

Mr. Borcia

INTERNATIONAL LEAD ZINC RESEARCH ORGANIZATION, INC.

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Vice President
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March 22, 1967

To: All Members of the Lead Environmental Health Committee

Re: LE-115 Surveillance of Population Lead Levels

Attached for your information is a copy of the revised meeting minutes as prepared by Dr. Horton of FHS. This is the same meeting whose minutes were sent out to you previously in our communication dated January 26, 1967. Dr. Horton has in the meantime received comments, which he solicited, and has redrafted the meeting minutes.

Please review the present statement as expressed in the minutes and let me have your opinions, comments, and suggestions for use at the next meeting of this group, which is scheduled for the latter part of April.

I also enclose for your information copies of comments received from Dr. Eckardt and Dr. Landau, together with a copy of Dr. Horton's letter of transmittal to me. This then will bring you up-to-date with all of the discussions that have been held thus far.

Very truly yours,



Don G. Fowler
Project Manager

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enclosures

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NATIONAL CENTER FOR
AIR POLLUTION CONTROL

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

PUBLIC HEALTH SERVICE

5008 Federal Office Building
Cincinnati, Ohio 45202

March 15, 1967

REPLY TO:

Mr. Don G. Fowler
Lead Industries, Assoc., Inc.
292 Madison Avenue
New York, New York 10017

Dear Mr. Fowler:

Thank you for your comments on my previous effort at generating minutes of our first meeting. I have considered these, and have produced revised minutes which are enclosed. I trust these are an improvement.

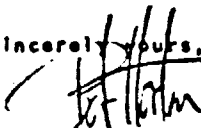
Most of the comments were sent to all the members by their authors. However, two, those of Drs. Lendau and Eckardt were not. Copies of these are therefore enclosed where appropriate.

We should now have a second meeting for further discussion. Several agenda items are apparent in your previous letters. If you have thought of new ones in the meantime please let me know. I would prefer having our next meeting the week of April 17 or April 24 in Washington.

Could you please let me know whether or not this would be suitable for you. If so what day and times you would prefer. We will meet in or near Dr. Blomquist's office unless there is some objection.

Due to my expected absence from the country for two weeks beginning March 28, could you please reply to this letter as quickly as possible so that I can complete arrangements before my departure.

Sincerely yours,


Robert J. M. Horton, M.D.
Health Effects Research Program

Enclosures

N 3487.01

SUBCOMMITTEE ON SURVEILLANCE OF POPULATION LEAD LEVELS
OF THE LEAD LIAISON COMMITTEE

NATIONAL CENTER FOR AIR POLLUTION CONTROL

REVISED MINUTES - 14 MARCH 1967

Meeting: January 12, 1967, Room 2068, Health, Education and Welfare
South Building. 1:30-4:30 P.M.

Present: Mr. V. J. Castro
Dr. R. E. Eckardt
Mr. D. G. Fowler
Dr. R. J. M. Horton, Chairman
Dr. E. Landau (for Dr. E. Klomquist)
Dr. J. E. Ludwig

At its meeting on 17 November, 1966 the Lead Liaison Committee felt that some form of surveillance of the lead burden of the general population should be instituted. The desirability of some such procedure was also referred to at the December 1965 Lead Symposium and at the Senate Hearings the following spring. It had been hoped that this could somehow be incorporated into the health examination portion of the National Health Survey. The pattern of operation of this survey makes this impossible. Accordingly, the Committee felt that some study method similar to that employed in the Three City Study should be developed, and carried out at suitable intervals. This Subcommittee was formed to undertake the development and execution of such a study.

This first meeting of the Subcommittee was held to consider exactly what type of study would be desirable, and at what intervals. The merits of additional studies of the type conducted in 1961-1962 and reported as the Three City Study were discussed. Although it was indicated that the conclusions drawn from the Three City Study might not change greatly in a similar study conducted six years later, it was generally deemed worthwhile to consider establishing this fact due to current interest in the problem of lead in the environment.

The following conclusions were reached. They are to be discussed by each member with his colleagues and then reconsidered at a subsequent meeting.

1. The general pattern of the Three City Study of using selected population groups for biological measurements and selected urban and suburban sites for air measurements of lead seems useful.

2. The first study should be done in 1967-1968. Future intervals of restudy should be determined after analysis of these data.
3. The original three cities (Cincinnati, Los Angeles and Philadelphia) should be restudied and also Chicago, New York and Washington.
4. Six to eight aerometric sites should be used in each city. In the three cities previously done, three or four of the original sites should be retained. Especially in Los Angeles and Cincinnati more contrast in air lead levels should be sought, since the wide range of the Philadelphia samples in the last study was advantageous. It is not necessary to stay within the city limits. A wide range of air lead levels is of more interest than the political boundaries.
5. Air lead measurements could be pooled for analysis to a considerable extent so that laboratory work could be reduced. The daily samples for each station could be analyzed monthly. Study of particle size distribution of lead at each station during each season would be a desirable addition to the aerometrics. Continuous analysis of particle size over long periods would not be desirable.
6. No change in laboratory methods for air or biologic samples is advocated. Blood samples only should be obtained on people. Urine lead levels are of less value and add little or nothing to the information obtained.
7. The use of selected population groups should be continued. Fewer, more uniform groups would be advantageous. Urban police should be studied in each city as before. This will allow for comparison between the Three City Study and future studies. It is not clear to what extent police can be compared between cities. More information on the nature of their work - particularly the proportion of time on foot and in vehicles - would be desirable.
8. Other groups previously used should not be repeated. In selecting new groups emphasis should be placed on similarity from place to place and from time to time so that future studies can maintain comparability without resorting to keeping track of individual persons. Also desirable is a limitation to people who live and work in the same area. Suggested useful groups are (1) postmen from local post offices close to the aerometric stations, (2) housewives obtained through PTA or church groups, and (3) telephone operators from local exchanges. Children should not be used.

-3-

9. The number of individuals required in each group should be determined by analysis of variance applied to existing data, especially the Three City Study material.
10. There was no agreement on whether the study should be done by several groups coordinating, as before, or by one contractor. Further considerations on this point are desirable. The need for quality control of sample analysis was stressed. Experience during the Three City Study shows this to be very important in obtaining comparable results, not only in the projected study, but for comparison with the Three City Study which had good quality control.


ESSO RESEARCH AND ENGINEERING COMPANY

MEDICAL RESEARCH DIVISION

P. O. BOX 48, LINDEN, N. J. 07036

February 21, 1967

Dr. Robert J. Horton
Public Health Service
Dept. of Health, Education, and Welfare
National Center for Air Pollution Control
Washington, D. C.

Dear Dr. Horton:

So far I have received the following comments concerning the proposed study which will represent a surveillance of population lead levels:

- "1. That provisions be made for investigation and development of detailed information in the cases of individuals who have appreciably higher lead values than those found in the general population study.
- "2. That consideration be given to adding one notably industrialized city to the study, such as Detroit.
- "3. That while the concept of pooling lead measurements might facilitate studies, provisions for thorough appreciation of fluctuation ranges be assured.
- "4. That while the adequacy of blood samples alone is appreciated, thought might be given to collection of urine specimens on a small fraction of those studied unless it is felt that correlations or lack thereof have been so adequately documented that the absence of urine studies could not at all be criticized.
- "5. That school teachers and firemen might be considered as useful groups for study together with postmen.
- "6. While it is stated that the pattern of operation of the National Health Survey makes incorporation of the proposed study with it impossible, it still might be useful to ask that this Survey obtain and submit specimens for lead studies to supplement the studies proposed.
- "7. If new people or groups are selected for study, some of these should be comparable to groups in previous study as to exposure, age, etc."

As I receive additional comments from members of the Committee I shall be happy to transmit them to you. Most of the above comments I believe were already discussed at our last meeting, but I am simply sending them on to you for your information.

Sincerely yours,

R. E. Eckardt

R. E. ECKARDT, MD
Director

REE:ben

cc: Dr. J. C. Kellar

UNITED STATES GOVERNMENT

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE*Memorandum*TO : Dr. Robert J. M. Horton
Health Effects Research Program, NCAPC

DATE: February 13, 1967

FROM : Statistical Advisor, National Center for Air Pollution Control

SUBJECT: Report of the Meeting of the Subcommittee on Surveillance of Population
Lead Levels

1. This memo will supplement and comment on John Ludwig's memo of February 7 in addition to your summary of the meeting.
2. Though I probably contributed little to the discussion, I was present at the meeting. I believe Ed Blomquist was out of town at the time of the meeting and therefore could not have attended.
3. I suggest you eliminate item 2 of your summary.
4. I disagree with John that the question of using children in the proposed resurvey was not discussed. While Mr. Mackenzie's comments may be valid, I believe that community surveys of this type should be limited in about the fashion stated in item 9. I fail to understand what John has in mind when he says, "consideration of children to some degree at least" in the next to the last paragraph of page 2.
5. I similarly fail to understand the remainder of this same paragraph (next to last paragraph of page 2.)
6. While I have no immediate solution to the problem of the variability of measurement of lead in the ambient atmosphere, I wonder if the resolution of this problem is essential to the determination of the desirability of a resurvey. In my opinion, the critical measurements are those of lead levels in the blood. If these measurement errors are small enough, one might conduct a survey even in the complete absence of atmospheric lead measurements.


Emanuel Landa, Ph. D.

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