

Cooperative Agreement

NO. AID/DSAN-CA-0267

Project No. 931-0045

"Vitamin A Delivery System"

QUARTERLY REPORT

March 15, 1981 - June 1, 1981

International Center for Epidemiologic  
and Preventive Ophthalmology  
Johns Hopkins Medical Institutions  
Wilmer Institute  
600 N. Wolfe Street  
Baltimore, Maryland 21205

Organizational Activities:

Discussions continued with the Biochemistry, Epidemiology and International Health departments of the School of Hygiene and Public Health to establish a Johns Hopkins Xerophthalmia Working Group.

Staff Recruitment:

Although not recruited as a member of the staff, Ms. Michelle Gelkin, a fourth year medical student at the University of Maryland with interests in ophthalmology, joined with us for the months of April and May. During that short period of time she and Shirley Johnson did some preliminary work on a technique for detecting goblet cells in the inferior nasal quadrant of the bulbar conjunctiva. Sommer et al. (1981) have shown that goblet cells disappeared with the appearance of Bitot spots. This technique may develop into a noninvasive method to detect the early stages of xerophthalmia.

Projects and Collaborative Activities:

1. The core references have been entered onto the computer in such a way as to make them easily accessible.
2. In collaboration with WHO's Nutrition Division, we are developing a recognition card for xerophthalmia. Clinical photos and graphics have been compiled and short descriptive captions will be added. These will be pretested with the lowest level health workers in the Philippines, Indonesia, Bangladesh and three parts of India (Patna, Hyderabad and Madurai).

Dr. Koblinsky will be working with the following groups to coordinate these activities:

- Mrs. Mercedes Solon: Nutrition Center of the Philippines;

Manila, Philippines

- dr. I. B. Mantra: Health Education/Community Services, Ministry of Health; Jakarta, Indonesia
- Mr. F. H. Abed: Bangladesh Rural Advancement Committee or those designated by the WHO representative; Dacca
- Dr. Lala Surajnandan Prasad: Director, Rajendra Memorial Research Institute; Patna, India
- Dr. Vinodini Reddy: National Institute of Nutrition; Hyderabad, India
- Dr. K. A. Krishnamurthy: Royal Commonwealth Society for the Blind; Madurai, India.

3. Work continues on the standardized survey and data management systems. They are being compiled in a Manual of Operations which will be used in the Aceh study in Indonesia.

4. The state-of-the-art paper on the interaction between measles and xerophthalmia has been begun.

Country Programs:

1. a) Indonesia: As stated in the previous Quarterly Report, the Surveillance Program has been instituted by the Government along the lines outlined by Dr. Sommer at the Jakarta meeting and subsequently discussed in Indonesia.

b) The proposal for the Aceh study continues to be modified via correspondence. Drs. Sommer and Koblinsky and Ms. Hawkins will be visiting Jakarta in June to further solidify the protocol.

2. India: Dr. Vinodini Reddy, Deputy Director of the National Institute of Nutrition of Hyderabad along with several of her colleagues, visited with us in April. Additional discussions for col-

laboration continued. As mentioned above, she will coordinate the activities for the pretesting of the recognition card for xerophthalmia in Hyderabad.

3. Tanzania: a) In response to Dr. Sommer's visit and subsequent report to Tanzania, the Tanzanian Vitamin A Coordinating Committee will convene for further discussion. With his report and the recommendations from a seminar on this subject held in January, 1981, they will proceed to set up future programmatic lines. Dr. Kavishe, Managing Director of the Tanzanian Food and Nutrition Center, will be in touch with us with the outcome.

b) In response to a request received from Dr. Kayumbo, Director of the Tanzanian National Center for Research and Development, Dr. Sommer prepared an article entitled "Measles, Xerophthalmia and Childhood Blindness in Tanzania" to be included in their Technology journal. This has already been forwarded to USAID/DSAN.

c) During Dr. Sommer's visit, the question of the measles/vitamin A deficiency overlap leading to blindness was discussed with a number of individuals, primarily at the Ministry of Health; the Muhimbili Medical Center and the Tanzanian Food and Nutrition Center. They all felt that the significance of vitamin A deficiency for measles blindness could best be answered by a systematic evaluation of the difference in vitamin A status between measles cases with and without ocular involvement. A detailed proposal was worked out with several investigators of the Muhimbili Medical Center. The Royal Commonwealth Society for the Blind has agreed to support this project with funds for drugs, laboratory supplies, equipment and a vehicle. We are presently arranging for the laboratory supplies to be shipped to Muhimbili. There is a possibility for further support from the P.L. 480 funds.

4. Malawi: In response to Dr. Sommer's report of his trip, Dr. Chirambo, an ophthalmologist in charge of the MOH's Health Services Division, has written that it is presently under discussion and he will get back to us with a plan of action.

In the interim, both Helen Keller Institute and the International Eye Foundation are discussing the possibility of support for establishing an expatriate in Malawi to help coordinate the studies as outlined in Dr. Sommer's "Brief Report of Observations Concerning Measles/Vitamin A Deficiency Blindness in Malawi."

5. Haiti: Dr. Taylor's one-week visit in April resulted in a four-pronged mechanism by which to monitor xerophthalmia:

- detection of corneal disease by ophthalmologists (two ophthalmologists in two hospitals),
- recognition of conjunctival xerosis by pediatricians (three Health Centres and one outpatient clinic),
- recognition of corneal disease by pediatricians (one outpatient clinic), and
- recognition of night blindness by auxiliaries (four dispensaries).

Training will take place in June and surveillance will continue for one year. A nationwide surveillance system may then be instituted using one or more of the above techniques. Dr. Taylor will return to Haiti in September to assess the program and at the end of one year to assess the final results. A copy of his report has been forwarded to USAID/DSAN previously.

6. Bolivia: Dr. Melinda Moore of CDC visited ICEPO in April to discuss the Nutrition Survey they are designing at the behest of the Bolivian Government. Dr. Taylor will visit Bolivia in early June to

train health personnel to recognize xerophthalmia as a part of this survey.

Meetings:

1. ICEPO hosted the WHO Editorial Committee as they worked on the draft of the xerophthalmia state-of-the-art report to be published in the WHO Technical Series.

2. Mrs. Agatha Rider attended the IVACG meeting for Standardization of Biochemical Methodology for the Assessment of Vitamin A Status, held in Guatemala in early May. Participating as an observer, her primary aims were two-fold: to become knowledgeable of the pros and cons in the currently used method for measuring vitamin A, retinol and carotenoids, and to meet the investigators prominent in this field. Her report is appended.

Reports:

Three additional articles have been accepted for publication.

Plans for the Fourth Quarter:

1. Dr. Sommer is to visit Geneva in June to review previous blindness surveys and the recent vitamin A assessments carried out in Africa under WHO/USAID sponsorship. He will combine this with a trip to Hoffman and LaRoche in Basel to discuss new capsule formulations and fortification technology and to present a number of seminars on his Indonesian work.

2. He will continue on this trip to Jakarta to:

- review the surveillance system,
- prepare for the Aceh study, and

- review progress on the fortification programs.

3. Dr. Hugh Taylor departs for Bolivia in early June to assist the GOB/CDC with the xerophthalmia component of the nutrition survey.

4. In September, Dr. Taylor will return to Haiti to assess the xerophthalmia surveillance system described above and in his report.

5. Dr. M. Koblinsky departs for Asia in mid-June to pretest the xerophthalmia recognition card. She expects to return in early August.

6. Ms. Barbara Hawkins will join Dr. Sommer in Indonesia to meet the personnel involved in the Aceh study, review data handling facilities, and finalize the Manual of Operations. She will proceed to Nepal to review their current experience in using microcomputers for in-country data entry and analysis.

Appendix 1

Report on Overseas Travel

Subject: Trip to Guatemala 5-9 May 1981 by Agatha A. Rider

Purpose of Trip: To attend (as an observer) meeting of IVACG on Standardization of Biochemical Methodology for the Assessment of Vitamin A Status

Locale: INCAP headquarters, Guatemala City

Meeting times: all day 6, 7, and 8 May 1981

Travel time: all day 5 and 9 May 1981

Resume of meeting:

Personnel: members of the above task force: B. Underwood, H. Flores, J. Glover, L. Mejía, J. Olson, K. L. Simpson (absent), C. O. Chichester, V. Beyda, G. Arroyave (chrnm); observer: A. A. Rider

Topics discussed: Outline of a methods manual was prepared and task force members were assigned portions to write. Thorough discussion took place regarding sampling, collection, transport, and storage of samples, methods for assessment of vitamin A status, data analysis, and quality control.

Aims in attending meeting:

- 1) To become knowledgeable concerning the advantages and disadvantages in currently used vitamin A methods
- 2) To become acquainted with the leaders in the field of vitamin A analysis.

Benefits derived from attendance at meeting:

- 1) Information was gained concerning the problems associated with vitamin A analyses especially the stability of vitamin A and problems involved in its transport and storage.
- 2) The areas needing further research were clearly pointed up at the

meeting, reinforcing and enlarging our own ideas and opinions: they included studies on stability of vitamin A under adverse conditions of transport and storage, relationship of storage conditions to values obtained by specific methods of analysis, screening procedures for vitamin A status which could be performed in the field, and improved micromethods for vitamin A analysis.

3) Good contact was made with those well-experienced in vitamin A methodology so that "rediscovering the wheel" may be avoided (at least, I hope, by us).