parison was non-randomised no differences were found between groups to explain away the finding statistically. Some reassurance comes from stroke prevention with ramipril with a nearly identical reduction (4/3 mm Hg) in blood pressure in the heart outcomes prevention evaluation (HOPE) study (similarly irrespective of starting blood pressure).[9] HOPE, however, included only 1013 patients with a prior cerebrovascular event—too few for confident conclusions regarding the efficacy of monotherapy with ACE inhibitors in this population. Indapamide, on the other hand, has evidence of benefit as monotherapy from PATS. Overall combined ACE inhibitor and diuretic treatment has the best supporting evidence.

These developments expand secondary preventive options greatly: as many as 84% of patients with transient ischaemic attack and stroke are now prescribed antihypertensive drugs, statins, or non-aspirin antiplatelet agents in addition to any pre-existing medication.[w4] However, the probability that lifelong multidrug treatment is recommended places added responsibility on clinicians to improve diagnostic accuracy since only about half of those referred as transient ischaemic attack have actually had one.[w5] Since typically 30% of patients referred to special clinics for transient ischaemic attacks have other neurological diagnoses, training in the United Kingdom—where few neurologists participate in stroke services—must take this into account. While the prospect of routine polypharmacy is daunting, both for younger patients unaccustomed to illness and for elderly patients with multiple comorbidities who may be vulnerable to drug interactions and symptomatic hypotension, the consequence of failing to translate the results of this trial into practice will be avoidable disabling or fatal strokes.

That transient ischaemic attack and minor stroke are medical emergencies is reinforced by new community based data that confirm a far higher risk of subsequent stroke than has conventionally been appreciated. The seven day risk of stroke is between 8-12%: other studies have found risk to be as high as 20% in some patient groups.[10 11] Whether the benefits of secondary preventative pharmacotherapy extend to this very early period is unknown, but will be tested in ongoing trials of combination antiplatelet therapy (fast assessment of stroke and transient ischaemic attack to prevent early recurrence—FASTER and prevention regimen for effectively avoiding second strokes—PRoFESS), statins (FASTER), and blood pressure lowering (PRoFESS). If these trials find benefits similar to those from PROGRESS and HPS, then the time will have arrived to abandon the still prevalent tendency to dismiss events as "just a TIA" and to advance into an era of acute cerebrovascular syndromes meriting treatment as aggressive as cardiologists currently employ for the coronary equivalent.

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Compulsory screening of immigrants for tuberculosis and HIV

Is not based on adequate evidence, and has practical and ethical problems

Increased movements of peoples are stressing public health responses to threats from communicable diseases internationally. This year several bodies in the United Kingdom, including the Conservative party, have called for compulsory screening of immigrant populations for tuberculosis and HIV in order to support national efforts to control these communicable diseases. Given that concerns about asylum policy are consistently high on the political agenda, and that the media have recently taken to conflating anti-immigrant sentiments with public health threats through communicable diseases,[1] the government may be considering compulsory screening of immigrants for some infectious diseases. But is there a rational public health argument that is grounded in evidence for compulsory screening of immigrants?

For tuberculosis and HIV the purpose of screening should be twofold—to identify cases early such that individuals can be offered treatment and care, and so to inhibit further transmission (through treatment, behaviour change, or isolation) to protect public health.

For tuberculosis the notion that screening immigrants detects those with the disease and therefore benefits public health is not straightforward. Although

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the increase in rates of tuberculosis in England and Wales over the past decade is clearly associated with immigrants, this does not translate into a cogent argument in favour of screening immigrants, never mind compulsory screening.[2]

Most active tubercular disease seems to develop after immigration.[3] Clearly, those individuals in whom tuberculosis is identified early can benefit from treatment, but little evidence exists to show that early detection of tuberculosis in foreign born individuals conveys appreciable public health benefit to those born in the host country. This is not to say that people who live in close proximity might not be at greater risk, but that if the health of immigrant populations and those among whom recently arrived immigrants reside is the cause for concern then perhaps this should be an explicit rationale.[4–6]

Although current programmes of screening for active disease focus on asylum seekers, in whom prevalence rates are relatively high, very few active cases and fewer infectious cases are actually identified.[7] Moreover, little correlation exists between the prevalence of disease in countries of origin and prevalence of active disease in those screened.

Given that immigrant groups other than those seeking asylum (including those who are undocumented, who are students, and who are seeking employment) have not traditionally been the focus of attention, a screening programme that attempts to encompass such diverse groups is likely to face substantial practical issues whether such a system is pre-entry, post-entry, or a combination of the two. Moreover, such a programme if implemented would be based on evidence with shallow foundations. An important practical problem in screening for active tuberculosis is that the tool used, principally the chest radiograph, results in large numbers of false positive results, incurring substantial human and capital cost.[8]

Before supporting public health interventions through coercive measures policy makers need to show the effectiveness of a proposed intervention.[9] And any benefits that might be accrued through the use of compulsion are certainly not grounded in evidence. Indeed what little evidence exists suggests that few migrants currently identified through screening abscond and that the introduction of compulsory measures may mean that some patients may delay seeking care and pose a greater public health threat.[10]

For HIV the issues are somewhat different. Unlike for tuberculosis, the tools to detect HIV infection are highly sensitive and specific, and the potential benefits from screening to the individual and public health may on the surface seem more straightforward.

Data from the Health Protection Agency show that immigrant associated HIV is increasing and that most is acquired heterosexually abroad before coming to medical attention in the United Kingdom. Moreover, of the cumulative total of 2046 HIV infected individuals notified who are thought to have acquired HIV in the United Kingdom, 944 are thought to have become infected by someone originating from outside Europe, whereas in 542 (or a third of those in whom details were known) exposure in the United Kingdom originated from a partner from within Europe.

Thus, much HIV infection is acquired abroad, and there is evidence of heterosexual transmission in the United Kingdom, which is linked to immigrant-associated HIV. Clearly there are (or should be) individual benefits to be gained from knowing one's HIV status in terms of treatment and care. And there are public health benefits to be gained if immigrants infected with HIV become aware of their status and as a consequence do not transmit the virus. So, given these benefits, should compulsory screening of immigrants be part of public health policy in the United Kingdom?

Several important practical and ethical questions regarding screening of immigrants for HIV need to be looked at, and many of them are unresolved.

From a practical perspective, would such a policy focus on all migrants, immigrants from high prevalence countries, asylum seekers, or some as yet unspecified population? Most asylum seekers are HIV negative, and most immigrants who are HIV positive are not asylum seekers. If screening is applied to populations from countries that have prevalence rates above a certain threshold then immigrants from areas that have a low prevalence may not be detected. What about populations which are able to move freely? The free movements of people from within the European Union and from countries within next year's expanded European Union may not be subjected to screening. Yet the future eastern border of the European Union will be with countries that have the most rapidly escalating epidemics of HIV in the world, notably Russia, Belarus, and Ukraine, and security at this new eastern border has been criticised recently. A further question is, how would such a policy address migrants who remain undocumented? Would a fear of the consequences of a potentially positive result mean the undocumented population challenged public health to a greater degree? Given that individuals are likely to travel back to their country of origin on occasion, should they be tested after each visit?

If determination of a positive status excludes an individual from entry (as has been proposed) then might such a screening policy have the perverse effect of creating incentives to avoid legal routes of entry and pursue illegal routes or falsify supporting documentation? How would this be countered? The assumption seems to be that people infected with HIV pose a public health threat simply by virtue of being infected. But HIV is unlike tuberculosis. Where tuberculosis can be acquired passively, simply through breathing the same air, transmission of HIV requires an activity such as sex or injecting. Consequently it is those who are HIV infected and participate in such activities who pose a public health challenge. Do people change their behaviour when they know they are infected, and is this behaviour change likely to occur and be sustained if testing is conducted coercively? The public health benefits gained through awareness of one's status may be lost through the manner in which that knowledge is gained.

Obvious ethical issues include the possibility of discrimination, notions of confidentiality (often lost when compulsion is involved), the role of clinicians as both patient advocates and protectors of public health, and stigma.

The United Kingdom has an enviable reputation in international public health. In recent decades this has rested in part on a humane public health policy response to HIV—where a position was taken early in the pandemic to protect human rights and provide

care and succour to those in society most marginalised and stigmatised. This approach also happened to be rational, coherent, and effective. It would be a shame if this reputation was tarnished through an ill considered conflation of immigration control and communicable disease control.

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Portable echocardiography

Is essential for the management of acutely ill patients

As the number of patients presenting with acute conditions to emergency and intensive care units continues to grow traditional ward based models of care may no longer be adequate. Reorganisation of critical care services is a government priority, encapsulating the paradigm that rapid assessment and treatment of modifiable life threatening conditions is required regardless of the location of the patient.[1] Failures of all organ systems are potentially life threatening, but arguably the most catastrophic is failure of the cardiovascular system. Quick deployment of diagnostic aids to the bedside and identifying patients at risk therefore assume great importance.

Advances in microprocessor technology have permitted cardiac ultrasound to evolve from the crude 1953 oscilloscopes of Edler and Hertz through powerful but essentially immobile echocardiographs to portable battery powered devices that even incorporate the capacity for Doppler interrogation. This portability brings with it the opportunity for widespread use at the bedside with the potential to afford unprecedented benefit in immediate diagnosis. Such developments pose two major questions. What are the clinical applications of these portable machines, and what training should potential operators receive?

Clinical studies show that portable echocardiography can be used to initiate and modify treatment, particularly in patients with cardiac conditions. Investigators have shown that basic assessment of ventricular function, measurement of the dimensions of the ventricular chamber, and identification of structural lesions including valvular regurgitation or stenosis and pericardial effusions is possible in all patients except those least amenable to echocardiography. The sensitivity of portable echocardiography for the detection of cardiac abnormalities is higher than that of clinical examination and reaches 70-90% compared with conventional echocardiography.[2–5] Although portable echocardiography is not without notable limitations—particularly with relation to spectral Doppler, harmonic imaging, probe footprint size, resolution, and storage facilities—the procedure nevertheless seems adequate in trained hands, for limited studies where the context of the study and the clinical questions posed are clearly predefined.

As a result of limited studies several leading echocardiologists have concluded that novice non-cardiologists, with as little as three hours of training, are capable of making relatively reliable assessments by portable echocardiography of ventricular function and other life threatening conditions, including pericardial effusion.[6–9] In contrast to this general success of portable echocardiography, a study based in intensive care units indicated that up to 31% of important findings were missed, probably due to suboptimal imaging.[10] Although the technology has advanced since this study, on the basis of our own experience we remain cautious. We agree with current recommendations that portable echocardiography should not be used to influence the management of patients by inexperienced clinicians.[11]

Advocates of portable echocardiography have proposed that this technology should be incorporated into medical students' curriculums and ultimately disseminated generally. However, in the absence of definitive evidence from desperately needed field studies a pragmatic approach should be adopted, balancing the limited training needs of portable echocardiography to be performed acutely at the point of care with the comprehensive approach advocated for cardiologists.[11]

Although most doctors have a fairly circumscribed knowledge of electrocardiography and radiology, they use these tools to address specific triage questions to guide urgent and powerful treatments (for example, thrombolysis for acute myocardial infarction) but ultimately defer to specialists for ongoing management. Training in portable echocardiography should not be aimed to produce clinicians capable of performing complete studies any more than we train doctors to perform or report computed tomography scans. Instead, by restricting operators to a minimum familiarity with

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