanism complies with statutory requirements. At a minimum, the data are centralized within the MTF, and it should be able to account for all disclosures made throughout the MTF while conforming to all privacy and security safeguards.

Copy release

The following are guidelines you need to follow when releasing information.

Social security numbers

Redact or remove all social security numbers (SSN) from the health record before issuing a copy. This mandate applies to all forms of health records (including, but not limited to, the outpatient medical, dental treatment, inpatient, and extended ambulatory record). Original medical records shall remain intact and unaltered. Depending on the patient, and where the copies are going, will depend on what SSNs need to be removed.

Providers

Remove all providers SSN from the records. This policy applies to copies provided for any purpose or request, including an individual's request for copies of his or her own health records.

Sponsors

Before issuing a record copy (partial or full), redact all sponsor SSNs from every aspect of the health record, unless the copy request originates from the actual sponsor. This mandate applies to all forms of health records. This policy applies to copies provided for any purpose or request.

Non-military treatment

If your health records are provided electronically (e.g., scanned copy) in lieu of paper, you must use standardized nomenclature when naming the file. This will allow others to identify a beneficiary's treatment record easily. At a minimum, the file name should contain the appropriate term (e.g., Outpatient record, Dental record, Inpatient Record), beneficiary's name, and the date the copy was made as in the example below.

OUTPATIENT RECORD_JOHNSON_15MAR2010.pdf.

The Term (Outpatient Record, Dental Record, Inpatient Record)	Name of the beneficiary	Date the copy was made

Health records may contain information from non-military sources. A patient can be referred to a non-military source for ancillary and/or diagnostic care, and/or treatment. File documentation from the non-military source that supports the diagnosis and treatment in the patient's outpatient medical record. This documentation will then become a part of the patient's medical record and subsequent releases of information from the patient's record will include this information from non-military sources.

Filing request paperwork in the record

File all correspondence, for example, requests for PHI in Section III of the health record for permanent safekeeping. This includes information from the patient's health insurance company, state worker's compensation agency, and federal and state disability agencies. Also, include an attached information release statement regarding the release of information. The only exceptions are requests from investigative agencies. The release of information office will keep a copy of all those types of requests.

Timeline and priority

You will receive many types of requests while working in the PHI section. Most will be routine requests, which should be processed within 20 days. You may also receive urgent requests, which you should process right away. However, time duration depends on a variety of factors, such as staffing, the size of the individual record(s), or record portion(s) to be copied, the number of non-urgent daily and weekly requests, the number of emergent and/or urgent daily and weekly requests, and the time it takes to redact SSNs. You should keep your supervisors updated on any current or impending delays. Leadership can document unforeseen delays and affected beneficiaries will be notified.

Fees

Record copying fees, as documented in AFI 33–332, *Air Force Privacy and Civil Liberties Program*, to establish a baseline-pricing schedule. Provide the first 100 pages free, and charge only reproduction costs for the remainder. Copies cost $.15 per page; microfiche costs $.25 per fiche. Do not charge for copies if records are provided to the requester electronically.

Patients

Provide patients or their designated representatives access to their health records upon written request. The MTF always retains the original records, but copies are available if requested. Repeated personal requests for the same document copies, or repeated requests for partial or complete volume copies, that have already been provided to the patient or his representative, within the same 12-month period may result in a financial charge to the patient or his representative. Upon local approval of the MTF Commander, the release of information function may charge beneficiaries, or their agents/representatives, a reasonable fee for excessive and repeated requests for copies of medical records.

Insurance agencies, worker's compensation and other third parties

Process request for insurance agencies, Worker's Compensation and other third parties is a little different. These types of requests do need to be paid.

Advance payments for information requests from insurance companies and other agencies may be accepted. If the request is for a large volume or requires extensive research, notify the requester of any additional charges.

If prepayment is not received, then use a locally developed form to identify the fees. Prepare the form in three copies; send the original to the requester, file the second copy in part three of the health record with the patient's signed authorization for release of information, and forward the third copy to the Resource Management Office.

If the payment is *incorrect*, inform the requesting agency that the information is being provided even though the required fee (specify amount) has not been paid, in order to *avoid* possible adverse effect to the patient. Advise the requester to send payment promptly to the medical service account (MSA) office by check or money order payable to the Treasurer of the United States.

Send payment to the MSA office with the completed copy of the transmittal letter if the correct payment comes with the request. If the information is not obtainable on the day the request is received, complete only the required items and send the form and payment to the MSA office before the ordinary close of business each day.

Do not charge

There are a few *exceptions* where you do *not* charge for copying health records, such as for official purposes listed below:

1. Disciplinary action.
2. For reproducing a record so the requester can review it.
3. To respond to the proposed denial of a right, privilege, or benefit.
4. If any one of the identified guidance allows copies without charging them.
5. For reproducing a document for the convenience of the Air Force.

The fax and personal health information

Although faxing documents is convenient, it can be unsecure. To protect patient privacy, only use fax transmission when the original record or mail-delivered copies will not meet requirements for immediate patient care. Unless otherwise required by state law or regulation, the facsimile copy does not require countersignature. Only fax sensitive information when it is urgently needed for patient care, or when required by a third-party payer for ongoing certification of payment for a hospitalized patient.

Do not transmit information over unsecured telecommunications systems. Official DOD telecommunications systems are subject to monitoring. Using DOD telecommunications systems constitutes consent to monitoring. Also, limit fax transmission to only that documentation necessary to meet the requester's needs. As expected, you should always use a cover letter when sending documentation. The cover letter will include information in the following table.

Sender's name	Sending facility's name, address, telephone and fax numbers
Authorized receiver's name	Receiving facility's name, address, telephone and fax numbers
Date and time of fax transmission	Number of pages transmitted, including cover page
Information instructing the receiver to verify receipt of the fax	

The following statement will also be on the front cover:

"THIS FAX IS INTENDED ONLY FOR THE USE OF THE PERSON OR OFFICE TO WHOM IT IS ADDRESSED, AND CONTAINS PRIVILEGED, SENSITIVE OR CONFIDENTIAL INFORMATION PROTECTED BY LAW. ALL RECIPIENTS ARE HEREBY NOTIFIED THAT INADVERTENT OR UNAUTHORIZED RECEIPT DOES NOT

WAIVE SUCH PRIVILEGE, AND THAT UNAUTHORIZED DISSEMINATION, DISTRIBUTION, OR COPYING OF THIS COMMUNICATION IS PROHIBITED. IF YOU HAVE RECEIVED THIS FAX IN ERROR, PLEASE DESTROY THE ATTACHED DOCUMENT(S) AND NOTIFY THE SENDER OF THE ERROR BY CALLING…"

If anyone other than the intended recipient gets the documentation, the burden is on the sender to remedy the error. Program frequently used destination numbers into the fax machine to eliminate misdial errors.

If the transmission does not reach the intended recipient's system, check the internal logging system of the facsimile machine to determine where the transmission was sent. Send a request to the incorrect number explaining that the information was misdirected and ask for the documents to be return using regular mail. Notify the HIPAA Privacy Officer and follow their instructions for any other action to take.

To help protect confidentiality, establish specific policies and procedures for handling documents received by way of a facsimile. Include the following *minimum* rules:

1. All fax machines used to transmit and receive PHI must be located in a secure or supervised location.
2. Remove documents as soon as the transmission completes.
3. Count pages to ensure transmission of all intended information.
4. Check for legibility and notify the sender of problems.
5. Read the cover letter and comply with instructions for verifying receipt.
6. Process the documents, if appropriate, or notify the authorized recipient that a facsimile transmission has been received.
7. Seal the documents in an envelope.
8. Documentation received by way of a fax can be included in the patient's health record.
9. If a fax machine uses thermal paper, make a photocopy of the document and place the copy in the record. Destroy the thermal paper document after making the photocopy.

'Snail' mail

Utilize regular mail or messenger service for routine disclosure of information to insurance companies, attorneys, or other legitimate users. When mailing medical records concerning medical malpractice claims, use standard First Class U.S. mail with immediate delivery confirmation/acknowledgment, Certified Mail, or other commercially available option, such as FedEx that offers package tracking and/or arrival confirmation. Using standard First Class U.S. Postal Service mailing method alone, without immediate delivery confirmation/acknowledgment or Certified Mail receipt, is prohibited. Return receipt confirmation must not be dependent upon the timeliness or willingness of the destination MTF to complete a DD Form 2825, Internal Receipt, or other receipt option.

E-mail

Use e-mail between MTF personnel for treatment, payment and healthcare operations functions is permissible within the '.mil' domain. Under no circumstances will e-mail containing PHI be transmitted to an address outside the '.mil' domain or to any address within the '.mil' domain that is unable to receive public key infrastructure (PKI) encrypted messages. This also means using clinical e-mail between MTF personnel and a beneficiary is not an option at this time. Common examples of clinical e-mails include, but are not limited to, communications of health information, discussion of services and treatment options, providing healthcare consultation or advice, coordinating prescription refills, and scheduling appointments and referrals. As a general precaution, remove any PII whenever possible. Always de-identify or purposefully un-identify information if the intent of the issue can be conveyed without including it in the e-mail message.

Make sure to exercise caution before transmitting personal information using e-mail by applying adequate safeguards. Some information may be so sensitive and personal that e-mail may not be the proper way to transmit it.

When transmitting PHI and PII, it is For Official Use Only (FOUO). The following are some safeguards when transmitting FOUO using e-mail:

- Ensure there is an official need to send the information.
- Confirm all recipients are authorized to receive the information.
- Use DOD PKI-based encryption.
- Add "FOUO" to the beginning of the subject line, followed by the subject.
- Do NOT annotate any PHI in the subject line.

Insert the following statement at the BEGINNING of the e-mail message:

'FOR OFFICIAL USE ONLY. This electronic transmission contains For Official Use Only (FOUO) information which must be protected by the Privacy Act and AFI 33–332 and the Health Insurance Portability and Accountability Act and DOD 6025.18-R. The information may be exempt from mandatory disclosure under the Freedom of Information Act, 5 U.S.C. § 552. If you have received this message in error, please notify the sender by replying to this e-mail and delete all copies of this message.'

Do not apply this statement to all e-mails. Use it only in situations when you are actually transmitting personal information required to be protected with FOUO purposes.

Sequestered medical records

To sequester a health record means to store and secure it separate from other health records for added security or for legal purposes. The MTF may sequester the original medical record or a certified copy when the situation warrants. A certified copy is a copy of the medical records, with each page number and the appropriate certification phrase attached. Place a notice on the original record to ensure personnel do not allow the patient to hand-carry the record while there is an active claim or litigation. If you make a certified copy for sequestering, return the original record to the file room and suspense it for periodic updates. Records *will* be sequestered under the following conditions:

1. When an administrative claim or lawsuit claim against the government has been filed.
2. When a patient has tried to tamper, alter, or illegally remove a record from the facility.
3. When a request is received from an attorney under circumstances, indicating a claim or lawsuit is being considered.
4. When an Inspector General (IG) or Congressional Inquiry or Investigation has been initiated.
5. When the record becomes relevant to an Office of Special Investigations (OSI) or Security Forces investigation.
   NOTE: Annotate the sequestered record form with the OSI/Security Forces agent's name and case number for the annual review process. Contact the local SJA, in-house MLC, or HIPAA Privacy Officer for questions.

It is the MDG commander's responsibility (with the Quality Services Manager and/ SJA's advice) to establish local operating instructions on how to sequester medical records for safekeeping. As a minimum, maintain the records in a separate, locked location with limited access. If the patient still has appointments at the MTF, copy the original record for the outpatient records room and annotate on the jacket "Clinic Copy." Create the "Clinic Copy" in CHCS as a unique record type for tracking purposes in the medical records tracking (MRT) module.

Place a cover sheet on the original medical record stating the record is sequestered. Maintain a separate file on why the record has been sequestered, and the date (or occurrence of an event) when the record should be reviewed to determine the need for continued sequestering. Place a charge out in

the appropriate records room with a statement that the record is sequestered. If a “Clinic Copy” is made, ensure that any original documentation is forwarded to the sequestered file and a copy is placed in the “Clinic Copy.”Coordinate an annual review of sequestered records with the base claims officer to determine whether the records should continue to be sequestered. In addition, review records prior to the patient relocating to see if sequestering is still applicable. If sequestering is still required, mail the outpatient records to the gaining MTF. The losing MTF will make a certified true copy of the record before mailing it. Maintain the copy until the claim is resolved with the base claims officer.

News media

As an MTF staff member, you *must* consult with your supervisor and the public affairs office *before* discussing official Air Force information (including medical information) with the *public*. Once you have clearance to release information to the public, use the guidelines in this section to prepare your release. *Only* information that does *not* constitute a clearly unwarranted invasion of personal privacy is available to the public. Release of information must *not* be in violation of the Privacy Act, HIPAA Privacy Rules, Freedom of Information Act, alcohol or drug abuse acts, accepted medical practice, or existing directives.

DOD guidelines try to maintain a balance between the rights of requesters under the Freedom of Information Act and the rights of the individual patient under the Privacy Act and HIPAA Privacy Rules. Sometimes this balance is difficult to maintain. These guidelines are important to commanders, Public Affairs officers, and legal counsel. They apply to information from records of all persons treated or hospitalized in a DOD medical facility or in a civilian (non-federal) facility that DOD reimburses for the cost of care provided to one of our beneficiaries. If appropriate, the next of kin is notified before releasing information to the news media or public.

The information in the following table **may** be released **without** the patient’s consent.

***May* be released *without* consent**
Unit assignment for personnel *not* assigned to routinely deployable or sensitive units
Office where member works

The information in the following table **may** be released if the **patient consents.**

May* be released with *consents
Name and rank
Component occupation or job title
Present medical assessment of condition (stating condition stable, good, fair, serious, or critical)

The information in the following table ***cannot*** be released without the patient’s **specific authorization.**

Cannot* be released without the patient’s *specific authorization	
Diagnosis	Prognosis
Marital status (e.g., married or unmarried)	General extent of the injury or disease
Base, station, or organization of routinely deployable or sensitive units	Description of disease or injury, general factual circumstances
Do not specify location/description that may prove embarrassing to the individual or reflect bad taste	Do not release this information if the patient is not conscious or is mentally incompetent

If the patient has the opportunity to agree or object to being in the patient directory, and has not objected, the information in the following table may be released to those who ask for the individual by name.

Specific Individual Request
Individual's location in the facility
Patients condition description (i.e., stable, good, fair, etc.)
Religious affiliation (clergy only)

The healthcare provider may provide additional specific medical information if the patient approves the release. **NEVER** release sensitive medical information relating to the admission of the patient, such as sexual assault, criminal actions, drug or alcohol abuse, psychiatric or social conditions, venereal disease, or acquired immunodeficiency syndrome (AIDS) – human immunodeficiency virus (HIV) data or AIDS related syndrome. However, you can make the statement "Further details with regard to (individual's) admission to the hospital are not releasable at this time."

Compromise

Response procedures must limit or prevent further damage, assess the risk of harm to the individuals involved, mitigate those risks to the extent possible, and ensure all mandatory reporting and notification requirements are accomplished as appropriate. First, it is important to be familiar with, and appropriately apply, the following terms when evaluating potential or actual breaches of information within Air Force medical facilities. There is no differentiation made between paper and electronic documents when considering whether a potential or actual compromise has occurred.

Lost, stolen, or compromised information

This is the actual or possible loss of control, unauthorized disclosure, or unauthorized access of personal information where persons other than authorized users gain access or potential access to such information for an other than authorized purpose where one or more individuals will be adversely affected. Such incidents also are breaches.

Breach

For the purpose of this definition, a breach is an acquisition, access, use, or disclosure of PII/PHI in a manner not permitted. This applies unless the covered entity or business associate, as applicable, can demonstrate that there is a low probability that the PHI is compromised based on a risk assessment.

Protected health information

This is information that is individually identifiable health information that is transmitted or maintained by electronic or any other form or medium. EXCEPTION: Protected health information excludes individually identifiable health information in employment records held by a covered entity in its role as employer.

Unsecured protected health information

This is protected health information that is not unusable, unreadable, or indecipherable to unauthorized individuals through technology or methodology.

Breach response coordinator

Any individual within the organization may be appointed to this position, but individuals such as the organization's Privacy Act Monitor, HIPAA Privacy Officer, and HIPAA Security Officer are particularly well-suited based on their functional responsibilities and expertise.

Investigating the breach

All DOD members that become aware of an actual or possible loss of control, unauthorized disclosure, or unauthorized access must immediately report the circumstances of the event to the organization's breach response coordinator. Reporting would include PII or PHI information in paper or electronic form. Upon notification, the breach response coordinator will evaluate the preliminary facts to determine if an actual or possible loss of control, unauthorized disclosure, or unauthorized access to PII or PHI has occurred. Based on this assessment, the breach response coordinator will either document the basis for determining no breach has occurred and take no further action, or initiate breach response procedures. If the breach response coordinator does initiate response procedures, the incident is investigated.

Once the investigation is complete, the breach response coordinator will use established risk assessment criteria to determine the risk of harm. The assessment measures the harm to the affected individuals because of the breach, and makes a recommendation to leadership regarding the need to notify affected individuals of the compromise. *Leadership* will *assess* the results of the risk assessment and recommendations of the installation's privacy act official in *determining* whether affected individuals should be notified of the breach.

If notification is appropriate, the breach response coordinator will prepare notification letters and forward the final draft to the installation's privacy act official for review and approval before mailing it to affected individuals. Notification letters must be mailed within 10 days of identifying the affected individuals. The group commander/organizational equivalent or above, endorses the letter and sends them by first class mail.

Safeguards

PII and PHI are property of the DOD, personal to the individual, and are properly safeguarded. Take necessary precautions to avoid compromising medical information during the movement of information inside and outside the MTF. Only medical personnel are authorized access to the information, with few exceptions. Original health records are not to be given to anyone outside the MTF without specific and verifiable operational mission related, legal, or medical necessity requirements.

You have already learned about privacy requirements; however, there are also security requirements you have to follow. There are two areas your MTF has addressed to protect the integrity, confidentiality and availability of PII and PHI, physical and electronic security.

The security rules have a close relationship with the privacy rules. In fact, a significant portion of the privacy requirements relies on a solid information security infrastructure to implement properly. Privacy Rules mandate that appropriate administrative, technical, and physical safeguards be in place to protect privacy. That is, policies and procedures must be in place to comply with the privacy requirements. The bottom line is that there is no privacy without security.

Physical security

Limit access to all open record storage areas and electronic records to authorized personnel only. Authorized personnel are people who, through a verification process, have presented a valid requirement to access medical records. Personnel granted access must be fully aware of the requirements in this instruction regarding safeguarding PHI maintained in the MTF. Furthermore, the MTF Commander's approval/authorization is required for unescorted access to medical records areas. Written authorization must be posted near each entrance for ready reference. If the commander's written authorization is required prior to electronically accessing ID card swipe activation, individuals with ID card swipe access do not need to be identified on the posted listing. This does not apply to keypad access due to the potential for security compromise.

Your MTF has procedures in place to ensure highly sensitive records and sensitive medical information are safeguarded. This includes copying electronic records for inclusion into the hard-copy record, safeguarding x-rays and fetal monitoring strips. Information that may affect the patient's morale, character, medical progress, or mental health is considered *sensitive*. Drug and alcohol abuse, rape, child or adult abuse, and possible claims against the government are examples of highly sensitive records. To protect the sensitive nature of the information, ensure that only medical personnel handle sensitive records or documents if advised by the attending physician or MTF commander.

When unauthorized personnel are in the area, protect equipment, such as printers and monitors, to prevent viewing of sensitive information. Control access to files and software so only authorized users (based on a need-to-know) can use the system and data resources.

When remote terminal areas are unattended, make sure they are not accessible by unauthorized personnel. Lock doors, disable communications lines, or take other appropriate actions to protect systems and their data. System security and protection of data is everyone's responsibility. If you experience any problems, contact your client support administrator (CSA). They are capable and willing to assist in all your computer needs.

Paper or electronic documents and/or materials that contain personal information protected under the Privacy Act such as recall rosters, personnel rosters, lists, or spreadsheets shall be marked in the header or top "FOR OFFICIAL USE ONLY" (IAW DODM 5200.01, Volume 4, *DOD Information Security Program: Controlled Unclassified Information)* and with the following banner in the footer or bottom:

"The information herein is For Official Use Only (FOUO) which must be protected under the Freedom of Information Act of 1966 and Privacy Act of 1974, as amended. Unauthorized disclosure or misuse of this PERSONAL INFORMATION may result in criminal and/or civil penalties."

Paper documents and printed materials that contain PII shall be covered with the AF Form 3227, Privacy Act Cover Sheet (fig. 3–11) or DD Form 2923, Privacy Act Data Cover Sheet (fig. 3–12).

PRIVACY ACT COVER SHEET

PRIVACY

ACT

INFORMATION

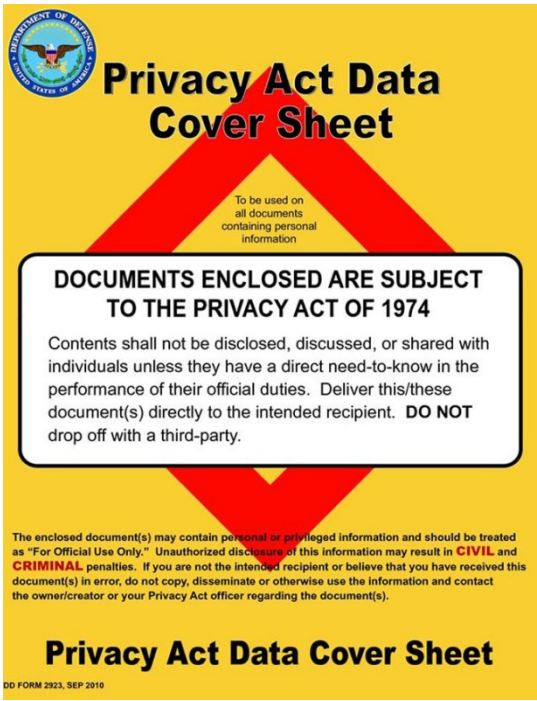
THIS INFORMATION IS SUBJECT TO THE PRIVACY ACT OF 1974

AF IMT 3227, 19841101, V1

Figure 3–11. AF Form 3227, Privacy Act Cover Sheet.

Electronic security

A major role for system security is to control access to the network. Controlling access to the network means being aware of the process for initial network access, identification, authentication, encryption, and password management through the Common Access Card, and then managing PII on shared drives. In this section, we will discuss these principles along with considerations for controlling multimedia and concluding with some end user responsibilities. Let us begin by exploring initial network access.


Privacy Act Data Cover Sheet

To be used on all documents containing personal information

DOCUMENTS ENCLOSED ARE SUBJECT TO THE PRIVACY ACT OF 1974

Contents shall not be disclosed, discussed, or shared with individuals unless they have a direct need-to-know in the performance of their official duties. Deliver this/these document(s) directly to the intended recipient. DO NOT drop off with a third-party.

The enclosed document(s) may contain personal or privileged information and should be treated as "For Official Use Only." Unauthorized disclosure of this information may result in CIVIL and CRIMINAL penalties. If you are not the intended recipient or believe that you have received this document(s) in error, do not copy, disseminate or otherwise use the information and contact the owner/creator or your Privacy Act officer regarding the document(s).

Privacy Act Data Cover Sheet

DD FORM 2923, SEP 2010

Figure 3–12. DD Form 2923, Privacy Act Data Cover Sheet.

Initial network access

Sometimes we take for granted that we will always have network access; however, that is not necessarily the case. For that reason, there are strict rules and guidelines covering exactly who can and who cannot use our systems. Before becoming an Air Force network user, an individual must meet the investigative requirements and complete the required IA training. Systems, in coordination with the security manager, make sure proper security clearance and background investigation checks are submitted prior to granting a network user access.

All DOD military, civilians, contractors, volunteers, summer-hires, interns, and Red Cross personnel will receive initial IA training prior to receiving network access. Initial IA awareness training ensures every Air Force network user is trained and aware of the basic principles of network security and their role in IA. Training required to obtain a network user account is standardized in the Information Protection block of Total Force Awareness Training. The IA training is located on the Advanced Distributed Learning System (ADLS), which is accessible through the Air Force Portal.

Successful completion of this block satisfies the Air Force training requirement for network access. Additional user training may be developed locally to reflect local needs and concerns. IAOs administer all required training for their network users and track training completion. IAOs make training available to new or suspended users on an as-needed basis. Upon successful completion of initial IA awareness training and verification of favorable background check, the user is authorized use of the network and given access to authorized network resources.

Anytime a user requires a new user identification (due to permanent change of station, permanent change of assignment, or temporary duty), the gaining IAO must verify the proper background investigation has been conducted and any required training has taken place before allowing the user access to the network. Users do not need to retake the IA block, only show proof (i.e., a copy of the certificate of completion, memo from unit training manager certifying completion or date of completion) that it is done. In emergency or deployment situations, the IAO may rely on a training record review or ADLS to ensure training requirements are met.

Common access card

The most commonly used method for controlling access is the CAC. This is enabled by way of the microchip on your military ID card. This chip contains the required DOD certificates and user ID/password that validates you as a recognized user who is granted privileges on the military network. In cases where standalone systems are involved, standard user identification (USERID) and strong password combinations are used. Minimum acceptable password combinations are at least 15 characters and contain alpha, numeric, and non-alpha numeric characters with at least one capital letter and one of each category. The CAC is currently the most secure way to access the military network. All users are identified and authenticated before granting access to the system. Mechanisms such as locking out CACs after a number of attempts, prevent unauthorized access.

Placing PII on share drives and/or SharePoint

PII contained in any record is not to be on shared drives for access by groups of individuals unless each person of the group has an official need to know and an approved government purpose to perform their job. Add appropriate access controls to ensure access by only authorized individuals that have the need to know. Remove information when it is no longer needed and maintained IAW an approved disposition schedule.

Recall rosters should be marked FOUO and only provided to individuals with an official need-to-know to accomplish their official duties. Do not place a complete recall roster in a shared location allowing everyone within the organization access unless everyone within the organization has consented to having his or her information accessible by everyone within the organization.

“Social Rosters” are created in order to inform spouses/significant others of events of a social nature, such as office picnics and other events to which they will be invited. This document should also be marked FOUO. A spouse or significant other’s personal information cannot be collected and maintained for social roster purposes. The only exception is if it was collected directly from the individual or there is written consent from the individual. Personnel who maintain social rosters will ensure the information is used for its intended purpose.

Self-Test Questions

After you complete these questions, you may check your answers at the end of the unit.

024. Guidance over patient privacy

1. What acts and amendments must medical personnel comply with?

2. What is PII the acronym for and what is it?

3. Medical records are maintained within a system of records protected by which act?

4. What form eliminates the need for a separate privacy act statement for each medical or dental document?

5. Relative to the release of medical information, what is the purpose of the DD Form 2005?

6. What must a FOIA request contain?

7. What laws take precedence over other directives pertaining to access and release of medical information?

8. Whenever you release information under the guidelines of the drug and alcohol abuse acts, what statement must accompany the disclosure?

9. What is the purpose of HIPAA?

10. List the six requirements of the HIPPA Privacy Rule.

11. What are two of the HIPAA's privacy officer responsibilities?

12. Who must complete HIPAA training?

13. What does the MHS use to explain how the patient PHI may be used and disclosed?

025. Release of information

1. What are some examples of when a patient authorization is required?

2. What should you be cautious of when disclosing the records of minors to their legal guardians?

3. What should you do when releasing adopted infant's medical records?

4. When you answer a request for information on injury cases that appear to involve medical affirmative claims actions, where should you send a copy of the paperwork?

5. Disclosure with PHI should be released in accordance with what rule?

6. Who has commander designee, by virtue of their position, and does not require an appointment letter?

7. What agency, such as the Office of Special Investigations, is authorized to use a blanket request? Explain.

8. What are examples of mandatory reporting that medical providers are required to adhere to?

9. How does a patient request to restrict access to their medical information?

10. What information is required if a patient wants their medical information released?

11. When should you NOT release information?

12. How far back can patients request an accounting for every disclosure?

13. What are five of the disclosure categories?

14. Whose social security numbers needs to be removed from copies of medical records?

15. Where should all correspondence (request) be placed once the request has been filled?

16. When should a routine request for copies of medical records be filled?

17. What should you do if you receive a request for copies from an insurance company, but prepayment was not sent?

18. When should you fax medical documentation?

19. What statement should be on the front cover when faxing medical information?

20. When should you use regular ‘Snail Mail”?

21. When is e-mailing PHI permissible?

22. What statement should be at the beginning of an e-mail when sending medical information?

23. What does it mean to sequester medical records?

24. What steps should you take when sequestering medical records?

25. What information may be released without the patients’ consent?

26. What information may be release with the patients’ consent?

27. What is a breach?

28. If you become aware of an actual or possible breach, whom should you report the circumstances of the event to?

29. What are the two areas your MTF has addressed to protect integrity, confidentiality and availability of PII and PHI?

30. What two forms can you use to cover personnel information in printed/paper form?

31. What is the most commonly used method for controlling electronic access?

Answers to Self-Test Questions

013

1. Wives or widows of military personnel.
2. 1 Oct 66.
3. Expand access to care, assure high-quality care, control healthcare costs, and improve medical readiness.
4. The three main benefit plan options, TRICARE Prime, TRICARE Standard and TRICARE Extra.

014

1. Direct care and purchased care.
2. A provider under contract with TRICARE regional office to provide care to beneficiaries.
3. Participating provider.
4. Non-Network provider.
5. One who provides care, but does not have an agreement with TRICARE and they do not accept the allowable charge as payment.
6. Network and participating providers.
7. Deductibles, cost-shares, prescription co-payments and Prime enrollment fees.
8. Direct care system.
9. ADSMs and TRICARE Prime-enrolled active duty family members.
10. It's a health plan in which a member pays for medical care, and it usually includes primary and preventive care.
11. The PCM.
12. TRO-North, TRO-South, TRO-West, and TOP.
13. DHA.
14. TRICARE Prime, TRICARE Prime Remote, TRICARE Prime Overseas, TRICARE Prime Remote Overseas, TRICARE Reserve Select, TRICARE Standard and Extra, TRICARE Standard Overseas, TRICARE for Life, TRICARE Young Adult, TRICARE Reserve and US Family Health Plan.
15. TRICARE Prime.
16. By enrolling with no fee required.
17. Active duty service members and their family, and command-sponsored active duty family members.
18. Between $1,000 and $3,000 annually, depending on rank.
19. National Guard, Reserve members, and their family members.
20. TRICARE Young Adult.
21. Johns Hopkins Medicine, Martin's Point Healthcare, Brighton Marine Health Center, CHRISTUS Health, Pacific Medical Centers, and Saint Vincent Catholic Medical Centers of New York.
22. Dual TRICARE and Medicare beneficiaries.
23. The National Cancer Institute.
24. All eligible uniformed service members, retirees, and family members, including beneficiaries age 65 and older.
25. Location.

015

1. TRICARE.mil.
2. TOL.
3. MTF TOL Project officer.
4. This position is responsible for the technical aspect; interprets guidance, and understands the basic TOL features.

016

1. Marketing.

2. Develop communication products that meet the customer needs.
3. Briefings/presentations, enrollment packages, newspaper articles, public service advertising,98 and signage.

017

1. They are a beneficiary advocate and problem solver, providing dedicated service to all MHS beneficiaries.
2. Functional experts.

018

1. To determine the validity of collection agent claims and negative credit reports received for debts incurred because of medical and dental care under the TRICARE program.
2. Letter from a Collection Agency indicating that the beneficiary has been sent to collection for non-payment partial payment or denial of claim for services of a TRICARE-associated claim, and/or a negative credit report secondary to the above.

019

1. The DOD.
2. A medical out-processing brief.
3. Recent identification and/or clinical management efforts to control chronic disease condition, poorly controlled chronic disease conditions requiring regular, uninterrupted follow-up, current pregnancy or medical diagnoses requiring obstetrics follow-up, newborns with follow-up requirements, pending radiographic, laboratory, and pathologic specimens, and pending/incomplete referrals or referrals where a result has not been obtained.

020

1. The Senate and House “instructions: to the DOD to change, add, or eliminate programs.
2. Title VII, Healthcare Provision.
3. Funding, public reviews/comments, contract awards, and additional policy.
4. Patient Protection and Affordable Care Act (PPACA).

021

1. Checking the weather in the morning to see if you need a jacket or umbrella, or going to see movies by considering the reviews and finding out what time a specific movie is playing.
2. Real time, or near real time, operational systems.

022

1. It is the study of resources and methods for managing health information.
2. Get data, process data, and display data.
3. The Access to Care Appointment Utilization Report.
4. Ambulatory metrics, inpatient metric, clinical coding reports, DQ reports, WWR metrics, and Online help Documents Ambulatory Data Management.
5. Appointments with no ADM records by clinic, ADM patients with third party insurance, ADM compliance, ADM records with unresolved coding issues and interface transmission status of ADM record.
6. CHCS adhoc reports.

023

1. MCS contractor.
2. Personnel, equipment, equipment maintenance, and supplies.
3. Resource sharing.
4. Resource support.
5. MTF commanders.
6. To ensure compatibility with agreements including VA facilities as network providers.

024

1. The Privacy Act, FOIA, HIPAA, Drug Abuse Offense and Treatment act, and Comprehensive Alcohol Abuse amendments.
2. PII is Personally Indefinable Information, which if lost, compromised or disclosed without authorization, could result in substantial harm, embarrassment, inconvenience, or unfairness to an individual.
3. The Privacy Act.
4. AF Form 560, Authorization and Treatment Statement.
5. It serves as evidence that, as prescribed by the privacy act, the individual was informed of the purpose and uses of the information collected and was advised of his/her rights and obligations when providing their data.
6. It must be in writing and must reasonably describe the record(s) the individual is looking for and it must indicate a willingness to pay fees associated with processing.
7. The drug and alcohol laws.
8. "Prohibition on Redisclosure: This information has been disclosed to you from records whose Confidentiality is protected by federal law. Federal regulations prohibit you from making any further Disclosure of this information without the specific written consent of the person to whom it pertains. A General authorization for the release of the medical or other information is not sufficient for this purpose."
9. To improve the portability and continuity of health insurance coverage, improve access to long-term care services and coverage, and simplify the administration of healthcare.
10. (1) Use of information, (2) acknowledgement of notice of privacy practices, (3) disclosure or release, (4) patient rights to access,(5) accounting of disclosure, and (6) restrictions on information.
11. Any two of the following: (1) Develops policies and procedures for local implementation of the HIPAA Privacy regulation; (2) Ensures initial and refresher privacy training to all the MTF workforce; (3) Ensures continuous assessment, implementation, monitoring, and revision of the MTF HIPAA Privacy programs; (4) Coordinates on the review process for applicable MDG policies and procedures to ensure alignment with current HIPAA practices; (5) Establishes, recognizes and shares best practices relative to the management of the privacy of health information; (6) Ensures a mechanism is in place at the MTF for receiving, documenting, tracking, investigating, and taking action on all complaints concerning the organization's privacy policies and procedures in coordination and collaboration with other similar functions, and when necessary, legal counsel.
12. All MTF employees, and new commanders and first sergeants.
13. NoPP labels.

025

1. Any of the following: patient requests a copy, patient is going downtown for care, medical records of minors, adopted infants, and release to insurance agencies, and other external recipients.
2. Pay special attention to sensitive issues (birth control, abortion, STD treatment) and consult MLC and/or SJA before releasing the information.
3. Remove all reference to the child's natural parents.
4. To the Staff Judge Advocate.
5. The minimum necessary rule.
6. The deputy/vice commander and first sergeant.
7. Blanket requests are not permitted by any person or agency. Requests must be specific and limited in scope. It should only request information that could reasonably accomplish the mission.
8. Domestic abuse, and in some states, sexual assault.
9. Complete a DD Form 2871, Request to Restrict Medical and Dental Information.
10. Patient signature and date, description of the information to be released, be written in plain language, name/organization authorized to make the request, purpose of the request, name/organization where the information is going, an expiration date for the authorization, an individual's right to revoke the authorization in writing, and name/organization authorized to release the information.
11. It's known to be revoked, is an incomplete request, if the information provided is false, expired, is a compound authorization, and a conditional authorization.

12. For the previous six years.
13. Any five of the following: Information about decedents, as required by law, health oversight activities, judicial and administrative proceedings, medical facility patient directories, research purposes, victims of abuse, workman's compensation, to avert serious threats to health or safety, cadaver organ, eye, or tissue donation purposes, inmates in correctional institutions or in custody, law enforcement purposes, public health activities, specialized government functions, or neglect or domestic violence.
14. Remove all providers' and sponsors' SSNs.
15. In Section III of the health record.
16. Within 20 days of receiving the request.
17. Use a locally developed form to identify the fees. Prepare the form in three copies; send the original to the requester, file the second copy in part three of the health record with the patient's signed authorization for release of information, and forward the third copy to the Resource Management Office.
18. Only when the original record or mail-delivered copies will not meet requirements for immediate patient care.
19. "THIS FAX IS INTENDED ONLY FOR THE USE OF THE PERSON OR OFFICE TO WHOM IT IS ADDRESSED, AND CONTAINS PRIVILEGED, SENSITIVE OR CONFIDENTIAL INFORMATION PROTECTED BY LAW. ALL RECIPIENTS ARE HEREBY NOTIFIED THAT INADVERTENT OR UNAUTHORIZED RECEIPT DOES NOT WAIVE SUCH PRIVILEGE, AND THAT UNAUTHORIZED DISSEMINATION, DISTRIBUTION, OR COPYING OF THIS COMMUNICATION IS PROHIBITED. IF YOU HAVE RECEIVED THIS FAX IN ERROR, PLEASE DESTROY THE ATTACHED DOCUMENT(S) AND NOTIFY THE SENDER OF THE ERROR BY CALLING…"
20. Utilize regular mail or messenger service for routine disclosure of information to insurance companies, attorneys, or other legitimate users.
21. Within the '.mil' domain.
22. 'FOR OFFICIAL USE ONLY. This electronic transmission contains For Official Use Only (FOUO) information which must be protected by the Privacy Act and AFI 33–332 and the Health Insurance Portability and Accountability Act and DOD 6025.18-R. The information may be exempt from mandatory disclosure under the Freedom of Information Act, 5 U.S.C. § 552. If you have received this message in error, please notify the sender by replying to this e-mail and delete all copies of this message.'
23. To store and secure a health record separate from other health records for added security or for legal purposes.
24. Place a cover sheet on the original medical record stating the record has been sequestered. Maintain a separate file on why the record has been sequestered, and the date (or occurrence of an event) when the record should be reviewed to determine the need for continued sequestering. Place a charge out in appropriate records room with a statement that the record has been sequestered. If a "Clinic Copy" is made, ensure that original documentation is forwarded to the sequestered file and a copy is placed in the "Clinic Copy."
25. Unit assignment for personnel not assigned to routinely deployable or sensitive units and office the member is assigned to.
26. Name and rank, component occupation or job title, and present medical assessment of condition (stating condition stable, good, fair, serious, or critical).
27. An acquisition, access, use, or disclosure of PII/PHI in a manner not permitted.
28. The organization's Breach Response Coordinator.
29. Physical and electronic security.
30. AF Form 3227, Privacy Act Cover Sheet or DD Form 2923, Privacy Act Data Cover Sheet.
31. The common access card.

Do the unit review exercise before going to the next unit

Unit Review Exercises

Note to Student: Consider all choices carefully, select the *best* answer to each question, and *circle* the corresponding letter. When you have completed all unit review exercises, transfer your answers to the Field-Scoring Answer Sheet.

Do not return your answer sheet to the Air Force Career Development Academy (AFCDA).

32. (013) What year did Congress establish the *first* hospital?
    a. 1775.
    b. 1776.
    c. 1777.
    d. 1778.

33. (013) "TRICARE" originally referred to the three main plan options, which were TRICARE Prime, TRICARE
    a. Standard, and TRICARE Extra.
    b. Standard, and TRICARE Remote.
    c. Remote, and TRICARE Extra.
    d. Standard, and TRICARE Reserve.

34. (014) The following medical conditions may qualify patients for Medicare *before* 65 years old, *except*:
    a. end stage renal disease.
    b. Amyotrophic lateral sclerosis.
    c. Lou Gehrig's Disease.
    d. blood transfusions before 1995.

35. (014) What should you *first* consider when helping a patient narrow down the right TRICARE plan for them?
    a. Home of record.
    b. Location.
    c. Medicare eligible.
    d. Status.

36. (015) What is the *official* website for TRICARE?
    a. Knowledge Exchange.
    b. TRICARE.mil.
    c. TRICARE Online.
    d. TRICARE.org.

37. (015) What two convenient tools can you find on TRICARE.mil?
    a. Primary care manager (PCM) finder and plan builder.
    b. PCM finder and compare plans.
    c. Plan finder and compare plans.
    d. Plan finder and plan builder.

38. (015) Within the MTF, who is the functional *champion* of TRICARE Online (TOL)?
    a. TOL Appointing Subject Matter Expert.
    b. TOL Systems Administrator.
    c. TOL Project Officer.
    d. Provider, Clinics and Marketing point of contacts.

39. (016) What is the *key* to the success of TRICARE?
    a. Accurate market analysis.
    b. Comprehensive plan.
    c. Traditional and social media.
    d. Innovative marketing program.

40. (016) Where can you go to get standardized and current marketing materials for TRICARE?
    a. Beneficiary Education and Support Division.
    b. The marketing office.
    c. TRICARE Online.
    d. TRICARE Regional Offices.

41. (017) What is the *primary* role of the Beneficiary Counseling Assistance Coordinator (BCAC)?
    a. Coordinate appropriate issues with Military Health System (MHS) and Defense Health Agency (DHA).
    b. Describe or seek clarification on eligibility.
    c. Respond to beneficiary, leadership and congressional inquiries.
    d. Serve as a beneficiary advocate and problem solver.

42. (017) The Beneficiary Counseling Assistance Coordinator (BCAC) does *not*
    a. coordinate appropriate issues with Military Health System (MHS) and Defense Health Agency (DHA).
    b. describe or seek clarification on eligibility.
    c. respond to beneficiary, leadership and congressional inquiries.
    d. file claims for beneficiaries.

43. (018) Which of the following is *not* a responsibility for the Debt Collection Assistance Officer (DCAO)?
    a. Work with functional experts to provide enrollment, benefit, and claims processing assistance.
    b. Notify, by telephone or in writing, provider(s) and collection or credit reporting agency that the beneficiary's case is being reviewed by the managed care support contractor (MCSC).
    c. Assign a case number and forward beneficiary documentation to the MCSC's Priority Collections Unit in the region service was rendered.
    d. Collect copies of all pertinent documentation available from the beneficiary concerning the case; such as provider bills and notices, TRICARE EOBs, letters from providers or credit agencies.

44. (019) What department level *requires* all active duty personnel have to attend in- and out-processing programs?
    a. MAJCOMs.
    b. DHA.
    c. DOD.
    d. USAF.

45. (019) Which of the following steps is *not* part of in-processing a beneficiary?
    a. Collect Records.
    b. Obtain documented personal health status information.
    c. Recommended preventive services.
    d. Print laboratory/radiology results and place in records.

46. (020) In the National Defense Authorization Act, how often will the subtitles and sections change?
    a. Every year.
    b. Every two years.
    c. Every five years.
    d. They don't change.

47. (020) How often is the National Defense Authorization Act (NDAA) presented to Congress?
    a. Three times a year.
    b. Twice a year.
    c. Once a year.
    d. Once every other year.

48. (021) Which is *not* an example of a data driven decision?
    a. Check the weather before going on a trip.
    b. Pull and analyze figures before changing templates.
    c. Go with your 'gut' when making a decision.
    d. Consider movie reviews before going to see one.

49. (021) The *best* reason to use data to aid in the decision making process is because it
    a. takes the 'emotion' out and focuses on the facts.
    b. is mandatory across all of the services.
    c. guarantees successful outcomes.
    d. guarantees standard outcomes.

50. (022) Of the reports listed below, what is *not* a TRICARE Operations Center Report?
    a. Access to Care Summary Report.
    b. Access to Care Management Report.
    c. Daily Outpatient Workload Detailed Report.
    d. Detail Code Usage and Summary Report.

51. (022) The *most* simplified description for the TOC entails three basic elements. What is *not* one of those elements?
    a. Get Data.
    b. Display Data.
    c. Print Data.
    d. Process Data.

52. (022) What is a program that aggregates data and measures daily transmission and completeness from source data collection systems?
    a. ADM.
    b. BDQAS.
    c. CHCS ad hoc.
    d. TOL.

53. (022) What system produces various standard reports and you can request specific reports be run on demand, nightly, weekly, or on a monthly basis?
    a. ADM.
    b. BDQAS.
    c. CHCS ad hoc.
    d. TOL.

54. (023) Resource sharing is based on the assumption that costs associated with the provision of these resources will be more than offset by *decreased*
    a. prime expenses.
    b. TRICARE costs.
    c. government costs.
    d. contractor expenses.

55. (023) When utilizing resource support, who may request a task order for personnel equipment, equipment maintenance, and supplies?
    a. TROs.
    b. MTF commander.
    c. NCOIC, TRICARE.
    d. Health Benefits Advisor.

56. (023) Whose *policy* requires you to consider if resource-sharing agreements are in the best interest of the government and are in support of the regional health care plan?
    a. TRICARE.
    b. Governmental.
    c. MDG/CC.
    d. MCS contractor.

57. (023) Who performs periodic reviews of MTF/VA facility resource sharing agreements to ensure compatibility with agreements including VA facilities as network providers?
    a. TRO.
    b. Surgeon General.
    c. MTF commander.
    d. MCS contractor.

58. (024) Medical personnel must comply with the Privacy Act, Freedom of Information Act, Health Insurance Portability and Accountability Act, Drug Abuse Offense and Treatment Act, and
    a. Insurance Claims Amendments.
    b. Disability of Americans Amendments.
    c. Comprehensive Alcohol Abuse Amendments.
    d. Medical Release of Information Amendments.

59. (024) What are some examples of non-sensitive PII?
    a. Name and driver’s license number.
    b. Citizenship and gender.
    c. Military records and religious preference.
    d. Office location and business telephone number.

60. (024) What is HIPAA’s training requirement?
    a. Initial only.
    b. Initial and twice a year refresher.
    c. Initial and an annual refresher.
    d. Initial and an every other year refresher.

61. (025) Which of the following is a *valid* consent authorizing the release of a dependent husband’s medical record information to an insurance company?
    a. No consent necessary for member’s own insurance company.
    b. Verbal consent from the husband.
    c. Written consent from husband.
    d. Verbal consent from wife.

62. (025) What action do you take when an incorrect payment is received from an insurance company for copies of medical records?
    a. Hold the check, notify the insurance company of the additional charges, and return the check upon receipt of a check for the correct amount.
    b. Send the check to the base finance office for deposit and notify the medical service account (MSA. officer that a balance is due and has not been requested.
    c. Send the information requested along with a letter to the company specifying the amount owed to the Government.
    d. Destroy the check and request that the company issue another check for the correct amount.

63. (025) When possible, what is the best way to transfer PHI for routine disclosure of information to insurance companies, attorneys or other legitimate users?
    a. Fax machine.
    b. Work e-mail.
    c. Personal e-mail.
    d. Snail mail.

64. (025) Once a breach investigation is complete, who will *assess* the results of the risk assessment and recommendations in determining whether affected individuals should be notified of the breach?
    a. Leadership.
    b. Breach Response Coordinator.
    c. Release of information Officer.
    d. Installation Privacy Act Official.

65. (025) Information that may affect a patient's morale, character, medical progress, or mental health is considered
    a. Non-releasable.
    b. Classified.
    c. Sensitive.
    d. Secret.

Please read the unit menu for unit 4 and continue ➔

Student Notes

Unit 4. Medical Terminology and Anatomy and Physiology

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THE MEDICAL SERVICE, like any other profession, has its own unique professional language. You were first introduced to the language of medicine back in technical school. More than likely, the terms and expressions seemed strange and complex. Now, after you have spent some time in a MTF, you can see how important this language can be when coding an inpatient record, transcribing doctor's orders on an admission to your ward, or scanning an outpatient record when it is necessary to release information to an insurance company.

In making these terms your own, you will find at first that memorization will play a considerable part, but the "brain strain" will ease as you gain a working knowledge of the terminology. This lesson will help you develop your ability to read and understand the language of medicine and to strengthen your spelling skills. Your job is to learn some of the more commonly used medical/surgical terms and to develop an understanding of how these terms are formed. In the first section of this unit, we will discuss the elements of medical terminology and how these elements are combined to form medical terms. The second section will introduce you to many commonly used medical abbreviations and symbols, as well as medical reference terms for anatomical relationships and body movement. Finally, the third and fourth sections address body systems and makeup as well as main organ systems, respectively.

Before you can become a medical linguist, you will need to learn more about the various components or elements that combine to form medical words.

4–1. Elements of Medical Terminology

This section introduces you to commonly used medical terms. You will see how basic word components, when formed with other components, create those long, hard-to-pronounce medical

terms and expressions. As your vocabulary grows, you will begin to see patterns. Then as you become increasingly familiar with the more common components, you will begin to recognize them.

Combining units called prefixes, suffixes, and root words form a great number of words used in medicine. Many of these units, when used alone, may already be familiar to you. Still, when you see and hear them combined in a long, strange-sounding word, you are unable to recognize any similarity between it and "normal" American English. If all of this seems like Greek to you, you're right on target! Most medical terms come from ancient Greek and Latin words, although some come from German and French too.

You should already have a basic working knowledge of medical word components. The simplest way to review them and to introduce you to new ones is to provide you with a list—in fact, three lists. The following text will discuss briefly the three major word components. Then, you will see list examples of each with their corresponding definitions. Finally, you will see these elements are combined to form medical terms. First, you will start by learning word components that appear in the first part of a medical term—*prefixes*.

026. Identifying medical prefixes

Perhaps the best way to begin a lesson on terminology is to analyze the meaning of a prefix. A *prefix* is a syllable or group of syllables joined to the beginning of a root word to alter its meaning or to create another word. Prefixes are always used in *conjunction* with a root word or with a root word and suffix; they *cannot* stand alone to form a word or term.

With the definition of a *prefix* fresh in your mind, carefully study the following table of medically related prefixes. Each prefix is accompanied by its definition. The following table is in alphabetical order to make your review a bit easier.

Prefix	Meaning
a-, an-	absence of
ab-, abs-	away from
ad-	to, toward, near
aer-, aero-	air
ambi-	both
ante-, antero-	before, forward. in front of
auto-	self
bi-	two
bio-	life
brady-	slow
circum-	around
co-, com-, con-	with, together
contra-	against, opposed
de-	from, not
deca-	ten
di-	two
dis-	negative, apart
dys-	difficult, painful
ecto-	on the outside
en-	in
endo-	within
epi-	upon
erythro-	red
eu-	well, normal
ex-, e-, exo-	away from, without
exo-	outside

Prefix	Meaning
intra-	within
iso-	equal
latero-	side
leuco-, leuko-	white
macro-	large
mal-	bad, disordered
med-	middle
meg-, mego-	great, large
melano-	black
meno-	monthly
meta-	beyond
micro-	small
mono-	single
multi-	many
neo-	new
non-	not
pan-	all
para-	beside
peri-	around
poly-	many, much
post-	after
pre-	before
pro-	before, in front of
pseud-, pseudo-	false
retro-	backward, behind
semi-	half

Prefix	Meaning
extra-	outside, beyond
fore-	in front of
glycol-	sugar
hemi-	half
hetero-	other, mixed
homo-	same, similar
hydr-, hydro-	water
hyp-, hypo-	below, less
hyper-	above, excessive, over
in-	not, in
infra-	below, beneath
inter-	between

Prefix	Meaning
sub-	under
super-	above, excess
supra-	over, above
sym-, syn-	with, together
tachy-	fast
therm-, thermo-	heat
topo-	place
tox-	poison
trans-	across, through
tri-	three
ultra-	excess
uni-	one

Of course, many more prefixes exist—any or all of which could be added to this list, but these should provide a good foundation on which to build your medical vocabulary.

As a "trial run," look at just one of these prefixes and see how it is used to make a word.

Of course, you are familiar with the word "biology." But did you ever stop to think about the origin of this word? "Biology" is a combination of two Greek words: *bio-*, meaning "life", and *-logy*, meaning "the study of" or "the science of." Thus, when you combine *bio-* and *-logy* the result is the word "biology", which means "the science or study of life;" for example, "the study of how life is formed."

Likewise, you can analyze and arrive at the meaning of many, many other words. "Biology" is just one example of how a prefix combines with another word component to form a term with a definite meaning. If you study the prefixes in the preceding list, you can break down just about any medical term and figure out what it means. However, to analyze medical terms and decipher their meanings more fully, you also need to understand the elements of the medical language that appears at the end of words—the *suffixes*.

027. Identifying medical suffixes

A *suffix* is a syllable or group of syllables added at the end of a word or to a word's base to change its meaning, give it grammatical function, or form a new word. A suffix may be found in combination with a *prefix* and a root word, or just with a root word. Like prefixes, suffixes *cannot* be used alone to form a word or term.

Having defined *suffix*, let's look at and start learning a listing of common suffixes and their corresponding meanings, as they are used to form medical terms.

Although limited, this table contains enough suffixes to strengthen your growing vocabulary. The following table shows how these suffixes are used to form a medical term.

Suffix	Meaning
-algia	pain
-asis	condition, usually abnormal
-asthenia	weakness
-biotic	living matter
-cele	cyst, hernia, sac
-centesis	to draw out of
-cide	causing death
-cyte	cell
-desis	binding or fusion
-ectasis	dilation, stretching
-ectomy	removal of
-emia	blood

Suffix	Meaning
-lysis	to break apart
-malacia	softness, softening
-megaly	enlargement
-meter, or -metry	measurement, measuring instrument
-oid	form, shape, resemblance
-oma	tumor
-osis	process (usually disease)
-pathy	disease, suffering
-penia	lack or reduction in number of
-pexy	fastening, fixation
-phasia	expression primarily by speech
-phobia	a fear of

Suffix	Meaning
-esthesia	feeling, sensation
-genic	producing
-gram	a tracing or mark
-graph	a writing or record
-graphy	making a recording
-iasis	condition of
-iatry	treatment of a disease
-ism	a condition
-itis	inflammation
-ize	to affect by a specific method
-lith	stone or calculus
-logy	science or study of

Suffix	Meaning
-plasty	surgical reshaping or remodeling
-plegia	paralysis
-poiesis	formation of
-ptosis	falling, sagging, or dropping down
-rhea or-rrhea	flow, discharge
-scope	examination instrument (usually lensed and lighted)
-scopy	act of examining, visual examination using a scope
-stasis	standing still; maintaining
-stomy	to create an opening
-tomy	incision or cutting into
-uria	relating to urine

If you learn that the word "tracheo" refers to the trachea or throat area, how would you change the word to mean "a surgical incision into the trachea or throat"? If you look through the preceding list, you will see that the suffix *-tomy* or *-otomy* means "incision or cutting into." To make the word you want, simply add one of these suffixes to the root word "tracheo." The term formed by combining the two elements is "tracheotomy", which means a "surgical incision into the throat or trachea." There is very little difference between the meanings of some of these suffixes, but a significant difference in the way they are spelled (and used). It is very important that you pay particular attention to learning the subtle differences so you do not become confused and misinterpret a term.

Study these word endings closely. To avoid confusion, notice how others use them in your day-to-day verbal and written communications. Also, notice how these suffixes are used later on in this unit when studying common surgical terms.

Still, there is more basic "word knowledge" you need. No discussion of medical terminology would be complete without mentioning the elements that form the "heart" of medical terms—*root words*.

As with the prefixes and suffixes listed previously, this list of root words is not all-inclusive. However, it does contain most of the root words you will encounter in your daily duties.

If you take the time to learn the elements of medical terminology in this section, you should be able to look at most medical terms and figure out what they mean (or at least be in the ballpark). When you combine word components in different combinations, you form the words and expressions that are an integral part of everyday communication between members of the medical profession. You also need to know something about the shorthand that providers use when writing in patients' charts. We will take a closer look at this subject in the next section of this unit.

028. Commonly used root words

To become familiar with terms that apply to human anatomy and physiology, you need knowledge of commonly used medical root words.

A root word is the main part or portion of a word from which other words may be formed by adding a prefix, suffix, or both. Very often, a vowel is added when two root words are combined or when a suffix is added to a root word. This *combining vowel* is usually an "o" or an "i", but a "u" is sometimes used. The combining vowel makes pronunciation easier when there is no vowel between the two root words or between the root word and suffix.

Just as above, the following table is an alphabetical listing of root words and their definitions (i.e., root words that relate to the human body and body processes).

The *most* common combining vowel is in parentheses in the following table.

Root	Meaning
abdomin(o)	abdomen
acou(i)	hearing
aden(o)	gland
adren(o)	adrenal gland
angi(o)	vessel (usually blood vessel)
arterio	artery
arthr(o)	joint
audi(o)	pertaining to hearing
bil(i)	relating to bile
blephar(o)	relating to an eyelid
brach(i)	arm
bronch(o)	pertaining to a bronchus or the bronchi
calcane(o)	heel
card(i)	pertaining to the heart
cardi(o)	pertaining to the heart
carp(o)	wrist
cephal(o)	head
cervic(o)	neck
chole, chol(o)	bile
cholecyst	gallbladder
chondr(o)	cartilage
col(o)	colon (large intestine)
colpo	vagina
cost(o)	rib
crani(o)	skull
cyst(o)	urinary bladder, cyst
cyt(o)	cell
dactyl(o)	finger or toe
dent(o), dont(o)	relating to a tooth or the teeth
derm(a)	skin
doch(o)	duct
duoden(o)	duodenum
encephal(o)	brain
enter(o)	intestines
fibr(o)	fiber, fibrous
gastr(o)	stomach
genu	knee, bend
gloss(o)	tongue
gluc(o)	glucose, sweetness
glyc(o)	sugar
gyn, gyne	woman
gyneco	woman
hem, hema, hemo,	blood

Root	Meaning
mening(o)	membrane
meno	menstruation, monthly
metra, metro	uterus, endometrium
my(o)	muscle
myel(o)	bone marrow, spinal cord, nerve sheath
nas(o)	nose
necro	dead
nephr(o)	kidney
neur(o)	nerve
ocul(o)	eye
oophor(o)	ovary
ophthalm(o)	eye
opto	relating to vision
orchi(o)	testicle
orth(o)	straight, normal, correct
os	bone or opening
oste(o)	bone
ot(o)	ear
path(o)	relating to disease
ped(o)	child
pharyng(o)	pharynx
phleb(o)	vein
physio	relating to nature, life
pneum(o)	lung or air
pod(o)	foot
proct(o)	rectum
psych(o)	mind, soul
pulmo	lung
py(o)	pus
pyel(o)	pelvis of the kidney
rect(o)	rectum
ren(i)	kidney
rhin(o)	nose
sacro	sacrum (vertebra)
salping(o)	tube (uterine/Fallopian, auditory/eustachian)
sarc(o)	flesh (skeletal muscle tissue)
spleen(o)	spleen
spondyl(o)	vertebrae, spine
sten(o)	narrow, constriction
stern(o)	sternum
stoma	mouth
teno	tendon
therm(o)	heat

Root	Meaning
hemat(o)	
hepat(o)	liver
Hydr(o)	water, fluid
hyster(o)	uterus
ile(o), ili(o)	ileum
Jejun(o)	jejunum
Kerat(o)	cornea,sclera
kinesi(o)	movement
laparo	abdomen, loin, or flank
laryng(o)	larynx, throat
latero	side
lip(o)	fat
lith(o)	stone
lymph	watery liquid from lympatic tissue fluids
mamm(o)	breast, mammary gland
mast(o)	breast, mastoid process

Root	Meaning
thoraco	chest, thorax
thromb(o)	clot, thrombus
thyr(o)	thyroid gland
toxic(o)	poison, poisonous
toxo	poison
trache(o)	trachea
ur(o), urin(o)	relating to urine or urinary organs
uretero	ureters
urethro	urethra
uter(o)	uterus
vas(o)	a duct
ven(o)	vein
ventri, ventro	chamber, typically in brain or heart
vertebr(o)	spine, vertebrae
vesico	urinary bladder

Self-Test Questions

After you complete these questions, you may check your answers at the end of the unit.

026. Identifying medical prefixes

1. Define “prefix.”

2. When are prefixes used alone to define a word or system?

3. Match the prefix in column A with its definition in column B. Items in column B are used only once.

Column A	*Column B*
____ (1) bio-	a. sugar.
____ (2) di-	b. above, excessive, over.
____ (3) dys-	c. two.
____ (4) glyco-	d. side.
____ (5) hydro-	e. after.
____ (6) hypo-	f. heat.
____ (7) hyper-	g. life.
____ (8) latero-	h. water.
____ (9) melano-	i. fast.
____ (10) poly-	j. before.
____ (11) post-	k. difficult, painful.
____ (12) pre-	l. false.
____ (13) pseudo-	m. black.

Column A	*Column B*
____ (14) tachy-	n. many, much.
____ (15) thermo	o. below, less.

027. Identifying medical suffixes

1. Match the suffix in column A with its meaning in column B. Items in each column are used only once.

Column A	*Column B*
____ (1) asis.	a. a tracing or mark.
____ (2) cele.	b. cyst, hernia, sac.
____ (3) cyte.	c. a condition.
____ (4) ectomy.	d. to break apart.
____ (5) emia.	e. condition, usually abnormal.
____ (6) gram.	f. disease, suffering.
____ (7) iasis.	g. blood.
____ (8) iatry.	h. flow, discharge.
____ (9) ism.	i. condition of.
____ (10) itis.	j. inflammation.
____ (11) logy.	k. incision or cutting into.
____ (12) lysis.	l. cell.
____ (13) plasty.	m. surgical reshaping or remodeling.
____ (14) rrhea.	n. treatment of a disease.
____ (15) tomy	o. science or study of.
	p. removal of.

028. Commonly used root words

1. Define a “root word.”

2. Match the root word in column A with its definition in column B. Items in column B are used only once.

Column A	*Column B*
____ (1) acou(i)-.	a. stomach.
____ (2) angi(o)-.	b. testicle.
____ (3) arthr(o)-.	c. hearing.
____ (4) cephal(o)-.	d. membrane.
____ (5) chondr(o)-.	e. cell.
____ (6) cyt(o)-.	f. nose.
____ (7) encephal(o).	g. vein.
____ (8) gastr(o)-.	h. vertebrae, spine.
____ (9) glyc(o)-.	i. cartilage.
____ (10) laparo-.	j. urinary bladder.
____ (11) mening(o)-.	k. ovary.
____ (12) nephr(o)-.	l. brain.

Column A	*Column B*
____ (13) oophor(o)-.	m. lung or air.
____ (14) orchi(o)-.	n. abdomen, loin, or flank.
____ (15) phleb(o)-.	o. vessel (usually blood vessel).
____ (16) pneum(o)-.	p. kidney.
____ (17) rhin(o)-.	q. tube.
____ (18) salping(o)-.	r. head.
____ (19) spondyl(o)-.	s. sugar.
____ (20) vesico-.	t. joint.

4–2. Common Diagnostic Terms

There are two additional aspects of the medical language you should become familiar with in addition to the elements of terminology already presented. Primarily, you need to learn common abbreviations and symbols used by medical practitioners and nursing personnel to save time and space when documenting patient status, care, and treatment in medical records. If you cannot interpret the shorthand entries in a patient's chart, you will not be able to understand the patient's medical problems fully, the treatment regimen the doctors ordered to correct the problems, and the care rendered. You will use this expertise when assigned to duty sections like outpatient and inpatient records, admissions and dispositions office, aeromedical evacuation, and many others.

Clearly then secondarily, you need to expand your medical vocabulary to include terms that medical personnel use to describe anatomical movement and structural relationships.

The lessons in this section will familiarize you with commonly used medical abbreviations and symbols, and introduce you to medical terms that describe body movement and directions. The first area we'll address deals with medical abbreviations.

029. Understanding medical abbreviations and symbols

As a Health Services Management Apprentice or Journeyman, you probably will not be involved with "charting" patient care. However, you will need to learn the abbreviations and symbols used to document comments in medical records, so that you can read and understand the patient's medical condition.

Common abbreviations

Extensive lists of medical abbreviations exist. In order to standardize the abbreviations used in medical records, professional medical and nursing organizations have developed nationally accepted lists. From this national compilation of abbreviations, the health (medical) record committee of each Air Force MTF may publish extracts of abbreviations for use in their particular facility. Normally, this is done to standardize documentation of patient care and treatment in the MTF. A few of the key restrictions relating to the use of abbreviations in outpatient and inpatient records are those listed here:

- Use only nationally recognized standard abbreviations. If your MTF publishes a list of approved abbreviations, use only the ones that appear on that list.
- Do *not* use abbreviations and symbols to record a patient's final diagnosis. Whenever possible, avoid the use of medical shorthand in other parts of outpatient and inpatient records, as well.

  NOTE: This recommendation is to avoid misinterpretation of recorded information—particularly in a court of law.

- Avoid using abbreviations with more than one meaning, and abbreviations that are obscure or vague. If there is any doubt in your mind about the clarity or specificity of an abbreviation, write the word or phrase out in full, or in a form that eliminates any doubt as to your intended meaning.

Remember, all records in a patient's chart are legal documents. All documentation appearing in those records must be accurate, legible, and easy to understand.

The following lists of abbreviations are limited to those that you will see used most often in patients' records. To make it easier for you to study and remember these abbreviations, they are divided into four different categories:

1. Medications and treatments.
2. Weights and measures.
3. Body structures and areas.
4. Miscellaneous abbreviations.

The lists within each category show the abbreviation, the Latin or other foreign expression from which it was derived (if applicable), and the English translation. Concentrate on studying the abbreviations and their English meaning. The foreign derivatives are included so that you can see the actual words from which the abbreviations were formed.

NOTE: Unless otherwise indicated, all foreign derivatives are Latin.

Abbreviations for medications and treatments

Some of the abbreviations listed in the table below are foreign to you. Still, you will likely spot others that are old friends. If you're persistent, all of them will become familiar before long.

Abbreviation	Foreign Derivative	English Translation
$\bar{a}$ or aa ana		of each
a.c.	ante cibum	before meals
ad lib.	ad labium	as desired
AM	ante meridiem	morning
aq.	Aqua	water
ASAP		as soon as possible
b.i.d.	bis in die	twice a day
BIN	bis in nocte	twice a night
Cap	Capsula	capsule
Comp	Compositus	compound
D/C		discontinue or discharge
Dil	Dilue	dilute
Elix	al iksir (Arabic)	elixir
FF		force fluids
Fl	Fluidus	fluid
H, h, or hr	Hora	hour
h.s.	hora somni	at bedtime
IM	intramusculus	intramuscular
inj.	Injection	injection
IPPB		intermittent positive pressure breathing
IV	Intravenosus	intravenous
KVO		keep vein open
Liq	Liquidus	liquid

Abbreviation	Foreign Derivative	English Translation
LPM		liters per minute
Midnoc	medius nocte	midnight
mist or Mixt	Mistura	mixture
Noc	Nocte	night
non rep	non repetatur	do not repeat or refill
NPO	non per os	nothing by mouth
p.c.	post cibos	after meals
Pil	Pilula	pill
PM	post meridiem	afternoon (evening)
Po	per os	by mouth
p.r.n.	pro re nata	occasionally, as required
Pulv	Pulvis	powder
q.	Quaque	every; each
q.d.	quaque die	everyday
q.h.	quaque hora	every hour
q.2h.	quaque secunda hora	every 2 hours
q.h.s.	quaque hora somni	every bedtime
q.i.d.	quater in die	four times a day
Qs	Quantum sufficiat or satis	sufficient quantity
Rep	repetatur	repeat
R_x	Recipe	take (prescription)
sc; subcut	sub cutis	subcutaneous
sol.	Solution	solution
Sos	Si opus sit	only if necessary
Ss	Semis	one-half
SSE		soap suds enema
stat.	Statim	immediately; at once
Tab	Tabella	tablet
t.i.d.	ter in die	three times a day
Tr	Tincture	tincture
Tx	Tractare	treatment
Ung	unguentum	ointment

Abbreviations for weights and measures

You know “Celsius” and “Fahrenheit” as well as “meter” and probably “kilogram.” Each appears in the following table. However, do you know their abbreviations? See the table below for weights and measures:

Abbreviation	Foreign Derivative	English Translation
C or C.		Celsius centigrade or (Swedish) Celsius (proper name)
Cc	Cubique	cubic centimeter; (centimetre, French)
Cm	centimetre	centimeter (French)
Dr	drachm (Greek)	dram or drams
F or F.	Fahrenheit (proper name)	Fahrenheit (German)
fl dr	fluidrachma	fluid dram (Greek)
fl oz	fluidus uncia	fluid ounce
Ft	Fiat	foot or feet
Gal		gallon
Gm	Gamma	gram
Gr	gamma roetgen	grain

Abbreviation	Foreign Derivative	English Translation
gtt.	Guttae	drops
H, h, or hr	Hora	hour
Ht	Hiehtho	height (Old English)
In	Uncial	inch
Kg	kilogramme	kilogram (French)
Lb	Libra	pound
M	metre (French)	meter
mg; mgm	milligramme	milligram (French)
Min	Minuta	minute
Ml	mille (Latin)	milliliter (French)
Mm	mille (Latin)	millimeter (French)
Oz	Uncial	ounce
Pt	pint (German)	pint
sp gr	species gravitus	specific gravity
T	Temperature	temperature
tbs, tbsp		tablespoonful
Tsp		teaspoonful
Wt	With	weight (Old English)

Abbreviations for body structures and areas

What do “AD”, “BE”, “GI”, “od”, and “RUL” mean? They may not mean what will first come to your mind. Check them out in the following tables.

Abbreviation	Foreign Derivative	English Translation
Abd	Abdere	abdomen; abdominal
AD	auris dextra	right ear
AE		above elbow
AK		above knee
AS	auris sinistra	left ear
AU	auris unitas	both ears
BE		below elbow
BK		below knee
CNS		central nervous system
C-spine		cervical spine
GI	gaster (Greek)	gastrointestinal
GU	Genitalis	genitourinary
LE		lower extremity, left eye
LGI	(see GI)	lower gastro-intestinal region
LLL		lower left lobe (lung)
LLQ		lower left quadrant (abdomen)
LUL		left upper lobe (lung)
LUQ		left upper quadrant (abdomen)
Ocul	Oculus	eye
OD or O.D.	oculus dexter	right eye
OS or O.S.	oculus sinister	left eye
Os	Oris	mouth or other opening; bone
OU	oculus uterqie	each eye
RLL		right lower lobe (lung)
RLQ		right lower quadrant (abdomen)
RML		right middle lobe (lung); right

Abbreviation	Foreign Derivative	English Translation
		mediolateral
RUL		right upper lobe (lung)
RUQ		rught upper quadrant (abdomen)
Subq	sub cutis	subcutaneous
TMJ	temporalist mandibulae junctio	temporo-mandibular joint
UE	Extremitas	upper extremity
UGI	(see GI)	upper gastrointestinal

Miscellaneous medical abbreviations

As with the above lists of abbreviations, there are both old friends and total strangers waiting in the table below.

Abbreviation	Meaning
$\bar{a}$	before
ACLS	advanced cardiac life support
AMA	against medical advice
BCLS	basic cardiac life support
BM	bowel movement
BP	blood pressure
Bx	biopsy
$\bar{c}$	with
Ca	cancer; calcium
CA	cardiac arrest; coronary artery; child abuse
CAD	coronary artery disease
CBC or c.b.c.	complete blood count
CCU	coronary care unit
c/o	complains of
COPD	chronic obstructive pulmonary disease
CPR	cardiopulmonary resuscitation
CS or C-section	Caesarean section
CVA	cardiovascular or cerebrovascular accident (stroke)
DJD	degenerative joint disease
DOS	day/date of surgery
DTs	delirium tremens
D_x	diagnosis
ECG or EKG	electrocardiogram
EEG	electroencephalogram
FHT	fetal heart tones
F/u	follow-up
Fx or F_x	fracture
GSW	Gunshot wound
Gyn	gynecology
HIV	human immunodeficiency virus (AIDS virus)
HNP	herniated nucleus pulposus (“slipped” intervetebral disk)
Hx	history
ICU	intensive care unit
I&O	intake and output
IVP	intravenous pyelogram
LBP	lower back pain

Abbreviation	Meaning
LD	labor and delivery
MI	miocardial infarction (heart attack)
NAD	no acute or apparent distress
NSA	no serious or significant abnormality
NSC	no significant change
OB	obstetrics
OOB	out of bed
$\bar{p}$	After
PACU	postanesthesia care unit (recovery room)
PERRLA	pupils equal, round, and react to light and accommodation
PID	pelvic inflammatory disease
PMH	past medical history
pt.	Patient
R/O	rule out
ROM	range of motion
$\bar{s}$	Without
SOB	shortness of breath
SOP	Standing operating procedure
Sx	sign; symptom
TB	tuberculosis; tracheobronchitis
TPR	temperature; pulse; and respiration
U/A	urinanalysis
URI	upper respiratory infection
UTI	urinary tract infection
VD	venereal disease
VDRL	Venereal Disease Research Laboratory (test for syphilis)
VS	vital signs
VSS	vital signs stable
VT	ventricular tachycardia
WNL	within normal limits
y/o	year old

Although you may feel overwhelmed after studying these lists, it is important that you commit them to memory. Knowledge of these commonly used medical abbreviations will help you understand the information in patients' charts.

In addition to the numerous abbreviations that you may encounter in medical records, various symbols are sometimes used in conjunction with abbreviations and medical terms to save time and space.

Symbols used in medical documentation

You use several symbols in documenting patient care and treatment; however, below are the six most common symbols. The text in the table below shows what the symbol looks like, defines it, and then provides an example on how it may be used in a patient's chart.

Symbol	Used to denote	Example
x	multiplication	Take vital signs q2h x 3
<	less than	Diastolic blood pressure < 90, notify physician STAT.
>	greater than	Respirations > 24, notify nurse.
↑	elevated or above	Keep right arm ↑ on two pillows x 24h.

Symbol	Used to denote	Example
↓	decrease or below	Right shoulder ROM ↓ by 10 degrees.
Δ	change	Notify Dr Smith ASAP if significant Δ in urinary output in next 2h.

As you can see from the short examples provided, symbols and abbreviations can definitely save a lot of writing, yet effectively convey a great deal of information. When you have the opportunity to review a patient's chart, read the history and physical. You may be surprised at the number of symbols and abbreviations in the written comments. Try to visualize what the sentences containing abbreviations and symbols would look like if they were written in longhand. Practice will enable you to read a patient's chart without any difficulty. Proficiency takes practice—use what you have learned every chance you get.

030. Terms used to describe anatomical relationships

To round out your knowledge of medical terminology and prepare you for the upcoming lessons on anatomy and physiology, you will next review medical reference terms that describe the positional or directional relationships of different body structures and areas.

The following terms will help you understand directions and positions with regard to specific points on the human body. See figure 4–1 for an example of these relationships.

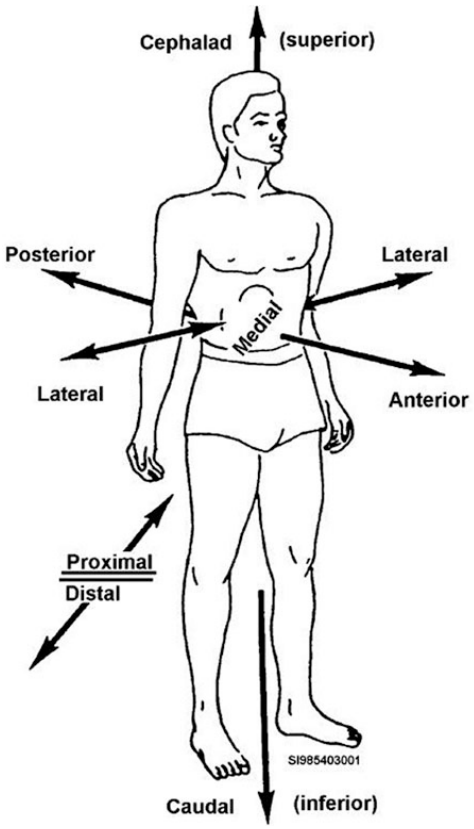

Figure 4–1. Anatomical relationships.

Anterior (ventral)

This means *toward or near* the *front* side of the body(the eyes are anterior to the ears, and the rib cage is ventral to the heart).

Posterior (dorsal)

This means toward or near the backside of the body (the spine is posterior to the ribs, and the buttocks are dorsal to the groin).

Medial (mesial)

"Medial" means toward or near the midline of the body (the umbilicus or navel is medial to the hips, and the nose is mesial to the ears).

Lateral

"Lateral" means *away* from the midline or *towards* the right or left sides of the body (the hips are lateral to the umbilicus, and the arms are lateral to the torso).

Superior (cephalad)

"Superior" means toward the head or upper part of the body. In other words, it identifies a part that is above or closer to the head than another part (the head is superior to the torso, and the pelvis is cephalad to the legs).

Inferior (caudal)

"Inferior" means towards the feet or lower part of the body. Thus, it identifies a part that is below or closer to the feet than another part (the neck is inferior to the head, and the buttocks are caudal to the chest).

Proximal

When a part is "proximal" it is toward or closer to the point of origin, usually in terms of the trunk of the body. This part is closer than another part to any given point of reference, usually the trunk or midline of the body (the elbow is proximal to the wrist, and the knees are proximal to the ankles).

Distal

That which is "distal" is away or farther from the point of origin. This part is farther from a given point of reference than another part— once again, usually the trunk or midline (the nose is distal to the face, the fingers are distal to the wrist, and the thighs are distal to the pelvis).

Internal (deep)

Anything called "internal" is toward the inside of the body or a body part (the intestines are internal as compared to the muscles of the abdominal wall, and the dermis is considered to be the deep or most internal layer of the skin).

External (superficial)

Anything that is "external" is *toward* the outside (surface) of the body *or* a body part (the mouth is an external opening in the body, and the epidermis is a superficial tissue layer).

Peripheral

"Peripheral" is referring to something *outward* from the center of the body or *closer* to the body surface. This term is often used when describing small arteries, veins, and nerves, which branch off from larger, more centrally located structures (the spinal nerves that branch off from the spinal cord are considered part of the peripheral nervous system, and surgery on the arteries supplying the arms and legs is called "peripheral vascular surgery").

Once you master these basics, you will be able to communicate more effectively with the people you work with, and be able to read a patient's chart without getting lost. As stated earlier, the goal in introducing you to medical terminology is to assist you in developing and understanding the language of medicine. Your efforts will pay off as you begin to understand the elements of medical terms and abbreviations and become proficient in spelling them.

Self-Test Questions

After you complete these questions, you may check your answers at the end of the unit.

029. Understanding medical abbreviations and symbols

1. When should abbreviations and symbols *not* be used in a patient's medical record?

2. Translate each of the following abbreviations for medications and treatments.

   (a) ad lib.

   (b) b.i.d.

   (c) D/C.

   (d) NPO.

   (e) q.2h.

3. Translate each of the following abbreviations for weights and measures.

   (a) cc.

   (b) gm.

   (c) gtt.

   (d) mg; mgm.

   (e) wt.

4. Translate each of the following abbreviations for body structures and areas.

   (a) AU.

   (b) C-spine.

   (c) GI.

   (d) LLQ.

   (e) UE.

5. Translate each of the following abbreviations for miscellaneous medical terms.

   (a) BM.

   (b) CBC.

   (c) c/o.

   (d) F/u.

   (e) I&O.

   (f) MI.

   (g) OOB.

   (h) R/O.

   (i) WNL.

   (j) y/o.

030. Terms used to describe anatomical relationships

1. What term means toward or near the front side of the body?

2. What term means toward or near the backside of the body?

3. Define “medial.”

4. Define “lateral.”

5. What’s the difference between “superior (cephalad)” and “inferior (caudal)”?

6. What term means “toward or closer to the point of origin”?

7. What term means “away or farther from the point of origin”?

8. What is the meaning of “internal”?

9. What’s the difference between “external” and “peripheral”?

4–3. Body Systems

The need for knowing ourselves becomes more apparent as medicine becomes increasingly specialized and complex. Survival demands us to know about things like what is acceptable to eat and drink, how much exercise is healthy, and how much stress is tolerable. These decisions are easier by knowing ourselves.

The oldest of the human sciences is anatomy—the study of human structure which, in 300 BC, was based on observation. Early in Western history, in 018 AD, the Greek physician Galen clearly made many valuable medical observations.

Later on, in the Middle Ages, a then famous anatomist, Leonardo da Vinci, moved the science further forward. His brilliant mind and artistic skills provided us with an unbeatable collection of anatomical drawings. The modern era of physiology expanded with the use of the experimental method; while in anatomy, the invention of the microscope led to an appreciation of cellular theory, and tissue structure and function.

The human body is a miracle in itself. It starts out as a single cell and develops into a body made-up of trillions of cells that can perform an amazing variety of physical and mental activities. The human body can also replace certain worn-out parts and defend itself against hundreds of diseases. Hundreds of millions of cells die every minute, yet many millions more are being born as cells divide and multiply. Let’s take a closer look at this miracle machine.

031. The human body

The human body is like a machine—the best ever built! Of course, it’s not a machine, but it can be compared to one in many ways. Like a machine, the body consists of many parts. Each of these parts does a special job, and all of the parts work *together*, making the body run smoothly. Also like a machine, the body needs energy to work. The human body can be compared to a car in that the energy for a car comes from gasoline and in the body, it comes from food and oxygen.

Here, the comparison ends, because the human body is far more amazing than any machine. It can do things that no machine can do. The body can grow and repair itself, replacing certain worn-out parts. In fact, the body is always rebuilding itself. Consider, for example, how the human body continuously replaces the outermost layer of skin! The human body can also defend itself against hundreds of diseases, and repair itself after most small injuries. Many body parts, such as the heart and kidneys, work continuously!

The human body is built-up of nearly a dozen major interrelated systems, each designed for a special function. Consider just a few of its functional roles below:

1. The *skeleton* provides a strong framework.
2. *Muscles* are the engines of the body.
3. Bones, with tendons, ligaments and fibrous sheaths linking joints and muscles, provide the system for translating *muscular contractions* into body movements.
4. The fuel and oxygen that keep muscles working travel through thousands of miles of tubing in the *circulatory* system.
5. The *respiratory* system supplies the blood with oxygen.
6. The *digestive* system breaks food down into nutrients that can be used as fuel.
7. The *urinary* system gets rid of processed body wastes.
8. The *endocrine* system and nervous system control bodily activities.
9. The *nervous* system keeps us aware of our surroundings.

The skin neatly contains all these interlocking systems. Though many body systems parallel systems in a complex machine, the body is no ordinary mechanism. Its lymphatic and circulatory systems can prevent or minimize damage and replace worn components. The reproductive system enables human beings to reproduce. And no machine has yet learned how to think. The most incredible part of the human body is the brain. The human brain is so highly developed that it makes us different from all other living things. Humans are able to think, and can compose silly rhymes or beautiful poetry. We can create our own dream world or split an atom. No animal and no computer can think like a human being.

032. Body makeup

Like all things—living and nonliving—the human body is comprised of a complex system of chemical elements and compounds. The *most common* chemical elements in the body are carbon, hydrogen, nitrogen, and oxygen. The body also contains smaller amounts of many other elements, including calcium, iron, phosphorus, potassium, and sodium.

Chemical elements and molecules

Atoms of chemical elements combine and form *molecules*. The most common molecule in the human body is water. As you know, water consists of two atoms of hydrogen and one atom of oxygen. Water makes up about 65 percent of the human body. Most of the chemical reactions occurring in the body require water.

Except for water, all of the chief molecules in the body contain the element carbon. The most important carbon-containing molecules are *macromolecules*. There are four main kinds of macromolecules in the body: carbohydrates, lipids, proteins, and nucleic acids.

1. *Carbohydrates* provide energy that powers all the body's activities.
2. *Lipids* have several jobs. Some lipids, particularly the fats, store extra fuel. Others serve as building materials for the cells that make up the body.
3. *Proteins* also have various jobs. Many serve as building blocks for cells. Others, called enzymes speed up the chemical reactions within the body.
4. *Nucleic acids* carry instructions that tell each cell how to perform its particular jobs.

Cells and tissues

The *cell* is the basic unit of all living things. The cells of the human body consist mainly of molecules of water, proteins, and nucleic acids. The molecules that make up the cells are not alive, but the cells themselves are living things. Each of the body's cells is able to take in food, eliminate wastes, and

grow. Most of the cells can also reproduce. A thin covering consisting of lipid molecules encloses each cell. This lipid envelope, known as a cell membrane, permits only certain substances to enter or leave the cell.

The body has many basic kinds of cells, such as blood cells, muscle cells, and nerve cells. Each kind of cell has special features and jobs. Cells of the same type form tissues. The body has four main kinds of tissues: epithelial, connective, muscle, and nervous (fig. 4–2).

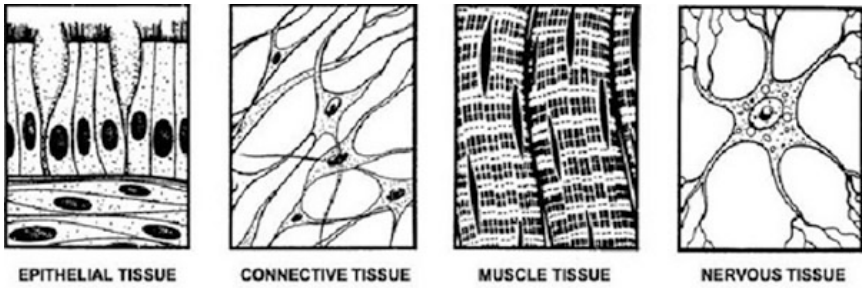

Figure 4–2. Types of tissues.

1. *Epithelial* tissue covers the body surface and forms the skin. It also lines body openings such as the mouth and throat. This tissue prevents harmful substances from entering the body.
2. *Connective* tissue helps support, and to join, various parts of the body. Most connective tissue is strong and elastic.
3. *Muscle* tissue consists of threadlike fibers that can contract (shorten) and relax, making body movement possible.
4. *Nervous* tissue carries signals and allows various parts of the body to communicate with one another. Communication of these signals between cells, particularly in the brain, is called *synapse*.

Organs and organ systems

An organ consists of two or more kinds of tissues joined into one structure that has a certain task. The heart, for example, is an organ whose job is to pump blood throughout the body. Connective tissue, muscle tissue, and nervous tissue make up the heart. Groups of organs form organ systems. Each organ system carries out a major activity in the body. For example, the digestive system consists of organs such as the stomach and intestines that enable the body to use food. Similarly, the nervous system consists of organs that carry messages from one part of the body to another.

Self-Test Questions

After you complete these questions, you may check your answers at the end of the unit.

031. The human body

1. What provides the body its energy?

2. Match the special function in column A with the body system in column B. Items in each column may be used only once.

Column A	*Column B*
____ (1) Breaks food down into nutrients that can be used as fuel.	a. Endocrine and nervous systems.
____ (2) Controls bodily activities.	b. Skeletal system.
____ (3) Provides the system for translating muscular	c. Skin.
	d. Digestive system.

contractions into body movements.

____ (4) Provides a strong framework.

____ (5) Provides the tubing for fuel and oxygen to travel the thousands of miles to keep muscles working.

____ (6) Keeps us aware of our surroundings.

____ (7) Supplies the blood with oxygen.

____ (8) Rids the body of processed wastes.

____ (9) Contains all the interlocking systems.

____ (10) Are the engines of the body.

e. Nervous system.
f. Bones, with tendons, ligaments, and fibrous sheaths.
g. Respiratory system.
h. Muscles.
i. Urinary system.
j. Circulatory system.

3. What is the most incredible part of the human body? Why?

032. Body makeup

1. What are the most common chemical elements in the body?

2. What is the most common molecule in the human body?

3. How much of the human body is made up of water?

4. Match the jobs in column A with the macromolecules in column B. Items in each column may be used only once.

Column A

____ (1) Some serve as building blocks for cells; others speed up the chemical reactions within the body.

____ (2) Carry instructions that tell each cell how to perform its particular jobs.

____ (3) Provide energy that powers all the body's activities.

____ (4) Some store extra fuel; others serve as building materials for the cells that make up the body.

Column B

a. Carbohydrates.
b. Lipids.
c. Nucleic acids.
d. Proteins.

5. What is the basic unit of all living things?

6. What are the four main kinds of tissues in the body?

4–4. Main Organ Systems

This section reviews the main organ systems of the human body. Each system is a complex and organized entity, yet they all function together in a common purpose to produce results impossible of being achieved by one of them acting alone.

033. Integumentary

The skin, or integumentary system, is the largest organ of the body. The skin has three layers: epidermis, dermis, and subcutaneous tissues (fig. 4–3).

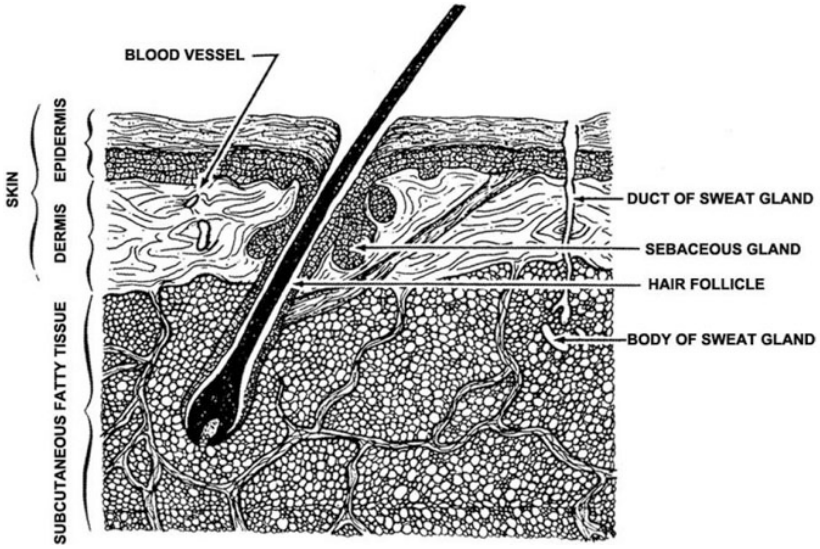

Figure 4–3. Three layers of skin tissue.

Epidermis

The epidermis forms the *outermost* layer of the skin. It serves as a barrier between the outside world and the inner tissues of the body. The outer portion of the epidermis consists of tough, dead cells that prevent bacteria, chemicals, and other harmful substances from entering the body. It also protects the body's inner tissues from the harsh sunrays and prevents the loss of water from these tissues.

Dermis

The dermis is the *middle* layer of the skin *and* helps keep the *temperature* of the body within its *normal* range. The body produces tremendous amounts of heat as it uses food. Some of this heat escapes from the body through the blood vessels in the dermis. When the body needs to retain heat, these blood vessels narrow to limit heat loss. When the body needs to give off heat, the blood vessels in the dermis expand to increase heat loss. The sweat glands, *which are part of the epidermis*, also help control body temperature. These glands produce sweat, which is released through pores on the skin surface. As the sweat evaporates from the surface, it cools the body.

The dermis also serves as an important sense organ. Nerve endings in the dermis respond to cold, heat, pain, pressure, and touch.

Subcutaneous tissues

Subcutaneous tissues form the *innermost* layer of the skin. This layer *provides extra fuel* for the body. The fuel is stored in fat cells. The subcutaneous layer also helps retain body heat, and cushions the inner tissues against blows to the body.

034. Skeletal system

The skeleton of an *adult* consists of about *206 bones*. The skeleton forms a strong framework that supports the body. It also helps protect the internal organs. For example, the skull protects the brain, the spinal column protects the spinal cord, and the ribs protect the heart and lungs (fig. 4–4).

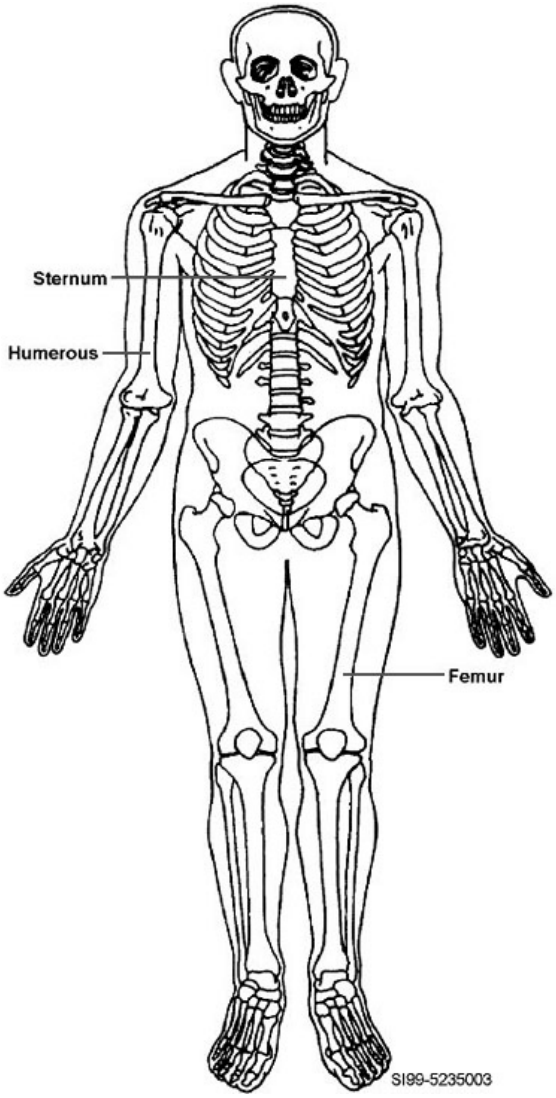

Figure 4–4. Skeletal system.

The skeleton works together with the muscles enabling the body to move. For instance, the bones of the shoulders and arms serve as levers for the muscles enabling the arm to move. The place where bones *meet* is a *joint*. There are two basic kinds of joints: movable and fixed and are described below.

1. *Movable* joints, such as the elbow, knee, and shoulder joints permit varying degrees of motion. Ligaments hold the bones of a movable joint together.
2. *Fixed* joints do *not* permit any movement of the bones. The bones of the *skull*, *except* for the jawbones, meet in fixed joints.

The skeleton serves as more than a framework for the body and a system of levers to help move the body. Bone tissue contains various kinds of cells that play a major role in keeping the blood healthy. The bone marrow cells produce new blood cells and release them into the bloodstream. Two kinds of bone cells regulate the mineral content of the blood. One kind removes calcium, phosphorus, and other minerals from the blood and deposits them in the bone. The other kind dissolves old mineral deposits and releases the minerals back into the bloodstream as needed.

035. Muscular system

The muscular system moves the body. Muscle makes up nearly half the body weight of an adult. More than 600 muscles cover the skeleton and give the body bulk and form. Their main tasks are to

move limbs, push food through the gut, make the heartbeat, and control blood flow around the body. When a muscle contracts, it pulls the tissue to which it is attached. This pulling results in movement (fig. 4–5).

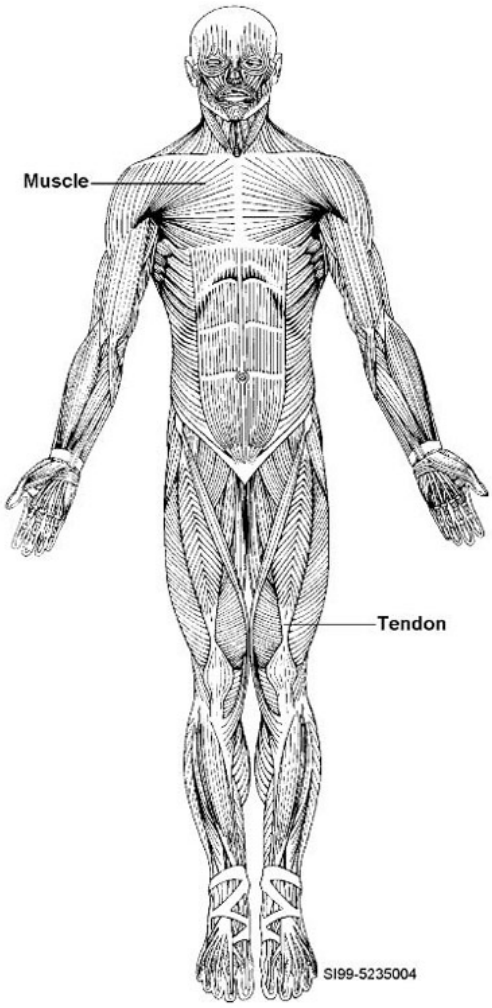

Figure 4–5. Muscular system.

There are three main types of muscles within the human body: skeletal, smooth, and cardiac muscles (fig. 4–6). There is also a fourth kind, but it is specialized. You will read about it a little later.

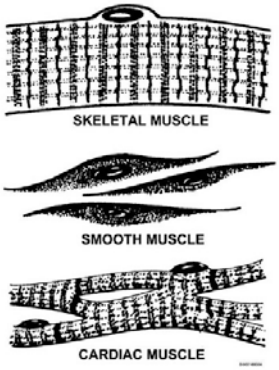

Figure 4–6. Types of muscle.

Skeletal muscles

Skeletal muscles are attached to the bones. They move the bones of the arms, legs, fingers, and other parts of the skeleton. Because humans can *control* these muscles, they are *sometimes* called *voluntary muscles*. They range in size from tiny muscles that rotate the eye to the large, powerful thigh muscles. The fibers that make up a skeletal muscle have alternate light and dark cross bands. When seen under a microscope, the fibers give skeletal muscles a striped or striated appearance; thus, the name *striated* muscles.

One end of each skeletal muscle connects to a bone that does not move when the muscle contracts. In most cases, the other end of the muscle connects to another bone, either directly or by means of tendons. This second bone moves when the muscle contracts.

Muscles move the body *only* by pulling. They cannot push the tissues to which they are attached. Therefore, two sets of muscles control most skeletal movements. One set of muscles pulls the bones in one direction, and the other set pulls the bones in the opposite direction. For example, one set of muscles pulls the forearm up, but it cannot push the forearm down. To lower the forearm, a second set of muscles must contract and pull it down.

Smooth muscles

Smooth muscles are in *most* of the body's *internal* organs. Unlike skeletal muscles, smooth muscles do *not* have striations. Smooth muscles in the walls of the stomach and intestines move food through the digestive system. Smooth muscles also control the width of the blood vessels and the size of the breathing passages. In all of these cases, the smooth muscles contract and relax automatically—and they are not consciously controlled. For this reason, they are often known as *involuntary muscles*.

Smooth muscles cannot contract as rapidly as skeletal muscles. However, smooth muscles can contract more completely than skeletal muscles, and do not tire as quickly. Smooth muscles can produce powerful, rhythmic contractions over long periods.

Cardiac muscle

A third kind of muscle, *cardiac muscle*, is found *only* in the heart. It has features of both skeletal muscle and smooth muscle. Cardiac muscle has striations like skeletal muscle. But like smooth muscle, it contracts automatically and rhythmically without tiring. The cardiac muscle enables the heart to beat an *average* of 70 times a minute without rest *throughout* a person's *lifetime*.

036. Digestive system

The digestive system breaks food down into simple substances that the cells can use. It then absorbs these substances into the bloodstream and eliminates any leftover waste matter. The *main* part of the digestive system is the *alimentary canal*, or gut. This long tube consists of the mouth, esophagus, stomach, small intestine, and large intestine. Other parts of the digestive system include the gall bladder, liver, pancreas, salivary glands, and teeth. The digestive process is principally one of chemical reactions sped up by enzymes. During digestion, starches and complex sugars break down into simple sugars. Fats become fatty acids and glycerol. Proteins break down into amino acids. Water, minerals, and vitamins enter the body tissues undigested. Refer to figure 4–7 as you study this lesson.

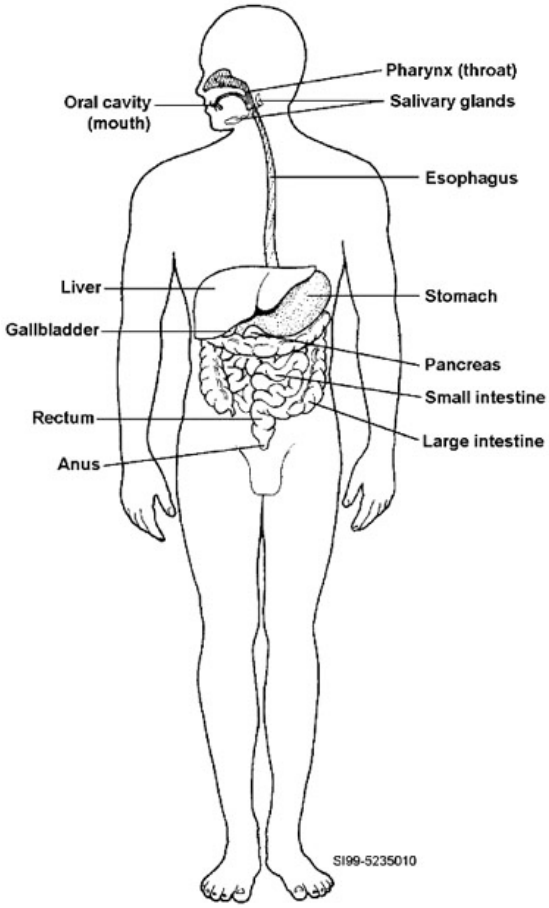

Figure 4–7. Digestive systems.

The mouth, esophagus, and stomach

Digestion *begins* in the *mouth*, where the teeth tear and grind food into small pieces. Small pieces of food are more easily broken down during the digestive process than large ones. This is why chewing is important. As teeth chew the food, three pairs of large salivary glands pour saliva into the mouth. Saliva moistens the food, making it easier to swallow. Saliva also contains the first of the system's several digestive enzymes. The digestive enzymes break food down into chemicals the body can use.

After you swallow the food, it enters the *esophagus*. The esophagus is a long, muscular tube that leads to the stomach. Contractions of smooth muscles move the food down the esophagus and into the stomach. The *stomach* is the widest part of the alimentary canal. It serves as a sort of "holding tank" in which food remains for several hours. During this time, the stomach produces an acid and an enzyme that further break down much of the food. Muscle contractions mix the partly digested food into a thick liquid called *chyme*.

The small and large intestines

Chyme passes from the stomach into the *small intestine* at a steady rate. Various digestive enzymes complete the breakdown of the food within the first section of the small intestine. The small intestine produces some of these enzymes. The pancreas makes the rest. The pancreatic enzymes empty into the small intestine through a duct. Bile, which is made in the *liver* and stored in the *gall bladder*, also enters the small intestine through a duct. Bile does not contain digestive enzymes; rather it aids digestion by breaking up large molecules of fatty foods.

By the time food *leaves* the *first* section of the small intestine, it has been *completely* digested. Special cells line the walls of the remainder of the small intestine. These cells absorb useful substances from

the digested food. The absorbed substances enter the blood. The blood carries some of the substances directly to cells throughout the body. The rest goes to the liver.

The liver stores some of the substances, releasing them as the body requires. It chemically alters the other substances, changing them into forms needed by the body. The substances (water, minerals, and wastes) not absorbed by the small intestine pass to the *large intestine*. The large intestine absorbs most of the water and minerals, which then enter the bloodstream. The wastes move down toward the *rectum* at the end of the large intestine, and leave the body as bowel movements through the *anus*.

037. Respiratory system

The respiratory system consists of the breathing organs (fig. 4–8). These organs include the nose, the trachea (windpipe), and a pair of lungs. The respiratory system has two main jobs. It *provides* the body with *oxygen* and *rids* the body of *carbon dioxide*. The cells of the body need oxygen to break down and to release the energy in food. During this process, carbon dioxide forms as a waste product.

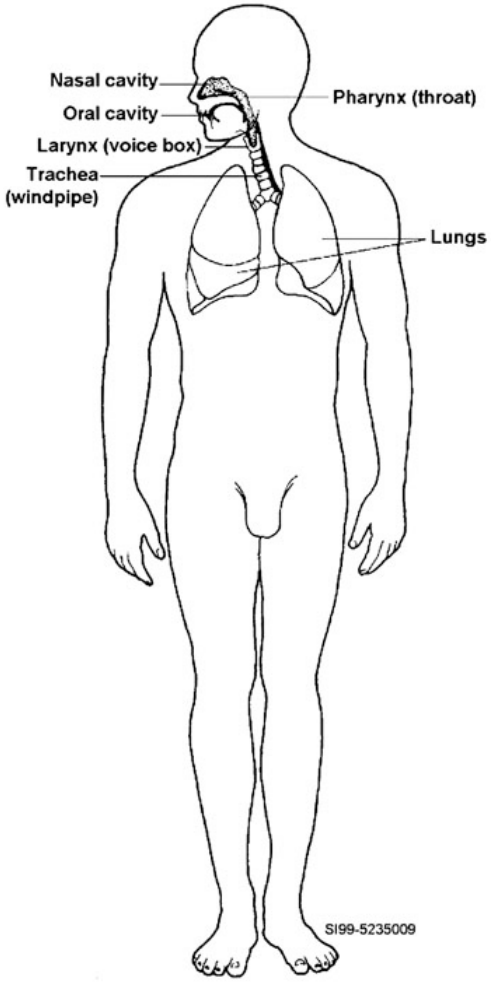

Figure 4–8. Respiratory system.

Breathing involves the acts of inhaling and exhaling. Inhaling occurs as the chest cavity expands. As the chest expands, so do the lungs. Air from the atmosphere rushes in and fills the enlarged lungs. Exhaling occurs as the chest cavity shrinks, which pushes air out of the lungs. Inhaling and exhaling result *mainly* from the *diaphragm* contracting, which is a large muscle that forms the floor of the chest cavity. As the diaphragm contracts, the cavity expands. As it relaxes, the cavity shrinks. The muscles that move the ribs also play a part in the breathing process.

The air passages

When you inhale, air enters the body through your nose. The air flows from the nostrils to the nasal passages. Tiny hair-like structures and mucus line the nasal passage. These structures filter dust and dirt from the air. In addition, cold air is warmed and moistened as it moves through the nasal passages. From the nose, the air passes through the *pharynx* (the cavity behind the nose and the mouth) and the *larynx* (the voice box). The air then enters the *trachea*.

The trachea carries the air toward the lungs. Before reaching the lungs, the trachea splits into two tubes called the *primary bronchi*. Each tube enters one lung. Within the lungs, the primary bronchi divides into smaller and smaller tubes, finally branching into extremely tiny tubes called *bronchioles*. The bronchioles end in hundreds of millions of thin-walled structures called *alveoli*, or air sacs. The alveoli give the lungs tremendous surface area. If you were to flatten out the air sacs, the lungs would cover from 600 to 1,000 square feet!

The exchange of carbon dioxide and oxygen

The exchange of carbon dioxide and oxygen occurs in the alveoli. A network of small blood vessels surrounds each alveolus. Like the alveoli, these blood vessels have extremely thin walls. Blood that enters the vessels has a high level of carbon dioxide, which it picked up from the body tissues. It contains little oxygen. The carbon dioxide leaves the blood and moves through the walls of the blood vessels and alveoli into the lungs.

Oxygen from the air in the lungs then passes through the walls of the alveoli and blood vessels, and into the blood. The oxygen-rich blood leaves the lungs and travels to the heart, which pumps it to cells throughout the body. When you exhale, you expel the carbon dioxide from your lungs.

038. Circulatory system

The circulatory system moves blood throughout the body (fig. 4–9). Blood transports food and oxygen to the cells and carries away carbon dioxide and other wastes. The cells cannot live without a continuous supply of fresh blood. The circulatory system also carries disease-fighting substances that help protect the body. In addition, it transports hormones (chemical messengers). The circulatory system consists mainly of the heart, blood vessels, blood, and the lymphatic system. This lesson covers the first three and the lymphatic system is discussed next.

The heart

The heart is a hollow muscle that pumps blood through the circulatory system by contracting and relaxing rhythmically. Actually, the heart consists of two pumps that lay side-by-side. The left side of the heart makes up the stronger pump. It receives oxygen-rich blood from the lungs and sends it to cells throughout the body. The blood, which picks up carbon dioxide and other wastes from the cells, returns to the right side of the heart. This weaker pump moves the blood to the lungs and then back to the left side of the heart. In the lungs, the carbon dioxide exits the blood while the oxygen enters.

The blood vessels

The blood vessels form a branching network of about 60,000 miles! There are three types of blood vessels: arteries, veins, and capillaries that function as described below.

1. *Arteries* carry blood away from the heart.
2. *Veins* carry blood to the heart.
3. *Capillaries* connect the arteries and veins.

Blood leaves the left side of the heart through the *aorta*, which is the *largest* artery in the body. Several major arteries branch off the aorta. These arteries, in turn, divide into smaller and smaller vessels. Finally, the smallest arteries empty into the tiny capillaries, with walls just one cell thick. Through the thin walls of the capillaries, food and oxygen in the blood exchange for carbon dioxide and other wastes from individual cells.

From the capillaries, the blood enters small veins, which join larger and larger veins. Finally, the blood enters the right side of the heart through the *superior vena cava* and *inferior vena cava*, the body's two largest veins. The right side of the heart then pumps the blood through the *pulmonary arteries* to the capillaries surrounding the air sacs in the lungs. The blood returns from the lungs to the left side of the heart through four *pulmonary veins*. The left side of the heart then pumps the blood out through the aorta, and the blood's journey begins once more.

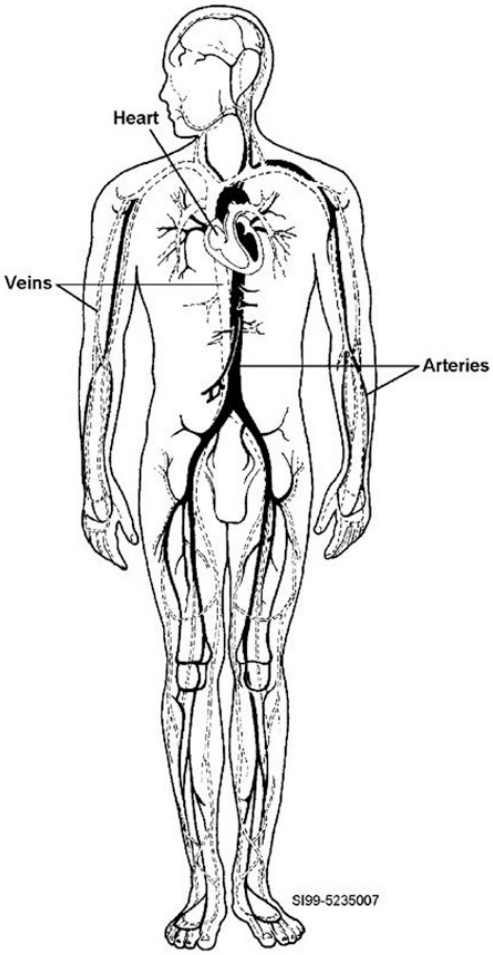

Figure 4–9. Circulatory system.

The blood

The blood consists of pale-yellow fluid called *plasma*, and three kinds of formed elements. The plasma makes up 55 to 65 percent of the total volume of blood. It carries many important substances. The food that enters the blood from the intestine and liver dissolves in the plasma, much as sugar dissolves in water. The plasma transports the dissolved food throughout the body. The plasma carries many of the wastes that the blood picks up from the body tissues. These wastes include ammonia, urea, and much of the carbon dioxide. The formed elements in blood consist of red blood cells, white blood cells, and platelets (fig. 4–10).

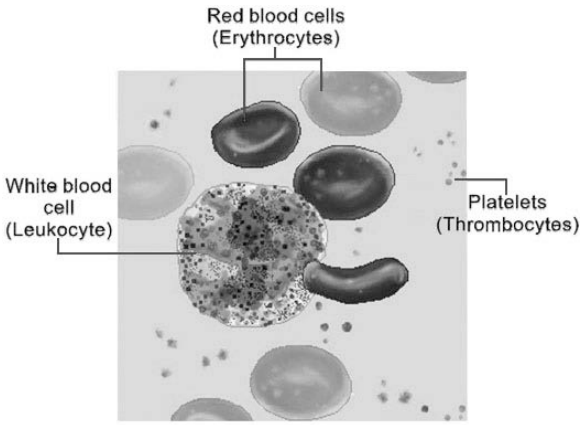

Figure 4–10. Red blood cells, white blood cells, and platelets.

Red blood cells

Red blood cells, or *erythrocytes*, carry oxygen from the lungs to the body tissues. They can do this because red blood cells contain the oxygen-attracting compound *hemoglobin*, which picks up oxygen molecules from the lungs. These oxygen molecules transform hemoglobin into a compound that colors the red blood cells a bright red. When the red blood cells surrender the oxygen to tissues in exchange for carbon dioxide, blood becomes more purple—which explains the general color difference between bright red arterial blood and the duller-colored blood in veins.

White blood cells

White blood cells, or *leukocytes*, help protect the body from disease. These cells protect and scavenge, many of them moving actively to sites of danger to attack bacteria, viruses, poisons, and other harmful substances. White blood cells are the core of the body's immune system. Some kinds of white blood cells are able to "remember" specific types of foreign bodies and recognize fresh invasions by them. Others produce antibodies that coat these foreign bodies, making them easy prey.

Platelets

Platelets, *or thrombocytes*, are disk-like structures that help prevent bleeding from damaged blood vessels. They collect where an injured blood vessel is leaking blood, and then stick together, along with various proteins in the plasma, sealing the broken vessels by forming a clot.

039. Lymphatic system

The lymphatic system consists of a network of tubes that carry a clear, watery fluid called *lymph*. Lymph comes from the blood and eventually returns to it. Water, proteins, and dissolved food leave the blood through the capillary walls. This fluid, called *interstitial fluid*, bathes *and* nourishes the cells of the body tissues. The fluid then drains into tiny, open-ended tubes called *lymphatic vessels*. At this point, the fluid is known as lymph.

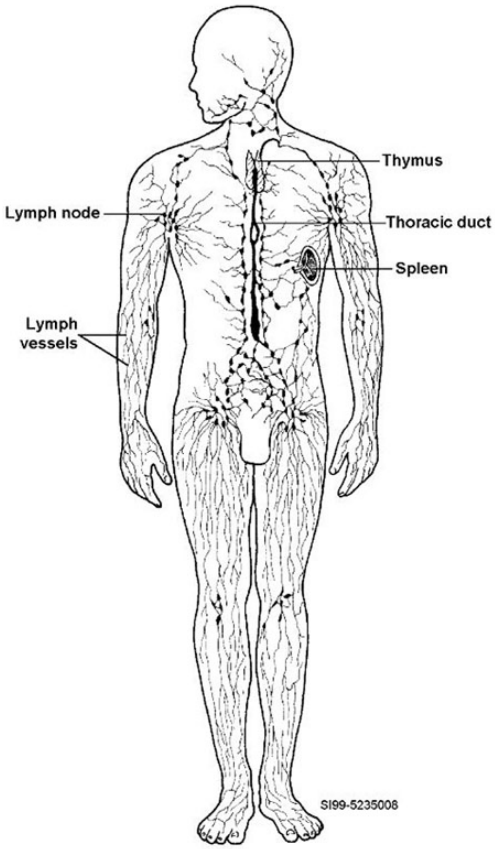

Figure 4–11. Lymphatic system.

The lymph flows through the small tubes into larger and larger lymphatic vessels. *Lymph nodes* occur at various points along the lymphatic vessels. These bead-like structures produce many white blood cells, which filter harmful substances out of the lymph. Eventually, *all* of the lymph flows into *either* the thoracic duct *or* the right lymphatic duct. The lymph drains from these ducts into veins near the neck and rejoins the blood.

Figure 4–11 shows the *elements* of the lymphatic system. The elements of this part of the circulatory systems *include* the following:

1. Lymph node.
2. Lymphatic vessels.
3. Thymus.
4. Thoracic duct.
5. Spleen.

040. Urinary system

The urinary system removes various wastes from the blood and flushes them from the body. The main organs of this system are the two *kidneys*. Kidneys work astonishingly hard—15 times a day they purify the body's entire fluid contents, handling about 50 gallons! Remarkably enough, if one kidney is diseased or damaged the other usually copes alone. Each kidney has about a million microscopic filtering units known as *nephrons*.

As blood passes through a nephron, a complicated network of capillaries and tubes filters out a small amount of water together with urea, sodium chloride, and certain other wastes. This filtered-out material forms urine. Two *ureters* carry urine from the kidneys to a muscular storage bag, the *urinary*

bladder. Eventually, using muscular contractions, the bladder squeezes the urine out of the bladder. The urine then *leaves* the body through the *urethra* (fig 4–12).

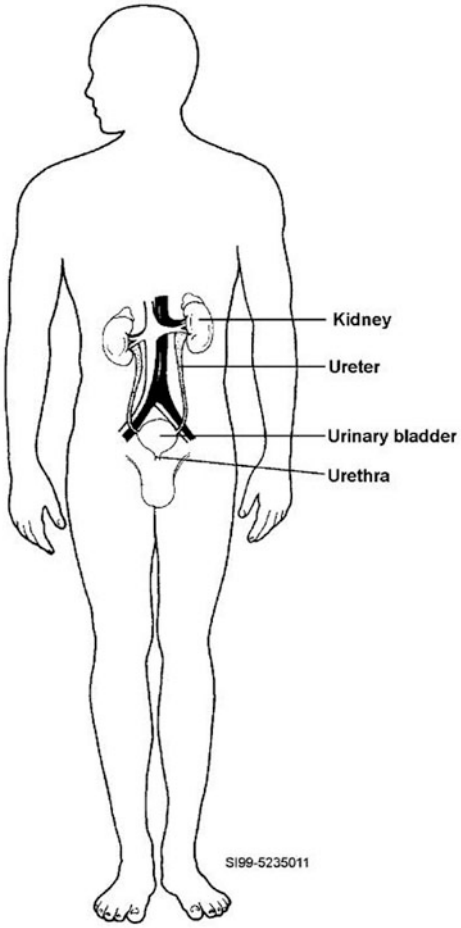

Figure 4–12. Urinary system.

041. Reproductive system

The organs of the reproductive system enable men and women to have children (figs. 4–13 and 4–14). Humans reproduce sexually. Sexual reproduction involves the union of sex cells. A new human being begins to develop after a sperm produced by the father unites with an egg produced by the mother, in a process called *fertilization*. The fertilized egg has all of the information necessary for the development of a new human being.

Male reproductive system

The male reproductive system includes two *testes*, which hang between the legs in the *scrotum*. The testicles are glands that *produce* sperm. The *sperm* travels through tubes to, and leaves a man's body through the penis (fig. 4–13).

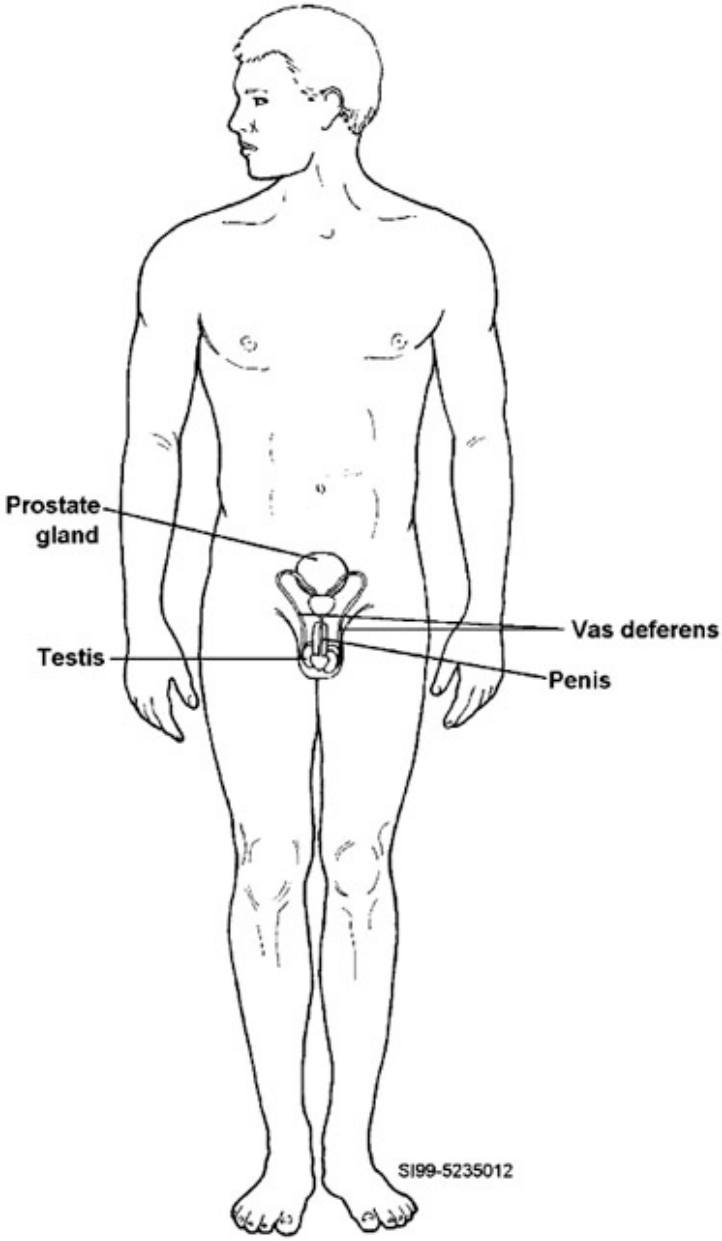

Figure 4–13. Male reproductive system.

Female reproductive system

Most of the female reproductive system lies within the woman's body. Deep within the body are two *ovaries*, each of which contains hundreds of eggs (*ova*). About once a month during a woman's childbearing years, one of the ovaries releases an egg. The egg travels down one of two *Fallopian tubes*, which lead from each ovary. The *fallopian* tubes open into the *top* of the *uterus* (a hollow, muscular organ). The other end of the uterus leads to the vagina. The *vagina* extends to the outside of the body, opening between the legs (fig. 4–14).

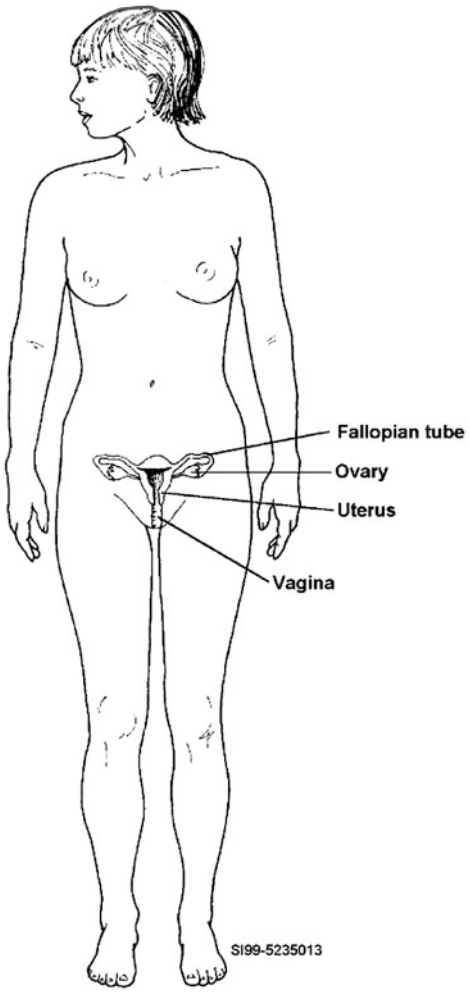

Figure 4–14. Female reproductive system.

During sexual intercourse, semen-containing sperm from the penis enters the vagina. Each sperm has a tiny tail and can swim. The sperm swim from the vagina to the uterus and into the Fallopian tubes. If an egg is present in one of the tubes, a sperm may fertilize it.

The fertilized egg cell continues its journey to the uterus, where it becomes attached to the wall of the organ. The cell divides repeatedly, forming the beginning of a developing baby. Soon, the *placenta* forms. The placenta enables the developing baby to obtain food and oxygen from the mother's bloodstream. After approximately a nine-month gestation period, the baby is ready to be born. Powerful contractions of the uterus push the baby through the mother's vagina, which dilates, allowing the birth of the new baby.

042. Endocrine system

The endocrine system consists of glands that regulate various body functions (fig. 4–15). The system plays a major role in regulating growth, the reproductive process, and the way the body uses food. It also helps prepare the body to deal with stress and emergencies.

The *endocrine glands control* body functions by *producing* hormones. These chemicals are released into the blood, which carries them throughout the body. Hormones act as chemical messengers. After a hormone reaches the organs or tissues it affects, it triggers certain actions. Many hormones have widespread effects. For example, the hormone *insulin* causes cells throughout the body to take in and use *sugar* from the bloodstream.

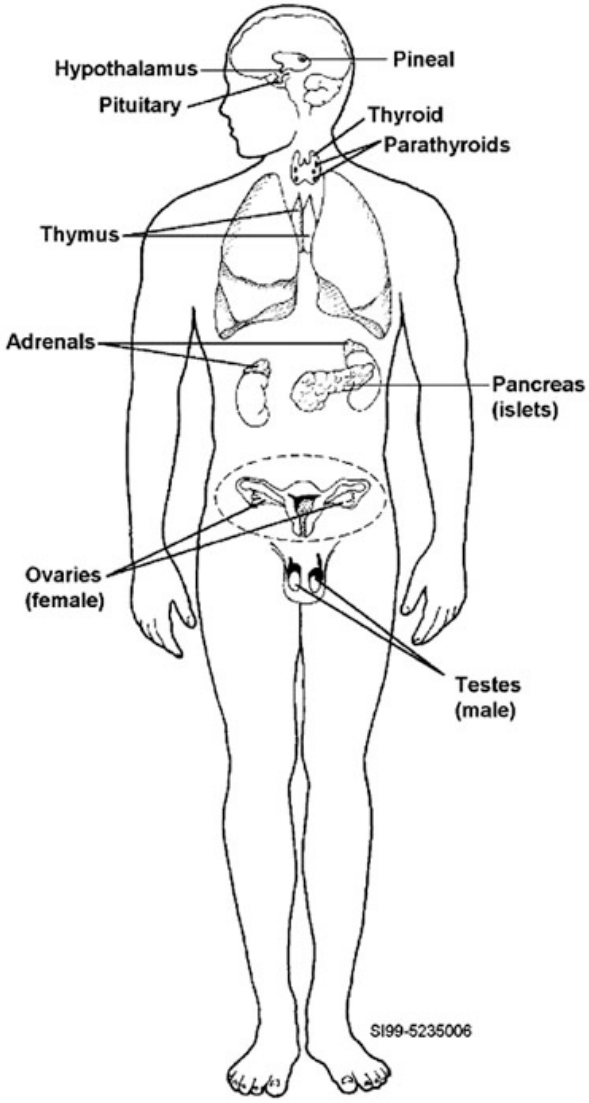

Figure 4–15. Endocrine system.

The main endocrine glands *include* the adrenal glands, the pituitary gland, the parathyroid glands, the sex glands, and the thyroid gland. The brain, the kidneys, the stomach, and the pancreas also have endocrine tissues and produce hormones. The *pituitary gland*, which lies near the base of the brain, is often called the *master gland*. It releases a number of hormones, which, in-turn, regulate other endocrine glands. However, hormones produced by the hypothalamus, a part of the brain, control the pituitary itself. The hypothalamus links the nervous and endocrine control systems.

The body also has glands that do *not* produce hormones. These *exocrine glands* make *chemicals* that perform specific jobs in the area where they are released. *Major* exocrine products include the digestive juices, mucus, sweat, and tears.

043. Nervous system

The nervous system regulates and coordinates the activities of all of the other systems of the body. It enables the body to adjust to changes that occur within itself and its surroundings. The nervous system is made up of countless *neurons*, or nerve cells. The neurons form a communications network that extends to every part of the body (fig. 4–16). The nervous system has three main divisions: the central nervous system, the peripheral nervous system, and the autonomic nervous system.

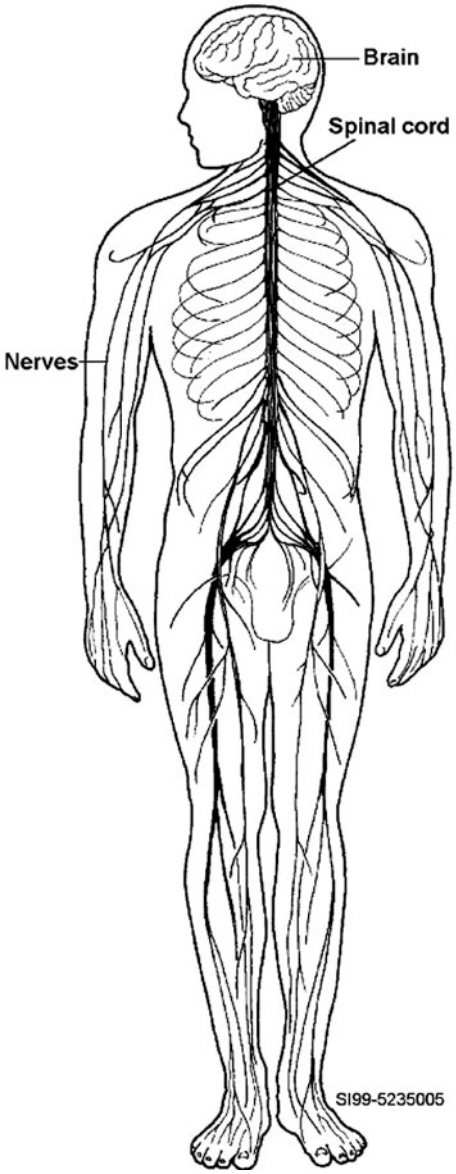

Figure 4–16. Nervous system.

The central nervous system

The central nervous system consists of the brain and spinal cord.It functions as the control center of the nervous system. The central nervous system receives information from the senses, analyzes it, and decides how the body should respond. It then sends instructions that trigger the required actions.

The central nervous system (within the spinal cord) makes some simple decisions, such as directing the hand to pull away from a hot object. Such *simple* decisions are called *spinal reflexes*. However, most decisions involve the brain. The brain is an enormously complicated collection of billions of neurons. These neurons link together in precise patterns that enable the brain to think and remember. Much brain activity occurs at the conscious level. You are aware of decisions made at this level and can control them voluntarily. Other activity occurs at the subconscious level. This activity regulates the smooth muscles and is beyond voluntary control.

The peripheral nervous system

The peripheral nervous system, which includes the eyes, ears, nose, and other sense organs, is made up of the nerves that connect the central nervous system with every part of the body. These nerves

include both *sensory neurons*, which *carry* information *to* the *central nervous system*, and *motor neurons*, which *relay* instructions *from* the *central nervous system*. Sensory neurons run *between* the sense organs and the central nervous system. The sense organs have special sensory neurons called *receptors*. Receptors translate information about the internal or external environment into nerve impulses. These impulses are electrical signals that nerves can carry.

The body has many kinds of sense receptors. Vision receptors in the eyes change light waves into nerve impulses. Hearing receptors in the ears convert sound waves into nerve impulses. Smell receptors in the nose and taste receptors on the tongue convert chemical information into nerve impulses. Receptors in the skin respond to heat, cold, pressure, and pain. Receptors deep within the body provide information on the chemical and physical conditions of the inner body tissues.

Nerve impulses from the sense receptors travel along sensory neurons to the central nervous system. The central nervous system analyzes the information and decides what actions, if any, are necessary. If a response is needed, the central nervous system sends out instructions. The motor neurons of the peripheral nervous system carry the instructions from the central nervous system to the appropriate tissues.

The autonomic nervous system

The autonomic nervous system is a special part of the peripheral nervous system. It carries messages from the subconscious level of the brain to the internal organs. The autonomic nervous system regulates the automatic functions of the body, such as the beating of the heart, and the movement of food through the digestive system.

Self-Test Questions

After you complete these questions, you may check your answers at the end of the unit.

033. Integumentary

1. What is the largest organ of the body?

2. Name the three layers of skin.

3. Match the functions in column A with the skin layers in column B. Column B items are used more than once.

Column A

____ (1) Innermost layer of the skin.
____ (2) Protects the body's inner tissues from the harsh rays of the sun.
____ (3) Middle layer of the skin.
____ (4) Cushions the inner tissues against blows to the body.
____ (5) Forms the outermost layer of the skin.
____ (6) Nerve endings in this layer respond to cold, heat, pain, pressure, and touch.
____ (7) Provides extra fuel for the body.
____ (8) Serves as a barrier between the outside world and the inner tissues of the body.
____ (9) Helps keep the temperature of the body within its normal range.
____ (10) Consists of tough, dead cells.

Column B

a. Subcutaneous tissues.
b. Epidermis.
c. Dermis.

____ (11) Prevents the loss of water from the tissues.

____ (12) Serves as an important sense organ.

034. Skeletal system

1. Give some examples of how the skeletal system protects internal organs.

2. Define a “joint.”

3. What are the two basic kinds of joints?

4. What holds movable joints together?

5. How does bone tissue play a role in keeping the blood healthy?

035. Muscular system

1. What are the main tasks of the muscles?

2. What are the three main types of muscles?

3. Why are skeletal muscles sometimes called “voluntary muscles”?

4. How do muscles move the body?

5. How do smooth muscles differ in appearance from skeletal muscles?

6. Why are smooth muscles sometimes called “involuntary muscles”?

7. Name the muscle that has characteristics of both the skeletal and smooth muscles.

036. Digestive system

1. What is the main part of the digestive system?

2. What kind of process is digestion?

3. What reactions happen during digestion?

4. Where does digestion begin?

5. What purpose does saliva serve?

6. What purpose does the stomach serve?

7. Where is bile made and stored? How does it aid digestion?

8. Some useful substances are absorbed by special cells that line the walls of the small intestine. Some are carried directly to cells throughout the body. What happens to the rest?

9. How do wastes leave the body?

037. Respiratory system

1. What are the two main jobs of the respiratory system?

2. What are the two acts of breathing?

3. From what do inhaling and exhaling result?

4. What lines the nasal passages and for what purpose?

5. What carries air toward the lungs?

6. What are the two tubes called that enter each lung?

7. Where does the exchange of carbon dioxide and oxygen occur?

038. Circulatory system

1. What system moves blood throughout the body?

2. What does blood transport?

3. Of what does the circulatory system consist?

4. How does the heart pump blood through the circulatory system?

5. How many pumps does the heart have?

6. What are the three types of blood vessels?

7. What is the largest artery in the body?

8. What are the body's two largest veins?

9. The blood consists of plasma and what three kinds of formed elements?

10. How are red blood cells (erythrocytes) able to carry oxygen from the lungs to the body tissues?

11. How do white blood cells (leukocytes) help protect the body from disease?

12. How do platelets help prevent bleeding from damaged blood vessels?

039. Lymphatic system

1. Where does lymph come from?

2. What is the purpose of lymph nodes?

040. Urinary system

1. What are the main organs of the urinary system?

2. What are the microscopic filtering units in the kidneys called?

3. What is formed when water, urea, sodium chloride, and certain other wastes are filtered through a nephron?

4. What carries urine from the kidneys to the urinary bladder?

5. Where does urine leave the body?

041. Reproductive system

1. What is the process in which a sperm unites with an egg?

2. In the male, what glands produce sperm?

3. How often do the ovaries of a female release an egg?

4. How does the developing baby obtain food and oxygen?

042. Endocrine system

1. How do the endocrine glands control body function?

2. What are some of the main endocrine glands?

3. Why is the pituitary gland called the master gland?

4. How is the pituitary gland controlled?

5. Define exocrine glands.

6. What are some of the major exocrine products?

043. Nervous system

1. What does the nervous system regulate and coordinate?

2. Of what is the nervous system made?

3. What are the three main divisions of the nervous system?

4. What division of the nervous system functions as the control center?

5. What two types of neurons are included in the nerves that connect the central nervous system with every part of the body?

6. What are receptors? What role do receptors play in the nervous system?

7. What main division of the nervous system regulates automatic functions of the body, such as the beating of the heart and the movement of food through the digestive system?

Answers to Self-Test Questions

026

1. It is a syllable or group of syllables joined to the beginning of another word to alter its meaning or to create another word.
2. Never, they are always used in conjunction with a root word or root word and suffix.
3. (1) g.
   (2) c.
   (3) k.
   (4) a.
   (5) h.
   (6) o.
   (7) b.
   (8) d.
   (9) m.
   (10) n.
   (11) e.
   (12) j.
   (13) l.
   (14) i.
   (15) f.

027

1. (1) e.
   (2) b.
   (3) l.
   (4) p.
   (5) g.
   (6) a.
   (7) i.
   (8) n.
   (9) c.
   (10) j.
   (11) o.
   (12) d.
   (13) m.
   (14) h.
   (15) k.

028

1. It is the main part, or portion of a word, from which other words may be formed by the addition of a prefix and/or suffix.
2. (1) c.
   (2) o.
   (3) t.
   (4) r.
   (5) i.
   (6) e.

(7) l.
(8) a.
(9) s.
(10) n.
(11) d.
(12) p.
(13) k.
(14) b.
(15) g.
(16) m.
(17) f.
(18) q.
(19) h.
(20) j.

029

1. When recording the final diagnosis.
2. (a) As desired.
   (b) Twice a day.
   (c) Discontinue or discharge.
   (d) Nothing by mouth.
   (e) Every two hours.
3. (a) Cubic centimeter.
   (b) Gram.
   (c) Drops.
   (d) Milligram.
   (e) Weight.
4. (a) Both ears.
   (b) Cervical spine.
   (c) Gastrointestinal.
   (d) Left lower quadrant.
   (e) Upper extremity.
5. (a) Bowel movement.
   (b) Complete blood count.
   (c) Complains of.
   (d) Follow-up.
   (e) Intake and Output.
   (f) Myocardial infarction (heart attack).
   (g) Out of bed.
   (h) Rule out.
   (i) Within normal limits.
   (j) Year old.

030

1. Anterior (ventral).
2. Posterior (dorsal).
3. Toward or near the midline of the body.

4. Away from the midline or toward the right or left sides of the body.
5. Superior is towards the head or upper part of the body and inferior is towards the feet or lower part of the body.
6. Proximal.
7. Distal.
8. Toward the inside of the body or a body part.
9. External is towards the outside (surface) of the body or body part while peripheral refers to something outward from the center of the body or closer to the body surface.

031

1. Food and oxygen.
2. (1) d.
   (2) a.
   (3) f.
   (4) b.
   (5) j.
   (6) e.
   (7) g.
   (8) i.
   (9) c.
   (10) h.
3. The brain. It allows us to think.

032

1. Carbon, hydrogen, nitrogen, and oxygen.
2. Water.
3. 65 percent.
4. (1) d.
   (2) c.
   (3) a.
   (4) b.
5. The cell.
6. Epithelial, connective, muscle, and nervous.

033

1. The skin, or integumentary system.
2. Epidermis, dermis, and subcutaneous tissues.
3. (1) a.
   (2) b.
   (3) c.
   (4) a.
   (5) b.
   (6) c.
   (7) a.
   (8) b.
   (9) c.
   (10) b.
   (11) b.
   (12) c.

034

1. The brain is shielded by the skull, the spinal cord by the spinal column, and the heart and lungs by the ribs.
2. The place where bones meet.
3. Movable and fixed joints.
4. Ligaments.
5. Bone marrow produces new blood cells and releases them into the bloodstream.

035

1. Move limbs, push food through the gut, make the heart beat, and control blood flow around the body.
2. Skeletal, smooth, and cardiac.
3. Because humans cause them to move at will.
4. By pulling.
5. They do not have striations like skeletal muscles.
6. They contract and relax automatically; they are not consciously controlled.
7. Cardiac muscle.

036

1. Alimentary canal, or gut.
2. One of chemical reactions sped up by enzymes.
3. Starches and complex sugars break down into simple sugars, fats become fatty acids and glycerol, and proteins break down into amino acids.
4. In the mouth.
5. Moistens the food, making it easier to swallow and its digestive enzymes break food down into chemicals the body can use.
6. As a “holding tank” in which food remains for several hours.
7. Made in the liver and stored in the gall bladder. Breaks up large molecules of fatty foods.
8. They are transported to the liver where they are released as the body requires.
9. As bowel movements through the anus.

037

1. Provides the body with oxygen and rids the body of carbon dioxide.
2. Inhaling and exhaling.
3. Contractions of the diaphragm.
4. Tiny hair-like structures and mucus to filter dust and dirt from the air; warm and moisten cold air as it moves through the nasal passages.
5. The trachea.
6. Primary bronchi.
7. In the alveoli.

038

1. Circulatory.
2. Food and oxygen to the cells; carries away carbon dioxide and other wastes.
3. Heart, blood vessels, blood, and the lymphatic system.
4. Contracting and relaxing rhythmically.
5. Two, one to carry that receives blood from the lungs to the cells and another that picks up carbon dioxide and other wastes from the cells.
6. Arteries, veins, and capillaries.
7. Aorta.
8. Superior vena cava and inferior vena cava.
9. Red blood cells (erythrocytes), white blood cells (leukocytes), and platelets.

10. They contain hemoglobin, which picks up oxygen molecules from the lungs.
11. By attacking bacteria, viruses, poisons, and other harmful substances.
12. They collect where an injured blood vessel leaks and along with various proteins in the plasma, seal broken blood vessels by forming a clot.

039

1. Blood.
2. Produce many white blood cells, which filter harmful substances out of the lymph.

040

1. Kidneys.
2. Nephrons.
3. Urine.
4. Ureters.
5. Urethra.

041

1. Fertilization.
2. Testicles.
3. About once a month during childbearing years.
4. The placenta enables the baby to obtain food and oxygen from the mother's bloodstream.

042

1. By producing hormones.
2. Adrenal, pituitary, parathyroid, sex, and the thyroid glands.
3. It releases a number of hormones, which regulate other endocrine glands.
4. By hormones released by a part of the brain called the hypothalamus.
5. They make chemicals that perform specific functions in the area where they are released.
6. Digestive juices, mucus, sweat, and tears.

043

1. The activities of all other systems of the body.
2. Neurons.
3. Central, peripheral, and autonomic nervous systems.
4. Central nervous system.
5. Sensory and motor neurons.
6. Special sensory neurons. They translate information about the internal or external environment into nerve impulses.
7. Autonomic.

Do the unit review exercises before going to the next unit

Unit Review Exercises

Note to Student: Consider all choices carefully, select the *best* answer to each question, and *circle* the corresponding letter. When you have completed all unit review exercises, transfer your answers to the Field-Scoring Answer Sheet.

Do not return your answer sheet to the Air Force Career Development Academy (AFCDA).

66. (026) The prefix meaning “within” is
    a. in-.
    b. infra-.
    c. inter-.
    d. intra-.

67. (027) The suffix “-penia” means
    a. fastening, fixation.
    b. expressing primarily by speech.
    c. reshaping or remodeling surgically.
    d. lacking or reducing in number of.

68. (028) Adren(o) is the root word meaning
    a. abdomen.
    b. hearing.
    c. adrenal gland.
    d. vessel.

69. (028) Arthr(o) is the root word meaning
    a. artery.
    b. gland.
    c. joint.
    d. neck.

70. (029) What is the abbreviation for “twice a night”?
    a. aq.
    b. b.i.d.
    c. BIN.
    d. Cap.

71. (029) What is the abbreviation for “both ears”?
    a. AD.
    b. AE.
    c. AK.
    d. AU.

72. (030) The anatomical term “external” refers to something
    a. outward from the center of the body.
    b. toward the outside of the body.
    c. toward the back of the body.
    d. inside the body.

73. (030) The anatomical term “peripheral” refers to something
    a. outward from the center of the body.
    b. toward the outside of the body.
    c. toward the back of the body.
    d. inside the body.

74. (031) What body system breaks food down into nutrients that can be used as fuel?
    a. Circulatory.
    b. Endocrine.
    c. Digestive.
    d. Urinary.

75. (032) Which macromolecules carry instructions that tell each cell how to perform their particular jobs?
    a. Nucleic acids.
    b. Carbohydrates.
    c. Proteins.
    d. Lipids.

76. (032) Which type of tissue covers the body surface and forms the skin?
    a. Connective.
    b. Epithelial.
    c. Nervous.
    d. Muscle.

77. (033) The dermis
    a. forms the innermost layer of the skin.
    b. forms the outermost layer of the skin.
    c. keeps the temperature of the body normal range.
    d. provides extra fuel for the body.

78. (033) Subcutaneous tissue
    a. forms the middle layer of the skin.
    b. forms the outermost layer of the skin.
    c. keeps the temperature of the body normal range.
    d. provides extra fuel for the body.

79. (034) About how many bones does an adult have?
    a. 190.
    b. 260.
    c. 206.
    d. 226.

80. (034) The place where bones meet is a
    a. spinal column.
    b. spinal cord.
    c. muscle.
    d. joint.

81. (035) Skeletal muscles are sometimes called
    a. pulling.
    b. fixed.
    c. voluntary.
    d. involuntary.

82. (035) Smooth muscle are found in *most* of the body's
    a. internal organs.
    b. bone marrow.
    c. blood cells.
    d. tendons.

83. (035) About how many times does the heart beat a minute on average throughout a person's lifetime?
    a. 60.
    b. 65.
    c. 70.
    d. 75.

84. (036) The *main* part of the digestive system is the
    a. alimentary canal.
    b. large intestine.
    c. esophagus.
    d. mouth.

85. (036) Digestion *begins* in the
    a. esophagus.
    b. intestines.
    c. stomach.
    d. mouth.

86. (036) When is food *completely* digested?
    a. When it passes from the esophagus and into the stomach.
    b. When it leaves the first section of the small intestine.
    c. While it's in the large intestine.
    d. When it leaves the body as a bowel movement.

87. (037) Inhaling and exhaling result *mainly* from contractions of the
    a. diaphragm.
    b. brain.
    c. lungs.
    d. heart.

88. (037) Air passes through the nose, then, in sequence, it passes through the
    a. larynx, pharynx, and enters the trachea.
    b. pharynx, larynx, and enters the trachea.
    c. pharynx and enters the trachea.
    d. larynx and enters the trachea.

89. (038) Arteries carry blood
    a. away from the lungs.
    b. away from the heart.
    c. to the lungs.
    d. to the heart.

90. (038) Red blood cells are also known as
    a. erythrocytes.
    b. hemoglobin.
    c. leukocytes.
    d. thrombocytes.

91. (039) The fluid that bathes and nourishes the cells of the body tissue is called
    a. interstitial.
    b. lymphatic.
    c. thymus.
    d. plasma.

92. (039) *All* of the lymph flows into either the thoracic duct or the
    a. right lymphatic duct.
    b. left lymphatic duct.
    c. veins near the lungs.
    d. veins near the heart.

93. (039) The lymphatic system elements of this part of the circulatory system include all the following *except*
    a. lymph node.
    b. lymphatic vessels.
    c. lymphatic artery.
    d. thoracic duct.

94. (040) Each kidney has about a million microscopic filtering units known as
    a. lymphs.
    b. nephrons.
    c. tubes.
    d. ureters.

95. (041) What opens into the top of the uterus?
    a. Ovaries.
    b. Fallopian tubes.
    c. Vas deferens.
    d. Vagina.

96. (042) Which glands control body functions by producing hormones?
    a. Endocrine.
    b. Exocrine.
    c. Adrenal.
    d. Thyroid.

97. (042) Which gland is the “master gland”?
    a. Exocrine.
    b. Pituitary.
    c. Adrenal.
    d. Thyroid.

98. (042) The exocrine glands make *chemicals* that perform specific jobs in the area where they are released. *Major* exocrine products include the digestive juices, mucus, sweat and
    a. hormones.
    b. insulin.
    c. tears.
    d. urine.

99. (043) Sensory neurons carry information
    a. from the autonomic nervous system.
    b. to the autonomic nervous system.
    c. from the central nervous system.
    d. to the central nervous system.

100. (043) Motor-neurons carry information
    a. from the autonomic nervous system.
    b. to the autonomic nervous system.
    c. from the central nervous system.
    d. to the central nervous system.

Glossary of Terms, Abbreviations, and Acronyms

AAAHC	Accreditation Association for Ambulatory Healthcare
AC	alternating current
ADCON	administrative command
ADFM	active duty family members
ADLS	Advance Distance Learning System
ADM	Ambulatory Data Management
ADPE	automated data processing equipment
ADS	Ambulatory Data System
ADSM	active duty service member
AEF	air expeditionary force
AFEMS	Air Force Equipment Management System
AFH	Air Force Handbook
AFIA	Air Force Inspection Agency
AFMAN	Air Force Manual
AFMOA	Air Force Medical Operating Agency
AFMS	Air Force Medical Service
AFMSA	Air Force Medical Support Agency
AHLTA	Armed Forces Health Longitudinal Technology Application
AIDS	acquired immunodeficiency syndrome
AIM	asset inventory management
ALS	amyotrophic lateral sclerosis
ASD-HA	Assistant Secretary of Defense - Health Affairs
ATC	access to care
ATO	authorization to operate
BCAC	beneficiary counseling assistance coordinator
BDQUAS	Biometric Data Quality Assurance Service System
BE&S	beneficiary education and support
Bit	binary digit
BRAC	base realignment and closure
C&A	certification and accreditation
CAC	common access card
CAPER	Comprehensive ambulatory Professional Encounter Record
CD	compact disc
CHAMPUS	Civilian Health and Medical Program of the Uniformed Services

CHCBP	continued healthcare benefit program
CHCS	Composite Healthcare System
CIO	chief information officer
CM	cache memory
CMOS	complementary metal-oxide semiconductor
COB	close of business
COMPUSEC	computer security
CONUS	continental United States
COTR	contracting officer technical representative
COTS	commercial off-the-shelf
CPU	central processing unit
CSA	client support administrator
CSAF	chief of staff, United States Air Force
CST	client support technician
CT	computed tomography
DCAO	debt collection assistance officer
DEERS	Defense Enrollment Eligibility Reporting System
DHA	Defense Health Agency
DIACAP	DOD information assurance certification and accreditation process
DIP	DIACAP Implementation Plan
DMDC	defense manpower data center
DMHRSi	Defense Medical Human Resource System-internet
DOD	Department of Defense
DOWDR	Daily Outpatient Workload Detailed Report
DQ	data quality
DQMC	data quality management control
DRMO	defense reutilization and marketing office
DTS	Defense Travel System
DVA	Department of Veterans Affairs
DVD-R/RW	digital versatile disc-read/writeable
DVI	digital visual interface
EC	equipment custodian
ECO	equipment control officer
EFMP	exceptional family member program
EOB	explanation of benefits
EOD	end of day

ESRD	end-stage renal disease
EUL	end user license
FAP	Family Advocacy Program
FOA	forward operating agency
FOB	Found on base
FOIA	Freedom of Information Act
FOUO	for official use only
GB	gigabytes
GIG	global information grid
GPS	global positioning system
HBA	health benefits adviser
HCF	healthcare findersMCSC
HCIL	healthcare information line
HDMI	High definition multimedia interface
HHS	unsecured protected health information
HIPAA	Health Insurance Portability and Accountability Act
HIT	health information technology
HIV	human immunodeficiency virus
HMO	health maintenance organization
HPO	HIPAA privacy officer
HQ	headquarters
HQ USAF	Headquarters United States Air Force
HSI	Health Service Inspection
HSM	health service manager
HTTP	hypertext transfer protocol
IA/IAO	information assurance/information assurance officer
IATO	interim authorization to operate
IAW	in accordance with
ICDB	integrated clinical data base
ID	identification
IG	Inspector General
IMT	Information Management Tool
INOSC	integrated network operations security center
IT	information technology
ITE	information technology equipment

ITEC	information technology equipment custodian
JAG	Judge Advocate General
JFTR	Joint Federal Travel Regulation
kg	kilogram
Kx	Knowledge Exchange
LAF	line of the Air Force
LAN	local area network
LOD	line of duty
LSMTF	limited scope military treatment facility
LWOBS	left without being seen
M2	MHS Mart
MAC	media access control
MAJCOM	major command
MB	megabyte
MCS	managed care support
MCSC	managed care support contractor
MDG	medical group
MDGI	medical group instructions
MedFACTS	Medical Facility Assessment and Compliance Tracking System
MESD	Medical Enterprise Service Desk
MEPRS	medical expense performance reporting system
MEPRS-ASIV	Medical Expense and Performance Reporting Systems-Expense Assignment System IV
MESD	Medical Enterprise Service Desk
MFR	memorandum for record
MHIT	medical health information technology
MHS	Military Health System
MITC	Management Internal Control Toolset
MLC	medical legal council
mm	millimeter
MP3	MPEG audio layer–3
MPEG	moving picture experts group
MRDSS ULTRA	Medical Readiness Decision Support System Unit Level Tracking and Reporting Application
MRI	magnetic resonance imaging
MRT	medical records tracking
MSA	medical service account

MSC	managed care support contractor
MTF	military treatment facility
NAF	numbered air force
NCC	network control center
NCI	National Cancer Institute
NDAA	National Defense Authorization Act
NIC	network interface card
NMA	non-medical attendant
NOE	notice of eligibility
NoPP	Notice of Privacy Practices
OCONUS	overseas continental United States
OIAO	organization information assurance officer
OMG	Objective Medical Group
OPCON	operational command
OS	operating system
OSI	Office of Special Investigations/open systems interconnect
P&A	personnel and TSCministration
PC	personal computer
PCM	primary care manager
PCS	permanent change of station
PDA	personal digital assistant
PGUI	Programmable Graphic User Interface
PHI	protected health information
PHIMT	protected health information management tool
PII	personally identifiable information
PIMR	preventative individual medical readiness
PKI	public key infrastructure
POA&M	plan of action & milestones
POC	point of contact
POS	point of service
PPR	periodic performance review
PRP	personnel reliability program
PSA	prime service area
PSP	presidential support program
.pst/PST	personal storage table
RAM	random access memory

RFID	radio frequency identification
RMO	resource management operations
RN	registered nurse
ROI	Release of Information
ROM	read only memory
ROS	report of survey
SADR	standard ambulatory data record
SARC	sexual assault response coordinator
SECAF	secretary of the Air Force
SDCS	source data collection system
SG	surgeon general
SIDR	Standard Inpatient Data Record
SJA	staff judge advocate
SME	subject matter expert
SPOC	service point of contact
SSA	Social Security Administration
SSN	social security number
STD	sexually transmitted disease
TACON	tactical command
TAO	TRICARE area offices
TB	terabyte
TDY	temporary duty
TFL	TRICARE for Life
TJC	The Joint Commission
TLAC	TRICARE Latin America and Canada
TMA	TRICARE management activity
TMIP-J	Theater Medical Information Program-Joint
TOC	TRICARE Operations Center
TOL	TRICARE Online
TOP	TRICARE Overseas Program
TOPA	TRICARE Operations and Patient Administration
TPR	TRICARE Prime Remote
TRAC^{2}ES	TRANSCOM Regulating and Command & Control Evacuation System
TRO	TRICARE regional offices
TSC	TRICARE service center
UDM	unit deployment manager

UEI	unit effectiveness inspection
USB	universal serial bus
USERID	user identification
USFHP	Uniformed Service Family Health Plan
UTC	unit type code
VA	Veterans Affairs
VESA	Video Electronics Standards Association
VGA	video graphics array
VPN	virtual private network
WAN	wide area network
WAP	wireless access point
WWR	worldwide workload report

Student Notes

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