

Home Safety

THURSDAY MORNING SESSION

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Joint Session, Child Education Section and Home Safety Committee

*Presiding, ROSAMOND LOSH, Executive Secretary, Children's Bureau, Kansas City, Mo.,
and Chairman, Home Safety Committee, National Safety Council.*

Home Accidents—Where, How and Why?

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Every day, on an average, 88 deaths result from home accidents in the United States, or 3.7 deaths every hour. Home accidents are responsible for 34.5 per cent of all fatalities resulting from accidental causes. Furthermore, home accidents represent the eighth most important cause of death, exceeded only by heart disease, cancer, cerebral hemorrhage, nephritis, pneumonia, tuberculosis, and to a very small extent by motor vehicle accidents.

In September, 1928, the public was shocked to learn of the huge loss of life resulting from a hurricane in Florida. During the period of this disaster, 1,180 persons met their death. Approximately the same number of persons die as a result of home accidents in the United States every 13 days throughout the year—a continuous disaster. During the 18 months of the World War, 50,510 members of the American Expeditionary Forces were killed in action or died of wounds. During the past 18 months, approximately 48,000 men, women, and children have died as a result of accidents in the homes of our nation.

Disabling Home Accidents

In addition to fatalities, home accidents, according to the estimates of the National Safety Council, result in 4,700,000 disabling accidents a year, or an average of 537 per-

sons disabled through home accidents every hour. Home accidents are responsible for 53 per cent of the disabling injuries resulting from accidents of all types in this country. It is further estimated by the Council that home accidents result in an annual economic loss of approximately \$600,000,000, or an average of approximately \$68,500 an hour throughout the year.

This high sacrifice of life, disabling of individuals, and economic loss would be appalling at any time. It is of particular significance now, however, when we as a nation are concerned with national defense, requiring the greatest possible conservation of manpower and resources. Accordingly, the prevention of home accidents should be considered not only from the humane and economic standpoints, but likewise from that of national vitality.

Epidemic Proportions of the Problem

As a cause of death and disability, the home accident problem may significantly be compared with some of the hitherto major diseases of mankind, many of which have yielded to scientific control. For example, during the first seven months of 1940, the home accident death rate among Industrial policyholders of the Metropolitan Life Insurance Company amounted to 120 per hundred thousand policyholders. During the

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same period, a combined rate of 3.7 was noted for the following five communicable diseases: typhoid fever, measles, scarlet fever, whooping cough, and diphtheria.

It would seem logical to consider the control of the home accident problem from a public health or perhaps "epidemiological" point of view and accordingly, to review the fundamental steps taken by science in the control of other serious causes of mortality and morbidity. In general, these steps have been as follows:

1. *Scientific research*—resulting in an identification of factors responsible for the cause and spread of the disease under consideration;

2. *Local epidemiological surveys*—to determine the existence or non-existence of the disease and its etiological agents in a given area;

3. *Control and preventive procedures*—the development of a program for the elimination of conditions producing the disease in the given area.

Similar procedures adopted by industrial organizations have, according to the National Safety Council, resulted in a 69 per cent reduction in accident frequency and a 50 per cent reduction in accident severity in the period from 1926 to 1939 inclusive. Many industrial organizations have been able to reduce accidents to an even greater extent, and there are outstanding cases of large industrial plants which are now able to conduct their operations for one or even more years without an accident of sufficient severity to cause loss of time. Measures for the prevention of occupational accidents parallel those of disease prevention:

1. *Industrial Safety research*—to determine the physical conditions and the working practices responsible for occupational accidents;

2. *Local plant surveys*—to determine whether improper physical conditions exist or whether unsafe working practices are followed in the plant under consideration;

3. *Control and prevention*—the development and conduct of a well-planned program for the elimination of unsafe conditions and the correction of unsafe working practices.

Because of the success of these fundamental steps in the control of disease and occupational accidents, it would seem that these same principles might well be applied to the home accident problem, along the

following lines:

1. *A comprehensive statistical analysis of home accident experience*—to determine the physical conditions and individual practices chiefly responsible for accidents in American homes.

2. *Intensive and localized home accident surveys*—to determine whether these known unsafe conditions exist or whether known unsafe individual practices are followed in the homes under consideration.

3. *Control and prevention*—the removal or correction of unsafe conditions and the development of safe practices by individuals in the home.

Actually, in the field of home safety, steps two and three are very largely the responsibility of the individual and his family. An organized program of education, however, based upon an accurate knowledge of conditions and practices responsible for home accidents, is necessary to encourage action on the part of the individual.

Some accidents are due to the design, construction, and maintenance of the building itself and may, therefore, be considered a responsibility of the architect and builder rather than of the occupant. The prevention of such accidents, however, likewise requires an analysis of accident-producing conditions.

Existing Data

While we know that the home accident problem is serious, we scarcely know enough as yet to provide the basis for a real preventive program.

Upon records of the United States Census Bureau and those of State health departments, the National Safety Council annually estimates the number of deaths and non-fatal injuries incident to home accidents in the United States. The data relative to fatalities are obtained from coroners' reports and, therefore, can be considered fairly reliable as to gross totals. These data are classified according to age groups and five principal types of accidents, namely: burns, falls, firearms, mechanical suffocation, and poisoning.

No additional analysis of fatal home accidents is made on a national basis. Some health departments, however, make a more detailed analysis, the most complete being that contained in the annual report of accidental deaths published by the Kansas State Board of Health. This analysis classifies home fatalities by type, location within or

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A study of home accident fatalities for the city of Cleveland was conducted in 1935 by H. W. Green, Director of Statistics and Research of the Cleveland Health Council. In the report of this study, "How Safe Is Home?" the accident fatalities are analyzed by resident location, age, sex, economic status of the injured party, and type of accident. Some interesting case reports are included.

In the field of non-fatal home accidents, however, no comprehensive national study has been made. Perhaps the most complete analysis in this field is the five year report issued by the Travelers Insurance Company, based upon benefits paid under personal accident policies of that company. The report contains a fairly detailed analysis of approximately 48,000 home accidents, by type. No other analysis of home accidents, however, is included in the report.

A survey of home accidents resulting in hospitalization at the Cook County (Illinois) Hospital in 1933 and 1934 was made as a Works Progress Administration project sponsored by the Cook County Bureau of Public Welfare and supervised by the National Safety Council. This report contained an analysis of 4,602 hospitalized accident cases classified by location and by type.

During 1935 and 1936 the United States Public Health Service conducted a National Health Survey with W.P.A. assistance. This survey consisted of a house-to-house canvass of 800,000 families in 84 cities and 23 rural areas. The study was confined to cases resulting in disability of seven days or more. In the report of the survey home accidents were classified by means of injury, age, sex, family income groups, and nature of injury. The report contains similar analyses of other types of accidents.

The Visiting Nurse

While these studies are helpful, it is our belief that a successful preventive program necessitates a more complete and detailed study and analysis of such accidents than is now available. As an instrumentality in developing basic data essential for such an analysis, the visiting nurse has an unusual opportunity, since she is in a position to observe and analyze unsafe conditions and practices in the homes of the patients she is called upon to nurse.

Based upon this principle, an individual

home accident study covering the period from November 15, 1939, to May 15, 1940, was undertaken under the direction of Professor Irma Gene Nevins of the Kansas State Teachers College and a Fellowship Student of the Center of Safety Education, New York University. The study had the support of the National Organization for Public Health Nursing and the active participation of the Visiting Nurse Associations or Public Health Nursing Associations of Detroit, Mich., Indianapolis, Ind., Kansas City, Mo., Minneapolis, Minn., New Haven, Conn., Philadelphia, Pa., Pittsburgh, Pa., and San Francisco, Cal.

As a result of this study 550 individual home accident reports were submitted by the participating members of the Associations listed. These reports are now being tabulated. The report form included the following questions, to each of which was appended a check list: "When and where did the accident occur?" "What are the immediate factors?" "What are the contributing factors?" "Who was involved in the accident?" "What was the person doing at the time of accident?" "How will the accident be classified?"

A Study by Metropolitan Nurses

In addition to collecting accident data, the visiting nurse is in an excellent position to influence safe home practices and the removal of unsafe home conditions. In order further to explore the possibilities of using the visiting nurse in both of these fields of activity, the Metropolitan Life Insurance Company early in 1940 instructed its salaried nurses throughout the United States and Canada to submit reports regarding all cases of accidental injury for which nursing service was requested. Since the Company maintains 336 salaried nursing services, employing a staff of 678 nurses who handle more than 300,000 nursing cases in a year, a study conducted by this staff is nationwide in area and covers a large number of individual homes. The study also includes some 35,000 nursing cases handled in Canada by a staff of 89 nurses.

This study was undertaken for two definite purposes: first, to collect accurate data regarding home accidents; and, second, to stimulate nurses' interest in home safety through familiarization with such data.

To launch the plan, letters of instruction were sent to each nurse early in 1940 and additional information was furnished through

regular supervision channels. No special forms were developed for the purpose, the nurses being instructed to furnish the required information on their regular case reports. They were asked to report on each case where care was necessitated by an accidental injury. They were instructed to report whether the injury was the result of a motor vehicle, occupational, public, school, or home accident.

Only in the case of home accidents were additional data requested. These include: nature of injury, part of body injured, action of the injured party, location of accident, type of accident, and objects involved. The data submitted by the nurses are carefully reviewed, and form letters requesting additional data are sent to the nurses when necessary. An analysis of the final information is prepared on a monthly basis according to a number of pre-determined sub-classifications.

This study was initiated in the spring of 1940, and approximately two months were needed to carry out the proper instructional work and to obtain complete data. A test analysis of accidental injuries was prepared for the month of April and, on the basis of this study, certain necessary changes were made in the analysis form. Using the revised forms, comparable analyses for the months of May, June, and July have been completed and a quarterly analysis prepared. For each month as well as for the quarterly period, analysis sheets have been developed for three geographic areas, namely: the United States east of the Rockies; the Pacific Coast and mountain states; and Can-

ada. A total sheet, covering all areas, has also been developed.

In general, the study is confined to accidental injuries sustained by industrial and intermediate policyholders, and group certificateholders of this company. It covers cases which are of sufficient severity to require nursing service. Only a comparatively few fatalities are included. Prior to July our records did not show the number of cases requiring hospitalization. On the basis of the July experience, however, it is noted that approximately 11 per cent of all accident cases and approximately 9 per cent of the home injury cases reported required hospitalization.

According to the experience since this survey was started, it will eventually include approximately 500 home accident cases a month or a total of about 6,000 a year. Since this study to date, however, covers a period of three months, the results reported in this paper can only be considered as indicating possible trends and illustrating the type of data which will be available as the study continues.

It is interesting to note the close comparison between the percentage of home accidents reported in our study and the similar percentage estimated by the National Safety Council. For the three months covered by this study, 50 per cent of all injuries reported, or a total of 1,572 injuries, resulted from home accidents. The National Safety Council estimates that 53 per cent of all disabling injuries in the United States are due to home accidents. In the Eastern area of the United States our study shows this fig-

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Table I—Nature of Injury

	Eastern States	Pacific Coast & Mountain States	Canada	Total
Cuts, Lacerations and Abrasions.....	25%	28%	30%	25%
Bruises and Contusions.....	10%	11%	18%	11%
Burns and Scalds.....	18%	18%	34%	19%
Strains and Sprains.....	12%	13%	1%	11%
Asphyxiations.....	..	..	..	..
Poisoning.....	1%	3%	4%	2%
Fractures and Dislocations.....	20%	17%	9%	19%
Foreign Bodies.....	..	1%	1%	1%
Bites.....	2%	5%	..	3%
Multiple.....	6%	..	..	5%
Other.....	5%	3%	3%	4%
Not Specified.....	..	1%	..	..

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at 50 per cent, in the Pacific Coast states 45 per cent, and in Canada at 58 per cent.

An idea of the range of severity of cases included may be obtained from Table I. This and the five other tables in this paper are

based upon a total of 1,572 injuries, of which 1,190 were reported in the Eastern states, 280 in the Pacific Coast and mountain states, and 102 in Canada. These figures should not be accepted as indicating relative

Table II—Part of Body

	Eastern States	Pacific Coast & Mountain States	Canada	Total
Hands and Fingers.....	14%	16%	22%	15%
Head, Face, and Neck.....	9%	20%	21%	12%
Legs, Feet, and Toes.....	34%	30%	25%	32%
Arms.....	11%	9%	10%	11%
Eyes.....	1%	4%	2%	1%
Trunk.....	16%	16%	12%	16%
Internal.....	3%	3%	5%	3%
Multiple.....	12%	1%	5%	10%
Not Specified.....	..	1%	..	..

Table III—Action of Injured

	Eastern States	Pacific Coast & Mountain States	Canada	Total
Walking and Running.....	36%	32%	16%	34%
Household Cleaning.....	5%	3%	3%	5%
Laundry Duties.....	4%	3%	9%	4%
Other Household Duties.....	7%	7%	9%	7%
Cooking.....	5%	3%	3%	5%
Eating.....	2%	2%	5%	2%
Playing.....	22%	33%	27%	24%
Tending Heating Equipment.....	1%	..	2%	1%
Other.....	11%	16%	25%	13%
None or Not Specified.....	7%	1%	1%	5%

Table IV—Location of Accident

	Eastern States	Pacific Coast & Mountain States	Canada	Total
Living and Sleeping Quarters.....	15%	13%	6%	14%
Dining and Kitchen Quarters.....	27%	28%	55%	29%
Bathroom.....	3%	2%	..	3%
Hallways, etc.....	2%	..	..	1%
Cellar.....	4%	..	3%	3%
Attic.....	..	..	..	..
Stairs or Steps.....	18%	8%	7%	15%
Porch, Yard, etc.....	28%	41%	17%	30%
Garage.....	1%	3%	1%	1%
Other.....	2%	2%	7%	2%
Not Specified.....	..	3%	5%	1%

frequency of home accidents in the respective areas, but simply as a basis for the percentages in the respective columns.

Considering the extensive educational activities which have been carried out with respect to the dangers of asphyxiation due to carbon monoxide in closed garages and to improper ventilation in homes, it is interesting that only two cases of asphyxiation were reported; likewise that only 2 per cent of the cases involved accidental poisoning.

Another indication of the kind of injuries

being experienced as a result of home accidents can be obtained from a review of the parts of the body injured through accidents of this nature. Table II presents the classification used and the percentage variation of injuries on this basis.

For preventive purposes it is necessary to know what people were doing when they were injured. Proper emphasis then may be given to the development of correct practices incident to home activities. Table III shows the percentage distribution of the

Table V—Type of Accident

	Eastern States	Pacific Coast & Mountain States	Canada	Total
Falls from Heights.....	12%	21%	17%	14%
Falls on Levels.....	38%	16%	6%	32%
Falling Material.....	1%	..	6%	2%
Handling Materials or Objects.....	11%	9%	12%	10%
Stepping on Objects.....	6%	5%	8%	6%
Collisions with Objects.....	12%	16%	7%	12%
Hot or Burning Substances.....	12%	15%	19%	13%
Electric Burn or Shock.....	..	1%	9%	1%
Inhaling Gas or Smoke.....	..	..	..	..
Poisons, Not Gas.....	1%	6%	5%	3%
Other.....	6%	9%	13%	7%
Not Specified.....	..	1%	..	..

Table VI—Objects Involved

	Eastern States	Pacific Coast & Mountain States	Canada	Total
Household Furnishings or Equipment.....	15%	5%	14%	13%
Floor Coverings.....	3%	2%	3%	3%
Slippery Surfaces.....	4%	7%	1%	4%
Toys and Play Equipment.....	4%	5%	2%	4%
Tools and Sharp Objects.....	13%	9%	7%	12%
Utensils.....	7%	1%	15%	6%
Food.....	2%	3%	11%	3%
Animals, Insects, etc.....	3%	6%	..	4%
Heating Equipment, etc.....	4%	5%	5%	4%
Laundrying Equipment and Materials.....	4%	6%	11%	5%
Inflammable Liquids or Materials.....	2%	3%	3%	2%
Other Household Appliances.....	1%	1%	7%	2%
Plumbing Fixtures.....	1%	..	..	1%
Structural Defects.....	2%	3%	3%	2%
Firearms.....	..	..	..	..
Automobile.....	1%	3%	..	1%
Multiple.....	1%	..	1%	1%
Other.....	12%	29%	19%	15%
None or Not Specified.....	21%	11%	..	18%

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For a proper preventive program it is also necessary to obtain some information regarding the place of occurrence of home accidents. Table IV indicates the percentage of injuries by room or other location on the home premises.

Considering the type of accidents (see Table V), falls on level are outstanding with a total of 32 per cent. In the Pacific Coast area, however, this item was responsible for only 16 per cent and in Canada only 6 per cent.

Lastly, the study included an analysis of the subjects involved in home accidents, as indicated by Table VI.

This survey, although incomplete and of a comparatively short duration, seems to indicate that the public health nurse is in a position, because of her training and her frequent contact with individual homes, to serve as an excellent source of information regarding home accidental injuries. In the absence of official reporting of non-serious home accidents, it is reasonable to suppose that we can look upon the visiting nurse as an effective instrument in the collection of data of this nature. Because of her training in the field of prevention and because of her close educational contact with individuals in the homes she visits, she is also in an excellent position to utilize this experience in a useful and constructive manner for the advancement of safety.

HOME SAFETY ACTIVITIES OF SELECTED NATIONAL GROUPS

The American Red Cross

By RICHARD W. THRUSH

Assistant Director, First Aid and Life Saving, American National Red Cross,
Washington, D. C.

There have been safe practices of one kind and another about the places where people live since the beginning of home life—there is too close a relationship between accident prevention and self-preservation for it to have been otherwise. But admitting all this, safety for the home, as compared with industrial safety or highway safety, for instance, has lagged terribly behind the improvement and the conveniences of modern home life and the fast moving times in which we live. In fact we can well say that home safety has not only lagged but has been, to a great extent, forgotten as a definite effort while we have been busy about many other matters.

The first responsibility in the direction of safer conditions in and about our homes and toward a better set of habits and attitudes for accident prevention lies in the creation of an awareness of the problem. But awareness of accident hazards is only a part of the beginning. Along with a consciousness of what causes the accidents (which result in some 32,000 deaths in our

homes each year) must be developed a determination that these accidents in a very large measure can and shall be prevented.

The whole effort needs to be individualized. The very nature of our home life indicates this. We have no group or organization responsibility here as exists in industry, no set of laws and regulations as in dealing with traffic. Those of us who concern ourselves about this particular phase of safety realize more and more how indirect and almost subtle our approach to the home must be, however well intentioned our purpose.

From the standpoint of the Red Cross it appears that we have an opportunity and a peculiar responsibility because of the very nature of our organization set-up. There are 3,700 Red Cross Chapters in the United States. Frequently they are on a county basis, but since there are only about 3,200 counties there are considerably more Chapters than counties; in other words the Red Cross Chapters quite completely cover the entire country.

Locally those who are interested in the Red Cross are interested, too, in the other worth while community activities, and by the same token the members of other groups are interested in what the Red Cross does. Also, there are more than eight-and-a-half million boys and girls enrolled in the Junior Red Cross, so that we have an altogether natural service program relationship with the schools in particular through this medium.

The accomplishments of the Red Cross in its training programs related to safety are rather well known. It is worthy of note, however, that 656,803 persons completed courses in first aid and in water safety last year. That means that for each working day more than two thousand certificates were issued for courses that had been completed in these subjects. This work in first aid and in water safety is mentioned because it does have a direct bearing upon safety at home. For example, if a man is trained in first aid in an industry, he does not leave at the plant the knowledge he has acquired when he goes home in the evening.

But specifically the Red Cross has a program designated as Home and Farm Accident Prevention which is designed to contribute to the efforts being made for home safety. Incidentally, in linking the farm along with the home it is well to keep in mind that while, in this instance, we are giving thought to an occupation, at the same time it is an occupation which is more closely associated with home life than is true of any other occupation. Or to reverse the picture, the home life of a farm family is not confined to the four walls and possibly a yard but includes the barn, the orchard and everything to the far line fences. More deaths occur in farming accidents than in any other occupation.

The approach to home and farm accident prevention, as we see it, is through education, just as this has been true in First Aid and in Water Safety. When we think of education, we think both of children and of adults. With this in mind it is our purpose to cooperate with the schools, with young people's organizations, and with any adult groups interested or who may be interested in the problems of home safety both urban and rural.

Whatever there has been or is in our

program in the nature of campaign has been meant as a stepping stone to higher levels of interest and accomplishment. The emphasis is upon year-around program development and such seasonal hazards as need particular attention at particular times in the year.

To assist schools and youth groups in their efforts a pamphlet on home and farm accident prevention is provided to teachers and leaders. Four hundred thousand copies of this pamphlet were distributed last year as a part of definite programs developed in or through the Chapters. Based upon the information and the stimulation provided through the use of this material between nine and ten million check-lists of common hazards were distributed. Also 88,000 posters reading, "Their Safety Depends on You," were provided.

On the adult side of the program 19,000 copies of "Group Discussion Material—Home and Farm Accident Prevention" were used last year. Courses have been developed for the training of adult leaders to carry our program in Home and Farm Accident Prevention, and a start has been made in a more formalized presentation of this subject to adults in P.T.A., Granges, Service Clubs, and in a multitude of community groups ready-made and otherwise.

We have taken pains to provide much publicity for both the press and the radio and are regularly issuing a news-letter, "Home and Farm Accident Prevention."

In addition to the material produced and provided by our own organization we distributed last year through our Chapters 55,000 of the Forestry Service posters, "Yours in Trust."

Just recently we have completed a series of 14 nation-wide radio broadcasts. This program, "Listen and Live," proved to be a very interesting project with a high response from all sections of the country. We had excellent cooperation from a variety of organizations and governmental agencies in this series.

All along the line we have had excellent relationship with the schools. We are glad to have them understand that the Red Cross is endeavoring only to help them with a problem and with a program in which they themselves are interested. The same thing applies to the youth organizations. The National Safety Council has been most

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ful. Without the material they develop home and farm accidents there wouldn't be much in the way of directional signs.

We are learning much as we go along. For instance nothing is more important than informed, interested and active local leadership in this field. We know too that there

is no more important place to contribute to the individual and general morale than through safer and consequently stronger homes. We recognize in the words of W. H. Cameron in a recent editorial, "We must go at this business of safety as though it were a life-long job—which it is!"

Boy Scouts of America

By FRED C. MILLS

Director, Health and Safety, Boy Scouts of America, New York City

The home safety program of the Boy Scouts of America is so completely interwoven with every other part of its health and safety activities that it is difficult to separate it, for we have proceeded on the premise that each part of that program gave support and impetus to the whole.

But here are a few facts and points which may help you better to understand our work. We have a three part program of health and safety:

1. Protection of Scouts; 2. Education of Scouts; 3. Service by Scouts.

Our No. 1 point in protection is the medical examination of each Scout in order to his activities if necessary. This I mention because of its importance to every sort of accident prevention.

Every Scout gets some home safety instruction and every one receives first aid training as a part of his advancement program to First Class rating.

From there on up a knowledge of it is mandatory.

In 1939, 101,000 Merit Badges were earned by Scouts in the following subjects, all of which have to do to a very great extent with home safety, even including Marksmanship, a major portion of which is safety with firearms in and out of the house: Firemanship, First Aid, Marksmanship, Safety.

Besides these, but very closely related to them, are the Personal and Public Health, Skiing and Swimming Merit Badges of which 88,500 were earned in 1939.

While I take pride in this report because of the fine work done by the Scouts who acquired those skills and the leaders who taught them, I feel very humble when I

consider the growing fatality list and I ask myself what excuse we have for not having done more, more and still more with our opportunities.

I ask myself why I see on the program today the names of but six national organizations making reports rather than 66 or even 666 and in all seriousness I wonder if it is to a considerable extent our fault.

Where are representatives of that most powerful influence in human affairs—the churches of America—many of whom and perhaps all are interested in the temporal as well as the spiritual welfare of their people.

Where are the racial group representatives—Negroes, Indians, Mexicans? They are counted in the toll of dead and injured.

Where are the representatives of Rural America in whose dwellings most of these home accidents occur? Why are not the representatives of the Farm Bureau, the 4-H Clubs and the Granges here?

And the fraternal and Young Women's and Young Men's organizations? Where are they?

Perhaps our organization with its great influence among these other organizations has somehow failed to stimulate their interest. Certainly there has been a failure somewhere. They are not here but they should be. The help of every single group is needed. *What is the answer?*

I wish to submit to the Home Safety Committee of the National Safety Council the recommendation that the following information be made available for the guidance of those organizations who cooperate in this effort:

1. A definition of the home as it has to

do with safety: Does it mean the house in which we live or the house and yard, out-buildings and barns or perhaps the whole farm property, or does it mean the neighborhood surrounding the house?

2. A breakdown of accidents into kinds and then into causes in so far as they are

known.

3. An apportionment of work to various cooperative organizations. Of course there will be overlapping of effort, but that can be constructively coordinated if we talk the same language and teach the same methods and strive for the same common end.

Home Safety Program of the United States Housing Authority

By HOWARD L. WHITE

Management Review Division, United States Housing Authority, Washington, D. C.

Effective safety standards in project design and management are prerequisites of good public housing. This statement briefly sums up the attitude of the United States Housing Authority toward the question of safety in its present large-scale slum clearance and rehousing program.

Under this program 193 locally appointed housing authorities have or are now developing 467 projects of 154,209 homes. Construction has started on 276 projects of which 75 projects, totaling 29,559, homes, are either occupied or about to be tenanted. In addition, 49 projects formerly constructed by the PWA Housing Division and now under the general jurisdiction of the United States Housing Authority, are in operation.

The safety record of public housing in the United States has been exceptionally favorable. On the basis of one and one-half years of accident experience, rate reductions of 98 per cent on liability coverage and 59 per cent on fire coverage were allowed on blanket policies for 44 occupied projects. These reductions represent savings over average fire insurance costs for apartment buildings and savings over original 25 per cent preferred rates on liability costs.

A study of the 1939 accident records for the 49 PWA Housing Division Projects under USHA jurisdiction indicates, however, that there are great opportunities for further reducing accident hazards in the low-rent housing field. These projects housed 69,925 people during the year. Their accident reports list one fatality and a total of approximately 129 accidents and 61 fires resulting in injuries and/or property damage within project boundaries. An analysis of causes indicates that 40 of the accidents and

36 of the fires might have been prevented by safer planning and designing.

We realize that as more projects are completed and occupied the problem of safety for tenants and operating personnel becomes relatively more important. In addition to humanitarian considerations, economic savings to tenants which can be realized through the elimination of accident hazards are highly desirable. In view of the limited income of the average family in low-rent housing projects even a temporary loss of income because of an accident may result in extended economic hardship.

The initiation, development and management of public housing projects are vested in Local Housing Authorities. The responsibility of the United States Housing Authority is one of a banker who has loaned money and wishes to protect his investment. In protecting this investment the United States Housing Authority has found it necessary to set certain standards and policies with which local authorities are expected to conform. It is through these policies and standards, as well as through advice and counsel, that we are able through our dealings with local housing authorities to foster safety considerations.

We in the United States Housing Authority are concerned with *home safety at two definite stages*. During the development and construction of a project we are interested in the safe design of dwellings. After the project has been completed and has entered the management period we are interested in conducting safety education activities and rectifying any mistakes in design which might have been overlooked during the development of the project. Let us first consider the development or construction stage.

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counseling with Local Housing Authorities and in the development of written guide materials, the United States Housing Authority has made a special effort to consider safety in the design of housing projects. These many separate recommendations appearing in specifications and bulletins not specifically concerned with safety have recently been brought together in a document entitled "Planning for Safety." Design suggestions which have evolved from the operating experiences of our earlier projects have also been included.

Of the many design factors which we have considered important to safe construction and operation, only those pertaining directly to home safety will be of interest to this group. Some of the more important of these are as follows:

1. Locating residential buildings so that first floor levels are approximately 14 inches above grade in order to avoid unsensational outside steps at entrances.

2. Providing adequate dwelling unit storage facilities to minimize the necessity of storing toys, equipment, tools and items involving a fire hazard in hazardous locations.

3. Eliminating elevated porches wherever possible, and when they are used, providing high railings of safe design with toe boards.

4. Constructing entrance platforms with non-slip finishes, and with railings wherever such platforms are raised.

5. Avoiding the use of glass panels in the lower portions and in the pushing areas of doors.

6. Avoiding the location of doors too close to stairs.

7. Providing well secured screens.

8. Requiring window sills at least 32 inches above floor level.

9. Using straight stair runs whenever possible, with risers and treads meeting acceptable safety standards.

10. Constructing continuous hand rails for each stair run, designed to prevent children from squeezing through.

11. Providing non-slip floor surfacing.

12. Installing bathtubs with flat, anti-skid bottoms.

13. Providing grab bars in combination with soap dishes for bathtubs and shower stalls.

14. Locating utility closets for storing

medicine out of reach of small children, and wherever possible providing a lock.

15. Locating cooking stoves at least one foot from jambs of windows. Ranges with open flame burners should be located so that flames will not be subject to drafts or in the path of blowing curtains.

16. Selecting a type of range with oven and broiler raised to a level which minimizes dangers of stooping and lifting heavy hot objects.

17. Avoiding low types of hot plates on which skirts may catch fire.

18. Locating electric ice boxes and other electrical equipment far enough from the sink so that their handles cannot be grasped conveniently while touching faucets or sink.

19. Providing adequate and convenient shelving, most of which can be reached without climbing on chairs or ladders, and avoiding shelving above cooking ranges.

20. Locating electrical switches and pull cords in bathrooms and kitchens away from plumbing appliances to minimize the possibility of simultaneously grasping two fixtures which may, in the case of a faulty electrical connection, complete an electrical circuit and produce a shock or burns.

21. Providing adequate lighting in all rooms with switches placed so as to enable persons to turn on lights before entering.

22. Providing adequate lighting for dwelling unit stairways so as to minimize shadows during descent, with three-way switches located both at the bottom and top of stairways.

23. Designing all electrical work in accordance with the National Electrical Code and using only those materials approved by the Underwriters' Laboratories, Inc.

The factors which I have just enumerated are indicative of the consideration engineers and architects concerned with the development of USHA-aided projects are giving to the improvement of safety in the home.

After every reasonable effort is made in designing a project to eliminate safety hazards, it then becomes the responsibility of the housing manager to reduce hazards through *safe maintenance and operation*. However, we realize that only part of the hazards may be met through the direct action of management. The others are due to human factors beyond direct control. Tenants engaged in the activities of daily life

in their own homes are subject to a wide range of hazards. The only control is through the tenants themselves. For this reason management can make only an indirect approach, and this can best be done through a program of *safety education*.

As a part of its community relations program, the United States Housing Authority is concerned with the stimulation of safety education activities in local housing projects. These activities have developed differently in various localities.

Some project managers have incorporated home safety hints and suggestions in handbooks prepared for and distributed to new tenants as they move into their new homes. In a few cases, mimeographed bulletins have been used to supplement handbooks.

Local chapters of the American Red Cross have been very cooperative and helpful in supplying teachers and educational materials for first-aid and safety courses in a number of our projects. Social and recreational rooms provided in community buildings and in other parts of the projects have been used for class purposes. These courses have been conducted primarily for project tenants, although some have been designed for

project maintenance personnel.

Project newspapers sponsored by tenant organizations or by other tenant groups have been instrumental in spreading information on home safety. Very few of these publications, however, have emphasized this type of material.

One of the problems peculiar to low-cost housing is the presence of a large proportion of new tenants who are unfamiliar with the use of stoves, refrigerators, and other equipment provided in their new homes. Recognizing this problem, the management staffs of most projects have provided individual instruction or group instruction on the safe use of equipment. This instruction is usually provided when the family moves in or soon after.

Aware of the need for a well-planned program of safety education, the United States Housing Authority has been working with the New York University Center for Safety Education on the development of safety education materials and a course outline which will be made available to local housing authorities some time in the future. The major portion of this material will be concerned with home safety.

National Congress of Parents and Teachers

By MARIAN TELFORD

National Chairman, Committee on Safety; Director, Traffic Safety Education Project, National Congress of Parents and Teachers; Director, Education Division, National Safety Council

The National Safety Committee of the National Congress of Parents and Teachers was organized approximately twenty-eight years ago. Since its inception the Committee has assembled information on the home accident problem. It has distributed home safety tests, home inspection blanks, and other materials. As early as 1928 it devoted one part of a three-part survey to home accidents. School and community hazards were also surveyed at the same time.

Two phases of the present program will be discussed in this brief report.

Earlier this fall the National Board of Managers of the National Congress voted to include the subject "Housing" on the National Study Program. Perhaps there are

some people who think of housing in terms of the Federal Housing Authority. We propose to make a study of the general subject. The work of the particular governmental agency in this field will be incidental.

We conducted last year a family accident survey. Five thousand families containing at least one individual holding a membership in a local Parent-Teacher Association participated in a three-month study of home accidents. The purpose of the study was to determine how the accident problem, widely recognized as a tremendous social problem, actually affects the families of representative Parent-Teacher members. Every state in the union participated in this study.

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concentrate their safety efforts on specific problems known to be the problems of the families represented by memberships in local parent-teacher associations.

For example, the survey showed that among parent-teacher families home accidents alone exceed in number automobile, bicycle, public and occupational accidents combined. Falls and burns were the most common type of home accidents reported.

Public accidents—accidents occurring in public places but not involving automobiles—ranked second in importance on the basis of frequency. School and city playgrounds, roads and highways, public parks, yes, even church basements were the locations of these accidents!

Automobile accidents were reported only about one-third as frequently as public accidents, about one-sixth as often as injuries occurring at home. However, accidents resulting from the careless use of automobiles were far more serious than those of any other type. The only fatalities reported during the three-month period resulted from automobile accidents.

Almost as many families were affected by injuries occurring to individuals at work as were involved in automobile accidents. The relative importance of the occupational accident problem came as a surprise to state and national parent-teacher leaders. The long established safety program of the National Congress of Parents and Teachers has rarely, if ever, included any reference to techniques of occupational accident prevention. This apparent gap in the program is now under consideration.

Reports received during the survey have been reviewed from many angles. Following tabulation by major classification of accident types—home, public (not motor vehicle),

motor vehicle and occupational—reports were scrutinized for additional information of value in the development of a safety program. When did the accident occur? Who was injured? These and other questions were asked.

About 75 per cent of the accidents reported occurred between noon and 8 o'clock in the evening. Bicycle accidents were concentrated in an even shorter period, two-thirds of these having happened between 3 o'clock in the afternoon and 7:30 in the evening. Saturday and Sunday were free from occupational accidents, but with this single exception accidents were reported with about the same degree of frequency throughout the entire week.

The age and sex of individuals injured throws further light on the problem. Infants, youth, middle-aged and the aged—all of these suffered in home accidents, with burns appearing to be particularly hazardous to infants and falls to the aged. Youth of approximately high school and college age were involved in the majority of public-not-motor vehicle accidents, while their younger brothers and sisters of elementary and high school age were injured while riding bicycles. Boys and men were injured far more frequently than women and girls, except in those accidents occurring at home.

Additional sources of data, such as reports of health, motor vehicle and police departments, are being utilized by parent-teacher leaders in planning future programs.

We have been interested in the widespread expression of interest in this survey. Requests for copies of the materials used have been received from seven national organizations, 31 states and groups of various kinds, and five Central and South American countries.

* * *

The home safety activities and materials of the Camp Fire Girls were described by Mrs. W. T. Grable, Executive Secretary, Chicago Council, Camp Fire Girls, Inc.

A similar presentation in regard to the activities and materials of the Girl Scouts was made by Rosabel Burch, Program Division, Girl Scouts, Inc., New York City.

Demonstration Meeting, Home Safety Committee, Minnesota Safety Council

Presiding, A. V. ROHWEDER, Superintendent of Safety and Welfare, Duluth, Missabe and Iron Range Railway Co., Duluth, Minn.; Vice-President for Home Safety, National Safety Council.

Home Safety Panel

The home safety panel was presented by members of the Home Safety Section of the Minnesota Safety Council. Panel participants were:

Mrs. H. W. Brodt, Home and Community Chairman, Minn. Farm Bureau Federation, Fairmont; William H. Brown, Director of Safety, Northern States Power Co., Minneapolis; R. A. Jakoubek, Field Representative, American Red Cross, St. Louis, Mo.; C. H. Zealand, Executive Secretary, Minnesota Safety Council, St. Paul; Dr. R. M. Burns, Chairman, Radio Committee, Minnesota State Medical Assn., St. Paul; Mrs. Ada LaPachek, Chairman, Worthington Safety Council, Worthington; Frank C. Berry, Executive Manager, Hennepin County Safety Council, Minneapolis; Theodore F. Wold, Director, Hotel & Restaurant Insp. Div., Minnesota Department of Health, St. Paul; Ralph A. Rohweder, Assistant Secretary, Minnesota Safety Council, St. Paul (Panel leader).

* * *

MR. RALPH ROHWEDER: A most logical starting place for this exposition of the Minnesota Home Safety Program is an explanation of the principles that guide our activities.

MR. ZEALAND: The basic procedure in the prevention of home accidents is the same as for other safety work in that we attempt to guide activities by the lessons of accident experience. First, we systematically record the individual facts about single accidents. We summarize these facts and discover that hundreds and thousands of accidents are the product of relatively few dangerous acts, a few improper designs. We then effect changes in techniques, policies and designs by every means at hand, through every interested agency.

MR. WOLD: There are two parts to the accident investigation job being done by the Minnesota Department of Health.

The first is a follow up inquiry into fatal accidents. Our Bureau of Vital Statistics queries the attending physician or informant listed on the death certificate of every home or farm accident victim. For brevity, special forms, identified by color, are used for each type of accident.

The second part of our accident investigation work is comprised of sampling

studies of non-fatal injuries. We have started this type of investigation in Olmsted County, the location of the famed Mayo Clinic. There, every accidental injury treated by a physician is reported to the district health officer. The health officer sends a detailed accident report form to the victim to learn causal facts. During the first two months of operation 227 home and farm accidents were reported in this county of only 35,500 population. If the experience in Olmsted County is typical, there are 72,000 home and farm accident victims treated every year by Minnesota physicians.

MR. ROHWEDER: And at that rate there would be 4,464,000 home and farm accident victims treated by physicians every year in the United States. The facts uncovered in accident studies take many forms. One of the most obvious uses is a list of hazards for use in "self-inspection" campaigns.

MRS. BRODT: Until recently, nearly every organization working for safer homes in Minnesota had its own home hazards check list. Inevitably some homes were checked again and again while others were completely missed. The forms varied as to points covered. Few made definite suggestions for the elimination of listed hazards. So we combined and refined the best points of the various forms, added new ones, and produced a new home inspection form for housewives. It is available to every organization in Minnesota.

MR. ROHWEDER: I have noticed that a number of the questions in any check list concern gas and electric appliances and their fittings. It seems to me that a direct approach is through the manufacturers and suppliers of these materials.

MR. BROWN: Gas and electricity are really safe servants because the suppliers of these forms of energy take elaborate precautions in their distribution. The voltage of your house circuit, for instance, represents a balance between safety on one hand and transmission efficiency on the other. For another example, odorless natural gas is highly perfumed to inform customers of leaks. Minor service work is afforded free by the utility companies. For instance, ranges will be properly adjusted to prevent the freeing of carbon monoxide.

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Minnesota several companies are supplying educational safety material to schools, scout troops and other organizations. Meter readers offer occasional safety suggestions.

DR. BURNS: Additional cooperation must come from builders. Perfectly safe heating plants are possible. At least a part of the auto garage hazard can be eliminated in design. And these are not the only accident possibilities that can be eliminated by an engineering approach. The United States Housing Authority and the American Public Health Association have publications containing standards of safe design for builders. The Safety Council is attempting to supply educational material of this sort to every architect, contractor, building tradesman, building supply man, realtor and home buyer. A brief list of safety pointers for builders and buyers is in preparation.

MR. BROWN: The enforcement of safety standards for housing units and furnishings is accomplished in three ways. The first is governmental regulation. The most important things to remember about coded regulations are that they must be liberal to encourage building; their specifications must be flexible to allow for technical progress; and adequate provision must be made for administration. The last point can be strengthened by a question. How many of you even know what agency or agencies administer housing regulations in your community?

A second variety of regulation is imposed by financing agencies that refuse a loan upon any structure not meeting their specifications. Home loan executives in Minneapolis inform me that safety and utility are parallel considerations in their inspection program.

The third type of enforcement is the type administered by testing and approving agencies which owe most of their power to public respect. One such agency is the Underwriters' Laboratories.

MR. WOLD: The Hotel and Restaurant Inspection Division of the Minnesota Department of Health has authority to require certain types of fire escape installations on hotels, lodging houses, and resorts. In some cases it is necessary that our Division obtain the cooperation of the State Fire Marshal's office in enforcing compliance with proper fire escape regulations, such as in combination hotel and apartment houses,

where part of the building is subject to our regulations and the balance under other law enforcement agencies. The State Industrial Commission can inspect hotels and apartment houses for the safety of employees. Nevertheless, for all this authority, the only city in Minnesota in which every dwelling is regularly inspected is St. Paul—and St. Paul, which is one of the oldest cities, having many apartment houses, hotels, and multiple dwellings, by its nature highly susceptible to fires, has the seventh best safety record in the country.

MR. BERRY: Even without official home inspection, Minneapolis won an award in the U. S. Chamber of Commerce Fire Waste Contest last year, and we are now working for home inspection. Many of our home safety activities are conducted by volunteer groups. The Minneapolis Boy Scouts distribute safety literature and maintain hydrants free of snow. The Girl Scouts conduct a home hazard removal project. The Campfire Girls learn how to live safely as part of "living efficiently." A playground organization, "The Knights of Safety," provides safety training primarily through an advancement program.

MRS. BRODT: Minnesota clubs incorporate both safety projects and safety activities in their program. Altogether, 35,250 club members representing every county in the state took safety last year. That is, three-fourths of the total 4-H membership. Typical of their activities were the 45 safety demonstrations at last year's state fair and the more than 200 safety demonstrations at county fairs.

MR. JAKOUBEK: The Campfire Girls during the past year have nationally celebrated and worked out their birthday project entitled "Skillful Living." The Minnesota girls selected two activities: "Safety Through Home Handicraft Projects" and "Safety Through Knowledge of Contributing Municipal Agencies." Under the first heading the girls studied and rectified hazardous conditions around their homes by a direct contribution of such things as safe knife holders, hot pads, securing rugs and many other handicraft projects too numerous to mention. They also studied, under the direction of experts from public service agencies, the proper care and use of electrical appliances, gas equipment and water facilities. Knowledge of fuse boxes, gas shut-offs and similar points were discussed

and proper usage demonstrated and practiced. The girls also arranged for exhibits, talks and demonstrations to adult groups.

In the second classification of effort toward "Skillful Living," the girls surveyed, under guidance and in groups, various public service agencies to learn first hand about the manufacture and use of the products of these agencies.

Boy Scouts developed their contribution toward the safety of Minnesota primarily through the merit badge program. Nearly 5,000 awards of this nature were issued in the past year on topics covering or closely allied to safety.

Added to this effort were numerous public service activities. The sale of 30,000 "GO-FOR-SAFETY" emblems to the citizens of Minnesota to awaken and create interest in safety was one. Distribution of Red Cross Home and Farm Accident Prevention posters and Fire Prevention Week posters was another. A home check list for individual home inventory of hazards and a check of hazards at troop meeting places developed much interest among the boys. Parades and demonstrations carried the boys' efforts to the attention of adults, and many fathers received valuable information from their sons when the boys conducted a firearms safety program for luncheon and social groups composed of men.

The Girl Scouts work on projects related to their homes and environments and create exhibits and displays.

MRS. LaPACHEK: The Family Accident Survey of the National Congress of Parents and Teachers was a home safety activity. P. T. A. meetings everywhere in Minnesota are often devoted to safety. Lately the demand has been particularly for home safety speakers, home safety movies and home safety literature.

The Federated Women's Clubs are promoting home safety. In Redwood Falls every club devotes 15 minutes of every meeting to home safety. In Duluth, a club conducts a home safety snapshot contest. The Federation's State Fair booth was partly devoted to home safety. The Federation's convention program includes home safety.

The American Legion Auxiliary devoted a convention session to home safety.

The Minnesota Home Economics Association devoted convention time to home safety.

Two safety sessions are in the Minnesota Education Association's convention calendar.

The Public Health Nurses' Conference at the University last spring took place amid home safety posters, literature and exhibits.

MR. JAKOUBEK: The 89 Minnesota Red Cross Chapters during the past year have pushed forward in home safety through a number of channels. Forty-eight chapters have organized to bring to the public, through the Red Cross Home and Farm Accident Prevention Program, home check lists, group discussions, teachers' manuals, posters, plays, radio and news publicity as well as direct contact on localized and special hazards.

Through First Aid, 75 per cent of which has direct bearing on accident prevention, Minnesota's Red Cross Chapters instructed 10,740 persons in 1939-1940.

DR. BURNS: In the schools a committee of home economics teachers has met and discussed means of injecting principles of safety into home economics courses. They decided that three operations were necessary. (1) Revision of present curriculum outlines; (2) Supplying pertinent material; and (3) Convincing and training teachers.

With the University of Minnesota, Minnesota Department of Education and the Minnesota Education Association doing the theorizing and the St. Paul schools the experimenting a revised home economics curriculum will be devised.

MRS. BRODT: The women's division of the Minnesota Farm Bureau has adopted a safety program. Incidental to this every home and community chairman has received safety material including a copy of "Safety for Minnesota Homes" which is essentially a program outline. The result, briefly, is this: 33,565 farm women, representing that number of farm families, are engaged in safety work.

MR. ZEALAND: The Minnesota Intercommunity Home Safety Contest serves two purposes. It arouses civic concern for the home accident problem and it serves to develop standards of community activity for the prevention of these mishaps.

The contest is a matching of home accident records by population rates and community home accident prevention efforts. Towns and cities compete in 4 groups according to population.

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