

HEALTH DEFECTS OF SELECTIVE SERVICE REGISTRANTS

IN RURAL OHIO

(Preliminary Report - Subject to Revision)

by

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### Introduction

There has been much discussion of the question of the physical and mental fitness of men of military age as revealed by selective service examinations. This report is issued in response to many requests for information on this question of the health and fitness of draftees. The report is based on limited data but aims to answer with a reasonable degree of accuracy, three main questions:

1. What proportions of registrants have been rejected in different areas of Ohio?
2. What are the leading causes for rejection?
3. What are the principal defects found among rejected and inducted registrants?

The information presented here was gained from two samples, one a rural sample, the other a state sample of white registrants. The rural sample consists of 1,186 reports of physical examination and induction (DSS Form 221) received at National Headquarters of the Selective Service System for the period April, 1942 through March, 1943 from 4 predominantly rural counties in Ohio. The State Sample consists of 76, 014 reports covering both rural and urban areas for the same period. The reports represent examinations of white registrants both at local boards and at induction stations.

The data were tabulated by the National Headquarters Office of the Selective Service System and were made available to the Department of Rural Economics and Rural Sociology of the Ohio State University and Ohio Agricultural Experiment Station for the purpose of checking on the physical and mental defects of registrants in rural areas of Ohio. The four counties represented in the rural

sample consist of Henry, Logan, Meigs, and Wayne. These are all highly rural counties the largest center included being Wooster, a city of 11,543 in Wayne County. In the four counties combined 40 percent of the population lived on farms in 1940 and 68 percent lived either on farms or in small places of less than 2,500 inhabitants. The counties themselves were selected to represent different level of living areas in the State.

The registrants represented in this study include those born between 1925 and 1897, an age range of about 27 years. For those included in the rural samples the median age in 1943 was about 24 years. Approximately 18 percent were under 21 years old and 58 percent were less than 26. Only about 25 percent were 31 years old and over in 1943. This approximate age distribution was similar in each of the 4 counties. Those men in the State sample were on the average about 1 year older than those in the rural sample. A little more than 14 percent were under 21 years old and 49 percent were less than 26, while 31 percent were 31 years and over.

In interpreting the results shown in this report it must be kept in mind that the data do not represent a full cross section of men of military age in rural counties but only those who were called up for examination during the specified period. Several factors serve to limit the population under discussion. A large proportion of draft-age men were not liable for examination for the following reasons:

- a. Large numbers of physically fit youths entered the armed forces through direct enlistment up to December, 1942 when induction by enlistment was discontinued.
- b. During the period represented by the data many youths were allowed to remain in schools or colleges under programs supported by the Army and Navy which permitted them to finish a course of study before being called up for examination.

- c. Men who had entered war industries or who were needed on farms were deferred because of occupation and were not called up for examination. It is possible that a disproportionately large number of physically fit boys left rural areas to enter war industries.
- d. A large proportion of men in the draft ages were not subject to examination because of dependency deferments. There is, however, no information available as to the comparative fitness of the deferred and nondeferred classes by comparable ages.

#### Rejection Rates

Of the 1,186 registrants examined and who comprise the rural sample under discussion, a total of 424 or 36 percent were rejected. In arriving at this rate of rejection, registrants were counted as rejected if they were not accepted for general military service. It should be pointed out however, that some men who were not acceptable for general military service were classified for limited duty or were rejected because of defects that were considered remediable. If these men placed in the limited service category and actually inducted are considered accepted then the rejection rate is lowered to 30 percent, and if all those with limited service or remediable defects whether inducted or not, be considered acceptable, then the rejection rate is lowered to 28 percent.

In the following discussion all registrants not accepted for general military service are considered rejected.

The rejection rate of 36 of each 100 registrants examined represents a combined rate of rejection at local boards and at induction stations. Ten percent of all examined registrants were rejected at the local boards and 26 percent of all examined registrants were rejected at induction stations.

The proportion of registrants rejected for general military service was a little lower among those from the 4 counties than among those from the State as a

whole. This was to be expected however, since the rural sample represented a somewhat younger group of men. The rejection rate varied considerably among the 4 counties, being highest in Henry, the most rural county and lowest in Wayne, the least rural county (table 1).

In Henry County where 78.8 percent of the population was classified as farm or rural nonfarm residents in 1940, about 45 percent of all registrants examined for selective service were rejected for general military duty. In Logan County where the rural people comprised 66.8 percent of the population the comparable rejection rate was 39 percent. In Meigs County, in southeastern Ohio, with 71.2 percent of its population residing in rural homes, the rejection rate was 36 percent. In Wayne County where only 62.8 percent of the population lived in rural homes in 1940 only 29 percent of the registrants were rejected for full military service. Stated in other terms the proportion of examinees inducted for full military service ranged from 55 percent in Henry County to 71 percent in Wayne County (table 1).

The correlation of these rejection rates with the degree of rurality among the counties suggests, but does not prove, that the incidence of, or seriousness of defects is greater in rural than in more urban areas.

In interpreting these differential rejection rates, it must be kept in mind that the rural sample is rather small and that the selective service picture in any area is influenced by a number of factors which were not subject to control by the present study. Consequently no final conclusions should be drawn from the statistics relating to county differences in rejection rates as presented here. Similar suggestions of a lower level of fitness for military service in rural than in urban areas are, however, found in tabulations of rejection rates by occupational classes. Such tabulations show that rejection rates for farm workers are generally higher than for other broad occupational groups. In a study of rejection

rates, by occupational groups, of 18 and 19 year old registrants in the United States, it was found that the rejection rate for white farm workers was 36.4 per 100 compared to a general rejection rate of only 23.8 for this age group. Among negro youths, the general rejection rate was 45.5 percent but for negro farm workers, it was 58.0 percent. <sup>1/</sup>

Table 1. Disposition of White Selective Service Registrants Examined at Local Boards and Induction Stations (April, 1942 through March, 1943 in Ohio)

County	Total in Sample	Inducted for General Service	Not Inducted for General Service		
			Total	Disqualified	Classified for Limited Service
Rural Sample	1,186	762	424	328	96
Henry	240	133	107	86	21
Logan	261	160	101	87	14
Meigs	256	163	93	75	18
Wayne	429	306	123	80	43
Board 1	216	161	55	35	20
Board 2	213	145	68	45	23
State Sample	76,014	47,753	28,261	19,574	8,687

Percent Distribution					
Rural Sample	100.0	64.2	35.8	27.7	8.1
Henry	100.0	55.4	44.6	35.8	8.8
Logan	100.0	61.3	38.7	33.3	5.4
Meigs	100.0	63.7	36.3	29.3	7.0
Wayne	100.0	71.3	28.7	18.7	10.0
Board 1	100.0	74.5	25.5	16.2	9.3
Board 2	100.0	68.1	31.9	21.1	10.8
State Sample	100.0	62.8	37.2	25.6	11.6

Leading Causes For Rejection

At local board physical examinations, the physician was asked to note whether certain manifestly disqualifying defects were found in the registrant. If one or more such defects were reported he was rejected by the local board. If no manifestly disqualifying defect was reported by the examiner for the local board, the registrant was sent to an induction station where army ~~physicians and civilian specialists~~

<sup>1/</sup> Colonel Leonard G. Rowntree, Kenneth H. McGill and Thomas I Edwards, "Causes of Rejection and Incidence of Defects Among 18 and 19 year old Selective Service Registrants" The Journal AMA. Vol. 123, No. 4. September 25, 1943. pp.181-185

gave him a complete examination. For each examinee, all important defects were recorded and the important ones were listed in the order of their significance. In cases where two or more important defects were recorded for the registrant at the local board or at the induction station, only that one listed first, the principal defect, was tabulated for purposes of the present study. For rejectees the principal defect is considered the cause for rejection.

When the causes of rejection were arrayed in the order of their frequency of occurrence, it was found that mental disease was at the top of the list for all counties combined and for two of the 4 counties separately. Mental illness was closely followed in importance by eye defects, cardiovascular and musculoskeletal defects and hernia. These five broad groups of defects accounted for 62 percent of all rejections in the four counties. Next in order of importance were <sup>ear defects,</sup> mental deficiency, neurological defects, tuberculosis, lung defects other than tuberculosis, and educational deficiency (table 2).

The relative frequency with which particular causes for rejection occurred differed among the four counties for which reports were obtained. Mental disease occupied first place in Wayne County, where 24 percent of all rejectees suffered mental illness, and in Meigs County where 14 percent were mentally ill. In the other two counties mental disease ranked fourth in importance as a cause for rejection, cardiovascular defects occupying first place in Logan County, and musculoskeletal defects in Henry County.

The five most important causes for rejection in each of the 4 counties were as follows (table 2).

Henry County - Musculoskeletal, Eyes, Hernia, Mental Disease, Cardiovascular

Logan County - Cardiovascular, Hernia, Musculoskeletal, Mental Disease, Eyes

Meigs County - Mental Disease, Musculoskeletal, Eyes, Cardiovascular, Ears

Wayne County - Mental Disease, Eyes, Cardiovascular, Musculoskeletal, Hernia

During the same period the leading causes of rejection of white registrants in the State of Ohio, both rural and urban, were in order of importance: eyes, mental disease, musculoskeletal, hernia, cardiovascular.

Selective service local boards are established on the basis of one board for each 30,000 people within different counties. Of the counties included in this report only Wayne has a population of more than 30,000 and therefore two draft boards. Both the rejection rate and the pattern of causes for rejection differed considerably between those two boards. The rejection rate for registrants of Wayne County board 1 which serves the city of Wooster and adjoining areas was 26 percent while for board 2 serving the remainder of the County, it was 32 percent. For board 2, it was found that 31 percent of all rejections was due principally to mental disease, 19 percent due to eye defects and 10 percent each to cardiovascular and musculoskeletal defects. For board 1 about 15 percent of all rejections was due to mental disease, and an equally large proportion was due to eye defects. Cardiovascular and ear defects were next in importance as causes for rejection among registrants called for examination by this board (table 2).

Prevalence of Principal Defects Among All  
Registrants Examined

The preceding section has described the leading types of defects reported for rejectees and which may be considered causes for rejection. The following section is concerned with the prevalence of different types of principal defects among all registrants examined regardless of whether they were inducted or rejected.

It will be recalled from the previous discussion that in case of individual registrants with two or more important recorded defects only that one recorded in the place of first importance was tabulated for this study. As a result, it is not possible to determine the total amount of any particular defect among the registrants represented, but only of those defects reported in the place of first importance.



Table 2. Principal Defects of White Selective Service Registrants Rejected For General Military Service (April, 1942 through March, 1943 in Ohio)

Principal Defect	State Sample	Rural Sample	Henry Co.	Logan Co.	Meigs Co.	Wayne County		
						Total	Board 1	Board 2
No. In Sample	28,261	424	107	101	93	123	55	68
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Mental Disease	10.7	14.6	9.3	9.9	14.0	23.6	14.5	30.8
Eyes	17.1	13.0	13.1	7.9	12.9	17.1	14.5	19.1
Cardiovascular	8.3	12.0	8.4	17.8	11.8	10.6	10.9	10.3
Musculoskeletal	10.3	12.0	14.0	12.9	12.9	8.9	7.2	10.3
Hernia	8.4	10.1	12.1	15.8	7.5	5.7	5.4	5.9
Ears	5.8	5.2	1.0	5.0	9.7	5.7	10.9	1.5
Mental Deficiency	1.2	3.8	5.6	6.9	1.1	1.6	1.8	1.5
Neurological	4.5	3.5	4.7	5.9	3.2	0.8	1.8	-
Tuberculosis	4.7	2.8	3.7	1.0	1.1	4.9	5.5	4.4
Lungs	2.4	2.6	5.6	2.0	2.2	0.8	-	1.5
Educational Deficiency	1.8	2.6	1.0	-	3.2	5.7	9.1	2.9
All others	24.8	17.8	21.5	14.9	20.4	14.6	18.4	11.8

Proportion of registrants reported with defects. Approximately 60 out of each 100 registrants examined were reported to have at least one important defect, while 40 percent had no reported defect of consequence. About 3 in 5 of those with one or more defects were rejected while 2 in 5 were inducted for general military service. These proportions apply both to the rural sample and to that for the State as a whole. The percentage of registrants having one or more important defects ranged from 42 percent in Wayne County and 55 percent in Henry County to 76 in Meigs County and to 80 percent in Logan County (table 3).

Eye defects. Although eye defects occupied second place as a cause for rejection of registrants in the rural sample, the prevalence of defective eyes was greater for all registrants included in the present study than for any other major category of disability. 1/ Eye defects including defective vision and eye

1/ About one-third of those registrants with reported eye defects were nevertheless inducted for general military service.

diseases were reported in the place of first importance for 71 of each 1,000 men who comprised the rural sample and for 90 of each 1,000 who comprised the State sample. The rate was lowest, in Wayne County, 48 per 1,000, and highest in Meigs County, 98 per 1,000. In Henry and Logan Counties the comparable rates of eye defects were 62 and 73 per 1,000 respectively.

No breakdown of the specific types of eye defects is available for the samples under discussion. Of the eye defects found among all registrants examined in the entire State of Ohio during November and December, 1942, about 63 percent of the eye defects was due to defective vision, 31 percent was due to eye diseases of various kinds, while 6 percent was due to unilateral or bilateral blindness.

Eye defects, and defective vision particularly, has been noted as of special importance among registrants and has been a leading cause of rejection since the beginning of selective service administration in 1940. The visual standards for general military service have been changed and the data of this report represent examinations made under three sets of standards. The visual standards which became effective in October, 1942, may be taken as typical. They specified visual acuity of not less than 20/200 in each eye without glasses if correctable to at least 20/40 in each eye. In February, 1943, the standards were changed to require, for general military service, minimum vision of 20/70 in one eye and in the other eye at least 20/25 without glasses or acuity of vision of 20/25 with both eyes open without glasses, provided the vision in the worst eye is not less than 20/70. <sup>1/</sup>

Mental Disease. Mental disease, the principal defect which was reported most frequently for rejectees in the present rural sample, occupies the place of second importance as the leading defect among all registrants examined in 4 Ohio Counties. About 52 of every 1,000 men examined were reported with mental illnesses which overshadowed all other defects. Among white registrants in the state as a whole however, mental disease occupied 4th place in frequency of occurrence as the

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<sup>1/</sup> Rowntree, McGill and Edwards, op. cit.

principal defect, being exceeded by eyes, teeth, and musculoskeletal defects. The rate of mental illness was highest in Wayne County where its prevalence was 68 cases per 1,000 examined. Those registrants called up by board 2 serving the rural townships in that county showed a rate of 98 per 1,000. In Henry, Logan, and Meigs Counties, the rate of mental disease per 1,000 examinees was 42, 38, and 51 respectively.

These high rates of mental disease call for considerable explanation and interpretation. Careful study of available reports of selective service examinations show that only a relatively small proportion of those men classified according to their principal defect as mentally diseased suffer from such severe mental and emotional disorders as to place them in need of special institutional attention, though all were disqualified for any type of military service.

Social psychiatry divides mental disorders into two large classes: the neuroses, popularly known as "nervousness", and psychoses, popularly termed "insanity". The psychoses represent severe mental, emotional, and behavioral disorders such as may be found in institutions for the insane. It is probable that fewer than 1 in 10 of those reported as mentally diseased by selective service suffer such grave disorders.

A neurosis (or psychoneurosis) is a form of mental and emotional behavior which departs from normal, which tends to make the individual less efficient socially and personally, but which does not incapacitate him for participation in ordinary everyday group life. Such a person is constantly under emotional tension, is keyed up and anxious. He may be subject to abnormal worries, obsessive fears, extreme fatigue, hysteric responses, and physiological malfunctions which prevent him from living an emotionally and intellectually satisfying life. He may suffer from more or less disabling physical symptoms but with an absence of any discoverable organic pathology.

The neurotic occupies a borderline position between the so-called normal and the psychotic or "insane" personality. The distinction between neurotic and normal is however, only one of degree. Most normal people possess some characteristics which might be termed neurotic.

Since neurotic persons are more subject to complete mental and nervous breakdown when placed under stress than are more emotionally stable persons it becomes essential that they be prevented wherever possible from entering military services. Hence, the majority of rejectees disqualified because of "mental disease" are neurotic individuals suffering from the milder forms of mental ill health.

The high prevalence of neuroses in the population is indicative of a very great amount of human suffering and raises important questions regarding their nature, cause, prevention, and cure.

Social psychiatrists, social psychologists, sociologists, and anthropologists, are pretty well agreed upon the causes of neuroses. They grow out of prolonged emotional strains and conflicts, which in turn are generated by disturbances in interpersonal relations and maladjustments in family, school, and community contacts. Conflicting and inconsistent social and cultural pressures and demands become established as conflicting and inconsistent emotional habits in the personality. Conflict among inconsistent emotional habits generates muscular tensions which if they do not find normal outlets result in physiological and psychological symptoms which may become chronic and tragic to the individual whose life becomes miserable, a burden to himself and to others.

Physiologically, emotional turmoil gives rise to precisely the same aches, pains, and discomforts as are caused by organic diseases. Common symptoms are blurred vision, "noises" in the ears, stammering or stuttering, sighing, shallow breathing, asthma, skin itches, and blotches, headaches, insomnia, palpitating heart, heart jumps, heart pains, high blood pressure, chest pains, spastic

colitis, mucous colitis, nausea, peptic ulcers, etc. Social and psychological symptoms include abnormal fears or phobias, obsessive ideas, obsessive desires such as those seen in kleptomania, and pyromania, muscular paralyses, anestheasias (loss of sense of feeling), loss of sense of hearing, or of vision, loss of ability to speak above a whisper, nightmares, amnesia, etc.

Once neuroses have become established in the individual, they are difficult to cure. Therapy involves the process of giving the victim insight into his difficulties and helping him to reeducate himself and to build up more normal habits and attitudes to replace his old established modes of living, and to release his emotional energies and muscular tensions through more normal channels.

Prevention offers the more hopeful mode of attack on mental disease. Since neuroses are generated out of conflicting and inconsistent social and cultural situations the best mode of attack is that which approaches society and culture as the patient in need of treatment. Cultural anthropology has taught us that well-organized societies produce well-organized people, and that disorganized or poorly-organized societies produce maladjusted and neurotic people. In a mental hygiene program for the prevention of mental disease, more personal guidance is needed, but also needed is better organization of family and community life, and a decrease in the many cultural contradictions, conflicts, and inconsistencies which the neurotic struggles without success to reconcile in his own personality.

Musculoskeletal Defects. Some kind of musculoskeletal defect was reported at the top of the list for 51 of each 1,000 registrants examined in the rural sample and for 48 per 1,000 of those in the State as a whole. Such defects were much less prevalent in Wayne County than in the other three counties in this study. The prevalence rate of these defects was around 65 per 1,000 in Henry, Logan, and Meigs Counties, but was only 28 per 1,000 in Wayne County.

About 84 percent of all of those rural registrants for whom musculoskeletal defects were reported as the principal handicap were disqualified for military service, as was 80 percent of those in the State as a whole.

Musculoskeletal defects include defects of the bones, muscles, and joints. The disabling defect appears to be most frequently described as a result of injury, the more vulnerable parts of the body being the knees, fingers, arms, elbows, feet, legs, and spine.

Amputations are also important musculoskeletal defects. They include loss of fingers, toes, feet, hands, arms, and legs.

Other defects in this group include ankylosis or stiffening of the joints, arthritis or inflammation of the joints, atrophied muscles, spinal malformations, and osteomyelitis, resulting from disease affecting the bones (table 3).

Table 3. Prevalence of Principal Defects Among  
White Selective Service Registrants  
(April, 1942 through March, 1943 in Ohio)

Principal Defect	State Sample	Rural Sample	Henry Co.	Logan Co.	Meigs Co.	Wayne County		
						Total	Board 1	Board 2
No. in Sample	76,014	1,186	240	261	256	429	216	213
Rate per 1,000	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0
With defects	599.6	603.7	554.2	796.9	757.8	421.9	393.5	450.7
Eyes	90.1	70.7	62.4	72.9	97.8	48.3	51.0	65.7
Mental Disease	40.8	52.2	41.6	38.3	50.8	67.6	37.0	98.4
Musculoskeletal	47.9	51.3	62.5	65.1	66.4	28.0	18.5	37.6
Cardiovascular	33.9	50.5	62.5	76.7	46.9	30.3	27.8	32.9
Hernia	32.5	37.1	54.2	61.3	31.3	16.3	13.9	18.8
Teeth	53.3	35.4	--	42.1	93.8	16.3	32.4	--
All other defects	301.1	306.5	271.0	440.5	370.9	215.1	212.9	197.5
Without defects	400.4	396.3	445.8	203.1	242.2	578.1	606.5	549.3

Cardiovascular Defects. Defects of the heart and blood vessels were reported as principal deficiencies in 51 of every 1,000 rural registrants examined, a rate equal to that for musculoskeletal defects. The comparable rate among white registrants in the State as a whole was only 34 per 1,000.

The prevalence rate for these defects varied considerably among the 4 counties in this study. The rate was highest in Logan County where 77 per 1,000 of the examinees were affected, and was lowest in Wayne County where the incidence was only 30 per 1,000. In Meigs County the rate of occurrence of cardiovascular defects was 47 per 1,000, and in Henry County, it was 63 per 1,000 (table 3).

From reports covering the entire state of Ohio for November and December, 1942, it appears that the most frequent cardiovascular defect is that of hypertension, or high blood pressure. Much of this may be symptomatic of neurotic conditions. Other important defects in this group include valvular heart disease and rheumatic heart disease.

Hernia. Hernia was reported as the principal defect in 37 out of each 1,000 registrants examined from the 4 Ohio Counties included in this study. The comparable rate for Ohio was 33 per 1,000. Inguinal hernias appear to be most numerous and all men with hernias were rejected for military service.

The prevalence of hernia as the principal defect differed greatly among the 4 counties, being lowest in Wayne (16 cases per 1,000) and highest in Logan (61 cases per 1,000). In Meigs County there were 31 reported cases per 1,000 and in Henry County 54 cases per 1,000 (table 3).

Teeth. Teeth defects were reported in sixth place in frequency of occurrence as a principal defect among all registrants examined in the rural sample but were reported in second place in the State sample. Dental difficulties were reported as principal defects for 35 of each 1,000 of the rural registrants, and for 53 per 1,000 of those in the State as a whole.

The prevalence of teeth defects differed greatly among the 4 counties. In Meigs County teeth defects were reported as major handicaps almost as frequently as eye defects, the prevalence rate being 94 per 1,000 registrants examined. On





Feet. Flat feet and other foot defects were reported as the principal handicap in 24 of each 1,000 rural men examined, a rate somewhat above the average for the State.

Ears. Ear defects including perforated ear drum, otitis media, defective hearing, and other ear defects were reported for 23 of each 1,000 registrants in the rural sample and 26 per 1,000 of those in the State sample.

Genital organs. Defects of the organs of reproduction of which varicocele, and other abnormalities were frequently reported, occurred in 15 of each 1,000 rural registrants and in 12 of each 1,000 of those in the State Sample.

Neurological. Organic neurological defects of the brain or spinal cord resulting from disease, injury, or arrested development, were reported for 14 of each 1,000 rural registrants. The average for Ohio was 17 per 1,000.

The after-effects of infantile paralysis, are probably the most frequent of these neurological handicaps. Epilepsy is also an important defect reported in this category.

Educational deficiency and mental deficiency were reported with equal frequency as principal defects among rural registrants. Together these deficiencies were recorded for 27 of each 1,000 rural examinees, a rate considerably above the average for all white registrants in Ohio.

The educationally deficient include those whose level of literacy is below that required for effective military functioning though some were inducted for training within the armed forces. The mentally deficient include those termed "feeble minded" and "dull normal" individuals. These comprise a different class from those suffering from mental disease.

Syphilis. Syphilis was reported as a principal defect in 12 of each 1,000 rural registrants a rate about equal that for all white registrants in Ohio.

Tuberculosis and other lung defects including asthma, bronchitis, and other pulmonary conditions were reported as principle defects in 21 of each 1,000 rural draftees. The tuberculosis rate among rural registrants was below the average for Ohio, the rate per 1,000 being 10 for the rural counties and 18 for the State as a whole.

Varicose veins were principal defects in 8 of each 1,000 rural registrants. Defects of kidneys and urinary system occurred at a rate of 6 per 1,000, and endocrine or glandular disturbances occurred as principal defects in 5 of each 1,000 rural registrants. These rates compared favorably with those for the State as a whole.

#### Prevalence of Principal Defect By Age

Since the total number of registrants physically examined have been reported by year of birth and by principal defect, it is possible to determine the effect of age on frequency of health deficiencies in the 4 counties included in this study. The data indicate that freedom from physical and mental handicaps declines very rapidly with increased age for men of draft years, and that a comparatively small proportion of men past 30 are free from one or more reportable defects.

Total prevalence rate by age. As has already been indicated, about 60 percent of all registrants, in 4 Ohio Counties, who were examined at local boards and induction stations during the period April, 1942 through March, 1943, were reported to have one or more defects sufficiently serious to require recording. For those whose approximate age was 18-20 years only 44 percent had reported defects, but for those 31 years old and over 75 percent had one or more reported defects (table 4).

The increasing incidence of reported defects at different age levels was as follows:

Approximate Age	Percent with one or more defects		Percent with no reported defect	
	Rural	State	Rural	State
	Sample	Sample	Sample	Sample
18-20 years	43.7	42.4	56.3	57.6
21-25 years	55.2	52.2	44.8	47.8
26-30 years	68.2	62.9	31.8	37.1
31 and over	75.4	74.7	24.6	25.3

Table 4. Prevalence of Principal Defects Reported For White Selective Service Registrants Examined at Local Boards And Induction Stations By Age Periods

(April, 1942 through March, 1943 in Ohio)

Principal Defect	Approximate Age in 1943									
	18-20 years		21-25 years		26-30 years		31 yrs. & over			
	Rural Sample	State Sample	Rural Sample	State Sample	Rural Sample	State Sample	Rural Sample	State Sample	Rural Sample	State Sample
No. in sample	1,184	7,014	215	10,769	476	26,745	192	14,372	301	23,879
Rate per 1,000	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0
With defects	603.7	599.6	437.4	424.1	551.8	522.1	682.2	628.8	754.1	747.1
Eyes	70.8	90.1	55.7	64.2	69.3	100.9	104.2	115.9	63.1	74.5
Mental Disease	52.3	40.8	32.6	23.1	23.1	24.5	78.1	39.5	96.3	67.3
Musculoskeletal	51.4	47.9	37.2	27.9	44.1	41.5	46.9	49.1	76.4	63.2
Cardiovascular	50.5	33.9	18.6	19.9	35.7	25.6	57.3	31.7	89.7	51.0
Hernia	37.1	32.5	27.9	18.7	21.0	24.5	46.9	33.1	63.1	47.0
Teeth	35.4	53.3	14.0	14.1	37.8	27.5	41.7	64.8	43.2	92.9
All other defects	306.2	301.1	251.4	256.3	320.8	277.6	307.1	294.9	322.3	351.2
Without defects	396.3	400.4	562.6	575.9	448.2	477.9	317.8	371.2	245.9	252.9

Eye Defects. Eye defects were most frequently reported as the number 1 deficiency among registrants under 30 years of age. In the rural sample this defect was recorded as the principal impairment which handicapped 56 of each 1,000 registrants 18-20 years old, 69 of those 21-25 years old, and 104 of those 26-30 years old. Among those past 30 the tendency was for other defects to be reported as more serious than those affecting the eyes. As a result eye defects were reported as the principal deficiency in only 63 of each 1,000 men examined.

At all ages eye defects appeared to be less prevalent or less serious among rural men than among those comprising the State sample (table 4).

Mental disease. The frequency with which mental illness was reported as the principal defect rose with age of the registrants examined. In the rural sample mental illness was reported for 33 of each 1,000 men 18-20 years old. This mental illness rate rose to 96 per 1,000 of those past 31 years old. The general rate at which the nervous and emotional disorders classified as mental disease was reported, was generally higher for the rural registrants than for those comprising the State Sample. In the State Sample the proportion of registrants reported mentally ill ranged from 23 per 1,000 of those 18-20 years old to 67 per 1,000 of those 31 years old and over (table 4).

Musculoskeletal defects. Defects of the muscles, bones, and joints were also more prevalent as principal defects among the older than among the younger draftees, and were in general most prevalent among rural men. In the rural sample these kinds of deficiencies were reported for 37 of each 1,000 of the youngest age group. The rate rose progressively to 76 per 1,000 of those 31 years old and over. In the state sample from 28 to 63 of each 1,000 registrants were reported to have some kind of musculoskeletal defect as their principal handicap (table 4).

Cardiovascular defects. Impairments of the heart and blood vessels as principal defects increased rapidly with age and except for the youngest group was much more prevalent among rural registrants than among those in the State as a whole (table 4).

Hernia. Hernia was reported as the principal defect more frequently for the older than for younger registrants, and in general, more frequently for those in the rural sample than for those in the State Sample.

Teeth defects. Dental defects serious enough to constitute the principal handicap of the individual were reported most frequently for the older men in the State sample. In the rural sample the number of cases per 1,000 ranged from 14

for the youngest age group to 43 of the oldest. In the State Sample the range was from 14 to 93 per 1,000 men examined (table 4).

The five most important types of principal defects found among rural registrants in the order of their frequency of occurrence in each age group are shown in the following table.

Approximate Age	Principal defect in order of importance				
	1	2	3	4	5
18-20 years	Eyes	Musculoskeletal	Mental Disease	Hernia	Cardiovascular
21-25 years	Eyes	Musculoskeletal	Teeth	Cardiovascular	Mental Disease
26-30 years	Eyes	Mental Disease	Cardiovascular	Musculoskeletal	Hernia
31 & over	Mental	Cardiovascular	Musculoskeletal	Eyes	Hernia

The five most frequent types of principal defects found among all white registrants in Ohio by age groups are shown in the following table.

Approximate Age	Principal defect in order of importance				
	1	2	3	4	5
18-20 years	Eyes	Musculoskeletal	Mental Disease	Ears	Cardiovascular
21-25 years	Eyes	Musculoskeletal	Ears	Teeth	Cardiovascular
26-30 years	Eyes	Teeth	Musculoskeletal	Mental Disease	Hernia
31 and over	Teeth	Eyes	Mental Disease	Musculoskeletal	Cardiovascular

### CONCLUSIONS

Although the rural sample on which this report is largely based is relatively small, it is probably indicative of the incidence of various kinds of chronic health defects among that segment of Ohio's rural population of military age. The data presented point up serious deficiencies in the health of rural people and emphasize the need for remedial and preventive measures. Three fifths of all selective service registrants in 4 highly rural counties who were physically examined during the year ending with March, 1943 were found to have one or more health defects sufficiently serious in nature to require official recording. The proportion reported with such defects ranged from 44 percent of those less than 21 years old to 75 percent of those past 31. The seriousness of these defects is

indicated by the fact that among the 4 counties, from 29 to 45 percent of all registrants examined were disqualified for general military service.

Several lines of attack on the problem of rural health improvement may be suggested:

1. There is need for post-war improvement in rural health resources for remedial practices and rehabilitation. This means more physicians, dentists, and nurses per unit of population, and better trained professional personnel. It means also that more and better equipped general hospitals and medical centers are needed, and that rural hospitals should be made community institutions.
2. Not only is there need for improved quality of medical care in rural areas, there is need also for organized methods of payment for such care and assurance that it will be made available to all who need it.
3. There is particular need for preventive programs and an emphasis on health as a positive value rather than merely absence of disability.

This requires:

- a. Improved public health facilities and services.
  - b. Better health supervision of school children.
  - c. Improved dietary practices.
  - d. An all-round health education program.
4. With regard to preventive programs there is special need for mental hygiene measures. Indications are that about 5 percent of rural men 18-39 years are suffering from mental and emotional disturbances so severe that they are unfit for military service, and mental disease resulting from unresolved emotional conflicts is the most frequent cause for rejection. While most of these rejectees were not suffering from grave personality disorders at the time of their examination they represent that portion of the population from which mental casualties are often derived.

About 500,000 patients now reside in mental hospitals in the United States and it was estimated that at pre-war rates of admission about 1 in every 12 persons would eventually require hospitalization for mental disease. Experienced physicians have noted that from 25 to 35 percent of their patients suffer with physical complaints that lack explanation on an organic basis, and that from 50 to 70 percent have significant neurotic components to their complaints. More than one-half of all hospital beds in Ohio are in mental and nervous disease hospitals. Mental disease may easily pass as public health problem number 1.

There is a great need for the formulation of effective mental hygiene programs for rural areas. Consideration should be given to such lines of action as family life education, child guidance clinics, marriage and family counseling, neighborhood and community organization, and morale building community programs, mental hygiene courses in rural high schools, carefully planned programs of vocational guidance and occupational training, provisions for acceptable outlets for emotions through carefully planned recreational programs, improvements in the rural ministry and rural church programs, and satisfying programs for special groups, such as out-of-school youth.

