

## General Articles

# What Can a County Medical Association Do About Air Pollution?

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**C**ONTROL of air pollution in a community can be profoundly effected by an enlightened county medical association.

### Organization

An association should have an adequately organized committee with a well-informed membership. Its scope should not be limited to the morbid effects of air pollution on the human population, but should include all aspects of the problem, whether engineering, social, economic, or political.

Since county medical societies vary greatly in their organization, an air pollution committee has to conform to the basic corporate structure of the parent society. In the Los Angeles County Medical Association, the Air Pollution Committee is a subcommittee of the Public Health Committee. Unless emergency action is necessary, its final actions are channeled through the main committee, the chairman of which is an ex officio member of the Air Pollution Committee, as are the president, vice president, president-elect, legal adviser, executive director, editor of the *Bulletin*, and an assigned staff member. The committee has its own chairman and secretary. Regular monthly meetings are held. The committee members represent various sections of the society. At present there are six members,

six associates, six ex officio members, and a consultant. Any other member or consultant may be requested to report or act on a subcommittee.

### Medical Climate

The committee must ascertain the attitude of the medical practitioners of the area toward the problem. Once this has been established, it is necessary to determine the areas in which air pollution is affecting physicians and their patients.

The committee itself has a well-informed nucleus, but it was necessary to determine the attitude of the medical community. This has been accomplished by two methods, (1) questionnaires to the membership, and (2) communications between the committee members and other divisions of the society.

The first of three questionnaires was submitted to the medical community in August 1950<sup>1</sup>. Over 60% (2,803) responded—the highest response to a questionnaire in the history of the association. There was no question that the doctors overwhelmingly condemned Los Angeles smog. Only 138 physicians did not condemn smog, 114 of whom were either retired or lived outside the smog area. In tabulating results, nearly every system of the body was mentioned by one or more doctors, eye irritation by 2,561, and the respiratory tract by more than 2,000. Other questionnaires were sent to the membership in December 1957<sup>2</sup> and January 1961.<sup>3</sup>

The medical community is convinced that air pollution—as it exists in Los Angeles County—is not only a nuisance, but a men-

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ace to the health and welfare of the citizens of the area. Allergists, dermatologists, cardiologists, psychiatrists, pulmonary physiologists, surgeons, and other specialists, as well as the rank and file of physicians, have all recorded their emphatic condemnation of air pollution.

### Education

A committee is not in a position to carry out research. It must call upon students of toxicology, physiology, and pharmacology, as well as medical men who have studied the situation. The committee receives reports from local, state, and federal agencies working in the field of air pollution. Members of the committee or liaison consultants or both report upon regional and national meetings dealing with the problem. The known toxic effects of the predominant local air pollutants should be known to each member of the committee. Knowledge of the sources of air pollutants is of utmost importance. It is essential that members of the committee be aware of the relative amounts of each major contaminant and its relationship to the total air pollution picture of the area.

The committee arranges for discussions and receives reports on research and other phases of air pollution problems from the following sources: (1) the Public Health Service, (2) the California Public Health Department, (3) the Air Pollution Control District, (4) state agencies dealing with motor vehicle pollution control, (5) consultants representing industries (power, production, petroleum refineries), (6) legal experts presenting all aspects of legislative hearings and matters of legislation, and (7) Federal Power Commission discussions of resources of fuel and power demand.

These reports are digested and opinions formulated for presentation to the council of the association for official action. Reports of the actions of the Air Pollution Committee are given to the parent committee or the Council or both. Reports to the membership at large are by reports to components of the association, or by reports published in the official *Bulletin*.

The committee should know the nature of pollutants, how they are formed, what can be done to eliminate or decrease them, and,

where appropriate, make recommendations to the council for official action of the association. It must support legislative activities directed toward lessening the problem. City planning rather than a direct approach on a given source of pollution may need support.

The committee is frequently called upon to investigate on-the-scene technical problems, such as pollution problems of power production, steel manufacture, transportation, oil refining, the the newer power-generating facilities (atomic energy).

### Legislation

The committee should be cognizant of air pollution legislation that has been passed and applied in the community. It is equally essential for them to be aware of pending legislation that deals with the problem.

Although the field of legislation is one of information and education for the committee, nonetheless, members must be especially alert to pending legislation and hearings to take the emergency action often required, both by its members, and by the governing body of the association.

Past legislation should be reviewed and the temper of the legislature regarding bills should be understood at all times, especially as to possible pending amendment or repeal.

The committee must also know the legislation and authority under which the various agencies operate when dealing with air sanitation.

### Action

The members must be alert to situations arising in the community, and must be in a position to recommend to the official body of the association actions necessary to support the association's position in the air pollution picture. Some major activities in the field of air pollution by the Air Pollution Committee of the Los Angeles County Medical Association, are pointed out to illustrate the above points.

With the support of three questionnaires, compiled by the Committee, the course of the association was obvious. Community actions that mitigated the menace have been supported despite lack of exact knowledge of the mechanisms and proof of all the ill

effects of air pollution. The mandate for action has been strong, and the Association has acted upon that mandate. It is equally mandatory that the committee keep informed on the progress of clinical and biological experimentation dealing with the subject in order to intelligently support the position of the society.

Members of the committee have been called upon to represent the association by public appearance, radio, and television, and to present the association's point of view before legislators and government bodies.

### History

The activities of the Association in air pollution long antedate the present committee. The association-supported ordinances, such as the Anti-Spitting Ordinance<sup>4</sup> and Anti-Soot Ordinance, to mention but two, date back nearly 50 years. They also exerted a powerful influence in the inception of the Stewart Bill,<sup>5</sup> which enabled the formation of an Air Pollution Control District in the state of California.

After a preliminary hearing in December 1949, following a severe 21-day inversion, and a Smog Committee trained in toxicology, pathology, pharmacology, and internal medicine was appointed representing the medical schools.

The committee held its inaugural meeting on January 23, 1950. The first action of the committee was an attempt to determine the nature of the biological studies of air pollution in the Los Angeles area, what had been proposed, and estimates of costs. The committee presented the possibility of developing an air pollution control and research center. Unfortunately, this did not receive the necessary public support.

However, in 1959 armed with the results of the first survey, we succeeded in obtaining from the County Board of Supervisors the appointment of a Commission for the Study of Environmental Contaminants, consisting of the deans of three medical schools, the president of the California Institute of Technology, Cedars of Lebanon Research Institute, the California State Health Officer, a representative of an osteopathic college, and two members of the Los Angeles County Medical Association. Although the commis-

sion proved to be a dead-end approach, it eventually resulted in the formation of the Scientific Advisory Committee to the Air Pollution Control District.

Prior to this, from the Committee and its consultants, a group was set up that proposed the first standards for air sanitation, known as Rule 156.<sup>6</sup> The known standards of industry were thoroughly studied, educated guesses were made, and, eventually, the three stage alerts were evolved and established.

Rule 156  
Alert Stages for Toxic Air Pollutants  
(PPM of Air)

	1st Alert	2nd Alert	3rd Alert
Carbon monoxide*	100	200	300
Nitrogen oxides*	3	5	10
Sulfur oxides*	3	5	10
Ozone*	0.5	1.0	1.5

\*How measured: The concentration of air contaminants shall be measured in accordance with the procedures and recommendations established by the Scientific Committee.

In the 1st alert, there is a close approach to the maximum allowable concentration for the population at large. It is still safe but approaching a point where preventive action is required. In the 2nd alert, there is an air contamination level at which a health menace exists in a preliminary stage. In the 3rd alert, there is an air contamination level at which a dangerous health menace exists.

Subsequent California legislation defined limits of air sanitation under the title of "Standards for the Quality of Ambient Air," which was adopted by the state Board of Public Health on Dec 4, 1959.

The association had presented its point of view before the Senate and the House of Representative hearings. We continued to urge further study of the toxicology of air pollution, and on Oct 18, 1954, the association declared its stand before the senate committee.

The committee met with the County Board of Supervisors on Dec 8, 1954, to again request provisions for the study of the biologic effect of air pollution, and on Jan 3, 1955, the Council of the Los Angeles County Medical Association declared its position by passing the following nine resolutions:

1. Air pollution can cause death.  
 2. Air pollution is a continuing dynamic problem in the Los Angeles area.

3. The Los Angeles County Medical Association proposes that biological as well as chemical indices must be determined for the safety of human beings.

4. The Los Angeles County Medical Association approves in principle the establishment of chemical standards of air pollution as proposed and begun by the County Board of Supervisors.

5. The Los Angeles County Medical Association feels that present chemical standards do not alone safeguard the health of the public.

6. The tolerance levels of toxicity for human beings of each important contaminant in the atmosphere must be determined both for acute and chronic exposure, both singly and in combination.

7. The deans of three medical schools in the area and the California Institute of Technology were requested to prepare a report for the Los Angeles County Medical Association, indicating what program each school would propose to determine standards of toxicity of air pollutants, both acute and chronic, and to prepare an estimate of the costs of such a program.

8. The council of the Los Angeles County Medical Association requested each section of the association to send its chairman (or representative) to meet with the Smog Committee to make plans for a survey of the membership of the section as to the effects of air pollution on human beings.

9. The council of the Los Angeles County Medical Association requested the County Board of Supervisors to obtain the cooperation of private, city, state, and federal agencies in financing the necessary facilities and salaries for biological research, to determine critical standards of air pollution toxicity, utilizing the facilities of all local institutions capable of carrying on such research.

Over the years, the Air Pollution Committee of the Los Angeles County Medical Association has been active in preserving the interests of patients in the continuing dynamic problem of air pollution. Although fights in the public interest have been lost (such as the tearing up of the electric rail lines, and prohibition of building large fuel-

burning units in the Los Angeles Basin), we have successfully supported the requirement of blow-by devices on all new automobiles sold in California after 1961. There were many repercussions from this action. The real trouble was not the device, but the fact that mechanics did not understand it, nor did they or the public realize that it had to be kept clean! We have also supported legislation for installation of the device on all second-hand cars sold.

We have appeared at public hearings supporting the District in Rule 62<sup>7</sup> enacted in 1958, which states,

A person shall not burn within the Los Angeles Basin at any time between May 1 and Sept 30, both dates included, during the calendar year 1959, and each year thereafter between May 1 and Oct 31, both included, of the same calendar year, any gaseous fuel containing sulfur compounds in excess of 50 grains per 100 cu ft of gaseous fuel, calculated as hydrogen sulfide at standard conditions, or any liquid fuel or solid fuel having a sulfur content in excess of 0.5% by weight.

At that hearing, we released the information obtained from the third questionnaire, namely, that physicians had recommended to over 10,000 patients that they leave the Basin because of the smog. A day's carefully planned opposition was defeated by less than 15 minutes of medical testimony.

We entered briefs before the Federal Power Commission in favor of obtaining more natural gas for the Los Angeles Basin to apply Rule 62<sup>8</sup> 365 days of the year. Recently, we testified in behalf of the district when Rule 62 and Subsection,<sup>9</sup> which states that, "Provisions of this rule do not apply to the burning of sulfur, hydrogen, sulfuric acids, sludge, or other sulfur compounds," was challenged by the courts.

#### Conclusions

These are but a few activities of our association in bringing about legislation in the interests of the health of patients. Other medical societies could well contribute in a similar manner.

Perhaps it will become necessary to adopt the electric automobile to rid the atmosphere of hydrocarbon, carbon monoxide, and nitrogen oxides. Despite its many drawbacks, mass transportation may become essential.

It has been the experience of the Los Angeles County Medical Association Air Pollution Committee that dealing with a dynamic phase of environmental health, which

changes with the advancing technology of our age and with meteorological conditions, its services can be one of the most exciting and rewarding activities of a medical society.

#### References

1. Los Angeles County Medical Association: *Smog Questionnaire*, Committee on Air Pollution, 1950.
2. Los Angeles County Air Pollution Control District, Research Division: *Summarization of Responses to Smog Questionnaires Sent to Members of the Los Angeles County Medical Association*, February, 1957.
3. Los Angeles County Medical Association and Tuberculosis and Health Association of Los Angeles County: *Physicians' Environmental Health Survey: A Poll of Medical Opinion*, Los Angeles, 1961.
4. California Penal Code, Section 372a (Enacted in 1907), *Spitting in Public Places*.
5. California Health and Safety Code, Section 24198, et sequentes (Stewart Bill).
6. Los Angeles County Air Pollution Control District: Rule 157 (Adopted June 20, 1955).
7. Los Angeles County Air Pollution Control District, Rule 62, *Sulfur Contents of Fuels*, (adopted 1958 and amended March 16, 1961).
8. Los Angeles County Air Pollution Control District, Rule 62.1 (adopted Jan 14, 1964).
9. Los Angeles County Air Pollution Control District, Rule 62, Subsection a.

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#### FOOD PRODUCTION

. . . we are sorry to have to state that world food production failed to rise in the 1965-66 period, though the population of the world increased by at least 70,000,000 persons. The FAO's annual report, recently released in Rome, but unfortunately given little or no press, tells us that because of widespread drought last year's output was no larger than the 1964-65 world food production, with the result that the amount of food available per capita dropped at least 2 per cent. As the report puts it, these poor harvests came not in the midst of plenty but after several years of a neck-and-neck race between food and population.

Although harvest forecasts for 1966-67 are good for both Soviet Russia and North America, reports from Hong Kong experts say that the grain crop in China may be the lowest in five years . . . Per capita food production this past year dropped as much as 5 per cent in the developing regions of Africa, Latin America, and the Far East. At the same time the world population, particularly in these underdeveloped regions, continued to mushroom and made even more critical the discrepancy between what the world produces and what its people consume . . . What the FAO is trying to say to the so-called civilized and progressive nations of the Western world is simply this: You cannot talk politics with a hungry man. Bertrand Russell said it with wonderful precision just a few years ago: "If one man offers you democracy and another offers you a bag of grain, at what stage of starvation will you prefer the grain to the vote?" Plainly, we in the West are deluding ourselves if we see our way of life as eventually victorious but ignore the fundamental fact of world hunger, a grimmer fact in the past year than in the years before, in spite of enormous postwar prosperity in both North America and Western Europe.—Tobin, R.L.: Hunger is Still the Enemy, *Saturday Rev* Nov 19, 1966, p 32.