

November 27, 1961

Dr. D. D. Letham
Physician, Occupational Health
Government of Western Australia
Department of Public Health
57 Murray Street
PERTH, AUSTRALIA

Your Ref: DDL/CT

Dear Doctor Letham:

I have been slow in replying to your letter of October 16th, but not out of the lack of interest in the contents of your letter.

You are very kind in your praise of the Harben Lectures. It was an honor for me to be invited to give them, it was a great pleasure to meet again with my friends in London, and it was a very great advantage to me to be thus compelled to put together, in as plain and concise form as possible, the results of a good many years of investigation. I am pleased to know that you have found this information to be of use.

With respect to your query about obtaining samples of blood, I must underscore your concern about needles, syringes and containers. It is very nearly impossible, except under the conditions of the chemical laboratory, to have equipment which is adequate for the limitation of contamination. Syringes used for other purposes will not be chemically clean except under rigorous procedures of cleansing. The ordinary hypodermic needle has a brass hub which will contaminate samples with lead with considerable regularity. Glass stopper containers will tend to trap some of the blood at the point of contact with the stopper, whereas rubber stoppered containers will contribute lead unless the rubber is carefully fabricated and free of lead pigments and other lead compounds. We have overcome these obstacles to a very large extent by working with one of our supply houses in the proper method of preparing tubes equipped with rubber stoppers and lead free needles, these being put together in the form of an evacuated tube into which the blood can be drawn by vacuum after the needle inserted into the vein has been pushed into the rubber stopper so as to perforate it and release the vacuum. These tubes are prepared in quantity by Becton and Dickinson and I am sure you could have this done in your country. I would be glad to assist you in any way I can if this turns out to be necessary. The only problem with these tubes is the cleanliness with which they are prepared - from time to time a tube has been found to be contaminated through having been improperly cleaned. We get around this difficulty, which is particularly important in medico-legal

cases, by obtaining duplicate samples for analysis (we also use two methods of analysis in parallel, but this is not necessary). If the two samples coincide in their lead content within the limits of error of the analysis, we can be quite certain that the result obtained is valid.

I am not sure just what methods of analysis you are using at present. (I mean of course the minute details of the method). However, I am sending you, for such use as it may be to you, a booklet prepared for the A.P.H.A. by Mr. Cholak of our staff (with some additional comments on methods of sampling and so forth, which I contributed.) You may find this of some help, but in any case you will find it of some interest. I am sending this by ordinary mail under separate cover, since there is no special urgency about it.

If I can be of any help to you in any other way, please let me know.

Sincerely yours,

Robert A. Kehoe, M. D.

RAK:ss