Additionally, the narrow aperture encouraged sharps to remain vertical and protrude as the bin approached fullness. In comparison, the old bin had a wide letterbox style aperture comprising a shute and flap, which encouraged articles to settle horizontally.

We therefore checked the specifications in BS7320 concerning height of lines indicating that the container is full. The standard states that "a horizontal line to indicate when the sharps container is filled to between 70% and 80% of the maximum volume" should be marked on the container. When we measured the bin it complied with BS7320.

We suggest that the line indicating that the container is full should not be based on a percentage of the volume of the box but instead should be a minimum distance below the aperture, irrespective of the size of the bin. The current British Standard, on the one hand, does not give adequate clearance between the line and the aperture for smaller containers and, on the other, could be providing excessive clearance for the largest containers. Even more critical is the design of the aperture, which ideally should be of the wide letterbox. In our experience, a bin with a narrow aperture is at worst dangerous and at best wasteful of space in the container as it leads to inefficient filling.

We also question how effective it is to have a line marked on the side of a container. Some manufacturers have the line marked only on the front of the bin, although the bin may be turned so that the line is not visible in practice. Also, when sharps containers are placed on clinical trolleys they are often viewed from above, in which case the purpose of the line may be negated. Some indication inside the container that can be viewed through the aperture would help to prevent overfilling.

Injuries from overfilled sharps containers are unlikely to be totally eliminated because of the human element. If simple changes in the design of containers can help reduce their frequency they should be introduced.

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Using condoms to prevent transmission of HIV

EDITOR,—In a study of female prostitutes working in London Helen Ward and colleagues found that the prevalence of HIV infection was less than 1% and that reported regular use of condoms with commercial clients was high (98%).[1] This provides a striking contrast to studies in sub-Saharan Africa. There the prevalence of HIV infection in women regularly engaging in "one off" sexual contacts (including commercial sex workers and bar girls) is often high and regular use of condoms usually low.[2] We have used a published simulation model of the transmission of HIV to examine what effect different levels of use of condoms, in one off contacts only, might have on the spread of HIV infection in rural Uganda.

Using data from the Medical Research Council and Overseas Development Administration's research programme on AIDS in Uganda and the simulation model SimulAIDS (V5.02), we have replicated the spread of HIV infection, and other characteristics, in a rural population in south west Uganda, where the prevalence of HIV infection among adults was about 9% in 1990 (N J Robinson *et al,* IXth international conference on AIDS, Berlin, 7-11 June 1993). For this scenario it was assumed that people did not use condoms. When simulations were rerun from the introduction of HIV, but assuming that condoms were used during 90% of one off sexual contacts, the prevalence of HIV infection among adults in 1990 failed to reach 1%. Furthermore, we found that, even when HIV infection has become widespread, it still seems possible to reduce the future incidence of the infection in the general population substantially by promoting regular use of condoms, even if only in one off sexual contacts (N J Robinson *et al,* IXth international conference on AIDS, Berlin, 7-11 June 1993).

Probably the relatively slow spread of HIV infection among heterosexuals in Britain is at least partly due to widespread regular use of condoms during contacts between sex workers and their clients. Ways must be found to increase use of condoms among people regularly engaging in one off sexual contacts in sub-Saharan Africa. This will benefit not only individual people but also entire populations.

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Vibrio cholerae serogroup O139 in England and Wales

EDITOR,—Since the beginning of the year there have been several reports from the Indian subcontinent of a large outbreak of cholera caused by non-O1 *Vibrio cholerae.* The outbreak was first reported in Madras last October and was then reported in Calcutta in November[1]; further reports followed from southern Bangladesh in December. An outbreak occurred at a religious festival in Dhaka in January this year and was followed by another major epidemic in Dhaka in the first week of February.[2] A further major outbreak was reported in Calcutta in February.

Although some strains of non-O1 *V cholerae* have been recognised as causing diarrhoeal disease that is sometimes clinically indistinguishable from cholera, previously only *V cholerae* O1 has been considered to be capable of causing epidemic cholera. The strains from the present outbreaks have been placed in a new serogroup, designated *V cholerae* O139 by Shimada *et al.*[3] These strains produce cholera toxin.[1]

In the Laboratory of Enteric Pathogens in London we have been serotyping strains of *V cholerae* since 1985, using the scheme of Sakazaki and Donovan,[4] with antiserum for antigens O1-O83. Since 1985 we have serotyped 1017 isolates. Fifty six were *V cholerae* O1 and 961 were non-O1 *V cholerae.* Serotyping of the 961 isolates of *V cholerae* non-O1 showed that 520 could not be typed with antiserum to O antigens O1-O83. Of these 520 isolates, 51 were from travellers known to have returned recently from the Indian subcontinent and four were from prawns imported from the region. We tested these 55 isolates with antiserum to *V cholera* O139 (provided by Dr T Shimada, National Institute of Health, Tokyo, Japan) and found five to be serogroup O139. We also tested these 55 isolates with DNA probes encoding for the A and B subunits of the cholera toxin gene; only the five isolates of serogroup O139 yielded a positive result. Production of toxin was shown in all five strains.

These five isolates were resistant to streptomycin 16 mg/l, sulphonamides 64 mg/l, and trimethoprim 2 mg/l. They were sensitive to tetracyclines 8 mg/l, ampicillin 8 mg/l, chloramphenicol 8 mg/l, and ciprofloxacin 1 mg/l. Sarkar *et al* reported that the epidemic strains of *V cholerae* non-O1 that they had received from different locations in India were all sensitive to polymyxin B (15 mg/l and 50 mg/l).[5] We tested the five strains of *V cholerae* O139 isolated in England and also the type strain of *V cholerae* O139 (MO45) provided by Dr T Shimada and found that all six strains were resistant to polymyxin B, with minimum inhibitory concentrations $>2{\cdot}5\times10^6$ U/l.

The five strains of *V cholerae* O139 were all isolated in England since March this year (from four adults and one child). They were isolated from three travellers who had recently returned from India, one who had recently returned from Bangladesh, and one from whose records we were unable to establish a history of recent travel. All five patients had diarrhoea, and three of them (two adults, one child) were admitted to hospital.

V cholerae serogroup O139 is unlikely to pose a serious threat in countries with safe drinking water and good sanitation. Nevertheless, the severity of the disease caused by this serogroup means that medical microbiologists should be aware of the potential importance of non-O1 *V cholerae* in diarrhoeal disease and should refer all isolates of non-O1 *V cholerae* to the reference laboratory for confirmation, serotyping, and testing for toxins.

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Therapeutic potential of aspirin in cancer of the colon

EDITOR,—R F A Logan and colleagues' epidemiological study supports the growing evidence that regular use of aspirin reduces the risk of colorectal cancer.[1] Annlia Paganini-Hill, however, advocates caution before prophylactic aspirin is considered, since long term use of aspirin is associated with nephrotoxic and gastrotoxic side effects.[2] But other valuable lessons can be learnt from the epidemiological studies. We wish to propose an explanation for the epidemiological data and suggest further directions for research.

Aspirin and other non-steroidal anti-inflammatory drugs inhibit and reverse the growth of tumours of the colon in animals. This effect correlates with the inhibition of prostaglandin E_2,[3] a derivative of fatty acid that is produced in excessive quantities by these tumours. Prostaglandin E_2 derived from tumour seems to further growth in the colon by depressing cellular immunity, enhancing local blood flow, and increasing metastatic potential. By reversing these pathophysiological processes non-steroidal anti-inflam-

matory drugs may exert tumoricidal effects in the colon,[4] thus accounting for the reduced risk of cancer of the colon with regular use of these drugs. Large scale therapeutic trials of non-steroidal anti-inflammatory drugs in established cancers of the colon and chemopreventive trials in high risk patients would therefore be appropriate since the risk of potential side effects in such cohorts would be justified. Initial reports of such studies are encouraging.[5]

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Near patient testing

Needs quality control

EDITOR,—Elizabeth Rink and colleagues assessed the clinical and economic impact of introducing near patient testing (performing diagnostic tests in general practice surgeries) for common biochemical and bacteriological investigations.[1] In any analysis of this type, however, it is essential that the precision and accuracy of the results obtained are considered. Even when users are fully trained and careful quality control procedures are followed the accuracy of the results obtained is unlikely to match that from a hospital laboratory. In practice, in many cases the calibration and use of machines will probably be suboptimal, particularly when the machines are used infrequently.

With regard to the measurement of cholesterol concentration, which increased by the greatest amount in the authors' study, previous studies in general practice have shown a bias of up to 8% and imprecision of as much as 7·5%[2]; even frequent users are unlikely to achieve recommended performance standards.[3] This could lead to a substantial number of patients being subjected to further needless investigation or being prescribed cholesterol lowering treatment unnecessarily and could therefore contribute appreciably to the cost of introducing testing of this kind.

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Is not cost efficient

EDITOR,—Elizabeth Rink and colleagues show that near patient testing (performing diagnostic tests in general practice surgeries) is often not as cost efficient as it would seem to be.[1] As a director of pathology, I am well aware of the effects of near patient testing in the health service and the often illusory savings that are claimed for it. Indeed, I would challenge the savings that the authors found for analysis of midstream urine specimens. The cost of analysis in the NHS arises from many components: collecting the sample, transporting it to the laboratory, the agar plate on which it is spread, the microscopic examination, any sensitivity test that is done, the medical laboratory scientific officer who performs the test, the overheads of the laboratory, the overheads of the hospital, and the costs of reporting the result.

When a dipstick test is substituted for laboratory analysis the only saving to the NHS as a whole is in the marginal cost of the agar plate. In my laboratory 10 urine samples are plated out on each agar plate. The approximate cost of one agar plate in this laboratory is about 10 pence. Thus there is a net saving of one penny for every midstream specimen of urine not sent to the laboratory.

We are obliged to charge general practitioners an average cost for the test, and thus for every test not performed we lose the difference between our saving and the cost we charge to fundholders. Unfortunately, as our costs still remain we need to recover this from other users of our laboratory, principally hospital based users.

When we used a dipstick test the cost to us was 15 pence a stick, so for a saving of one penny to the laboratory a general practitioner spends 15 pence on a stick.

A saving in real terms would be achieved if the number of urine samples sent to the laboratory was reduced sufficiently for us to reduce our staffing. This would require a coordinated effort by all general practitioners and hospital staff in our area such that the number sent could be cut by some 70-80%, which would be feasible if dipsticks were used.

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Post-tropical screening

Is of little value . . .

EDITOR,—Bernadette Carroll and colleagues report the results of screening 1029 asymptomatic people after their return from the tropics.[1] Although an abnormality was detected in about a quarter of the subjects, relatively few abnormalities were attributable to tropical travel. Parasites in stool samples were the most common abnormalities, but many of the findings, such as cysts of *Entamoeba histolytica* and of *Blastocystis hominis*, are of doubtful importance in asymptomatic people.

Screening of asymptomatic populations is often difficult to justify without favourable results of a cost-benefit analysis.This study did not address costs and benefits so it is impossible to answer the authors' question: "How useful is such screening?"

We do not encourage screening of asymptomatic travellers on their return from the tropics, and the data from this study do not change our view. Most protozoal and helminth infections in travellers will clear spontaneously with time if the person is not re-exposed to the organism, and these infections do not pose much of a threat either to the person or to public health. One of the few possible advantages of screening returning travellers is that it provides an opportunity to discuss the need for testing for HIV. Both short term and long term visitors to areas of the world where HIV is more prevalent than in Britain may have had new sexual partners when abroad but may not view themselves as at risk of HIV infection and other sexually transmissible diseases. Unlike most infections brought back by asymptomatic travellers, HIV infection persists and does pose a risk both to the traveller and to others.

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. . . unless the traveller feels unwell

EDITOR,—To judge by demand, many members of the medical profession as well as the general public assume that screening after visits to tropical countries is useful. I am not aware of any evidence on which this assumption could be based. The data presented by Bernadette Carroll and colleagues are therefore valuable, but the authors do not answer the question they pose, "How useful is post-tropical screening?" they are content to conclude that such screening can be carried out efficiently by an informed health professional, who need not be a doctor.[1] On the basis of the data presented, the answer to the question is almost certainly that such screening is not useful.

If the objective of screening is to detect potentially progressive disease before it has caused irreversible damage (for example, hypertension) or incurable spread (for example, carcinoma of the cervix) then seeking cysts of *Entamoeba histolytica* and *Giardia lamblia* in the stool cannot be justified. In most, and possibly all, of the authors' cases the patients would never have become ill; if any had done the diagnosis and treatment would have been comparatively straightforward. General practitioners should know the essential points to remember with regard to people who have returned from the tropics. Firstly, falciparum malaria presents within two months of return (usually from Africa) and screening for it is useless. Secondly, people who swim or wade in African lakes should be screened for schistosomiasis, If these two points were borne in mind the present trend towards overmedicalising travel might be reversed and detection of falciparum malaria, the only common life threatening consequence of travel, might be improved.

I believe, nevertheless, that a consultation is of some value when the people seen are the kinds of traveller screened by the authors—but less for its value to the returned travellers than for its value to those who will follow in their wake. The key to healthy travel is good preparation. Healthy practices relating to activities as diverse as road safety, preparation of food, avoidance of biting insects, and safe sex are of infinitely greater value than immunisation schedules and post-tropical screening. People responsible for advising others who are about to depart under the aegis of agencies such as Voluntary Service Overseas can gain valuable insights from talking to those who have just completed tours.

The main value of these consultations to returned travellers is to allay anxieties. By giving muddled signals to the public and the mass media, doctors must take a share of the blame for creating anxieties in the first place. Travellers should be encouraged to believe that, subject to the two exceptions mentioned, if they feel well they are well.

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