

January 21, 1954

Dr. Francis M. Pottenger, Jr.
Chairman, Smog Committee
609 North Canyon Boulevard
Monrovia, California

Dear Pottenger:

Your letter of November 11 and Doctor Kitzmiller's reply to it was on my desk when I returned from abroad in late November. I've been out of the Laboratory since on various necessary trips, and in the time at home, I've been attempting to get behind me the accumulation of unfinished business of all kinds. You will understand, therefore, I'm sure, why so long a time has elapsed before I could get to your letter.

I have only a few comments to make that would seem to me to have pertinence or validity. I have, of course, been interested in the general problem of air pollution, and in the specific problem or problems that exist in the Los Angeles area. You may be interested to know that we are working carefully and systematically on an epidemiological (and eventually, I hope a clinical) approach to the problem. In connection with this we will wish, almost certainly, to have our people who are engaged in this work, (under the direction of John Phair, Professor of Preventive Medicine, in this Department, whom you may remember) visit Los Angeles and familiarize themselves, more than we have been able to do ourselves, with all aspects of the problem. We are deeply interested, therefore, in what transpires in the entire field and we shall continue our own local and more general investigations.

The lead problem, to which you refer, has not been investigated by us, to any broad extent, in the Los Angeles area. We have a sufficient number of data, some of which Doctor Kitzmiller referred to in his letter, to indicate somewhat sketchily, that the level of lead intake and absorption in the Los Angeles area has no very remarkable features. A more comprehensive investigation would be required to prove this point or to demonstrate to the contrary. We have not investigated atmospheric lead in any part of the Los Angeles area, and while we have data, obtained more extensively in Cincinnati than elsewhere, to demonstrate the general facts concerning the occurrence of lead in the atmosphere of cities, the corresponding information could, with profit, be obtained there. From the mass of direct and indirect evidence available, I think I can predict what will be found, with respect to the order of magnitude of the findings.

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They will not be alarming in any way, I can assure you, as far as experience in other areas and judgment on indirect evidence can be regarded as acceptable. Incidentally you are incorrect in referring to the lead excretion of officers on duty in the Holland tunnel, as reported by the Public Health Service, as phenomenally large. It has not been possible, thus far, to find evidence of a significant increase in the lead absorption (and excretion) of occupational groups exposed to the exhaust of automobiles at any point. We showed that a carefully selected group of garage mechanics could be differentiated in this regard from persons in the general population without occupational exposure to lead, but not all of this exposure came out of lead in the exhaust, because of other types of exposure to lead to which they were subjected in their work. Even so, the differentiation was so slight as to be detectable only by very precise methods of study, and the evidence of the exposure was limited to a slight but statistically significant upward shift in the mean level of their urinary lead excretion, which yet remained within the normal range. The mean level of lead concentration in the blood (which is slightly less labile) was not significantly increased.

This matter of the exposure of populations to lead from the combustion of leaded gasoline requires further and more widespread investigation in terms of future considerations. I think I can assure you, however, that for present purposes it is so nearly insignificant as to be extremely difficult to demonstrate, despite the known sensitivity and reliability of the present methods of investigation. I do not expect you or anyone else to accept these statements without evidence, and I know full well that the matter will have to be investigated in the Los Angeles area specifically, because of certain local conditions which differ somewhat qualitatively and quantitatively from those elsewhere. There is, however, no possible basis for present apprehension in these matters, and I am sure that before long we shall be making some observations there to round out our knowledge of this matter.

Some of our data have been published and can be cited, but many of them have not. They will be published in detail, and meanwhile they could be discussed with responsible people in your area.

Sincerely yours,

Robert A. Kehoe, M. D

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P.S. I have just seen (since this was written) your letter of November 25 to Dr. Kitzmiller. I think we can arrange to make some observations in L. A. without any financial assistance, but we shall be glad to be kept apprised of any action that may be taken there.

R. A. K

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