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Health In Michigan
Michigan State University Extension Service
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EXTENSION BULLETIN 319

# Health, in



MICHIGAN STATE COLLEGE

Cooperative Extension Service • East Lansing

### FOREWORD

Many organizations and agencies in Michigan are interested in health and health care. Recently a number of these agencies sponsored the Michigan Health Survey, one of the first surveys to obtain comparable information about health needs and health care of both rural and urban people on a state-wide basis. Funds for the study came from several sources. Among them were:

Michigan State Medical Society,
Michigan Foundation for Medical
and Health Education, Inc., and
Michigan Rural Rehabilitation Corporation.

The agencies from Michigan State College contributing included:

Michigan Agricultural Experiment Station,

Social Research Service, and

Michigan Cooperative Extension Service.

The study was made with the firm belief that factual information about health and health care should be discovered and widely disseminated. Then the people themselves will be in a much more advantageous position to make improvement or changes, if they are needed.

In this publication some of the more important findings of the Michigan Health Survey are presented in a brief manner. Thus facts about health and health care in Michigan may be readily available to the citizens of the state.

CHARLES P. LOOMIS,
Head, Department of
Sociology and Anthropology
Director, Social Research Service

# Health in Michigan'

The purpose of the MICHIGAN HEALTH SURVEY was to provide facts which both laymen and professional persons might use in planning for improvements in health and health care. The research was not made because it was believed that health conditions in Michigan were exceptionally bad. It was done because the staff members of the Sociology and Anthropology Department at Michigan State College, and representatives of the Michigan State Medical Society, were convinced that if facts about health were known, needed improvements could be made.

The data for the survey were obtained from a scientifically selected sample of 1,113 households, taking in a total of 3,786 individuals. Both the rural and urban parts of the state—exclusive of Wayne County—were represented in the sample.

That sample was drawn from four different areas—"open country," "village," "metropolitan" and "urban." For convenience, the open country and village samples are combined under the term "rural"—and RURAL should be understood in that sense wherever used in this bulletin. For a clear understanding, the other two terms will also be defined. As used here, METROPOLITAN designates areas sometimes popularly referred to as "suburban;" that is, those areas having 150 inhabitants or more per square mile, near a large city, and classified as "metropolitan" (in 1940) by the U. S. Census Bureau. Urban follows the Census definition to include incorporated places ("cities") 2,500 and up in population (as of 1940).

Those findings are reported in detail in Special Bulletin 365, Health Needs and Health Care in Michigan (June 1950); Special Bulletin 370, Distribution of Doctors of Medicine and Osteopathic Physicians in Michigan Communities (June 1951); and Special Bulletin 377, Health Needs and Health Care in Two Selected Michigan Communities (June 1952). These bulletins are published by the Michigan Agricultural Experiment Station, East Lansing, Michigan. Copies may be obtained from Information Services, Michigan State College.

The findings provide the factual basis for the answers to the questions which follow.

<sup>&</sup>lt;sup>1</sup>This bulletin was prepared by these regular staff members of the Department of Sociology and Anthropology: Charles R. Hoffer (Chairman), Duane L. Gibson, Charles P. Loomis, Paul A. Miller, and John F. Thaden—all of whom participated in the Social Research Service committee which conducted the Michigan Health Survey. Although not a member of that committee, David G. Steinicke also gave valuable suggestions during the preparation of the bulletin.

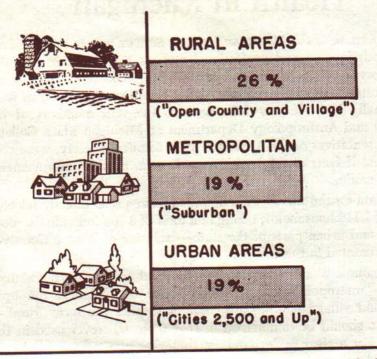


Fig. 1. Percentage of persons having one or more unmet medical (or dental) needs in the various sample areas.

# What Proportion of the People Have One or More Unmet Medical Needs?

According to this survey, approximately 1 person in each 4 in the rural population had unmet needs as defined in the survey. In the metropolitan and urban parts of the state the ratio was nearly 1 person in each 5. (See Table 1.)

Thus the statement so often made that "need for medical care is greater in rural than in urban areas" is true in Michigan. Need for medical care was determined by asking the wife (or other female head of the family), these questions: (1) Had any family member shown one or more of a selected list of symptoms within the previous 6 months? (2) If so, did the person see a doctor about the ailment? The list included 27 symptoms which had been previously validated. Thus these symptoms provided a statistical, but not a clinical determination of need for medical attention.

While unmet medical needs did exist to the extent indicated in Table 1, the survey showed that 1 person in each 6 of the rural popu-

lation who had one or more positive symptoms did consult a doctor about them. For the urban population, the proportion was 1 in each 5. (See Appendix I for the list of symptoms, the percentage of individuals having each symptom, and the percentage which had the symptom treated.)

TABLE 1—Percentage of individuals having one or more unmet medical needs in rural (open country and villages), metropolitan, and urban areas of Michigan

Area	Number of individuals in sample	Percent having one or more unmet medical needs*
Rural ("open country and villages")	1,738 548 1,500	26 19 19

<sup>\*</sup>In these percentages and throughout the report, need to consult a dentist and failure to do so was counted as an unmet need.

### What Symptoms Were Reported Most Frequently?

Poor vision, unexplained tiredness, persistent pains in the joints, toothache, and persistent headaches—symptoms which tend to be chronic in nature—were most frequently reported. Also, those were the ones most often untreated. Every symptom, however, was reported one or more times in each sample area—that is the open country, village, metropolitan and urban parts of the sample. Thus, if a symptom tends to be frequent in the country it is likely to be present also in the urban population.

Though not included in the list of symptoms to determine the extent of unmet need, immunization (or vaccination) for diphtheria, smallpox, and whooping cough is regarded as necessary in adequate health care. Ideally, all individuals as they reach the proper age should be immunized or vaccinated for these diseases.

Actually the survey showed need for more care in this connection. In the case of smallpox, 28.9 percent of the individuals in the total sample had not been immunized (vaccinated), and had not had the disease. Thus they may be considered as susceptible to it. For diphtheria, 36.1 percent of the population aged 6 months to 16 years was not immunized, and had not had the disease. For whooping cough, the corresponding figure was 34.2 percent.

# What Is the Relationship Between Age and the Presence of Symptoms?

A partial answer to this question is found in the age distribution of individuals having symptoms. Only 35 percent of the individuals 70 years of age and over had no symptoms, whereas age groups under 20 years reported 70 to 85 percent without symptoms. For persons in the group 40-49 years old, the percentage was 55. Though an individual in any age group may have need for medical care, the occurrence of symptoms and hence the need for medical attention is greatest among adults—and it increases as they become older.

# Why Are Symptoms Untreated?

There are many reasons why people do not have positive symptoms treated. At first thought it might appear that lack of doctors is the main reason—but that is not necessarily true. Unmet medical needs were found in communities well provided with doctors, as well as in those where a shortage of doctors existed. Hence it can not be concluded that a lack of doctors is responsible for all unmet medical needs.

TABLE 2—Reasons for not seeing a doctor as reported for 334 persons who had untreated symptoms, Michigan, 1948

Reason and Explanation	
Expense:	7
Too expensive	26
Distance:	
Too far; distance too great	24
Time:	110
Lack of time	17
Nature of symptom:	10
Symptom not thought serious	12
Neglect:	•
Neglect, "just haven't gotten around to it"	8
Other reasons:	13
Total	100

There was a total of 3,786 individuals included in the survey. Among this number, 835 had positive symptoms. The informants felt that 334 of that 835 should consult a doctor, giving the explanations listed in Table 2 as the reasons for not doing so.

The reason "too expensive" simply means that the family thought the probable cost of medical care would be too high. Wisely or un-

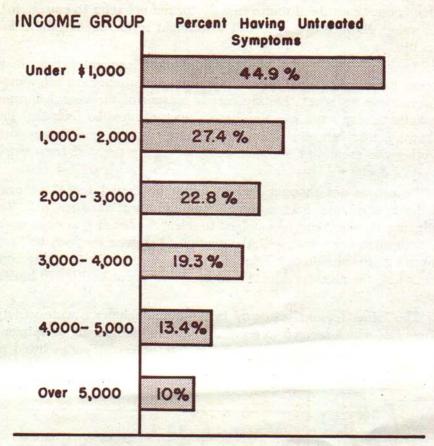


Fig. 2. Percentage of persons, according to gross income groups, having one or more untreated symptoms.

wisely, the family would postpone treatment rather than seek the advice of a physician, particularly if the symptoms were not thought to be serious and did not cause pain.

Tabulations of the survey data showed clearly that as the gross income of the family increased, the percentage of unmet need decreased. Also in the detailed study of two selected communities—one having better-than-average facilities for health care and one without doctors in the immediate trade area—unmet needs in both communities decreased as the income of the families increased. Figure 2 shows the trend of this relationship for the state-wide survey.

The reason, "too far, distance too great," was mentioned by both rural and urban residents, though rural residents mentioned it more

often. Sometimes the distance to a doctor did not refer to any doctor, but rather distance to a specialist who might reside outside the community.

"Lack of time," which was the third most frequent reason, may appear to be a superficial one. It is, however, an important consideration in some instances. During certain seasons of the year, a farmer hesitates to stop work to go and see a doctor unless he feels that his ailment is a serious one. Likewise, a factory worker or a person who is otherwise employed is reluctant about taking time off from work to see a doctor.

"Symptom not thought serious," was mentioned for 12 percent of the 334 persons. Such a reason seems to be at variance with the judgment of physicians who helped to select the list of symptoms used to determine need for medical attention. Likewise neglect, or "just haven't gotten around to it," does not appear to be a substantial reason. It suggests the need for educational programs about health and health care.

The "other reasons" category in the table includes a wide variety of reasons which seemed to represent personal judgments or opinions which could not be logically classified into other categories listed in the table.

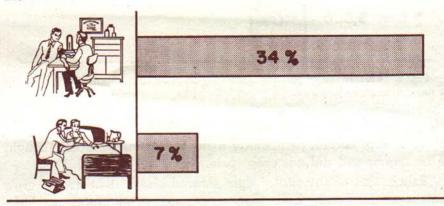


Fig. 3. Proportion of total population seeing a doctor at his office, during a 6-months period, compared to those having the doctor call at their homes.

### How Often Do Michigan People Consult a Doctor?

The Michigan Health Survey showed that during the 6-month period preceding the interview, 37 percent of the 3,786 persons included in the state-wide survey consulted a doctor one or more times —either at his home or his office. This figure is evidence of the extent of use of a doctor's services. When a doctor was consulted, the patient usually went to his office. In terms of the total sample of 3,786 persons, 34 percent—or about 1 in each 3—consulted a doctor at his office. Seven percent, less than 1 in each 10, had the doctor come to the home.

About one-half of the patients who had the doctor come to the home reported that only one call was made. For those calling at the office, approximately 4 in each 100 made only one call. On the other hand, a smaller proportion going to the doctor's office—from 2 to 3 in each 100—made six trips or more. The average number of calls per person at home and at the office combined was 1.6 for the 6-months period.

### What Attitudes Do People Have About Doctors?

A total of 717 informants interviewed about their opinions were asked, "On the whole, have you been satisfied with the help you have received from doctors, or not?" Eighty-five percent said they were satisfied. Eight percent said they were not satisfied. The remainder had received no help, or were uncertain about the matter. When each of the 717 persons was asked what he or she especially liked about doctors, approximately 1 in 3 informants mentioned "pleasing personality" and 1 in 4 "professional efficiency." Then followed comments such as "explanation and frankness about the case," "interest in the patient," or "thoroughness and effective treatment."

The 717 persons interviewed were also asked what they did not like about doctors. The principal criticism, mentioned by 11 percent of the 717 persons giving the information, was "treatment or diagnosis ineffective." Then seven percent mentioned "poor technique," "too rough," "unsanitary," "careless."

Following those criticisms, there was a considerable variety of comments such as "won't make house calls," or "is slow in making them;" "not frank, won't tell you about the case;" "too hurried;" "too expensive—overcharges."

However, it should be explained that 43—or approximately 6 percent of the 717 informants—made no comments of any kind about doctors. Some of these individuals had not consulted a doctor for a long time; others had never gone to more than one doctor, whom they liked very well.

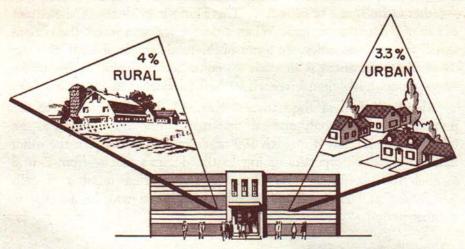


Fig. 4. Proportion of the total rural and total urban population requiring hospitalization during a 6-months' period.

### How Frequently Were Other Health Facilities Used?

Hospitals—A hospital is a necessary health facility. How frequently is it used? The Michigan Health Survey showed that the doctors advised approximately 1 patient in each 6 (17.5 percent of the total number of patients) to go to a hospital. Approximately 1 in each 7 (14.6 percent) acted on this advice. When the number of people advised to go to a hospital is figured as a percentage of the total population in the sample, the percentage is 3.9.

Four percent of the people in the rural part of the sample were hospitalized during the 6-months period preceding the survey. For the urban population the corresponding percentage was 3.3. In view of this extensive use it seems clear that hospital facilities should be available to every family in its local community, or in one nearby.

DENTISTS—Dental service is an important part of health and health care. Nevertheless, only 1 person in each 5 of the rural population—and 1 in each 4 in the urban population—had consulted a dentist in the 6-month period preceding the interview. In view of the probable need for dental care, there can be little doubt that more people in Michigan should consult a dentist.

### Do Michigan People Get a Doctor's Help When They Need It?

The question, given here as usually stated, cannot be answered arbitrarily. Approximately 4 of each 5 families in the cities and the

country as well, said that they had no trouble in getting the help of a doctor when they needed it. A few replied that they had never tried. On the other hand, 108 families—or 15 percent of the 717 family informants asked the question—said that they did have difficulty.

Twenty-seven of those 108 families having difficulty explained that the doctor was not on duty—that is, it was his afternoon off, or his assistance was sought on a Sunday or a holiday. Nineteen families said the doctor was too busy, and eight reported that he was out on another case when the family tried to get him. Fourteen of the 108 families stated that the doctor did not make house calls.

After the family explained why difficulty occurred in getting a doctor, it was asked what action was taken when the first one sought could not be obtained. Twenty-eight families said another doctor treated the patient satisfactorily; 20 reported that the patient recovered without a doctor's help. On the other hand, 10 families said the patient's condition became more serious.

### Is There a Need for More Doctors?

More than half of the 717 informants (55.5 percent) believed more doctors to be needed. In this regard, the judgment of the informants was supported by the study of the distribution of doctors of medicine and osteopaths in Michigan communities reported in Special Bulletin 370. Assuming that one practitioner engaged in private practice per 1,499 persons or less is a reasonable ratio, that survey showed that only one-fourth of the Michigan communities (outside of Wayne County) had such a number.

Although the ratio of population per medical doctor exceeded the 1,500-limit in 201 of the 297 "doctor service" communities in the state, many communities did have enough doctors. On the other hand, some small communities formerly having a doctor do not have one now, and may presently not need one. Sometimes residents in such places can go, without undue inconvenience or cost, to nearby communities for doctors' services.

It appears, however, that if a community does need more doctors most of the people fail to have any idea about how to get them. When the persons who were interviewed were asked, "If some community (town) needed more doctors do you have any idea how it could get them?"—7 out of each 10 said they did not know.

### What Is the Source of Health Treatment?

Non-medical doctors as well as M.D.'s have increased in number in recent years. Because of that, the informant in each of the 717 families was asked if any member of his family had gone to an osteopath, or other doctor who was not an M.D. Replies showed that half of the 717 families had. A total of 200 had consulted an osteopath; 158 reported that they had been to other practitioners of the healing arts.

It is of interest to note that, of the 717 persons giving the information about the kind of doctor consulted by members of their families, 46 percent said they did not know how the training of osteopaths compares with the training of M.D.'s.

### What Do People Think About Local Community Health Problems?

To understand what people think about local health matters, persons reporting for the 717 representative families were asked this question: "Do you feel that this community has any major health problem?"

Over half of the number (actually 62.1 percent) said they knew of no major health problem in the community, and 15 percent were uncertain about the matter. A total of 22 percent stated that their community did have a major health problem—the one most frequently mentioned being described as "sewage, water pollution, flood control." Since the answers were in the nature of opinion, it is entirely possible that there were problems in communities where a "no" answer was given and that the persons answering "yes" may have been stating a personal judgment.

The important point about the answers is that they did show what people were thinking about the matter. Because so many believed their community had no major health problem, it is likely that action to bring about health improvements in local communities will have to be preceded by educational and publicity programs.

### Opinions About a Community Health Council

The question about health problems led rather logically to another—one designed to find out what people thought about health organizations, particularly a health council. That question was worded as follows: "In some places representatives of different organizations have gotten together in a committee or council to develop plans for

improving health in the community. Have you heard of anything like that?"

The answers showed clearly that most of the people had not. About 3 persons in each 4 of the 717 persons interviewed said they hadn't heard about it.<sup>2</sup> Then, regardless of the answer just given, they were also asked, "Do you think representatives of the organizations in this community ought to organize some kind of a health committee or council?"

Answers to this latter question were varied. Thirty-five percent believed that such an organization already existed—despite the fact that three-fourths of the informants had said they hadn't heard about a community health council, or similar organization, in their community. Another 35.1 percent thought their community should have such an organization, and another 10 percent were uncertain.

These replies indicate that a health council would very likely be favorably received by most of the people—but that they don't understand its nature and purpose very well. It would probably take a considerable amount of explanation—and possibly actual accomplishment—to make a majority of the people familiar with the nature, purpose and potentialities of a community health council. Even the work of a public health department which is relatively well established is not familiar to many persons. In the intensive study of the two communities reported in Special Bulletin 377, more than half of the informants stated that they were not familiar with the activities of the public health department in their county.

### What Are Some Implications of the Michigan Health Survey?

It is clear from the data of the survey that many persons in both rural and urban communities have one or more unmet medical or dental needs, and that such needs are more prevalent in the country than in the city. It seems logical, therefore, that special attention should be given to rural areas by health workers—and by rural people themselves.

The study also shows that positive symptoms, and hence the need for medical care, increase with age. The proportion of older people in the population of Michigan is increasing. Consequently, there is every indication that the need for health services in both rural and urban areas will increase in the future.

<sup>&</sup>lt;sup>2</sup>Since 1948 the Michigan Health Council with the cooperation of other organizations has been instrumental in the organization of many community health councils. Hence, it is probable that at the present time a higher proportion of the people have heard about the idea.

There are many reasons which people give for not consulting a doctor when they have a positive symptom. Approximately three-fourths of the reasons include a variety of circumstances and factors—such as distance to a doctor, lack of time to go to see a doctor, symptom not thought serious, and neglect. The remaining one-fourth of the reasons were listed under the category "too expensive." It thus seems evident that more education about health and health care, and attention to the means and methods of paying for it, are needed.

Statistical data indicate that many Michigan communities need more doctors. Residents in these communities, however, are not certain about what they can do to obtain them. Seemingly, cooperation on the part of communities needing doctors with their local county or state medical society would be advisable.

Generally speaking, people are not aware of local health problems in their own community, nor of the activities of their county public health department. Also, many people are not familiar with the nature and purpose of a community health council. These statements indicate that even though health improvements may be greatly needed in a community, the people are not likely to be concerned until they understand the problem and why it needs to be solved.



### APPENDIX I

TABLE I—Percentage of 3,786 individuals in the total sample of the Michigan Health Survey having untreated symptoms, and percentage having treated positive symptoms. Michigan, 1948

Unexplained loss of weight (persons over 18: 10 lb. or more in last 6 months; persons under 18: any unexplained loss of weight).  Continued loss of appetite. Unexplained tiredness, regularly. Running ear or ears: watery, bloody, pus Poor vision: for distant or close work, e.g. reading  Repeated nosebleeds not due to blow or injury Persistent headaches. Toothache. Unable to chew food: teeth "sore" or missing Sore mouth: due to plates or bridges  Repeated or frequent bleeding gums Persistent skin rashes or itching of skin: "breaking out" (one week or more). Lumps or discolored patches on skin Persistent pains in chest. Persistent cough: (except colds in chest).  Coughing or spitting blood Severe shortness of breath: after doing light work Asthma or hayfever. Repeated or persistent backache.	2.3 2.3 6.4 1.5 6.9 2.2 5.1 5.9	0.7 0.9 2.0 0.4 3.8	1.6 1.4 4.4 1.1 3.1
more in last 6 months; persons under 18: any unexplained loss of weight)	2.3 2.3 6.4 1.5 6.9 2.2 5.1 5.9	0.9 2.0 0.4 3.8	1.4 4.4 1.1
explained loss of weight).  Continued loss of appetite.  Unexplained tiredness, regularly.  Running ear or ears: watery, bloody, pus.  Poor vision: for distant or close work, e.g. reading.  Repeated nosebleeds not due to blow or injury.  Persistent headaches.  Toothache.  Unable to chew food: teeth "sore" or missing.  Sore mouth: due to plates or bridges.  Repeated or frequent bleeding gums.  Persistent skin rashes or itching of skin: "breaking out" (one week or more).  Lumps or discolored patches on skin.  Persistent pains in chest.  Persistent cough: (except colds in chest).  Coughing or spitting blood.  Severe shortness of breath: after doing light work.  Asthma or hayfever.	2.3 2.3 6.4 1.5 6.9 2.2 5.1 5.9	0.9 2.0 0.4 3.8	1.4 4.4 1.1
Continued loss of appetite. Unexplained tiredness, regularly. Running ear or ears: watery, bloody, pus. Poor vision: for distant or close work, e.g. reading  Repeated nosebleeds not due to blow or injury Persistent headaches. Toothache. Unable to chew food: teeth "sore" or missing Sore mouth: due to plates or bridges  Repeated or frequent bleeding gums. Persistent skin rashes or itching of skin: "breaking out" (one week or more). Lumps or discolored patches on skin. Persistent pains in chest. Persistent cough: (except colds in chest).  Coughing or spitting blood. Severe shortness of breath: after doing light work Asthma or hayfever.	2.3 6.4 1.5 6.9 2.2 5.1 5.9	0.9 2.0 0.4 3.8	1.4 4.4 1.1
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Running ear or ears: watery, bloody, pus	1.5 6.9 2.2 5.1 5.9	0.4 3.8	1.1
Repeated nosebleeds not due to blow or injury  Persistent headaches.  Toothache.  Unable to chew food: teeth "sore" or missing  Sore mouth: due to plates or bridges  Repeated or frequent bleeding gums.  Persistent skin rashes or itching of skin: "breaking out" (one week or more).  Lumps or discolored patches on skin.  Persistent pains in chest.  Persistent cough: (except colds in chest).  Coughing or spitting blood  Severe shortness of breath: after doing light work  Asthma or hayfever.	6.9 2.2 5.1 5.9	3.8	The second secon
Repeated nosebleeds not due to blow or injury Persistent headaches. Toothache. Unable to chew food: teeth "sore" or missing Sore mouth: due to plates or bridges  Repeated or frequent bleeding gums. Persistent skin rashes or itching of skin: "breaking out" (one week or more). Lumps or discolored patches on skin. Persistent pains in chest. Persistent cough: (except colds in chest).  Coughing or spitting blood Severe shortness of breath: after doing light work Asthma or hayfever.	2.2 5.1 5.9		3.1
Persistent headaches. Toothache. Unable to chew food: teeth "sore" or missing Sore mouth: due to plates or bridges  Repeated or frequent bleeding gums Persistent skin rashes or itching of skin: "breaking out" (one week or more). Lumps or discolored patches on skin Persistent pains in chest. Persistent cough: (except colds in chest) Coughing or spitting blood Severe shortness of breath: after doing light work Asthma or hayfever.	5.1	1.3	
Persistent headaches. Toothache. Unable to chew food: teeth "sore" or missing Sore mouth: due to plates or bridges  Repeated or frequent bleeding gums Persistent skin rashes or itching of skin: "breaking out" (one week or more). Lumps or discolored patches on skin Persistent pains in chest. Persistent cough: (except colds in chest) Coughing or spitting blood Severe shortness of breath: after doing light work Asthma or hayfever.	5.1		0.9
Toothache. Unable to chew food: teeth "sore" or missing  Bore mouth: due to plates or bridges  Repeated or frequent bleeding gums	5.9	2.3	2.8
Repeated or frequent bleeding gums	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2.9	3.0
Repeated or frequent bleeding gums  Persistent skin rashes or itching of skin: "breaking out" (one week or more)  Lumps or discolored patches on skin  Persistent pains in chest  Persistent cough: (except colds in chest)  Coughing or spitting blood  Severe shortness of breath: after doing light work  Asthma or hayfever.	3.8	2.6	1.2
Persistent skin rashes or itching of skin: "breaking out" (one week or more)	2.0	1.4	0.6
Persistent skin rashes or itching of skin: "breaking out" (one week or more)  Lumps or discolored patches on skin  Persistent pains in chest.  Persistent cough: (except colds in chest)  Coughing or spitting blood  Severe shortness of breath: after doing light work  Asthma or hayfever.	1.2	0.7	0.5
out" (one week or more)  Lumps or discolored patches on skin  Persistent pains in chest.  Persistent cough: (except colds in chest)  Coughing or spitting blood  Severe shortness of breath: after doing light work  Asthma or hayfever.			0.0
Lumps or discolored patches on skin	4.4	1.9	2.5
Persistent pains in chest.  Persistent cough: (except colds in chest)  Coughing or spitting blood  Severe shortness of breath: after doing light work  Asthma or hayfever.	1.4	0.8	0.6
Persistent cough: (except colds in chest)	1.6	0.7	0.9
Severe shortness of breath: after doing light work Asthma or hayfever	1.5	1.3	1.2
Severe shortness of breath: after doing light work Asthma or hayfever	0.3	0.1	0.2
Asthma or hayfever	3.7	1.7	2.0
Reneated or nersistent backache	3.6	1.7	1.9
	5.2	1.9	3.3
Persistent pains in the joints	7.5	3.1	4.4
Open or running sores or ulcers that do not heal	0.8	0.1	0.7
Repeated or persistent swelling of ankles: (two weeks			
or more)	2.1	1.1	1.0
Repeated vomiting: (several days or more) Repeated or prolonged pains in stomach or anywhere		0.2	0.6
in abdomen	2.5	0.8	1.7
'Rupture," hernia, or wearing of truss	3.3	1.2	2.1
Fainting spells: stuttering, stammering, nervous breakdown, fits, convulsions	1.2	0.5	0.7
Accidental injuries: broken bones, head or severe	No.		
injuries, accidental poisoning, snake bites, etc	4.1	0.6	3.5

<sup>\*</sup>Includes symptoms treated by either an M.D. or a non-M.D.

### PUBLICATIONS ON HEALTH BY THE DEPARTMENT OF SOCIOLOGY AND ANTHROPOLOGY

- Special Bulletin 365 (June, 1950)—Health Needs and Health Care in Michigan. Michigan Agricultural Experiment Station.
- Special Bulletin 367 (February, 1951)—Mortality Differentials in Michigan. Michigan Agricultural Experiment Station.
- Special Bulletin 370 (June, 1951)—Distribution of Doctors of Medicine and Osteopaths in Michigan Communities. Michigan Agricultural Experiment Station.
- Special Bulletin 377 (June, 1952)—Health Needs and Health Care in Two Selected Michigan Communities. Michigan Agricultural Experiment Station.
- Community Organization for Health, Selected References (December, 1950). Social Research Service, Department of Sociology and Anthropology.

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