

APPENDIX A

FUNCTIONAL JOB ANALYSIS

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The attached Functional Job Analysis was developed at the request of the Board of Directors of the National Registry of EMTs. This job analysis should be used to assist in meeting the requirements of the Americans with Disabilities Act. Readers and persons interested in utilizing this functional job analysis should refer questions related to specific indicators to occupational health rehabilitation specialists for interpretation.

Functional Job Analysis

First Responder Characteristics

The First Responder must be a person who can remain calm while working in difficult and stressful circumstances, as well as one who is capable of combining technical skills, theoretical knowledge, and good judgment to insure optimal level of fundamental emergency care to sick or injured patients while adhering to specific guidelines within the given scope of practice.

The First Responder is expected to be able to work alone, but must also be a team player. Personal qualities such as the ability to "take charge" and control the situation are essential, as are the maintaining of a caring and professional attitude, controlling one's own fears, presenting a professional appearance, staying physically fit, and keeping one's skills and abilities up to date. The First Responder must be willing to adhere to the established ongoing medical control and evaluation required for the maintenance of quality medical care.

Self-confidence, a desire to work with people, emotional stability, tolerance for high stress, honesty, a pleasant demeanor, and the ability to meet the physical and intellectual requirements demanded by this position are characteristics of the competent First Responder. The First Responder also must be able to deal with adverse social situations which include responding to calls in districts known to have high crime rates. The First Responder ideally possesses an interest in working for the good of society and has a commitment to doing so.

Physical Demands

Aptitudes required for work of this nature are good physical stamina, endurance, and body condition that would not be adversely affected by having to walk, stand, lift, carry, and balance at times, in excess of 125 pounds. Motor coordination is necessary because over uneven terrain, the patient's and the First Responder's well being, as well as other workers' well being must not be jeopardized.

Comments

Use of the telephone or radio dispatch for coordination of prompt emergency services is essential. Accurately discerning street names through map reading, and correctly distinguishing house numbers or business addresses are essential to task completion in the most expedient manner. Concisely and accurately describing orally to dispatcher and other concerned staff, one's impression of patient's condition, is critical as the First Responder works in emergency conditions where there may not be time for deliberation. The First Responder must also be able to accurately report all relevant patient data, which is generally, but not always,

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outlined on a prescribed form. Verbal and reasoning skills are used extensively. The ability to perform mathematical tasks is minimal, however, it does play a part in activities such as taking vital signs, making estimates of time, calculating the number of persons at scene, and counting the number of persons requiring specific care.

Job Analysis Schedule

1. **ESTABLISH JOB TITLE:** First Responder
2. **CODE 079026 WTA GROUP:** Occupations in medicine and health
3. **JOB SUMMARY:** Activates the EMS system, surveys the scene for hazards, contains those hazards, gains access to the injured or sick, gathers relevant patient data, provides immediate emergency medical care using a limited amount of equipment, controls the scene, and prepares for the arrival of the ambulance.

4. WORK PERFORMED ESTIMATES:

Worker Functions	Data	People	Things
	3	7	4

3. Compiling
7. Serving
4. Manipulating

Work Field: 294 Health, Caring, and Medical
M.P.S.M.S. 920 (**M**aterials, **P**roducts, **S**ubject **M**atter, and **S**ervices) Medical and other health services.

5. WORKER TRAITS RATINGS:

GENERAL EDUCATION DEVELOPMENT (GED) encompasses three broad areas which are rated independently in relation to the occupation being assessed: Reasoning development, Mathematical development, and Language development.



General Educational Development (GED) embraces those aspects of education (formal and Informal) which contribute to the worker's reasoning development, and ability to follow instructions, and to acquisition of "tool" knowledge such as language and mathematical skills. This is education of a general nature which does not have a recognized, fairly specific occupational objective. Ordinarily, such education is obtained in elementary school, high school, or college. However, it may be obtained from experience and self study.

Description of rating on the GED Scale: Level 1 - lowest level; Level 6 - highest level.

Lowest			Highest			
GED	1	<u>M1, L2</u>	3	R4	5	6

Reasoning development (R)

Level 4 - Apply principles of rational systems to solve practical problems and deal with a variety of concrete variables in situations where only limited standardization exists. Interpret a variety of instructions furnished in written, oral, diagrammatic, or schedule form.

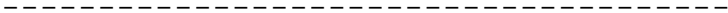
Mathematical development (M)

Level 2 - Add, subtract, multiply and divide all units of measure. Complete ratio, rate, and percent. Perform the four operations with like on common decimals, fractions. Perform arithmetic operations involving all American monetary units.

NOTE: In the analyst's opinion, the degree of math skills required for this position is minimal, however, reducing the mathematical component to a level 1, the lowest level, appears slightly too low. For example, in Level 1, a person would only be required to add and subtract up to two digit numbers. There could be instances where higher level skills are required, such as the total number of persons with slight injuries compared to those with more serious injuries.

Language development (L)

Level 2 - Reading: Passive vocabulary of 5000-6000 words; read at rate of 190-215 words per minute; read adventure stories and comic books; looking up unfamiliar words in dictionary for meaning, spelling and pronunciation; and read instructions for assembling model cars and airplanes.



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Writing: Write compound and complex sentences using cursive style, proper end punctuation, and employing adjectives and adverbs.

Speaking: Speak clearly and distinctly with appropriate pauses and emphasis, correct pronunciation, variation in word order, using present, perfect, and future tenses.

SPECIAL VOCATIONAL PREPARATION (SVP) (Time requirement of 40 classroom hours)

SVP	1	<u>2</u>	3	4	5	6	7	8	9
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Explanation of scale:

<u>Level</u>	<u>Time</u> ¹
1	Short demonstration only
2	Anything beyond short demonstration up to and including one month
3	Over one month up to and including three months
4	Over three months up to and including six months
5	Over six months up to and including one year
6	Over one year up to and including two years
7	Over two years up to and including four years
8	Over four years up to and including ten years
9	Over ten years

NOTE: The levels of this scale are mutually exclusive and do not overlap

¹Time that applies to General Educational Development is not considered in estimating SVP

Level 2.

NOTE: In the analyst's opinion, the requirement of 40 hours of formal classroom study, and competency based on formal written and practical examination, when judged only by a time perspective, appear to qualify the preparation time as less than 30 days. While this may be true in some instances, preparation time may vary and span a longer period of calendar time, depending upon the student,

the instructor, and the locality of training. First Responder applicants typically make application in writing at least thirty days before the start of the training program. This requirement will vary depending upon locality. Because First Responder program guidelines can permit a student up to six months for course completion, the SVP could, in essence, be as high as a Level 4.

APTITUDE LEVELS: G 3 V 3 N 4 S 3 P 2 Q 3 K 2 F 2 M 2 E 2 C 1

Scale: Level 1 - indicates the highest degree of particular aptitude; Level 5 indicates the lowest degree of an aptitude.

Lowest				Highest
5	4	3	2	1

G - Intelligence

Level 3

Level G-3:1 Renders general nursing care to patients in hospital, infirmary, sanitarium, or similar institution:

Intelligence is required to learn and apply principles of anatomy, physiology, and patient care used in emergency medical care; to make independent judgments in absence of doctor; and to determine methods and treatments to use when caring for patients with varying illnesses or injuries, and to exercise judgment concerning ethical and legal considerations within scope of practice.

V - Verbal Aptitude

Level 3

Level V-3:9 Questions patients to obtain their medical history, personal data, and to determine if they are allergic to dental drugs or have any complicating illnesses. Converses with patient in reassuring manner; explains post-operative care, oral hygiene, and importance of preventive dentistry to patients.

N - Numerical Aptitude (Perform arithmetic operations quickly and accurately)

Level 4 Lower degree of aptitude required. No illustrations in medical area. Closely related skills appear comparable to 4:7 Records

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business transactions in journals, ledgers, on special forms,
and transfers entries from one accounting record to another.
Adds totals of entries and original record and compares to
check for posting errors.

S - Spatial Aptitude (Comprehend forms in space and understand relationships to plane and solid objects)

Level 3

Level S-3:1 Spatial aptitude is required to visualize anatomic and the relationship between the point of application of forces and the area affected (as in traction); and to place treatment devices or administer manual treatment in relationship to the affected body part.

P - Form Perception (Ability to make visual comparisons and discriminations and see slight differences in shapes and shadings of figures and widths and lengths of lines)

Level 2

P - 2:6 High degree of aptitude required. Form perception is required to perceive pertinent details of size, shape, and form in skeletal structure, organs, tissue, and specimens of various animals.

Q - Clerical Perception (Ability to perceive pertinent detail in verbal or tabular material-proof read)

Level 3

Q - 3:13 Assists in care of hospital patients under direction of nursing and medical staff. Clerical perception is required to read and report such data as temperatures, pulse rate and respiration rate, to report patient's food and fluid intake and output, and to read charts and instructions accurately. Generally completes documentation of relevant data on pre-printed form. Must be able to read form accurately and report patient information in appropriate allocated space. Occasionally, may be required to submit short narrative report.

K - Motor Coordination (Ability to make a movement response quickly and accurately and coordinate eye-hand)

Level 2

K - 2:5 Renders general nursing care to patients in hospital, infirmary, sanitarium, or similar institution. Aptitude and ability are required to coordinate vision, finger and hand movements, to take vital signs, to assist with freeing airway, and to balance self when lifting/moving or stabilizing patients.

F - Finger Dexterity (Ability to move fingers and manipulate small objects rapidly and quickly)

Level 2 No illustrations in medical field. Recommended due to necessity of ability to open and maintain airway, ventilate patient, control hemorrhage, bandage wounds, and manually stabilize painful swollen and deformed extremities.

M - Manual Dexterity (Ability to move the hands easily and skillfully)

Level 2 No illustrations given. Manual dexterity is required during emergency situations to control and extinguish fires, protect life and property, and maintain equipment as volunteer or employee of city, township, or industrial plant. Manual dexterity is also required in positioning ladders and nets, clasping rungs to climb ladders, giving artificial respiration, and in lifting of patient.

E - Eye-Hand-Foot Coordination (Ability to coordinate these)

Level 2 No illustrations given. Recommended as job may require balancing on ladders, stairs, or walking on uneven terrain while assisting in carrying patients. In the interest of time and safety, may be required to move quickly.

C - Color Discrimination (Ability to perceive difference in colors, shades, or harmonious combinations, or to match colors)

Level 1 High degree of aptitude and ability required. C-1:4 Uses color discrimination and color memory in making diagnosis of patients' affliction or condition, by recognizing any deviations in color of diseased tissue from healthy tissue; evaluating color characteristics such as hue and saturation of affected body parts; and making determination as to extent or origin of condition

TEMPERAMENT

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Temperament	<u>A</u>	<u>D</u>	F	I	<u>J</u>	<u>M</u>	<u>P</u>	R	<u>S</u>	<u>V</u>
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Explanation of terms:

- A - Working alone or apart in physical isolation from others
- D - Directing, controlling or planning the activities of others.
- I - Influencing Adaptability to influencing people in their opinions, attitudes, or judgments about ideas or things.
- J - Adaptability to making generalizations, evaluations or decisions based on sensory or judgmental criteria.
- M - Adaptability to making generalizations, judgments, or decisions based on measurable or verifiable criteria.
- P - Adaptability to dealing with people beyond giving and receiving instructions.
- S - Adaptability to performing under stress when confronted with emergency, critical, unusual, or dangerous situations; or in situations in which working where speed and sustained attention are make or break aspects of the job.
- V - Adaptability to performing a variety of duties, often changing from one task to another of a different nature without loss of efficiency or composure.

INTERESTS

Interests	1a	1b	2a	2b	3a	3b	4a	4b	5a	5b
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4a - A preference for working for the presumed good of the people.

PHYSICAL DEMANDS

Physical Demands	S	L	M	H	<u>V</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
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Explanation of terms:

1. Strengths
 - S - Sedentary (10 pounds maximum)
 - L - Light work (10 pounds frequently, 20 pounds maximum)
 - M - Medium work (25 pounds frequently, 50 pounds maximum)
 - H - Heavy work (50 pounds frequently, 100 pounds maximum)
 - V - Very heavy work (50 pounds frequently, no maximum)
2. Climbing and/or balancing
3. Stooping, kneeling, crouching and crawling
4. Reaching, handling, fingering and/or feeling
5. Talking and hearing
6. Seeing

ENVIRONMENTAL CONDITIONS

Environmental Conditions	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
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Explanation of terms:

1. Work location (I = Indoors, O = Outdoors, B = Both)
2. Extreme cold, with or without temperature changes.
3. Extreme heat, with or without temperature changes.
4. Wet and or/humid.
5. Noise and/or vibration
6. Hazards.
7. Atmospheric Conditions

NOTE: In the analyst's opinion, the general environmental conditions in which the First Responder works cannot be adequately assessed in an indoor evaluative environment. First Responders in actual situations are exposed to a variety of hot and cold temperatures and may be, at times, exposed to hazardous fumes and areas which are unsafe. Because of the variance in climate in the United States and because of the infinite possibilities to which a First Responder may be expected to respond, it must be assumed that some environments may be extremely hazardous, i.e., mine shafts, high exposed places, explosives, radiation, toxic chemicals, close proximity to moving vehicles or mechanical parts. First Responders may be required to walk, climb, crawl, bend, pull, push, or lift and balance over less than ideal terrain, and are also exposed to a variety of noise levels, which at times can be quite high, particularly when

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multiple sirens are sounding, and crowds/bystanders are upset and may be screaming or crying hysterically.

**U. S. Department of Labor
Manpower Administration**

Analyst: Cathy Cain, Ph.D. **Date:** 1/27/95

Physical Demands and Environmental Conditions

ESTAB. JOB TITLE First Responder **ESTAB. & SCHED. NO.**
DOT TITLE & CODE 079.010
GOE CODE & TITLE 100302 Medical services; SOC 3690
Code: F = Frequently
 O = Occasionally
 NP = Not Present
 C = Constantly

Job Summary: Activates the EMS system, surveys the scene for hazards, contains those hazards, gains access to the injured or sick, gathers relevant patient data, provides immediate emergency medical care using a limited amount of equipment, controls the scene, and prepares for the arrival of the ambulance.

Physical Demands	Comments
1. Strength	
a. Standing 47%	1a Walking and standing are major components of this job. Sitting is necessary for transportation to and from scene of emergency.
Walking 50%	
Sitting 3%	
b. Lifting F	1b First Responders are required to assist in lifting and carrying injured or sick persons to ambulance. May be required to engage in pushing and/or pulling to assist other EMS providers to extricate patient from scenes to include but not limited to closed upright vehicles, patient in closed overturned vehicle, patient pinned beneath vehicle, pinned inside vehicle, in vehicles with electrical hazards.
Carrying F	
Pushing O	
Pulling O	

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2.	Climbing Balancing	F F	2	Climbing and balancing may be required for First Responder to gain access to site of emergency, i.e., stairs, hillsides, ladders, and in safely assisting in transporting patient.
3.	Stooping Kneeling Crouching Crawling	F F F F	3	Patients are often found injured or sick in locations where assessment of patient is possible only through the First Responder's stooping, kneeling, crouching, or crawling.
4.	Reaching Handling Fingering Feeling	F F F F	4	Required for assessing pulse, assessing breathing, blocking nose and cheek for ventilation, lifting chin, head, or jaw for opening airway, following angle of ribs to determine correct position for hands after each ventilation, compressing sternum, and assisting in lifting of patient. Extension of arms to use hands and fingers to assess vital signs, feeling and touching of patient's skin to assess body warmth, handling limited equipment, and transporting of patient are important aspects of this position.
5.	Talking Ordinary Other	F	5	Responding to patients, physicians, and co-workers through hearing is necessary in transmitting patient information and following directions. May be required to shout for help and additional assistance.
	Hearing Ord. Conv. Other	5 F F		Verbally responding to dispatcher's messages on phone or radio is necessary for quick efficient service that can be vital to life in emergency situations. Communication on scene is critical for interviewing patient and in some instances, significant others, and in relaying this information in most expedient manner. Sounds of vehicles may

alert First Responder that additional help is on the way. Other sounds can alert First Responder that other persons may be hurt or injured, i.e., someone thrown behind a bush in a vehicle accident who cannot be seen and whose voice may be barely audible.

- | | | | |
|-----------|-------------------------|---|--|
| 6. | Seeing | 6 | Sight is used to drive self, or in some cases, ambulance to scene of injury or illness, to visually inspect patient and area, and to administer treatment using limited equipment. |
| | Acuity, Near | F | |
| | Acuity, Far | F | |
| | Depth Perception | F | |
| | Accomodat | F | |
| | Color Vision | F | |
| | Field of Vision | F | |
- 7. General Education:** High school graduation or equivalency is not required.
- 8. Vocational Preparation:**
- | | | |
|-----------|--------------------------------------|--|
| a. | College: | None |
| b. | Vocational Education Courses: | Forty hours of specialized training at the First Responder Level |
| c. | Apprenticeship: | None |
| d. | In-plant Training: | None |
| e. | On-the-Job-Training: | None |
| f. | Performance on Other Jobs: | None |
- 9. Experience:** None
- 10. Orientation:** Must be affiliated with public safety personnel such as a law enforcement agency, fire department (either as an employee or as a non-paid volunteer), and/or as industrial safety personnel, athletic trainers, ski patrol members, emergency management personnel, disaster team personnel, first aid section attendants,

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lifeguards, teachers, hotel employees, and others responsible for the safety of others where there are gatherings of people. As such, the First Responder will receive orientation relevant to tasks and scope of practice.

11. Licenses, Etc.: Certification or licensure.

12. Relation to Other Jobs and Workers:

Promotion: In some locations, First Responders may take bridge courses which will permit them, upon successful completion of written and practical examination, to progress to higher level EMS providers. First Responders may also take additional course hours which will permit them to become trainers of First Responders.

Transfers: None

Supervision Received: Physicians

Supervision Given: None

13. Machines, Tools, Equipment, and Work Aids:

Radio/telephone, oral airway device, suction equipment, and resuscitation mask.

14. Materials and Products: Disposable latex gloves, bandages, universal dressings such as gauze pads, tape, blankets, and pillows.

Description of tasks

Answers verbally to telephone or radio emergency calls from dispatcher to provide efficient and immediate care to critically ill and injured persons using a limited amount of equipment. Responds safely to the address or location as directed by radio dispatcher, Visually inspects and assesses or "sizes up" the scene upon arrival to determine if scene is safe, to determine the mechanism of illness or injury, and the total number of patients involved. Directly reports verbally to the responding EMS unit or communications center as to the nature and extent of injuries, the number of patients, and the condition of each patient, and identifies assessment findings which may require communication with medical direction for advice.

Assesses patient constantly while awaiting additional EMS resources, administers care as indicated. Requests additional help if necessary. Creates a safe traffic environment in the absence of law enforcement. Renders emergency care to adults, children and infants based on assessment findings, using a limited amount of equipment. Opens and maintains patient airway, ventilates patient, performs cardiopulmonary resuscitation. Provides pre-hospital emergency care of simple and multiple system trauma such as controlling hemorrhage, bandaging wounds, manually stabilizing painful, swollen and deformed extremities. Provides emergency medical care to include assisting in childbirth, management of respiratory problems, altered mental status, and environmental emergencies.

Searches for medical identification as clue in providing emergency care. Reassures patients and bystanders while working in a confident and efficient manner, avoids misunderstandings and undue haste while working expeditiously to accomplish the task. Extricates patients from entrapment, assesses extent of injury, assists other EMS providers in rendering emergency care and protection to the entrapped patient. Performs emergency moves, assists other EMS providers in the use of prescribed techniques and appliances for safe removal of the patient.

Assists other EMS providers in lifting patient onto stretcher, placing patient in ambulance, and insuring that patient and stretcher are secured. Radios dispatcher for additional help or special rescue and /or utility services. Reports verbally all observations and medical care of the patient to the transporting EMS unit, provides assistance to transporting staff. Performs basic triage where multiple patient needs exist. Restocks and replaces used supplies, uses appropriate disinfecting procedures to clean equipment, checks all equipment to insure adequate working condition for next response. Attends continuing education and refresher courses as required by employers, medical direction, and licensing or certifying agencies. Meets qualifications within the functional job analysis.

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Qualifications

Must be at least 18 years of age. Ability to communicate verbally; via telephone and radio equipment; ability to lift, carry, and balance up to 125 pounds (250 with assistance); ability to interpret and respond to written, oral, and diagnostic form instructions; ability to use good judgment and remain calm in high-stress situations; ability to work as the most basic fundamental unit of a team with personal recognition of limitations within the scope of practice of the First Responder.

Must have the ability to read road maps; drive vehicle, accurately discern street signs and address numbers; ability to communicate verbally to interview patient, family members, and bystanders; ability to document, in writing, all relevant information in prescribed format in light of legal ramifications of such; ability to converse with dispatcher and EMS providers via phone or radio as to status of patient. Proof of driver's license. Good manual dexterity with ability to perform all tasks related to level of care being provided. Ability to bend, stoop, balance, and crawl on uneven terrain; and the ability to withstand varied environmental conditions such as extreme heat, cold, and moisture. Ability to perform basic arithmetic.

Must have successful completion of approved curriculum, with achievement of passing scores on written and practical certification examinations as defined by programmatic guidelines, and be certified in cardiopulmonary resuscitation (CPR) by the American Heart Association or its equivalent. Reauthorization for certification is dependent upon an individual's currently being active as a pre-hospital emergency care provider, successful completion of an inter-agency approved First Responder refresher course, or successful completion of all requirements of a higher level training course such as EMT-B, EMT-I or EMT-P. Conditional reciprocity may be granted to individuals who have completed a First Responder program in another state. Documentation of course completion of a DOT First Responder course, current recognition as a First Responder in the state in which the individual was originally trained, a resident of the state to which the individual is applying and successful completion of an inter-agency approved written and practical examination.

Activates EMS system and provides immediate emergency medical care to sick and injured persons using a limited amount of equipment. Controls the scene, and prepares for the arrival of the ambulance. Receives call from dispatcher, responds verbally to emergency calls, reads maps, uses most expeditious route, and observes traffic ordinances and regulations. Uses own vehicle to arrive at site of emergency or designated public safety facility, drives ambulance to

emergency site when called upon to do so. Works alone as well as member of team. Determines nature and extent of illness or injury, takes pulse, blood pressure, visually observes changes in skin color, establishes priority for emergency care, renders appropriate emergency care (based on the competency level required of a First Responder). Uses limited equipment to open airways and ventilate patient, and improve patient's blood circulation until higher skilled EMS providers arrive on scene. Assists in lifting, carrying, and transporting patient to ambulance. Reassures patients and bystanders, avoids mishandling patient and undue haste, searches for medical identification emblem to aid in care. Extricates patient from entrapment, assesses extent of injury, uses prescribed techniques and appliances, radios dispatcher for additional assistance or services, provides light rescue service if required, provides additional emergency care. Complies with regulations in handling deceased. Reports verbally and in writing observations about and care of patient at the scene, provides assistance to emergency staff as required. Checks and sanitizes all equipment for future readiness.

