considerably above our own. I would like to comment on a publication of one of our affiliates that came to my attention recently, in which this affiliate is already changing its by-laws in anticipation of a dues increase by International, and they very clearly point out that—while they have no knowledge of a dues increase—they feel certain that continued service by International cannot be maintained on existing dues. I leave it to your good judgment to evaluate your position on a dues increase for your Association.

I would like to comment briefly on membership participation in our Association affairs. The opportunities are not always dramatic and important, but there are many ways in which a member can serve notice he is interested. Our first attempt at a mail ballot to elect officers for the Association returned considerably more votes than are usually cast at any annual meeting. In fact a total of 442 people cast ballots, but this still only represents about 10 percent of our total membership, and to me indicates a great lack of interest in how the organization is run. The Chairman of the Nominating Committee indicated to me he did not receive a single suggestion for nominations from any member, despite the fact a request was published in the Journal.

We have a continual struggle—despite urgent appeals—to come up with a reasonable number of nominations for the Sanitarians Award, and I know we have many sanitarians who are both worthy of this award and can use the $1,000. You can all strengthen this award by making it a real competition each year and helping in selecting and presenting nominees.

It is interesting to note that the numbers attending our annual meeting each year stay about the same, and I am sure a high percentage are those who attend year after year, but it still represents less than 10 percent of our membership. I would certainly consider attendance at an annual meeting an important aid in maintaining and developing skills, as well as participating in the affairs of the Association. I would hope that each of you here could be a missionary when you return home, and convince the people who control the purse strings—your wives or otherwise—that attendance at meetings such as this is essential among your efforts to be adequately informed.

I hope I have given you some reason to be proud of your Association and profession, some reason to be disappointed, and many reasons to strive to improve it.

PREVENTION OF ACCIDENTAL INJURIES—A PUBLIC HEALTH ACTIVITY

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Prior to consideration of the extent and possible methods of control of accidental injuries by public health programs, the fundamental relationship between this problem and public health should be reviewed. This seems especially appropriate in view of the apparent reluctance of public health agencies and personnel to include accident prevention within the realm of their routine responsibilities.

Professor C. E. Winslow provided assistance in delineating those items to be included in the public health field with his definition which states that: “Public Health is the science and the art of preventing disease, prolonging life, and promoting physical health and efficiency through organized community efforts.” There may be some justification for not accepting accidental injuries as being a preventable “disease” having the traditional association with biological agents which have been experienced in the past; however, the data and information now available in regard to accidental injuries should leave little doubt as to their capacity for shortening life and destroying the health and efficiency of large numbers of people.

Aside from the academic relationships, there are also legal factors to be considered in regard to programs which can be carried out by official health agencies. Health departments are part of the executive branch of government and have been primarily concerned with carrying out those functions delegated by the legislative branch. In carrying out such responsibilities, it has been necessary in certain instances to refer to decisions of the judicial branch to establish if adequate legislative authority has actually been delegated.

Specific legislative responsibility for prevention of accidental injuries has not been delegated to the

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State Department of Health in South Dakota. General authority to provide for such a program is indicated within Chapter 27.0104 of the 1960 Supplement to the South Dakota Code which states: "Advisory Council: Powers. The Public Health Advisory Council shall have the power: . . . (3) To make, alter, and enforce all rules and regulations and to take such action or cause to be made such investigations as may be required in the interest of public health. A general idea of what the judicial branch may consider to be the intent of the Legislature as being in the "interest of public health" was contained in a recent Attorney General's Opinion (Citation from Kansas court case contained in Air Pollution opinion.) which indicated that public health properly includes hazards to the health of the "community at large".

In summary, with some modification in traditional orientation of public health personnel to include other than biological hazards, accident prevention could be acceptable within the definition of public health. In addition, even though from the standpoint of authority and appropriations it may be preferable to have a specific legislative directive for an accident prevention program, sufficient legislative basis quite probably exists at present for accident prevention activities provided that adequate hazard to the health of the general public can be demonstrated.

**EXTENT OF THE ACCIDENTAL INJURY HAZARD**

One of the primary sources of information which can be utilized to gauge the need for preventive health programs are data regarding cause of death. Such data are contained within annual reports of the Division of Public Health Statistics of the State Department of Health. National cause of death data are also available from the National Office of Vital Statistics.

Using data available from the National Office of Vital Statistics, it has been reported that accidents were the leading cause of death in the United States in 1962 for ages 1 to 36. Cause of death reports also reveal that, during this same year in the United States, accidents were the fourth leading cause of death for all ages killing 97,451 people. Motor vehicle accidents were responsible for 40,504 of these accidental death. In other words, in 1962 accidental injuries killed a population in the United States which was greater than the combined 1960 populations of Sioux Falls and Aberdeen.

Review of cause of death data for South Dakota as published in the 1963 report of the Division of Public Health Statistics reveals the same relative position for accidental deaths in South Dakota. Accidents were the leading cause of death between ages 1 through 34 and also were fourth in the leading cause of death for all age groups. In the age group 15 through 34, accidents killed more people than all of the other causes of death combined. In this instance, accidents killed more people in South Dakota in 1963 (505) than the 1960 census population of Emery. Motor vehicle traffic accidents were responsible for 214 of these deaths.

How does South Dakota compare with other states in regard to the accidental injury hazard? The National Safety Council has used 1962 accidental death data from all states in calculating death rates which can be used for comparisons. The national accidental death rate for the United States in 1962 was 52.2 deaths per 100,000 population. In this same year, South Dakota had an accidental death rate of 71.6 per 100,000 which was greater than four of the six bordering states (Minnesota - 47.5, Iowa - 57.1, Nebraska - 63.7, North Dakota - 57.0, Wyoming - 78.9, Montana - 84.9).

It is recognized that if complete reporting were also available for morbidity from accidental injuries, further need for prevention could be demonstrated; however, the data regarding the relative ability of accidents to kill people describes a health hazard which does not appear to be in context with present public health control efforts. This is unfortunate in that public health personnel are among the few having the methodology, experience, and opportunity to reduce the accidental injury problem.

**PUBLIC HEALTH CONTROL PROGRAMS**

The history of public health contains several success stories involving the reduction of diseases of large populations. As indicated previously, these have been primarily associated with biological hazards. It is becoming increasingly evident that if public health workers wish to continue to contribute to the control of the leading hazards to health, they must broaden their activities to include the physical and chemical hazards.

Certain individuals concerned over this need for change have proposed that the inclusion of physical and chemical health hazards need not require an entirely new public health approach. In fact, it has been suggested that the same general methods for evaluating and controlling biological agents could also be used for physical and chemical agents.

The epidemiological approach for the control of biological hazards has been described as involving the following steps: (1) collection and analysis of data, (2) examination of apparent relationships for factors of causation, (3) establishment of a hypothesis regarding causation and testing them under controlled conditions, (4) development of control measures and testing them for effectiveness, and (5) in-
corporation of the successful control methods into programs of accidental injury control. There have been attempts to conduct certain of these steps such as the collection and analysis of accidental injury data; however, with a few recent exceptions, several of the accident prevention programs have not considered the application of the entire epidemiological approach or have failed in properly carrying out one of several of the steps necessary for success.

Public health programs usually have a portion or all of step 1 of the epidemiological method available within their present vital statistics division at least in regard to collection of cause of death data. This is not meant to indicate that a complete data collection program should be limited only to those accidental injuries which result in death. There is a need for public health agencies to accept responsibility for analysis of this data and proceed to step 2 regarding the establishment of cause for the accident.

The assignment of cause for an accident or the etiology of an accident mentioned in step 2 is very important and can be accomplished in much the same manner as was used in regard to biological hazards. This would be based upon the contention that all accidental injuries, similar to communicable diseases, result from factors associated with the host (child, farmer, salesman, etc.), agent (typhoid organism, corn picker, automobile, etc.) and environment (school, farm, highway, etc.).

For example, in an oversimplified situation it could be said that cases of typhoid fever resulted when susceptible children (host) ingested live Salmonella typhosa organisms (agent) from a contaminated school well (environment). Similarly, many South Dakota farmers (host) are seriously injured or killed by corn picker (agent) accidents in our farm fields (environment).

The primary purpose in assignment of causation factors is to determine which or how many of these factors may be subject to control as indicated in steps 3 through 5 of the epidemiological method. In the case of typhoid fever in school children, there may be some success in educating children not to drink from private wells in schools; however, it is doubtful that this would be as effective as efforts directed toward provision of a safe water supply of immunization. In certain instances, controls may be possible and necessary for all three factors of causation.

As for the corn picking accidents of farmers, it is quite obvious that education of the host about the hazard has not been entirely satisfactory. Further study of this problem would possibly reveal a critical need for radical design changes in the corn picker or agent which would enable a farmer to pick his corn safely under the variety of environmental conditions which he encounters.

Who would be responsible for determination of the need and the promotion for such changes in design? Certainly the equipment companies and farmers have an interest; however, it could not be expected that they have the source of data regarding the need or knowledge as to proper handling of health hazard data which should now be present in agencies equipped to deal with health problems of large groups of people. In any event, it would appear that little change can be expected in this particular agent until such a time as a more convincing need can be presented to justify the cost and problems involved.

**WHAT CAN BE DONE NOW**

Tabulation of the number of people killed by accidental injuries leaves little doubt that health of the “community at large” is in jeopardy from this problem. Attempts are being made within some public health programs as well as other groups to prevent accidental injuries; however, the contributions which could be made through application of the epidemiological method have not been generally appreciated.

Until such a time as a more inclusive accidental injury program can be formulated, individual public health workers should continue to assist in accident prevention by recognizing this program as a valid portion of their particular specialty. An example of this is the inclusion of requirements for fencing and depth markers for swimming pools. This type of operation lacks some of the statistical guidance and effectiveness of a complete accident prevention program and may neglect some of the serious accidental injury areas; however, it should help reduce several hazards and tend to orient public health people toward increased participation in this field.