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Commentary

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We have known for many years that antibiotic resistance can emerge not only in the test tube but also in patients and that it is important for clinical medicine. *Mycobacterium tuberculosis* is a good example, and, indeed, for years regimes have been chosen not only because they are effective in treating the disease but also because they minimise the occurrence of drug resistant microbes. Recently, penicillinase producing gonococci have arrived from abroad to plague us and again have forced changes in treatment schedules.

It is therefore important that we take seriously reports that penicillin resistant pneumococci are circulating and causing disease. This was well documented in Papua New Guinea and in mine workers in South Africa. Now we have a similar account of such organisms circulating among children in South Africa. Pneumococci are carried in the respiratory tract (and the rates are usually much higher in these countries than they are in the United Kingdom) and penicillin is widely used to treat infections, particularly of the respiratory tract. Thus it seems that over the years organisms have been selected with increased resistance to the drug. Although drug resistant mutants of bacteria may be of reduced pathogenicity, unfortunately, at least some of these pneumococci are apparently fully pathogenic.

Thus it seems there are two lessons to be learned. Firstly, that it is not true that *Streptococcus pneumoniae* is always fully sensitive to penicillin and will remain so. We should therefore adjust our use of the drug to reduce the selection pressure on the organism—that is, by prescribing it only when really needed and in appropriate doses. Secondly, in spite of all our efforts in this country resistant organisms may reach us here from elsewhere. If they do it will be necessary to assess their sensitivity to other drugs and plan new treatment regimes. If that occurs a careful study of this paper could be very helpful.