mission teams to ask, "How much chloramphenicol is used in your hospital?"

If it seems excessive, what kind of control is the staff exerting on the use of this? What is the average dose of chloramphenicol? Are the vast majority of the patients getting one gram a day, for instance? A totally inadequate level?

So I think restricting to the hospital would, by taking out of the community, do away with a lot of the repeated use that Dr. Dameshek has emphasized, and which I agree is an important factor. It would also allow a sequential control of its overuse and a more precise definition of unagreed upon recommendations like septic shock and a better evaluation of where, precisely, this drug should be used.

Senator NELSON. Are all the cases where chloramphenicol would be indicated cases of patients which ought to be hospitalized anyway?

Dr. LEPPER. Yes. I know of no real indication—you might say, well, how about some of the urinary tract infections? Now, urinary tract infections come in two groups, those acquired in the hospital which are often due to a multitude of organisms resistant to antibiotics because they are acquired in the hospital where the antibiotics are being used extensively, and chloramphenicol may be what looks like the best drug for some of these.

A very small percentage, I might add, because there are more agents for treatment of urinary tract infections because in the nature of the concentrating mechanism of the kidney, than there are for treatment in systemic infections. The second group, the vast majority, are acquired in the community. Over 90 percent of the ones acquired in the community respond to a drug like the sulfanomides, as Dr. Kass has clearly shrown in his studies of urinary infections of the young pregnant female.

Of the remainder, almost all of them will respond to nitrofuratoin—furadantine—so it is certainly less than 1 percent of the community-acquired infections which may need chloramphenicol. When it is used for a recurring bladder infection, it is just totally unacceptable by any standards. These infections are not serious enough to warrant it.

So I know of no definite indication for out-of-hospital use.

When you talk about serious pneumonias, such as those following surgical procedures and inhalation therapy, we have mentioned, clearly they should be in the hospital. Bloodstream infections should, also.

When you talk of typhoid fever, they should go into the hospital.

So, certainly meningitis should be in the hospital.

When you look at the cases that are mentioned by the AMA specifically, and which we teach the medical students specificially, there are essentially no home indications for this durg.

Finally, another statement fostered by the advertisements of several years ago was that resistance was not a problem. We have concrete evidence that resistance in gram negative rods and staphylococci appear almost immediately in patients receiving this drug and spread to others on the ward within 36 hours of giving the agent to as few as 15 percent of the patients on a ward. This, of course, is the big problem with prophylactic therapy.

The recent description of extrachromasomal mechanisms of resistance, that is, the most recent mechanisms which explain how or-