

were placed directly into these two broths and submitted to this laboratory, usually within a few hours. In some instances, a series of rectal swabs were obtained from positive patients to ascertain the persistence of the organisms.

Upon receipt in the laboratory each selenite-F broth was subcultured onto desoxycholate-citrate and MacConkey Agar plates. After overnight incubation, the selenite-F broth was again subcultured, this time to Salmonella-Shigella and eosin-methylene blue or MacConkey agar plates. All incubations were at 37c.

All plates were examined after 24 and 48 hours incubation. Lactose negative colonies were transferred to Kligler's iron agar slants, and subsequently into a variety of media to determine patterns of biochemical activity. Those isolates showing biochemical changes characteristic of enteric pathogens were definitively identified serologically in accordance with methods described by Edwards and Ewing.

Progress: There was one small outbreak of shigellosis in U.S. troops in the vicinity of Korat, Thailand in December 1964. Shigella sonnei Form I was isolated from rectal swabs of 4 of 5 of the Americans involved in the outbreak. Rectal swab cultures from 35 Thai nationals employed at this installation were negative except for one isolation of Shigella boydii 7. The source of the outbreak was not found.

Table I

ENTERIC PATHOGENS ISOLATED FROM U.S. PERSONNEL FROM
1 APRIL 1964 TO 31 MARCH 1965

<u>Organism</u>	<u>Number</u>
<u>Shigella dysenteriae</u> 2	1
<u>Shigella flexneri</u> 2	1
<u>Shigella flexneri</u> 3	1
<u>Shigella flexneri</u> 4	2
<u>Shigella flexneri</u> 6	3
<u>Shigella sonnei</u> Form I	12
<u>Shigella sonnei</u> Form II	2
<u>Shigella boydii</u> 2	2
<u>Shigella boydii</u> 7	3
<u>Salmonella derby</u>	1
<u>Salmonella paratyphi</u> B	1
<u>Salmonella saintpaul</u>	1
<u>Salmonella stanley</u>	1
<u>Salmonella montevideo</u>	1
<u>Salmonella bovismorbificans</u>	5
<u>Salmonella dublin</u>	1
<u>Salmonella weltevreden</u>	1
Salmonella group E ₁	1
Enteropathogenic <u>Escherichia coli</u>	7
No enteric pathogen isolated	126

During the year, 172 specimens from Americans with acute diarrhea were analyzed. The results in Table I show that 27 of the 46 enteric pathogens isolated were shigellae, a proportion much higher than noted in the Thai population where salmonellae isolated outnumber shigellae isolates about 8 to 1. The finding of a high rate of shigellosis in Americans has been consistent in specimens assayed in this laboratory for the last four years.

A study on the incidence of enteric pathogens in the stools of normal American children was carried out by obtaining rectal swabs at the time of routine physical examinations in the Spring and Autumn of 1964. In the Spring survey 30 of 415 children were found to be harboring enteric pathogens in the absence of clinical diarrhea. Organisms isolated were 6 Shigella sp. and 12 enteropathogenic E. coli. In the Autumn survey 14 of 790 children were harboring Shigella sp. Serotyping of enteropathogenic E. coli was not done in the Autumn survey. All but 2 of the positives were transitory carriers as proved by negative cultures obtained one to three weeks after the initial positive cultures. Stools of both were negative after single courses of antibiotic therapy.

Considering the number of Americans who are entitled to submit specimens to this laboratory, these data suggest a remarkably low incidence of acute diarrhea in an area where diarrheal diseases are endemic and approximately 15 percent of the population harbor enteric pathogens.

Summary: Forty-six of 172 stool specimens from Americans residing in Thailand contained enteric pathogens. Shigellosis was more prevalent than salmonellosis in a geographic area where salmonellosis is more common. A survey of 1205 American children residing in Bangkok showed 3.3 percent were transitory carriers of shigellae or salmonellae. This compares with a carrier rate of about 15 percent in resident Thais.

Conclusion: The incidence of acute diarrhea in American personnel in Thailand remained quite low during this year. Careful attention to sanitation is only part of the explanation for the low rate because a health survey of 1205 American children without diarrhea indicated that enteric pathogens can be isolated from about 3 percent of them. Obviously Americans are exposed to these enteric pathogens and outbreaks of diarrheal diseases remain a constant threat in Thailand.