A study of optometric practice in the U.S. army: An attempt to identify the barriers that preclude full scope optometric services

Alden P. Johnson
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Abstract
Military optometry was examined through a review of the literature and a survey of optometrists providing clinical care in the United States Army. This was conducted to determine what barriers may exist that preclude the provision of full scope optometric care in the Army. An optometrist to population ratio of 1:23,000 was found that is substantially higher (approximately double) than that of the civilian sector. A lower percentage of career optometrists provided contact lens examinations, low vision examinations, vision therapy examinations and training sessions than did their non-career and undecided counterparts. Career optometrists performed a substantially greater number of eye examinations/visual analyses per year than did their non-career counterparts. At the same time career optometrists were providing less other than routine care, their perception was that they were providing full scope optometric care. Organizational structure and individual perceptions of full scope care may erect barriers to the provision of comprehensive vision care in the U.S. Army. A series of recommendations are forwarded as steps to be accomplished before it can be expected that comprehensive (full scope) optometric care will be realized in the U.S. Army.

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A STUDY OF OPTOMETRIC PRACTICE IN THE U.S. ARMY:
AN ATTEMPT TO IDENTIFY THE BARRIERS THAT PRECLUDE
FULL SCOPE OPTOMETRIC SERVICES

by

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Advisor

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Presented to the Faculty
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Military optometry was examined through a review of the literature and a survey of optometrists providing clinical care in the United States Army. This was conducted to determine what barriers may exist that preclude the provision of full scope optometric care in the Army. An optometrist to population ratio of 1:23,000 was found that is substantially higher (approximately double) than that of the civilian sector. A lower percentage of career optometrists provided contact lens examinations, low vision examinations, vision therapy examinations and training sessions than did their non-career and undecided counterparts. Career optometrists performed a substantially greater number of eye examinations/visual analyses per year than did their non-career counterparts. At the same time career optometrists were providing less other than routine care, their perception was that they were providing full scope optometric care. Organizational structure and individual perceptions of full scope care may erect barriers to the provision of comprehensive vision care in the U.S. Army. A series of recommendations are forwarded as steps to be accomplished before it can be expected that comprehensive (full scope) optometric care will be realized in the U.S. Army.
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INTRODUCTION

That active duty military personnel, military retirees, and dependents are not provided with the full spectrum of optometric services for which optometrists are educated, trained, and prepared to render has been advanced as a problem, both by the recipients and providers of optometric care in the armed forces. This investigation was undertaken to ascertain what, if any, barriers exist that preclude the rendering of full scope optometric care in the U.S. Army.

Historical Descriptions of Military Optometry

Averill reports, "...Active duty military personnel and retirees are being denied the full health care benefits they were promised when they embarked upon their military careers. Department of Defense directives and in many instances the administrative procedures of the individual military services result in, or require, a significantly lower quality of care than Americans in the civilian sector can routinely obtain. ...In one branch of the armed services the ratio is one optometrist for approximately 39,000 military personnel and retirees. ...The optometrist who has elected to serve his country by providing his special services through a military career finds that he is in large measure, required to disregard his basic obligation to give each and every patient a thoroughgoing and complete examination to determine the condition of the visual system, to diagnose anomalies identified,
and to prescribe proper treatment. . . .Optometrists in the military setting are not allowed to practice the full scope of optometric diagnosis and treatment of conditions of the vision system based on their own professional judgement of the patient's needs. . . .The AOA can, must, and shall continue to strive to obtain for military beneficiaries the same professional vision care benefits available to the civilian population, including the full range of optometric services...."

In an editorial, Eger states: "Low vision care, visual training and orthoptics, developmental optometry, and other special services within the educational parameters of the optometrist are almost unheard of in military eye care. . . .Optometry must be able to practice the full scope of optometric care. . . .the diagnosis and treatment of all conditions of the vision process. . . .You must be willing to subjugate your professionalism to the will of your medical superior whether he outranks you or not. You must be willing to practice a severely limited scope of optometry realizing that your case load will not permit anything but minimal refractive care."

In describing the shortage of military optometrists, Johnson comments: "Unfortunately, the military community finds itself confronted with extreme understaffing and an ever expanding patient load. Upon my assignment to Fort Belvoir, Virginia, in August of 1969, the situation was so untenable that optometric care for military dependents had been stopped prior to my arrival. Assessment of the situation convinced me that an appreciable amount of time was available for caring for entitled patients other than
active duty members, but that providing optimum care for the entire population served was impossible. While any form of triaging is less than optimum care, visual screening which utilizes the skills of optometrists and ancillary personnel can serve an equitable and effective service. The patient population must be informed as to the limitations of any screening program and not be misled into thinking they have received a complete visual examination if such a service has not actually been provided. Conversely, the traditional thought of requiring a complete visual examination every 'X' number of years should be carefully re-evaluated in a realistic approach to the shortage of eye practitioners. Closely administered screening and sorting appears to provide effective utilization of all types of optometry clinic personnel and results in under- and over-referral rates which are tolerable considering the limitations of this approach which admittedly entails less than optimum care."

In describing the reasons for the manner in which military optometry is practiced Greene and Fox state: "... Health care in the military has operated under an HMO type system for decades, so it is a typical example of the federal government's traditional approach to vision care in an HMO, and in particular, optometry's role in it. It is the opinion of a majority of military optometrists that they are rendering vision care which is significantly narrower in scope and lower in quality than that in which they would be providing as civilians. In a recent survey conducted of all military optometrists 84% of those responding felt they would be practicing a wider scope as civilians, and 51% felt the quality of
their work would be higher. . . . The scope and quality has remained below our civilian counterparts primarily because of restrictions placed upon military optometrists in their professional development and in their clinical practice by medical supervision. . . ."

Medical, dental, and veterinary care available to eligible recipients is defined in Army Regulation 40-3. The only reference to optometry or vision care is in Chapter 11, titled 'Optical Services', which is primarily concerned with the types of optical aids authorized. Quoting Greene and Fox again⁴: "It states simply that, 'The eyes of all military personnel will be examined, when indicated, as soon as possible after entering service.' The words optometrists or optometric services are mentioned only four times in this eleven-page chapter; and in three of these instances they are used interchangeably with the word 'refraction.' This apparently is the Army Medical Department's concept of vision care. . . ."

Greene and Fox continue⁴: "... If the medical profession, and in particular ophthalmology, consistently recognized the knowledge, training, and skill of today's optometrist, and gave him the necessary freedom and resources to provide his patients with the vision care they require and deserve, then the quality and scope of military vision care would most certainly be equal to that which is available to the civilian community. In some cases, individual military optometrists have been able to broaden the scope and raise the quality of vision care provided in their own clinics because their immediate medical supervisor either recognized its value or did not feel inclined to interfere. But these local
improvements are always temporary and are subject to reversal with a change in medical supervisors. The previously mentioned survey of military optometrists found that 48% of those responding see twelve to fifteen patients per day for 'complete' vision examinations; 31% see sixteen to eighteen per day; and 12% see over eighteen per day. It would be an amazing optometrist who could practice full scope, high quality optometric care with these patient loads, especially if his or her patient population has significant numbers of geriatric and pediatric patients and rotated as frequently as do military populations. The workload is becoming an increasing problem with the change to a peacetime and all-volunteer armed forces where shortages of optometrists are causing medical supervisors to become more involved in 'solving' the problem of long backlogs of patients seeking care. Most of the military optometrists who feel satisfied in their work are those who have transferred into research or administrative positions. The situation is intolerable not only from an ethical standpoint, but also because it is inconsistent with the policy of the medical departments of the various branches of the armed forces—to render the highest possible level of health care to all eligible recipients. Military optometrists must be given the freedom to provide the same scope and quality of optometric care to military patients as is available to the civilian community. The element of job satisfaction for the optometrist also must be considered."

Legler points out some of the difficulties encountered by military optometrists in attempting to provide vision care. He feels that Army regulations need to define the scope and mode of
optometry, rather than each optometrist trying to justify his or her scope of practice. Problems with replacement and procurement of practice-expanding equipment could be eased if equipment needs were specified by regulation. In his opinion, manpower surveys need to be covered in regulations, since no clear-cut explanation of 'optometric work units' is available for use. Neither are there guidelines as to method or type of statistical data records. Since these items are not specified by regulation, it becomes a matter of personal justification and confrontation when trying to convince a budget-minded non-optometrist administrator of the need for more optometrists to provide proper vision care for the patient load. Another difficulty encountered is job performance ratings conducted by non-optometric supervisory personnel; they have no realistic feel for standards other than the number of complaints/compliments, the volume of patients examined, or the patient backlog. Neither are they aware of the scope of services offered by civilian optometrists. The above mentioned problems lead to dissatisfaction, disillusionment, and difficulty in recruiting and retaining optometrists in the armed forces.

A symposium was held in early 1977 at the Pennsylvania College of Optometry to discuss problems facing military optometry. Discussion at the symposium indicated: "...Military optometrists point to the fact that often, scope of practice is limited, patient workloads excessive, their facilities inadequate for optometric specialty care. ...The optometrist in basic training centers has little regard for the men and he has no regard for himself as far as the patient is concerned. What he is doing is not
optometry. He's just turning knobs as fast as he can and doing the fastest pair of glasses. . . .Active military personnel, those retired, and their dependents are not receiving the full health care benefits they were promised when they began their military careers. . . .The number of patients to be seen are so great that an optometrist, many times, must disregard his obligation to give each patient a thorough, complete examination. . . .We're really just taking care of symptoms."

The Concept of Health Maintenance Organizations (HMOs)

Since the military health care system has been described by some as a health maintenance organization (HMO), it may be useful to identify some of the guidelines that the American Optometric Association (AOA) has advanced concerning the role that optometry should play and the scope of practice that should be striven for in HMOs. To assure that optometry's identity is maintained and that patients receive quality vision care services, Bucar states:\(^7\): 
". . .(1) the HMO must not be physician dominated—the optometrist must practice as an equal, (2) the optometrist should be utilized at his highest level of training and skill, and (3) the full scope of optometric services should be provided. . . ."

The AOA Committee on Public Health published a list of recommendations for the inclusion of optometric services in HMOs as well as other health care delivery systems (OHCDS). One of these recommendations reads:\(^8\): "OHCDS should provide for the highest standards of care, and standards of optometric vision care should be consistent with the AOA's Manual of Standards for Clinical
Optometric Facilities of the Council on Clinical Optometric Care (CCOC)."

Full Scope Optometry

The scope of optometric practice has been a topic that has received much publicity in the optometric journals; at state, regional, and national conventions; and in the schools and colleges of optometry throughout the past decade.

Scope of practice has been defined as the boundary or perimeter within which a profession or an individual has complete freedom to provide services; it is the range of education and licensure in optometry and should be considered flexible, to meet the future needs of patients. According to Eger\(^9\), the scope of optometric care is the expanding scope of responsibilities; for the profession of optometry includes prevention, determination, and remediation of problems of the visual system along with the improvement and maintenance of efficiency in his environment. The optometrist provides a great variety of services to meet the needs of each individual patient; the methods and procedures necessary to determine and evaluate a patient's vision status are matters for the optometrist's professional judgement.

In his inaugural address as president of the AOA, Dr. Robert Day stated\(^10\): "...The profession of optometry must take immediate action to develop new concepts to assure the delivery of optometric care at the highest quality and in the full scope through all third party payment programs and all other types of delivery systems in the United States. ... The optometrist's
decisions must be based on the best interest of the patient. It is the responsibility of optometry to provide comprehensive, quality vision care to all persons at the lowest possible price. Exclusion of the full scope of optometric care in public and private third party payment programs is a disservice to our patients. We must make sure that the level of complete optometric care which is available in the private sector is also available to any recipient of a third party payment program. [However,] inclusion of the full scope of optometric care in third party payment programs is meaningless if our profession cannot deliver."

Past-President of the AOA, G. Burtt Holmes stated: "The optometrist must be educated and trained to provide or refer to others the full scope of optometric services. Frequently we hear of the limited scope of optometry when actually the limitations are self-imposed and services available by law are not being made available to the patient because of such reasons as neglect, inadequate training, or design. The public deserves the right to have an optometrist who has available to him all methods or means necessary to provide full optometric care and who is properly trained and educated to utilize them. Any change in the system that provides for compensation to the optometrist for services by the federal government, third party payment carriers, prepaid group care, or others, will obviously demand some controls as to the quality, cost, and type of optometric services provided. It is here that the profession must give direction so that only care of the highest quality be offered and that the full scope of
optometric services be made available, not merely the traditional 'refraction' and spectacles. A wide range of services with emphasis on the preventive aspect should be available."

**Optometric Services**

The scope of optometric services include visual screening examinations, clinical instrumentation, contact lens fitting, visual training, orthoptics, low vision aids for the partially sighted, artificial eyes, industrial vision consultation, and public and community health. The most rapidly expanding area of service is in school consultation and remedial services for low achievers. Approximately 25% of all children have some difficulty in learning to read, and an unknown proportion of this group have some sort of visual problem. A publication issued in July 1970, by the Executive Office of the President of the United States stated: "That all of the 700,000 youngsters who drop out of school each year are two to three years behind their group in reading skills." The chief psychologist at Sing Sing Prison in New York, F.R. Gilbert stated: "The White House Conference on Children and Youth bears out various prison studies of my own. Up to 80% of the delinquents and semi-delinquents studied by the Conference had learning difficulties, specifically in reading, and poor vision was found to be a contributing factor in 50% of these cases."\(^12\)

The Better Vision Institute recommends: (1) an examination of the infant at whatever age the parents or pediatrician suspect an eye problem, (2) a comprehensive examination for every child before he enters school, since uncorrected visual problems may
interfere with the learning process, (3) annual examination during the school years, (4) biennial examination of those aged 20-45, and (5) annual examinations for those over 45.12

A satisfactory screening program for the schools should include tests of the function of the visual system when the individual is looking at a distance object and also at his/her proper reading distance. Such a procedure should be administered as a minimum in the first, third, fifth, seventh, and ninth grades. Since functional disorders are far more likely to occur among children than pathological disorders, the necessity to screen effectively for them is obvious. Many of the problems of children are quite subtle, affecting not so much visual acuity as attention span and visual discrimination. Research optometrists have contributed important knowledge about visual performance, sensory psychology, and learning theory, and practicing optometrists are applying this knowledge for the benefit of learning by the child in the classroom. Optometrists have worked closely with reading specialists in programs of remedial reading and with clinical psychologists who work with problems of learning impairment. Optometrists view their service as related to visual performance. As such they are concerned with eye health, visual acuity, comfort, visual perception, binocular coordination, vision development, visual efficiency, and vision performance.12

Three levels of service have been described—minimal, basic and comprehensive. Minimal service, in general, is a very brief history, an internal and external examination of the eyeball and a simple sight test (refraction). This is not deemed adequate.
Basic service is offered by most optometrists and usually includes a more complete history, internal and external examination of the eye, tonometry, refraction, oculomotor performance, fusional reserves, accommodative adequacy, visual field studies when indicated, and a battery of tests at the patient's working distance: in the case of a school child at his/her reading distance, and in an adult at the distance of his/her work and hobbies. Many optometrists rendering a basic service also do contact lens work, but refer to other optometrists for other specialized services.

An increasing number of optometrists offer comprehensive service and in addition to the tests listed above; they investigate the visual performance skills including visual perception. They have prepared themselves in one or more of the following specialties: Vision Therapy (Visual Training, Orthoptic Training, and Pleoptics); Visual Development of Children; Vision and Learning; Low Vision; Aniseikonia; Contact Lenses.

When cost and efficiency are the primary consideration, quality tends to suffer and there are pressures tending toward minimal care. To raise minimal care to basic care requires two to three times as much time with each patient; even more time is required for comprehensive care.12

Turner, former chairman of the AOA's Committee on Federal Service Optometry and a career optometrist, describes three levels of optometric service in virtually identical substance to those mentioned above: minimal, basic, and full scope visual care. According to Turner, minimal visual care is:
(1) Applicable to basic training centers and time of rapid mobilization;
(2) to include the detection of departure from the optimally healthy eye;
(3) history by checklist;
(4) visual acuities, near and far in each eye, unaided and corrected;
(5) evaluation of ametropia; and
(6) determination of binocularity.

Basic visual care is:
(1) Applicable under temporary conditions to fulfill mission requirements. This would apply to active duty military personnel after other categories of patients have been restricted from the schedule and there is still a backlog of active duty;
(2) detailed examination of the eye and adnexa (provisional diagnosis);
(3) perusing medical records for significant history and reason for visit;
(4) visual acuities, near and far in each eye, unaided and corrected;
(5) objective and subjective determination of ametropia;
(6) evaluation of binocularity and accommodation;
(7) final diagnosis;
(8) disposition,
   (a) reassurance,
   (b) visual treatment plan,
(c) referral.

"Full scope visual care is:

(1) Applicable to provide optimum care to the visual needs of the beneficiary and to maintain the overall competency of the optometrist;

(2) detailed examination of the eye and adnexa including supplemental diagnostic procedures necessary for finalizing the disposition;

(3) study medical records, take a systemic, familial, and ocular history, occupational and personal visual needs and analyze in relation to all complaints;

(4) visual acuities, far and near in each eye, unaided and corrected;

(5) baseline data on corneal curvature, visual fields, and color vision;

(6) objective and subjective determination of ametropia with and without diagnostic drugs;

(7) evaluation of binocular coordination and accommodation;

(8) final diagnosis;

(9) disposition,

   (a) case presentation (discussion of findings and advise patient),

   (b) follow through with vision treatment plan including specialty areas,

   (c) direct referral of the patient to the appropriate specialist when any symptoms or findings are not amenable to optometric therapeutics."13
"The principle objective of an HMO is to provide quality services at the highest level of efficiency (emphasis added) possible", notes Gensler. While this principle of operation is desirable, it is imperative from a professional standpoint to ascertain if the autonomy of optometry is being sacrificed in the process. Infringement upon the domain of optometry by other members of the health care team should not be tolerated; the maintenance of professional integrity is absolutely essential.

The following is quoted from Optometry: Education for the Profession: "A comprehensive program of vision care includes the following:

1. comprehensive eye examination and visual analysis with supporting tests based on the nature and severity of the visual problem;
2. visual therapy, including straightening physical deviation such as squint, and training to alleviate problems arising from sub-average visual coordination, perception, and development;
3. screening programs for schools, industry, motorists, long-term care and geriatric institutions, community action programs and health centers;
4. specialized clinical procedures including low vision care, contact lens prescription, and the correction of aniseikonia;
5. industrial and school consultation to plan, organize, and operate and evaluate vision care programs in schools and industry for work performance, efficiency, and safety."
The vision care program outlined above should be the goal of optometry in general and military optometry specifically.

**Review of Manpower Research**

Because of the alleged shortage of optometrists in the military as well as the providing of less than optimal optometric services by military optometrists\(^1\)-\(^4\), a review of the literature was conducted to determine what has and is being done to assess current and future optometric manpower requirements. In recent years, interest in health manpower has resulted in many studies assessing optometric manpower requirements\(^1\)\(^4\)\(,2\)\(4\)-\(2\)\(7\) and mode and scope of optometric practice.\(^2\)\(8\),\(2\)\(9\) With the exception of the study by Lowe, Mayer, and Ragsdale,\(^2\)\(7\) virtually all of these studies ignored productivity as a factor in projecting manpower needs.

Studies by the National Center for Health Statistics (NCHS)\(^1\)\(8\),\(1\)\(9\) characterized the population of optometrists, ratio of practitioners to population (9.3:100,000 or 1:10,750), and professional characteristics such as type of employment, primary activities, and allocation of professional time. Birchard and Elliott\(^1\)\(4\) conducted a study by gathering data with a survey instrument concerning desirable frequencies of case studies (i.e., annual or biennial examinations), the amount of time to be allotted for each case study, the number of case studies to be conducted per week, and the number of weeks per year to be spent in the office. Assuming a National Health Plan would be in place in the projected years (1970 and 1980), they projected a need for a practitioner to patient ratio of 1:8,000. Butter's review of health manpower
research indicates that although productivity is difficult to measure, it must be taken into account in estimates of present and prospective health manpower requirements.\textsuperscript{15} Productivity has been defined as the total number of annual diagnostic visual analyses performed by an optometrist. Visual analysis refers to a complete examination, diagnosis, prognosis, and treatment plan for any individual patient as a measure of productivity.\textsuperscript{27}

Productivity can be increased considerably by the utilization of paraoptometric personnel; as is evidenced by their extensive use in group practices, HMOs, and the military. Haffner, et al\textsuperscript{17} postulated that the use of ancillary personnel can save the optometrist one third to one half the time spent per patient. The importance of group practice and ancillary personnel to productivity and the importance of productivity to national health insurance has been noted by Cultice, et al.\textsuperscript{21}

\textbf{Focus of Investigation}

With the above concerns in mind, this study was undertaken to determine the characteristics of current optometric practice in the U.S. Army. The information presented in this study will provide a basis for which other studies may continue in this same area. Better planning for manpower requirements in military optometry as well as health maintenance organizations and group practices should result.
METHODOLOGY

A survey instrument was designed and sent to all United States Army optometrists identified as providing clinical patient care. The most current duty roster (January 1981) was utilized as the mailing list. One hundred eighty (180) questionnaires were sent with a cover letter explaining the purpose of the study (see Appendix A).

The survey investigated practitioner and clinic characteristics. It included characteristics as age, rank, career/undecided/non-career, and professional school attended. Clinic characteristics are described in areas as:

1. Organizational structure (to whom optometry is responsible; i.e., Chief of Professional Services, Department of Surgery, Department of Outpatient Clinics, etc.),
2. The number of optometrists assigned to each clinic,
3. Utilization of paraoptometric personnel;
4. The number patients seen/scheduled each day;
5. The amount of time scheduled for an examination;
6. The scope of optometric services offered; and
7. The size and characteristics of the population served by the health care facility.
RESULTS AND DISCUSSION

There are eighty-four United States Army installations where optometrists provide vision care in a clinical setting. The respondents to the survey represented in total, 52.4% (44 out of 84) of the installations. Army Medical Centers (AMCs) were represented at a 37.5% rate, (3 out of 8), Medical Department Activity Centers (MEDDACs)/Army Hospitals at a 57.1% rate (28 out of 49), and Clinics/Dispensaries at a 48.1% rate (13 out of 27) as is indicated in Figure 1.

Of the total number of questionnaires sent (one hundred eighty), two were returned as undeliverable, and six optometrists indicated that they were not performing clinical optometry as a primary function. Over a two month period, a total of sixty (60) optometrists responded for a return rate of 34.9% (60 out of 172). Questionnaires that were partially incomplete were used where possible; therefore, the 'n' (number) may not be the same for each item on the survey.

The respondents were categorized as "career," "undecided," (as to career), and "non-career." The distribution of this data is

*Career--a career optometrist is one who has decided to stay in the Army for (at least) 20 years, at which time s/he is eligible to retire and receive a pension.

Undecided--one who has not made a decision whether or not to stay in the Army (beyond his/her obligation, if any).

Non-Career--(generally) one who (is serving an obligatory period of time in the Army and) has decided to leave the Army (at the termination of the obligation).
FIGURE 1. INSTALLATION RESPONSE RATE

- OVERALL RESPONSE RATE
- ARMY MEDICAL CENTERS
- MEDDAC'S/ARMY HOSPITALS
- CLINICS/DISPENSARIES
displayed in Figure 2.

The mean, median, and range of age for each of the above categories is presented in Table 1, as well as the mean and range of their time-in-service (TIS). As can be seen from Table 1, the mean age of the undecided group is approximately 3.6 months greater than the non-career group and the mean age of the career group is approximately 11 years greater than the other two groups. The non-career and the undecided groups are comprised of Captains (0-3) only, while the career group ranged in rank from Captain (0-3) to Colonel (0-6).

Also in Table 1 are data reflecting: (1) The number of patients seen/scheduled each day, (2) the number of examinations performed each day, (3) the amount of time scheduled with each patient for an examination, (4) the respondents' opinion regarding the amount of time allotted for an examination vis-à-vis the quality of vision care provided, and (5) the respondents' opinion regarding their provision of full scope care. The total number of respondents who felt that they were not practicing full scope optometry was 54.2% (32 out of 59). The primary reason given was "patient load precludes it." The demand for services exceeds the manpower supply.

Figure 3 depicts the number of respondents from the various schools of optometry and their career status. In Figure 4, the heavy preponderance of optometrists in the military who attended independent (private) institutions can be noted. The unseemingly high number of respondents from Pacific University is probably best explained by an 'alumnus response' phenomenon, since the
FIGURE 2
DISTRIBUTION OF ARMY OPTOMETRISTS AS THEY REGARD THEMSELVES: CAREER, UNDECIDED, OR NONCAREER*

*See footnote on page 19 for definition
**Table 1. Respondents' Characteristics**

<table>
<thead>
<tr>
<th></th>
<th>Non-Career</th>
<th>Undecided</th>
<th>Career</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>28.9</td>
<td>29.2</td>
<td>39.9</td>
</tr>
<tr>
<td>Median</td>
<td>29</td>
<td>29</td>
<td>40</td>
</tr>
<tr>
<td>Range</td>
<td>26-35</td>
<td>25-35</td>
<td>30-52</td>
</tr>
<tr>
<td><strong>Time in Service</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>2.25 yrs</td>
<td>2.42</td>
<td>13.63</td>
</tr>
<tr>
<td>Range</td>
<td>.33-3.75 yrs</td>
<td>.42-8.67</td>
<td>1.75-25.08</td>
</tr>
<tr>
<td><strong>Number of Patients Seen/Scheduled per day</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>13.86</td>
<td>13.6</td>
<td>13.5</td>
</tr>
<tr>
<td>Median</td>
<td>13</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Mode</td>
<td>13</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>N=</td>
<td>17</td>
<td>18</td>
<td>23</td>
</tr>
<tr>
<td><strong>Number of examinations performed per day</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>13.59</td>
<td>14.1</td>
<td>13.7</td>
</tr>
<tr>
<td>Median</td>
<td>14</td>
<td>15</td>
<td>14</td>
</tr>
<tr>
<td>Mode</td>
<td>14</td>
<td>15</td>
<td>14</td>
</tr>
<tr>
<td>N=</td>
<td>17</td>
<td>19</td>
<td>23</td>
</tr>
<tr>
<td><strong>Amount of time scheduled for examination</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 minutes N=</td>
<td>2</td>
<td>0</td>
<td>0*</td>
</tr>
<tr>
<td>30 minutes N=</td>
<td>15</td>
<td>19</td>
<td>23*</td>
</tr>
</tbody>
</table>
TABLE I. RESPONDENTS' CHARACTERISTICS (continued)

Opinion concerning amount of time allotted for examination vis-a-vis quality of vision care provided

<table>
<thead>
<tr>
<th>Amount Allotted</th>
<th>Yes (%)</th>
<th>No (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optimal</td>
<td>9</td>
<td>11</td>
</tr>
<tr>
<td>Nominal</td>
<td>6**</td>
<td>7</td>
</tr>
<tr>
<td>Minimal</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Felt to be practicing full scope optometry

| %Yes (N) | 43.7 (7) | 52.6 (10) | 41.7 (10) |
| %No (N)  | 56.3 (9) | 47.4 (9)  | 58.3 (14) |

Reasons for 'no' response

<table>
<thead>
<tr>
<th>Reason</th>
<th>Yes (N)</th>
<th>No (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient load precludes it</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Supervisor/Medical Opposition</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Don't desire to provide, but refer</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Not enough time***</td>
<td>1</td>
<td>--</td>
</tr>
<tr>
<td>Lack of Proper equipment***</td>
<td>--</td>
<td>1</td>
</tr>
</tbody>
</table>

*One response 15 min. for active duty and 30 min. for dependents.

**One responded between optimal and nominal.

***Comment added by respondent.
DISTRIBUTION OF SCHOOLS AND COLLEGES OF OPTOMETRY FROM WHICH RESPONDENTS GRADUATED AND THEIR CAREER STATUS

* See footnote on page 19 for definition
FIGURE 4. DISTRIBUTION OF RESPONDENTS
GRADUATES OF INDEPENDENT VS. PUBLIC INSTITUTIONS

Percentage of Responses

25%  50%  75%  100%

Independent (private) Institutions
Public Institutions

Number of Responses

26

The author of the study is from Pacific, rather than reflecting the 'true percentage' of the Pacific graduates practicing in the U.S. Army.

The survey asked the respondent to estimate: (1) the number of eye examinations/visual analyses, (2) the number of contact lens fittings, (3) the number of low-vision examinations, (4) the number of vision therapy (V.T.) examinations, and (5) the number of V.T. sessions conducted during the previous year. The
results of these data are found in Table II.

Of those respondents who indicated that they were not practicing full scope optometry, 50% indicated they provided vision therapy examinations, while 69.2% of those indicating that they were practicing full scope optometry indicated they conducted these examinations. For low vision examinations, the percentages were 42.3% (not full scope group) and 46.1% (full scope group), respectively; for contact lens fitting examinations 69.2% (not full scope group) and 80.8% (full scope group) respectively. These results would be expected—those who felt that they were not providing full scope optometric care were, in fact, providing less of the same services than that group who indicated that they were providing full scope care. However, it also indicates that there may, indeed, be varied perceptions of what constitutes "full scope". This becomes more evident when looking at the total number of examinations performed by these two groups. The full-scope care group conducted an average of 2,848 (S.D.=794) examinations per year versus an average of 2,740 (S.D.=706) for the non-full-scope group. Also, 50% of the non-full-scope group indicated that they feel they are required to see too many patients to provide the quality of care they desire; 53.8% feel that the quality of care (actually provided to the patient) is diminished or degraded because the number of patients they are required to see is excessive. However, none of the full-scope group indicated that they were seeing too many patients to provide the quality they desired or that the quality of the care was diminished or degraded because the number of patients being seen was excessive. This is
**TABLE II. QUANTITIES AND TYPES OF EXAMINATIONS**

<table>
<thead>
<tr>
<th>Service Description</th>
<th>N</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Range</th>
<th>% of Respondents providing this service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated number of eye examination/visual analyses performed during last year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Career</td>
<td>21</td>
<td>3052.4</td>
<td>873.9</td>
<td>1800-5000*</td>
<td></td>
</tr>
<tr>
<td>Undecided</td>
<td>16</td>
<td>2803.1</td>
<td>632.3</td>
<td>1600-3700</td>
<td></td>
</tr>
<tr>
<td>Non-career</td>
<td>17</td>
<td>2458.8</td>
<td>528.1</td>
<td>1500-3500</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>54</td>
<td>2791.7</td>
<td>757.8</td>
<td>1500-5000</td>
<td></td>
</tr>
<tr>
<td>Estimated number of Contact Lens Fittings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1) Of those who fit Contact lenses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Career</td>
<td>12</td>
<td>68.4</td>
<td>75.5</td>
<td>6-300</td>
<td></td>
</tr>
<tr>
<td>Undecided</td>
<td>12</td>
<td>136.7</td>
<td>86.9</td>
<td>10-400</td>
<td></td>
</tr>
<tr>
<td>Non-career</td>
<td>17</td>
<td>114.6</td>
<td>91.3</td>
<td>20-350</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>41</td>
<td>107.6</td>
<td>93.3</td>
<td>6-400</td>
<td></td>
</tr>
<tr>
<td>(2) Of all respondents</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Career</td>
<td>21</td>
<td>39.1</td>
<td>66.4</td>
<td>0-300</td>
<td>57.1</td>
</tr>
<tr>
<td>Undecided</td>
<td>16</td>
<td>102.5</td>
<td>95.7</td>
<td>0-400</td>
<td>75.0</td>
</tr>
<tr>
<td>Non-career</td>
<td>17</td>
<td>114.6</td>
<td>91.3</td>
<td>20-350</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
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<td>81.7</td>
<td>93.4</td>
<td>0-400</td>
<td>75.9</td>
</tr>
<tr>
<td>Estimated number of Low Vision Examinations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1) Of those who did Low Vision exams</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Career</td>
<td>7</td>
<td>13.1</td>
<td>23.4</td>
<td>1-70</td>
<td></td>
</tr>
<tr>
<td>Undecided</td>
<td>7</td>
<td>5.0</td>
<td>2.9</td>
<td>1-10</td>
<td></td>
</tr>
<tr>
<td>Non-career</td>
<td>8</td>
<td>3.0</td>
<td>3.5</td>
<td>1-12</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
<td>6.9</td>
<td>14.2</td>
<td>1-70</td>
<td></td>
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</table>
TABLE II. QUANTITIES AND TYPES OF EXAMINATIONS (continued)

(2) Of all respondents

<table>
<thead>
<tr>
<th></th>
<th>Career</th>
<th>Undecided</th>
<th>Non-career</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>21</td>
<td>16</td>
<td>17</td>
<td>54</td>
</tr>
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<td></td>
<td>4.4</td>
<td>2.2</td>
<td>1.4</td>
<td>2.8</td>
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<td></td>
<td>14.9</td>
<td>3.1</td>
<td>2.8</td>
<td>9.6</td>
</tr>
<tr>
<td></td>
<td>0-70</td>
<td>0-10</td>
<td>0-12</td>
<td>0-70</td>
</tr>
<tr>
<td></td>
<td>33.3</td>
<td>43.7</td>
<td>47.1</td>
<td>40.7</td>
</tr>
</tbody>
</table>

Estimated number of V.T. examinations

(1) Of those who did V.T. exams

<table>
<thead>
<tr>
<th></th>
<th>Career</th>
<th>Undecided</th>
<th>Non-career</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9</td>
<td>10</td>
<td>12</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>25.2</td>
<td>48.9</td>
<td>14.2</td>
<td>31.6</td>
</tr>
<tr>
<td></td>
<td>29.9</td>
<td>38.9</td>
<td>13.2</td>
<td>35.8</td>
</tr>
<tr>
<td></td>
<td>2-100</td>
<td>2-100</td>
<td>1-50</td>
<td>1-125</td>
</tr>
<tr>
<td></td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

(2) Of all respondents

<table>
<thead>
<tr>
<th></th>
<th>Career</th>
<th>Undecided</th>
<th>Non-Career</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>21</td>
<td>16</td>
<td>17</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>10.8</td>
<td>30.6</td>
<td>17.4</td>
<td>18.7</td>
</tr>
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<td></td>
<td>23.2</td>
<td>38.8</td>
<td>29.7</td>
<td>31.6</td>
</tr>
<tr>
<td></td>
<td>0-100</td>
<td>0-100</td>
<td>0-125</td>
<td>0-125</td>
</tr>
<tr>
<td></td>
<td>42.9</td>
<td>62.5</td>
<td>76.5</td>
<td>59.3</td>
</tr>
</tbody>
</table>

Estimated number of V.T. sessions conducted

(1) Of those who did in-office V.T.

<table>
<thead>
<tr>
<th></th>
<th>Career</th>
<th>Undecided***</th>
<th>Undecided</th>
<th>Non-career***</th>
<th>Non-career</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4</td>
<td>7</td>
<td>9</td>
<td>10</td>
<td>12</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>73.8</td>
<td>74.7</td>
<td>169.2</td>
<td>30.8</td>
<td>59.0</td>
<td>101.0</td>
</tr>
<tr>
<td></td>
<td>37.8</td>
<td>72.2</td>
<td>187.9</td>
<td>32.2</td>
<td>69.6</td>
<td>134.8</td>
</tr>
<tr>
<td></td>
<td>5-150</td>
<td>1-200</td>
<td>1-500</td>
<td>1-75</td>
<td>1-200</td>
<td>1-500</td>
</tr>
<tr>
<td></td>
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<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>
TABLE II. QUANTITIES AND TYPES OF EXAMINATIONS (continued)

(2) Of all respondents

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
<th>Percentage</th>
<th>Mean</th>
<th>Mean (0-500)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Career</td>
<td>21</td>
<td>14.0</td>
<td>37.8</td>
<td>0-150</td>
</tr>
<tr>
<td>Undecided</td>
<td>16</td>
<td>95.2</td>
<td>164.1</td>
<td>0-500</td>
</tr>
<tr>
<td>Non-career</td>
<td>17</td>
<td>41.6</td>
<td>64.3</td>
<td>0-200</td>
</tr>
<tr>
<td>Total</td>
<td>54</td>
<td>46.8</td>
<td>104.7</td>
<td>0-500</td>
</tr>
</tbody>
</table>

* Three estimates (4400, 4500, 5000) are believed to be too high, since this corresponds to greater than 18.3, 18.75, and 21 patients per day, respectively, and no one reported seeing that many patients per day. However, the mean number of examinations (3052.4) is within approximately 30 patients for the year (utilizing the data from Table I and extrapolating to a full year of 48 weeks), when one estimates an adjustment factor for the approximately 42% of the respondents who report a half-day off per week, using the reported number of examinations per day for the entire group.

** N=12 was computed because one respondent reported greater than 2.5 times the number of V.T. examinations than did the second highest response, thus skewing the data remarkably in such a small sample.

*** N=7 was computed because two respondents reported greater than 2.5 times the number of V.T. session than did the second highest response, thus skewing the data remarkably in such a small sample.

**** N=10 was computed because two respondents reported greater than 2.5 times the number of V.T. sessions than did the second highest response, thus skewing the data remarkably.
true even though they were providing more examinations (on average) than the non-full-scope group. It is postulated that this perceptual difference arises from a fundamental conceptual difference as to what constitutes full scope care. Of the full-scope group, there were very few responses (less than 10%) indicating a desire to provide any services that were currently not being provided, yet 30.8% did not provide V.T. examinations, 53.9% did not provide low vision examinations,* and 19.2% did not provide contact lens examinations. This latter category is in contrast to only 7.4% of civilian optometrists who did not fit contact lenses, according to a survey conducted by the Public Health Service. This was in 1968-69 and it would be expected that this percentage is even lower today (closer to 100% who do fit contact lenses).

The group indicating that they did provide full scope care, most frequently practiced where the optometry service reported to the Chief of Professional Services; the group indicating that they did not provide full scope care, were most typically practicing where the optometry service reported to the Ophthalmology Service/Department of Surgery (see Table III). One conclusion--there is a more conducive environment for providing full scope care if the optometry service reports to the Chief of Professional Services rather than the Ophthalmology Service/Department of Surgery.

Based on the responses, however, no clear cut differences emerge that indicate any particular organizational setting (AMC, *It is probable that at many installations there is little demand for this service due to small number of patients with the requirements for this service.
## TABLE III

**DISTRIBUTION OF RESPONSES WITH REGARD TO CLINIC SETTING VIS-A-VIS FULL SCOPE CARE**

<table>
<thead>
<tr>
<th>FULL-SCOPE GROUP</th>
<th>NOT FULL-SCOPE GROUP</th>
<th>OPTOMETRY SECTION REPORTS TO:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>OPHTHALMOLOGY SERVICE</td>
</tr>
<tr>
<td>1 A* H 2 C</td>
<td>1 A 11 H 6 C</td>
<td>DEPARTMENT OF SURGERY</td>
</tr>
<tr>
<td>2</td>
<td>1 6 2 2</td>
<td>CHIEF OF PROFESSIONAL SERVICES</td>
</tr>
<tr>
<td></td>
<td>1 1 1</td>
<td>DEPARTMENT OF CLINICS/OUT-PATIENT SERVICES</td>
</tr>
<tr>
<td></td>
<td>8 8 8</td>
<td>HOSPITAL/CLINIC COMMANDER</td>
</tr>
</tbody>
</table>

*A - ARMY MEDICAL CENTER  
H - MEDDAC/ARMY HOSPITAL  
C - CLINIC/DISPENSARY*
MEDDAC, or Clinic/Dispensary) as providing a more favorable climate for rendering full scope care than any other. Although the data do not reveal significant differences, it is generally felt that optometrists performing their duties in outpatient facilities and Troop Medical Clinics have greater freedom and opportunity to practice full scope optometry. The fact that organizational structure influences the scope of optometric services and proper referral is exemplified by an incident that occurred in early 1980 at a metropolitan Washington, D.C., Health Maintenance Organization. An optometrist employed by Group Health Association of Washington, D.C., was fired for referring a patient for visual training to another practitioner outside the HMO. The HMO's policy "as supported by the American Association Academy of Ophthalmology and the American Association of Ophthalmology, is not to participate in or recommend the therapeutic modality known as Visual Training."36

Individual perceptual differences became apparent at several installations where some felt they were providing full scope care and others at the same location felt they were not providing or could not provide full scope care. The trend at these clinic settings indicates that the Chief of Optometry felt that full scope care was being provided, but not all the subordinates concurred.

Quantities and Types Examinations

Portrayed in Table II are data representing the examination quantities and types according to career status. Several interesting observations are noted: (1) The mean number of eye examinations is substantially greater for career than for non-career personnel
(3,052 vs. 2,459); (2) A lower percentage of career personnel fit contact lenses (57.1% vs. 100%) and they fit them in fewer numbers (68.4 vs. 114.6 contact lens exam/yr.) than did non-career personnel; (3) A lower percentage of career personnel provided low vision care than did non-career personnel; (4) this trend is true also of vision therapy examinations and sessions conducted. Referring back to Table 1, another interesting dichotomy becomes apparent—a higher percentage of career personnel indicated that they were providing full scope optometry than non-career personnel, yet in every category surveyed, a lower percentage of career personnel provided other than routine eye care. Once again, this indicates that full scope optometry has different meanings to different persons.

Referring to items 27 and 28 on the survey instrument (see Appendix B), it is noted that the question concerning full scope optometry is left intentionally open and the responses to it were quite divergent, resulting in individualized definitions. It is obvious to all, that contact lenses, low vision, vision therapy, and routine eye examinations do not in and of themselves comprise the full spectrum of optometric services. However, if these four areas of optometry are not provided routinely, it would seem to be rather pretentious to consider that full scope optometry is being provided. That is precisely why the analysis of the survey was limited to these areas listed above, rather than address the wider range of services and diagnostic procedures that encompass the entire profession of optometry, such as aniseikonia, developmental vision, visuo-motor integration, form perception, visual aspects of
learning disabilities, visual readiness for reading, electrodiagnosis, etc.

**CHAMPUS** Reimbursement

Item 42 relating to CHAMPUS reimbursement also elicited some interesting observations. Several years ago, CHAMPUS reimbursement for vision therapy/orthoptics by optometrists was discontinued. Of those responding to this question, 82.5% felt that because of this policy their patients do not receive proper optometric care. Also 86.5% of the respondents felt that they could not provide all the vision therapy that their patients require. (see Figure 5)

Analyzing the optometrist to population ratio is a challenging undertaking, and the results need to be viewed with considerable caution. The responses were quite variable with populations reported at one installation ranging from 40,000-350,000, at another from 110,000-165,000, at another, 95,000-150,000, and at yet another from 54,000-91,000 (see Table IV). This leads to the conclusion that accurate data regarding the population served (catchment area) is either not readily available or inaccurate, or both. Therefore, the validity of the conclusions drawn from such data must be regarded with reservation. The results indicate that the optometrist to population ratio in the Army is about 1:23,000 with

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*Acronym stands for Civilian Health and Medical Program of the Uniformed Services. This program reimburses military members at the rate of 80% (after an annual deductible) when care is unavailable at a military health care facility and is provided at a civilian facility.*
FIGURE 5. EFFECTS OF NON-REIMBURSEMENT FOR VISION THERAPY THROUGH CHAMPUS

Comments to item 42

1. "Patients referred properly and get proper care--"
   Examiner provided 1 VT exam out of 3000 (0.03%)

2. "Can handle all required VT cases due to low number in population."
   Examiner provided 6 VT exams out of 2000 (0.3%)

3. "I do not perform VT and I don't refer to the wand wavers."
<table>
<thead>
<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Army Medical Centers</td>
<td>1:24,250</td>
<td>121,300</td>
<td>22,500</td>
<td>95,000-150,000</td>
<td>5</td>
<td>0</td>
<td>N/A</td>
</tr>
<tr>
<td>MEDDAC/Hospital</td>
<td>1:22,850</td>
<td>62,600</td>
<td>45,600</td>
<td>10,500-175,000</td>
<td>2.7</td>
<td>1.5</td>
<td>1-7</td>
</tr>
<tr>
<td>Clinic*</td>
<td>1:20,500</td>
<td>35,000</td>
<td>42,400</td>
<td>10,000-160,000</td>
<td>1.7</td>
<td>0.8</td>
<td>1-3</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1:22,981</td>
<td>Range of optometrist/patient population: 1:7,250-1:75,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Remarks: One optometrist stated, "I'm afraid to ask—estimate about 10,000." This data was not used in the above calculations.

Note: When conflicting data was received from an installation, the high and low figures were discarded in the case of three or more varying estimates, and the mean was used when there were two unequal estimates of population.
### TABLE V

**TECHNICIAN DUTIES—Rank Ordered From Most to Least Frequent**

<table>
<thead>
<tr>
<th>AMC</th>
<th>MEDDAC</th>
<th>CLINIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Tonometry</td>
<td>1. Tonometry</td>
<td>1. Tonometry</td>
</tr>
<tr>
<td>Visual Fields</td>
<td>2. Dispensing</td>
<td>2. Dispensing</td>
</tr>
<tr>
<td>Dispensing</td>
<td>4. Visual Acuities</td>
<td>4. Screening</td>
</tr>
<tr>
<td>3. History</td>
<td>Screenings</td>
<td>5. Visual Acuities</td>
</tr>
<tr>
<td>Screening</td>
<td>Contact Lens Instruction</td>
<td>Color Testing</td>
</tr>
<tr>
<td>Frame Adjustments</td>
<td>5. Lensometry</td>
<td>Contact Lens Instruction</td>
</tr>
<tr>
<td>Contact Lens Instruction</td>
<td>6. Frame Repair</td>
<td>Frame Selection</td>
</tr>
<tr>
<td>Color Testing</td>
<td>7. Color Testing</td>
<td>Visual Fields</td>
</tr>
<tr>
<td>Fundus/External Photography</td>
<td>8. Stereopsis Testing</td>
<td>Contact Lens Polishing</td>
</tr>
<tr>
<td>Sphygmomanometry</td>
<td>9. History</td>
<td>Ordering Prescription</td>
</tr>
<tr>
<td></td>
<td>10. Visual Skills</td>
<td>Drivers License Testing</td>
</tr>
<tr>
<td></td>
<td>11. Ordering Prescription</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fundus/External Photos</td>
<td>Field Screening</td>
</tr>
<tr>
<td></td>
<td>Instillation of Topical Drugs</td>
<td>Stereopsis Testing</td>
</tr>
<tr>
<td></td>
<td>Field Screening</td>
<td>Visual Skills</td>
</tr>
<tr>
<td></td>
<td>Extraocular Motilities</td>
<td>Accommodative Amplitude</td>
</tr>
<tr>
<td></td>
<td>Near Point of Convergence</td>
<td>Red Lens Test</td>
</tr>
<tr>
<td></td>
<td>Cover Test</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Accommodative Amplitude</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pupil Test</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dioptron</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sphygmomanometry</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Contact Lens Polishing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Scheduling Appointments</td>
<td></td>
</tr>
</tbody>
</table>
TABLE VI

TASKS ACCOMPLISHED DURING EYE EXAMINATION AND ESTIMATES OF TIME NECESSARY TO COMPLETE THEM

<table>
<thead>
<tr>
<th>Task</th>
<th>Time Allowance*</th>
<th>OD</th>
<th>Assistant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case History</td>
<td>5 (to 15)</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Visual Acuity Measurement</td>
<td>3</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Lensometry</td>
<td>2</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>Keratometry</td>
<td>4</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>External examination</td>
<td>3</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>Ophthalmoscopy</td>
<td>4</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>Retinoscopy</td>
<td>3</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>Subjective exam</td>
<td>5 (to 15)</td>
<td>5 (to 15)</td>
<td>-</td>
</tr>
<tr>
<td>Binocular Coordination Testing</td>
<td>6</td>
<td>6</td>
<td>-</td>
</tr>
<tr>
<td>Visual Analysis</td>
<td>2 (to 10)</td>
<td>2 (to 10)</td>
<td>-</td>
</tr>
<tr>
<td>Patient Explanation</td>
<td>4</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>Return Problems</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1 out of 10)</td>
<td>3</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>Frame Selection</td>
<td>4</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>RX Verification</td>
<td>3</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Dispensing</td>
<td>4</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>Tonometry (1 out of 2)</td>
<td>2</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Field Screening (1 out 2)</td>
<td>3</td>
<td>-</td>
<td>4</td>
</tr>
</tbody>
</table>

\[
\begin{array}{ccc}
60 \text{ (to 78)} & 32 \text{ (to 50)} & 31 \\
\end{array}
\]

*As found by computing approximate average of random sample, of 12 optometrists observed at the Optometric Center of New York

Note: Table adapted from Haffner, et al.\textsuperscript{17}
this technician would have completed formal optometric assisting training program, with approximately six months additional didactic training, and additional supervised clinical training. The aforementioned model does not include time allowances for the following tasks: (1) visual skills testing (not routinely performed on every patient), (2) color vision testing, and (3) biomicroscopy (although vital in contact lens fitting and detection of certain pathologies, it may typically not be performed unless indicated).

Birchard and Elliott reported that the average time spent per case study for all age groups combined, was approximately sixty-four minutes. The assumption of approximately sixty minutes seemed to be adequate to accomplish a basic visual examination.

If the tasks, as delineated in Table VI, are accomplished in the manner indicated by the optometrist and the technician as a team, then thirty minutes is not an unreasonable amount of time for the optometrist to spend examining the patient. One must be cautious however, since this time-frame only allows for a basic routine visual examination. The time required for contact lens evaluations, visual training examinations, developmental vision, and low vision are all more extensive. The data from Table I indicates that the majority of Army optometrists see between 13 and 15 patients per day. Based upon the almost unanimous agreement of 30 minutes per examination, this represents between 6.5 and 7.5 hours per day, at the absolute minimum, in providing basic examinations. This leaves only 30 to 90 minutes, at best, to provide anything more than basic care each day. The assumption
that 30 minutes for the optometrist to provide the necessary testing is adequate, is based solely upon the assumption that the technicians are highly trained and practiced, which is often not the case in the armed forces.

As of February 28, 1981, there were 775,000 personnel on active duty in the U.S. Army. Dependents average between 1.3 to 1.5 (average 1.4) per active duty member. This means there are approximately 1,850,000 persons depending on Army optometrists to provide their vision care needs. This corresponds to an optometrist population ratio of 1:10,700 for active duty personnel and their dependents. However, the retiree population and their dependents represent an even larger patient load, and their geographical location is less easily ascertained. By comparison, Group Health Cooperative of Puget Sound, a Seattle based Health Maintenance Organiztion has an optometrist/patient population ratio of approximately 1:12,000. Optometrists at Group Health see an average of fourteen patients a day. This number does not identify the type of patient visit, but it can reasonably be assumed that they are examinations, based on the study of Lowe, et al. In that study, optometrists at Health Maintenance Organizations had an average of 81.0 appointments available per week (16.2 per day) and completed 70.1 examinations (14.0 per day). By comparison, their counterparts in solo and group practice had an average of 35.6 appointments available per week (7.1 per day) and completed 24.7 examinations per week (4.9 per day) and saw 20.9 patients per week (4.2 per day) for "other visits", for a total of 45.6 patient visits per week (9.1 per day). The solo and group practice
data was extracted from those respondents from Washington, Oregon, and Idaho. It should be clear from the data above that basic care is the type of service provided at the HMOs, since 14 examinations per day are accomplished in that setting, more than 1.5 times the total number of patients seen by solo and group practitioners for examinations and other visits.

Possible Remedies

In order to better assess the optometric manpower requirements and facilities necessary to provide vision care to the recipients of such care, several steps need to be undertaken. First, the benefits mission needs to be addressed and formally sanctioned by the Congress. There has never been a firm entitlement for free care to all beneficiaries of the system. Dr. John Moxley, the Assistant Secretary of Defense (Health Affairs) during the Carter administration, in his address to the 86th Annual Meeting of the Association of Military Surgeons of the United States commented:

"...Also concerned [with the status of military medicine today] are the members of the retired community and their dependents, who claim to have been promised 'free and complete' medical care as a career incentive, only to find out that they didn't read the 'fine print'."

Second, research needs to be conducted to correlate the incidence and prevalence of vision conditions with the optimal frequency of obtaining visual examinations for people with those conditions, as well as developing a sound rationale for routine preventive vision care examinations.
After establishing the right to health care entitlement and the incidence, prevalence and optimal re-examination rate, the third issue that needs to be addressed is establishing a realistic estimate of the patient population (including retirees and their dependents) surrounding all military treatment facilities. Since each military member fills out enormous amounts of paperwork every time a change in assignment occurs, it would be advantageous to utilize some of that information more effectively. By utilizing automated data processing to handle more personnel data and making such data accessible to personnel offices at every military installation, it would become much easier to identify more precisely the number of active duty personnel and their dependents, rather than utilizing the method of estimation or projection that is currently utilized. The patient administration and/or manpower planning departments at military health facilities are currently unable to make adequate estimates of provider to patient ratios due to the above mentioned problems.

Fourth, after the patient population has been adequately defined and the number of patient visits has been estimated, the very difficult problem of delivering the optimal care comes to the fore. The Comptroller General of the General Accounting Office recently published a report with several recommendations concerning the sizing of military medical facilities. The report concludes that: 30 "...the Department of Defense should plan the size of new military hospitals and clinics on: (1) cost effectiveness (can the care be provided at less cost in the civilian sector through CHAMPUS?), (2) projected availability, (3) realistic workload projec-
tions, and (4) teaching and training requirements." The Congress would have to amend Title 10 Section 1087, U.S. Code, to allow such a policy to be adopted and implemented.

Projected staff availability is another difficult area to address. The military services are unable to hire all the health care providers they desire. Since the end of the draft, the All Volunteer Force concept has made staffing of the armed forces health care system a difficult task. The primary methods for attracting health professionals in recent years (particularly physicians, dentists, veterinarians, optometrists, and psychologists) has been the Armed Forces Health Professions Scholarship Program and the University of the Health Sciences. Both of these programs must compete with the Health and Human Services' National Health Service Corps Scholarship Program. Projected strength is uncertain because of, among other things, funding for the aforementioned programs and the level and stability of pay for health professionals in the military consisting of, but not limited to, Variable Incentive Pay Bonus, continuation pay, and other specialty pays. Job satisfaction also plays an important part in the retention of health professionals. It is recognized that pay measures alone cannot attract and keep health professions personnel in the military. According to Moxley, the health professionals of today demand to be allowed to provide the best care of which they are capable, and they balk at any threat that may compromise their efforts. Therefore, job satisfaction and barrier-free practice are closely linked.
Patient Backlog

Backlog has traditionally been an area of concern, but due to appointment policy changes, clinic chiefs have, by design (or possibly by default) adroitly sidestepped this past source of constant complaint and irritation on the part of retired and dependent patients seeking appointments. The complaint used to be that "there is a three to six month waiting period to receive an eye examination." With notably few exceptions, current appointment scheduling policies call for opening the appointment book for appointments every second week, every third week, or once a month and taking appointments until that block of time is filled; this generally occurs within minutes or at the most, half a day. At some installations appointment day is staffed by an individual who does nothing but make appointments; from the moment work starts at 7:30 or 8:00 a.m., the phone literally never stops ringing all day long, although all the appointments are actually filled very early in the morning.

This policy has several effects. First, the administrator who has to answer to someone about complaints has remarkably few complaints about several-month-waits to get an examination, because either the patients learn to play the game and try to be the first to call (rather like listening to a radio program where the announcer tells the audience 'you may be the lucky tenth caller'), or through frustration they seek vision care in the civilian sector, or go without—all reducing demand (but not need) for military optometric services. This can have a beneficial effect on administrator's opinion of the efficiency of the optometry section; since
they are generating fewer complaints, everything must be going smoothly down there. Few complaints, therefore, good efficiency, ergo, good Officer Evaluation Report (OER).

Second, the optometry section can now plan more effectively for leaves, conventions, seminars, etc., when their schedule is not booked up for three to six months in advance, and it also reduces the no-show rate.

Third, the insidious effect, is that now no one can identify the unmet needs that may exist. There is no way of knowing how many people desire an eye examination but can't schedule one on their first, second, or third attempt and therefore give up. If there is a significant number of patients in the latter category manpower planners currently have no effective way to factor this into their analysis. Since 'X' number of examinations are being performed by 'Y' number of optometrists and there is no way of determining the unmet need, everything must be working satisfactorily with the status quo. The system therefore endorses the status quo—whether that be adequate or inadequate staffing to provide full scope care.
SUMMARY AND CONCLUSIONS

A. It is apparent that comprehensive (full scope) optometric care is not routinely being provided to the recipients of military health care. A major factor may be an insufficient number of optometrists to provide the required services. This is evidenced by an optometrist to population ratio that approximates 1:23,000, as determined by this study. One study supports a ratio of 1:7,840 for adequate care under an "entitlement" plan, such a National Health Insurance, the armed forces, or prepaid health care plans (HMOs).14

B. An organizational structure where optometry is responsible to ophthalmology/surgery appears to erect a barrier to providing full scope optometric services, possibly due to the philosophical differences between the two professions.

C. Individual attitudes and perceptions of what constitutes full scope optometric care also present a barrier to providing full scope care. When optometrists perceive that they are providing comprehensive care, but are, in fact, providing less than full scope care, then there is no perceived need for greater services.

D. The vast disparity in optometrist to population ratios (1:7,250 to 1:75,000) in the United States Army, leads one to conclude that there is a maldistribution of providers to patient needs that far exceeds a similar problem existing in the civilian sector. When a facility has to supply the vision care needs of too large a population, invariably the scope of services is reduced to
provide "the most good for the greatest number," rather than optimal care.

E. The majority of career optometrists, although indicating that they were providing full scope care, were in fact providing only basic care. This difference in perception of what constitutes full scope care, may also present a barrier to the provision of full scope care at the installations where career optometrists perform their duties in a supervisory role as well as providing primary eye care.

F. The fact that vision training/orthoptics is no longer a reimbursable benefit under CHAMPUS, leads to: (1) more referrals to ophthalmology for surgical consultation than would otherwise be the case if reimbursement was present, and (2) patients therefore are not receiving the proper optometric care because the military optometrist cannot provide all the vision training that his/her patients require.
RECOMMENDATIONS

With all the demographic data collected by the armed forces on its active duty personnel, retirees and their dependents, it appears that there is inefficient utilization of such information. Properly utilized, data processing equipment could be much more useful in determining the patient population and their vision and general health care requirements. In utilizing the current data, force development and planning agencies in the military are handicapped by not having access to more accurate and meaningful data. Therefore, health care resources are not being allocated with the proper precision with respect to the needs of the patient population. This needs to be accomplished so that ratios such as 1:7,000, 1:12,000, or 1:17,000 are not bandied about with so much aplomb; rather, a ratio that is truly indicative of the needs of the population needs to be established. This clearly was and is the goal, in spirit if not the letter, of the 1968 legislation establishing Comprehensive Health Planning Agencies, although not specifically addressing the manpower issue. 27

Several recommendations have been made to provide the impetus and subsequent wherewithal to bring about the necessary changes in the military health care system to achieve comprehensive optometric care. The first is by Legler, who recommends: 5 "...Statistical reporting should be standardized by regulation to give the Chief, Optometry Section/Service/Corps, a valid basis for decision making. At present, optometric Army-wide statistics are
invalid because there is no standardization for reporting. Obviously, if the Chief of Optometry cannot supply the Surgeon General with the supporting statistics, the Surgeon General relies on those submitted by the Registrar service which has been unfavorable to Optometry. . . . A registry of current clinics describing the scope of optometric services [available] should be published. This could . . . facilitate inter-service optometric referrals. This registry should include a listing of active duty optometrists and their specialties to aid not only in referral, but also in reassignments, insuring that multiple-staffed clinics would have the personnel to offer a widened scope of practice."

Averill suggests:¹ "Several solutions are within the realm of possibility. The most preferable would be creation of a totally separate and independent Optometry Corps within the Army, Navy, and the Air Force [just such a proposal had been introduced during this (the 97th Congress) legislative session]. . . . Chances of such a corps being authorized and created are dismal. . . . A second option would be administrative changes specifically allowing the commissioned military optometry officer to deliver the full scope optometric care that his professional colleagues provide in the civilian sector, without . . . medical direction of optometric services. Repeated efforts at various levels have shown that a solution by administrative fiat is unlikely to occur. The third and perhaps most realistic approach would be transfer of all optometric practice to the out-patient facilities. . . . This would most nearly approximate the civilian setting, [and] would allow the optometrist to deliver the full range of optometric care. . . ."
Greene and Fox state: "The goal of high quality vision care has not and will never be met without the liberation of military optometry from the supervision of military medicine. Optometrists must be given real control over optometric policies, plans, and clinical practices. This will come about only when Congress passes legislation establishing not only a separate and independent Corps of Optometry for each branch of the armed forces, but also provides for a mandate for the development of a first class vision care program under the supervision of a senior optometry officer. The passage of such legislation will obviously require the support of all optometry. The active and vigorous support of optometry is needed now to bring about the establishment of a truly independent optometry corps and service in each branch of the armed forces. Without such support for military optometry, it is unlikely that civilian optometry will ever realize its rightful place in America's health care system."

Determining the appropriate number and distribution of optometrists to provide comprehensive vision care to the beneficiaries of military health care is a multi-faceted problem; (1) Congress needs to formally sanction the benefits mission, thereby clearing the air with respect to retirees and dependents 'promised benefits'; (2) identification of optimal re-examination intervals for different age groups and those with certain visual conditions; (3) identification of the magnitude of the patient population in the catchment area of each military health care facility and the demographic and health characteristics of that population; (4) determination of the optimum number of optometrists and ancillary
personnel required to provide comprehensive vision care to the identified population; (5) providing adequate facilities with which to provide the optimum level of care; and (6) recruitment and retention of optimal staffing, both professional and ancillary personnel.

In closing it is appropriate to quote Moxley:29 "First and foremost, you should be health professionals; but the demands of a dynamic... society also require that you be an economist and a humanist. We cannot simply retreat behind our walls of professional anonymity. Each of us must go out as an individual to confront change, if we are to have any hand in shaping the future. It is particularly important that our views not be parochial [or provincial], but reflect a more catholic [and cosmopolitan] view of ourselves and our world."
REFERENCES


APPENDIX A

COVER LETTER AND SURVEY INSTRUMENT
Dear Dr.,

The enclosed survey was developed in an attempt to determine the state of military optometry. Since I am a Health Professions Scholarship Program (HPSP) student preparing to enter the Army following graduation and one of my requirements as a fourth-year student at Pacific University College of Optometry is a research project, I have chosen to determine what, if any, barriers exist that might or do preclude the practice of full-scope optometry in the military. Assuming that the survey will indicate that there are indeed some identifiable barriers, perceived and/or real, recommendations will be advanced as to what steps might be taken to eliminate such barriers.

Please don't feel intimidated by the questions; try to answer them as accurately as possible and where the provided responses do not allow for adequate answers on your part, please feel free to add appropriate comments. Please don't feel constrained to answer 'yes' or 'no', if those do not accurately reflect your feeling with regard to any such question; add your comment on another sheet if necessary. This survey is not intended and will not be used to make any judgement(s) about any individual's delivery of eye care services (since your name will not be associated with the survey instrument), but rather to try and compile data that fairly and accurately reflects the current status of optometric practice in the armed services.

Please contact your Patient Administration Division (or the equivalent office that maintains such data) to ascertain as accurately as possible the data concerning the size of your patient population and the makeup of that population (i.e., percentages of active duty personnel, their dependents, retirees and their dependents). My limited experience at military installations (with
REGARD TO HEALTH CARE SERVICES) HAS THUS FAR DEMONSTRATED THAT THE QUESTIONS REGARDING PATIENT BACKLOG AND WAITING PERIOD FOR AN EYE EXAMINATION ARE EASILY ANSWERED, DUE TO THE MANNER IN WHICH APPOINTMENT SCHEDULES ARE OPENED AND CLOSED; THEREFORE, COMMENTS ABOUT HOW APPOINTMENTS ARE HANDLED AT YOUR FACILITY ARE SOLICITED.

YOUR TIMELY COOPERATION IN THIS ENDEAVOR IS GREATLY APPRECIATED AND I'LL BE LOOKING FORWARD TO MEETING YOU AT FUTURE CONVENTIONS, CONGRESSES, SEMINARS, ETC. AS A STUDENT MEMBER OF THE ARMED FORCES OPTOMETRIC SOCIETY, I WANT TO THANK YOU IN ADVANCE FOR YOUR HELP AND GENEROUS GIVING OF YOUR TIME TO A PROJECT WHOSE GOAL IS TO PROVIDE BETTER VISION CARE TO THE RECIPIENTS OF MILITARY OPTOMETRIC SERVICES, IF POSSIBLE, AND GREATER PROFESSIONAL SATISFACTION TO MILITARY OPTOMETRISTS.

Sincerely,

Alden P. Johnson
2Lt., USAR, MSC (SOON TO BE A CAPTAIN WITH A LITTLE LUCK)

P.S. SORRY THAT I COULDN'T SEND OUT PERSONAL LETTERS TO EACH OF YOU.
GRADUATE OF WHICH SCHOOL/COLLEGE OF OPTOMETRY_________________________ YEAR______

AGE_____ GRADE_____ Grade of Rater/Supervisor________________

TIME IN SERVICE _______years _______ months

CAREER_____ Non-career_____ Undecided_____

RESERVE_____ Regular_____

Branch of service: Air Force_____ Army_____ Navy_____ 

RATER'S SPECIALTY: O.D._____ M.D. (D.O.)_____ Other (specify)_________

Describe your organizational structure. (What service/division does optometry report to?)

What is the size of the patient population (total) seeking eye care at your facility? (Please contact PAD or appropriate agency)

What is the makeup of that population (i.e., what are the percentages of active duty, their dependents, retirees and their dependents)?

What optometric/visual care services do you/does your facility provide?

How many optometrists provide eye care services at your facility? Any in an administrative role as primary duty? If so, how many?

How many ophthalmologists/ophthalmology residents/interns provide eye care services at your facility?

How many technicians are utilized at your eye care facility?

What procedures/tests are performed by technicians at your facility?

A) Do you feel that they are/could be/should be trained/encouraged to do more procedures/testing/teaching? (Circle appropriate responses and elaborate)

Are eye care services restricted to:

A) Active duty only ______
B) Active duty and their dependents only_____
   1) Restricted to dependents from ages __________ to __________.
C) There are no restrictions as to status (AD, AD/Dep, Ret., Ret/Dep.)_____
D) Services are restricted to refractions and spectacles only_____
E) Services restricted as in 'd' with the addition of followup for existing contact lens wearers_____
F) In-office vision training/therapy is not provided_____
G) Low vision evaluations are not provided_____
H) There are no restrictions to services rendered_____
   1) There are no restrictions to services rendered, regardless of patient status (as defined in 'c' above)_____

What is the policy/protocol for pediatric patients with strabismus (i.e., solely your professional judgement, patient must be referred to ophthalmology)?

What is the policy/protocol for adolescent/adult patients with strabismus?

How are these policies/protocols established?
How many patients are you scheduled/do you see per day?

How many eye examinations do you perform per day?

How much time are you scheduled with a patient for an eye examination?

In your opinion, the amount of time allocated for an eye examination is adequate to provide optimal/nominal/minimal vision care. (Circle one)

Do you feel that you are required to see too many patients per day to provide the quality of care you desire to provide? Yes___ No___

A) If yes, what, if anything would help to alleviate the situation:
   1) Another optometrist? Yes___ No___
   2) Additional technician(s)? Yes___ No___
   3) Increased utilization of current technician(s)? Yes___ No___
   4) Awareness on the part of other health/eye care professionals of the abilities and desire of optometrists to provide eye care over and above 'refractions only' if the situation allowed? Yes___ No___
   5) Other (specify)

Do you feel that the quality of your care to the patient is diminished or degraded because the number of patients you are required to see is excessive? Yes___ No___

Describe a typical examination sequence (i.e., procedures/tests usually or routinely conducted by yourself and/or your technician(s)) for the following age groups:

0-5 years--

6-12 years (Grades 1-6)--

13-22 years (grades 7 thru college)--

23-40 years (prepresbyopes)--

41-60 years (increased incidence of glaucoma, hypertension, diabetes, etc.)

60+ years (increased incidence of AMD, CME, cataracts, IOLs, detachments)

What does full-scope optometry mean/imply to you? (Elaborate, please)

Do you feel that you are practicing full-scope optometry? Yes___ No___

A) If no, it is primarily because:
   1) Patient load precludes it___
   2) Supervisory/medical opposition___
   3) I don't desire to provide all the services optometrists are trained to provide (for whatever reason; lack of experience, educational background, etc.), but ensure that patients are made aware that such resources are available (even if they must be paid out of pocket) and refer appropriately___

I feel that I am practicing optometry above/below my level of training/education/expertise. (Circle as appropriate)

Is there a backlog of patients waiting to receive eye examination at your facility? Yes___ No___

A) If yes, how long or how many?

What is the length of time that patients routinely wait to be scheduled for an eye examination (non-emergency situation) for active duty?___

Se elaborate on your appointment system... for dependents?
DOES YOUR FACILITY/DO YOU UTILIZE A SCREENING TECHNIQUE (TRIAGE) TO SCHEDULE/RESCHEDULE ACTIVE DUTY APPOINTMENTS? YES___ NO____
A) If yes, is it utilized continuously? YES___ NO____
B) Is it utilized to eliminate a patient backlog? YES___ NO____
c) Is it utilized to reduce the number of no-shows? YES___ NO____
D) Do you think the criteria normally employed in a triage situation adversely affects/precludes preventive eye care (patients without symptoms or complaints are not scheduled for a routine annual or biannual examination)? YES___ NO____
I) If yes, which of the following could/should be provided to render better care or alleviate the situation:
   a) Another optometrist? YES___ NO____
   b) Additional technician(s)? YES___ NO____
   c) Increased utilization of current technician(s)? YES___ NO____
   d) Utilization of an autorefractor? YES___ NO____
   e) Other (specify)____________________________

WOULD UTILIZATION OF AN AUTOREFRACTOR:
A) Allow you to spend more time with your patients for patient education (i.e., explanations, answer patient questions) thereby provide better care? YES___ NO____
B) Require you to see more patients? YES___ NO____
c) Both of the above___

IF THE COST OF AN AUTOREFRACTOR COULD BE JUSTIFIED, WHAT BRAND WOULD YOU LIKE TO SEE PROCURED?
HUMPHREY___ A.O. SRIII___ A.O. SRIV___ ACUITY SYSTEMS___ DIOPTRON___
Other (specify)____________________________

WHAT EYE CARE SERVICES WOULD YOU LIKE TO PROVIDE THAT YOU CURRENTLY ARE NOT? (ELABORATE PLEASE, FOR INSTANCE RESERVATIONS ABOUT OFFERING CONTACT LENS FITTING BECAUSE OF THE INHERENT PROBLEMS WITH LIMITING THE NUMBER OF PEOPLE AND THE RESULTING COMPLAINTS)
A) WHAT IS PREVENTING YOU FROM OFFERING THEM AT THIS TIME?
   1) Lack of proper testing/training equipment? YES___ NO____
      a) If yes, is equipment on order? YES___ NO____
         1) If no, why?
            a) Lack of funding available based on priorities? YES___ NO____
            b) Lack of support by superiors/administration? YES___ NO____
            c) Other (specify)____________________________
   2) Not enough time available/backlog of patients? YES___ NO____
   3) Superior/rater opposition? YES___ NO____
   4) Department of Medicine___ Surgery___ Ophthalmology___ opposition.
   5) Other (specify)____________________________

ESTIMATE THE NUMBER OF CONTACT LENS EXAMINATIONS (FITTING) _____ LOW VISION EVALUATIONS _____ VISION TRAINING/Therapy EXAMINATIONS _____ THAT YOU COMPLETE DURING THE LAST YEAR.

ESTIMATE THE NUMBER OF EYE EXAMINATIONS/VISUAL ANALYSES COMPLETED DURING THE LAST YEAR______.

ESTIMATE THE NUMBER OF VISION TRAINING/Therapy SESSIONS YOU CONDUCTED DURING THE LAST YEAR______.

IF YOU CANNOT/DO NOT DESIRE TO PROVIDE NECESSARY EYE CARE SERVICES, WHAT IS THE PROTOCOL FOR REFERRAL?

ESTIMATE THE PERCENTAGE OF PATIENTS THAT YOU REFERRED FOR ADDITIONAL EYE CARE
During the last year ___% of those patients referred, what percentage were to ophthalmologists ___%?

Of those referred to ophthalmologists, what percentage were military ___%?

What percentage were civilian practitioners, not patients ___%?

B) Of those referred to optometrists, what percentage were military ___%?

What percentage were civilian ___%?

As you are aware, services for vision training/vision therapy/orthoptics rendered by civilian optometrists are not currently reimbursable by CHAMPUS. In light of this fact, how does this policy affect the ultimate care received by your patients (i.e., a patient would benefit from V.T., but due to fact that you can't/don't provide the care and the patient can't afford to pay for the services of a civilian optometrist)?

A) Patients don't receive the proper optometric care. Yes ___ No ___

B) More patients are referred to ophthalmology for surgical consultation that would otherwise be the case if there were CHAMPUS reimbursement. Yes ___ No ___

C) I am able to provide all the vision training/therapy care that my patients require. Yes ___ No ___

D) Other (specify) ______

Is your eye care facility tasked/responsible for providing on-post/base school screenings? Yes ___ No ___

A) If no, do you desire to provide this service? Yes ___ No ___

1) If yes, is there enough manpower/time to encompass such an activity? Yes ___ No ___

Are children with learning disabilities (as defined by Public Law 94-142) routinely scheduled for an eye examination to rule out vision/visually related problems? Yes ___ No ___ Don't know, but will attempt to find out ___

A) If no or don't know, what can be done to see that this is accomplished?

What percentage of the following groups do you routinely dilate/cycloplege?

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Dilate</th>
<th>Cycloplege</th>
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<tbody>
<tr>
<td>0-5 years</td>
<td>___%</td>
<td>___%</td>
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<tr>
<td>6-12 years</td>
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<tr>
<td>60+ years</td>
<td>___%</td>
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</table>

What are the indications you utilize to determine when you should dilate a patient whom you would not routinely dilate?

What instruments do you utilize to evaluate the fundi of dilated patients?

A) Biomicroscope with Hruby/contact lens ______

B) Direct ophthalmoscope ______

C) Monocular indirect ophthalmoscope ______

D) Binocular indirect ophthalmoscope ______

What equipment/instrumentation does your facility/do you have at your disposal?

A) Biomicroscope ______

1) With Goldmann tonometer ______

2) With Hruby lens ______

B) Monocular indirect ophthalmoscope ______

C) Binocular indirect ophthalmoscope ______

D) Auto-Plot tangent screen ______ Harrington-Flocks ______

E) Goldmann perimeter ______

F) A.O. NCT ______ Makay-Marg ______ Tonomat ______

Schiotz ______ Pneuma-tonometer ______
1) Which of the instruments in 'F' do you utilize most frequently?

G) Low vision evaluation equipment/charts ___ On order ___ (X) (CIRCLE)
H) Amblyoscope/Troposcope/Synoptophore/Rotoscope (CIRCLE) ____ (SPECIFY)
I) After-image test ____
J) Lancaster-Hess screen with lights ____
K) Worth 4-dot ____
L) Polaroid analyzers ____ Titmus stereotest(s) ____
M) Vectographic charts, far ____ Near ____
N) Other, including VT equipment (specify) ________ ________

When a patient presents with a foreign body, do you routinely attempt to remove it or generally refer the patient? (Elaborate)

A) Are you encourage/discouraged to do either, if so, which?

When a patient presents with a red eye, what is the protocol for evaluation and treatment? (Elaborate)

A) Do you routinely utilize anti-infectives (broad-spectrum antibiotics and/antifungals) for anterior segment diseases (i.e., conjunctivitis, iritis, keratitis, keratoconjunctivitis)? Yes ___ No ____

1) If yes, the treatment is under direct/remote supervision. (Circle)

2) Do you sign the prescription or is it presigned by an M.D./D.O.? (Elaborate if desired)

Do you have a half-day per week to utilize as you see fit professionally in your clinical setting (i.e., fitting contact lenses, low vision, VT)? Yes ____ No ____

A) If yes, how do you utilize that time?

Do you have a half-day per week off to utilize at your discretion (i.e., personal errands, professional development, staying current with the optometric/ophthalmological literature, physical exercise, etc.)? Yes ____ No ____

A) If yes, how do you utilize that time?

If you do not plan to make the military a career, please indicate your primary reasons.

If you are undecided about a military career, what changes could/should the military make that might/would convince you to stay in?

Please feel free to make any additional comments you think might be helpful.

Upon completion of the survey, please return it to:

2Lt. Alden P. Johnson
1915 SW Wellington Ave.
Portland, OR 97225