

STATEMENT OF PHILIP R. LEE, M.D., PROFESSOR OF SOCIAL MEDICINE, DIRECTOR, HEALTH POLICY PROGRAM, SCHOOL OF MEDICINE, UNIVERSITY OF CALIFORNIA, SAN FRANCISCO, CALIF.

Dr. LEE. Mr. Chairman, I am pleased to have this opportunity to appear before the Subcommittee on Monopoly, Small Business Committee, to respond to the committee's request to discuss the results of Dr. Silverman's studies on drug product promotion in Latin America. Like Dr. Silverman, the views I express are my own and do not necessarily represent those of my colleagues at the University of California.

Although I have had the opportunity of reviewing the results of Dr. Silverman's studies in detail, I focus on the statement which I would like to submit for the record, and the remarks that will summarize that statement, on one problem, specifically, the development of drug-resistant pathogenic bacteria and the relationship of this problem to drug promotion, physician and pharmacist prescribing and dispensing in Latin America. Specifically, in the statement I discuss in detail the problems that arose in Central America because of an epidemic of Shiga dysentery due to *Shigella dysenteriae* strains resistant to chloramphenicol, tetracycline, streptomycin, and sulfonamides, and the problems that arose in Mexico because of an epidemic of typhoid fever caused by chloramphenicol-resistant *Salmonella typhi*. Until the epidemic of typhoid fever in Mexico in 1972, chloramphenicol was the drug of choice for this disease throughout the world. In Mexico, it proved ineffective because of drug resistance.

The development of pathogenic bacterial resistance to antimicrobial drugs has been a serious problem in the United States since the development of penicillin-resistant staphylococci in the 1950's. In the 1960's resistant strains of meningococci appeared causing meningitis in members of the Armed Forces. Patients with bacillary dysentery in various parts of the world were found to harbor strains of *Shigella* resistant to several antimicrobial drugs. In the late 1960's the epidemic of Shiga dysentery in Central America was caused by *Shigella* resistant to chloramphenicol and other antimicrobial drugs.

In the 1970's a typhoid fever epidemic in Mexico was found to be due to *Salmonella typhi* strains resistant to chloramphenicol. Recently, in the United States and in Egypt, cases of meningitis due to *Hemophilus influenza* strains resistant to ampicillin and penicillin have been reported. In 1975, physicians at the U.S. Naval Medical Research Unit No. 3, in Cairo, Egypt, reported for the first time isolation of chloramphenicol-resistant *Salmonella paratyphi A* in a patient admitted with chronic enteric fever. The problem is not limited to the United States, it is a worldwide problem.

The increasing prevalence of drug-resistant strains of bacteria is apparently related to the widespread use of antibiotics and other antimicrobial agents. This is due, to a considerable extent, to irrational prescribing by physicians, irrational dispensing by pharmacists where they are permitted to dispense antibiotics without a physician's consent, and to the promotional practices by the drug companies that encourage irrational prescribing and dispensing.

I should note here—and I think Dr. Wegman will also emphasize—that the promotion is not only by U.S. multinational corporations but