PROBLEMS OF INTERNATIONAL TRAVEL

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Special disease hazards result from the increasing speed of international traffic, and the gravity of these problems more than warrants a periodic examination of the situation. However, there is another aspect which is apt to be neglected in medical writings but is nevertheless important in world affairs—the effect of medical decisions on international trade and travel.

From the earliest days there has been an increasing tendency to avoid too drastic interference with traffic by quarantine practice. In his comprehensive review Stock (1945) shows that the elucidation of the causes and modes of spread of various diseases has been followed, if tardily, by an increasing international concord in reducing arbitrary medical action against traffic between countries. Stock also indicates how recent conventions have been designed to define the *maximum* measures consistent with disease control which any country may take against the people and trade crossing her borders. These modern agreements in theory, therefore, abolish unrestricted action by any country against international traffic. Nevertheless the conventions remain as compromises between modern epidemiological opinion and the demands of some authorities.

Medical Certificates

The emphasis given to some present questionable quarantine procedures has arisen paradoxically with the newer knowledge of disease spread and control. The development of immunology, for instance, has had repercussions on quarantine methods. The international traveller is increasingly being harassed by demands for certificates of vaccination against a lengthening list of diseases. The vaccination certificate has received special prestige in connexion with yellow fever, and the various processes now linked with such documents constitute a distinct obstacle to the free movement of peoples in many parts of the world.

If the yellow-fever certificate could be accepted as evidence of an absolutely reliable barrier to the spread of yellow-fever virus then no trouble would be too great to enforce its possession by all travellers. In my view the reliance placed on this document is frequently misplaced. The success of vaccination in developing a high degree of immunity in most individuals is well established. Vaccination is therefore justly accepted, but there is a considerable difference between recognizing vaccination against yellow fever as a reliable procedure and acknowledging the obligatory certificate as beyond reproach.

A yellow-fever vaccination certificate is a document, whether on an official standard form or not, which may or may not be indicative of a high level of immunity in its holder. There are both innocent and discreditable reasons for this doubt. Many certificates honestly issued are not an index of high immunity because of defects in the production and the maintenance of the viability and potency of the vaccine actually injected. Other certificates are bogus. Forgeries and alterations have occurred on a not inconsiderable scale. This danger has been recognized by the wise architects of the conventions, but as yet no fool-proof and practicable counter to the illegal and doubtful document has been evolved. The devices of standard forms and lists of approved vaccinators are but partial

remedies. Lists of approved medical officers of all the countries of the world will naturally be changing so continuously with additions, deletions, amendments, and transfers that only large bureaux can hope to compile and maintain such lists. In addition checking and deciphering signatures and designations in many languages is a laborious and difficult task unlikely to be done efficiently at most frontier posts. There is but slight similarity with immigration passport practice. A suggestion useful in theory but unlikely to appeal in practice is the assumption of quarantine control by an international authority. In the present state of the world even such a limited surrender of sovereign rights is bound to be unacceptable to most States.

That a prescribed vaccination certificate is not necessarily proof of a high level of immunity against yellow fever is only one weakness of this quarantine requirement. An equally valid criticism is that not all travellers in the particular geographical regions carry certificates. At present with air travel largely in the hands of established reputable air transport services most air travellers carry certificates. But the era of the private and charter plane is well launched, and it can be prophesied that these planes will rapidly enter inter-territorial travel in vast numbers. Little imagination is necessary to foresee the difficulty if not impossibility of applying quarantine restrictions to such craft. Land- and water-craft are also passing from endemic to non-endemic areas at speeds which bring them well within the yellow-fever danger limits. Their human complements rarely carry vaccination certificates.

The theory of the statutory yellow-fever vaccination certificate is that it implies the exclusion of carriers of virus from non-endemic areas. As the certificate is itself not always trustworthy, and as not all potentially dangerous travellers carry certificates, reliance on such a method alone is foolhardy. Even the rigid control and discipline possible in the best-organized military medical services in the recent war did not overcome these difficulties. How much less can it be expected that civilian administrations with their usually weaker control and looser organizations will achieve greater success?

The yellow-fever certificate fashion is spreading. Yellow-fever vaccination is at least highly reliable, but it is with much less assurance that complete protection can be expected in every individual vaccinated against such conditions as plague, typhus, and cholera. Thus there is smaller justification for requiring certificates against these diseases. Another unsatisfactory development is that some authorities, though their territories harbour endemic infections, demand vaccination certificates against these conditions for passing travellers. As a measure of control this seems particularly futile.

Medical Examinations

Medical examinations of passengers are not a normal routine at most quarantine posts. When applied, however, they are exceedingly drastic in their effect on both travellers and traffic. The most superficial clinical examination causes delay, annoyance, and frequently confusion, and the value of such examinations as a quarantine measure is very limited. Manifestations of infection are so protean that, even in such a frank disease as smallpox, clinical examination, whether thoroughly done by experts or not, is unlikely to detect all affected persons. Further, since the dissemination of infection is a function of such varied contributors as frank, atypical, and incubating cases, subclinical infections, and carriers, it is clear that elimination of the frank and the atypical cases—the most to be expected from clinical tests—cannot stop spread.

Military experience is again a valuable practical test of such procedures. One convoy embarked its troops in West Africa, where they had had the usual critical pre-embarkation medical examination. All sick soldiers were rejected and a clinically healthy population began the voyage to the Middle East. At Cape Town this convoy reported outbreaks of chicken-pox, dysentery, and meningitis. Vigorous medical action was taken, resulting in all cases and contacts being landed. Again the convoy proceeded, but merely to report further cases of meningitis and chicken-pox at Aden. A further weeding out at this port was also unsuccessful and fresh cases were still appearing on arrival at Suez. The many appearances of small-pox and the lesser exanthemata in troopships may also be mentioned as illustrating the futility of ordinary clinical examinations in filtering off infection. Laboratory techniques are similarly too crude or too cumbersome as yet to demonstrate invariably the presence in human beings of disease agents. Yet in times of crisis many nervous quarantine authorities give way to the hysteria of the occasion and demand, for instance, the wholesale examination of stools from every unfortunate passenger on ships suspected of harbouring cholera.

Many other examples could be given to show that, despite military control and discipline, after the isolation of frank cases and the removal of contacts infection still persisted. The less adequate control and facilities possessed by the average civilian quarantine organization give still less hope of removing infection, especially when it is realized that much human movement occurs beyond any possible official supervision.

Disease Vectors

The rat and the mosquito are the two vectors of human disease prominent in quarantine regulations. The reliance frequently placed upon frontier station methods for preventing the ingress of these potential carriers of plague, yellow fever, and malaria is often unjustifiable. The degree of attention given to vector control is inclined to vary according to the type of vessel or aircraft. Modern ocean-going liners and air-transport of the well-known lines, usually conscientious in observing regulations, receive the most detailed inspection by quarantine authorities. All too often the more careless and hence more dangerous craft, such as small tramps, coastal and local sailing vessels, barges and private aeroplanes, escape the full application of vector control. Land transport—trains, motor vehicles, animal-drawn transport, and caravans—is too often completely ignored or forgotten. Thus reliance on frontier vector control alone is risky. Though fortunately not generally a major cause of obstruction or delay to international transport, arbitrary action under the relative clauses of vector control in international conventions does occur. There have been occasions when officious or too nervous administrations have used the legislation to hold up ships unnecessarily for many days while searching for *Aedes aegypti* or to submit ships already in possession of satisfactory certificates and patently free of vermin to further anti-rodent measures.

Some General Criticisms

The retention of outmoded views on infection and epidemiology in spite of the spirit and principles of existing international quarantine legislation is also the source of certain general reactions on the part of many health administrations. First, the barrier motive behind vaccination certificates, frontier medical examinations, isolation of sick and contacts, and frontier vector controls has produced an all too common complacency. It is a medical

Maginot Line complex which, however fitting in the days of well-marked caravan and trade routes and stable populations, is out of place in the restless modern world. The emphasis given to quarantine measures is especially wrong when there is but spasmodic or inadequate attention given to the more important internal preventive organization. A true perspective would give precedence to the latter in rodent destruction against plague, *Aedes* control against yellow fever, louse control against typhus, and improved sanitary and health conditions *within* the community. Weaknesses in the barriers against the entry of infective agents which the realist must accept as almost inevitable at present will not then be so very important.

Secondly, the present legislation and practice foster unreasonable allegations concerning the origin and spread of infection which too frequently provoke inter-territorial irritation. A region suffering an outbreak of one of the major communicable maladies is prone to place the blame not on its own inadequacies but on the alleged neglect or even malice of its neighbours. Communities in which a particular disease is endemic are not above seeking the explanation of recrudescences in imported infection. Such forms of recrimination are illogical, unscientific, and unhelpful in view of the demonstrable inherent weaknesses in barrier methods of quarantine practice. When this tendency to arouse international sensitivity is associated with interference with traffic, quarantine methods of doubtful medical advantage are hard to defend.

Thirdly, under existing conditions many health administrations, especially in an increasingly bureaucratic era, are often forced against their better judgment to apply the full armamentarium of quarantine. They appreciate that in the occurrence of any untoward event a scapegoat is likely to be sought. Any omission in observing the convention commandments, whether defensible on technical grounds or not, is apt then to arouse severe censure. Conversely other administrations, indifferent to lax internal conditions, conceal their deficiencies behind a façade of frontier medical activity in terms of the conventions.

Some Recommendations

In this age of speed the medical administrator would welcome above all reforms which would lessen his fear of such conditions as yellow fever, smallpox, plague, typhus, and other major aerial and vector-borne hazards. If such alterations in sanitary conventions and quarantine practice simultaneously benefit international relationship and transport they call for early adoption. As many of the prohibitions and absolute obligatory provisions of the present conventions are here claimed to be both ineffective and indirectly harmful there seems to be no justification for imposing yet more drastic frontier controls. The revision sought is rather an acceleration of the process implemented by the experts of the Office d'Hygiène Publique Internationale, the Health Organization of the League of Nations, and U.N.R.R.A., which has been to define international control in harmony with epidemiological principles.

It is suggested that a considerable advance in the legislation is now possible which, far from reducing control over the origin and dissemination of disease, will enhance it and yet enable travel and trade to move more freely. The following principles therefore deserve prominence in the new international sanitary conventions.

(1) In view of the complex epidemiology of most major communicable diseases and of the insuperable administrative difficulties of achieving satisfactory medical control of international traffic, each State, however weak, should rely primarily on internal measures for increasing resistance rather than on efforts to prevent the entry of infection. With population movements

increasingly disturbing the "epidemic constitution" of both national and international human "herds" it is only the application of this principle which will protect the public health.

(2) Each State should recognize that there is no quarantine measure yet available which can be accepted as of anything but very limited and relative value in excluding infection from a community.

(3) It should be recognized also that no existing quarantine measures are infallible in the diagnosis of infection. Consequently allegations against other countries of "exporting" infection are fruitless.

(4) Medical advantages of any international procedure must be balanced against disadvantages imposed upon communications and trade in a world increasingly dependent upon and dominated by facilities for rapid transport.

(5) The conventions should clearly state that any application of measures in excess of those prescribed will bring repudiation by the international health authority.

If such principles are adopted it will then be questionable whether certain present absolute legal prohibitions and sanctions can be retained in the new conventions. The following may be instanced as requiring re-examination:

(a) The *obligatory* possession of immunity certificates by travellers. It is perhaps unnecessary to emphasize that the suggested deletion of the absolute legal requirement in no way diminishes the desirability of all travellers being persuaded to accept immunization. Furthermore, the change in emphasis from frontier barriers to internal protection will imply the need for large-scale programmes of vaccination for population at special risk.

(b) The forcible detention or delay of ships, aircraft, and land-craft for medical examination of the crew, passengers, freight, or accommodation.

(c) The examination, detention, or removal of contacts or suspects with consequent delay of craft.

These last two sanctions have been abused so often that their reduction, especially in the face of their doubtful usefulness, is overdue. It is not the purpose of this paper to review the other features of international sanitary legislation and practice. The establishment of epidemiological bureaux, the exchange of epidemiological and medical intelligence, the investigation of health problems, the programme of health and medical education, the improvement of the conditions of ships, aircraft, sea- and air-ports, and many other excellent results of the sound construction of the conventions are fully acknowledged. It is also not necessary to refer to the vast prospect of mutual co-operation and regional co-ordination now opening with the appearance of the new World Health Organization.

The removal or reduction of obligations and practices in the conventions which are scientifically unsound or administratively impossible should enhance the value and status of all international medical legislation and agreement. There should then follow a better approach on the part of health administrations to both their internal and external responsibilities, which in turn must lead to improved health and well-being for their communities. Such a reorientation in the sphere of international medicine will be a direct contribution to fuller and more harmonious international relations.

Summary

Much medical interference in world traffic still exists in spite of the advance in international sanitary legislation. This partly arises out of the increasing demand for travellers to hold vaccination certificates and to submit to medical examinations, and partly to medical interference with shipping and aircraft. Arguments are put forward suggesting that such restrictive quarantine medical practice is of limited value and is dangerous in creating a false sense of security. It cannot guarantee exclusion of infection and is no protection against the recrudescence of endemic disease. It leads to the neglect of more valuable

internal measures for improving medical organization and sanitary conditions. It also contributes to inter-territorial friction.

There is thus a need for the international sanitary conventions now being revised to reduce "police" measures, to emphasize national self-reliance and responsibility, and to clear the way for better national health services and world transport less shackled with medical restrictions.

REFERENCE

Stock, P. G. (1945). *Proc. R. Soc. Med.*, 7, 17.

SELECTION OF CIVIL SERVANTS

[FROM A CORRESPONDENT]

The Civil Service has acquired the unfortunate (and perhaps unjustifiable) reputation of recruiting men of first-class intellectual ability but of indifferent personality, or, if it succeeds in attracting men endowed with humanity, vigour, decisiveness, and sound judgment, of so restricting the development of these qualities that their possessors in time become timid, brittle, hermetic. Many people may have been surprised, therefore, when Sir Percival Waterfield, the First Civil Service Commissioner, recently defined the qualities required in the administrative class of the home Civil Service or the senior branch of the Foreign Service as "brains, personality, effectiveness, judgment, and integrity, the whole blended into a sane and balanced individual by the process of education."

The old opinion of our administrators was perhaps not wholly a myth; the administrative class of the Service was formerly more remote from professional, trade union, and business interests than it is to-day. Its staff must now sometimes mix in the rough world outside Whitehall, and the Civil Service Commissioners are therefore trying to recruit a rather different type of man or woman and to prevent the entry of those who, though highly intelligent, have not the capacity for personal negotiation and humane administration. They have now the additional problems of obtaining staff for vacancies that occurred during the war but were not filled, and of selecting men and women who were not then free to enter but who can now apply—people whose ages range up to 32. One method that they are using is the 48-hour "house party," where personnel selection tests are applied. The Civil Service Selection Board—CISSB for short—which was set up in August, 1945, holds these examinations at a delightful country house at Stoke d'Abernon, in Surrey. As an observer I recently joined a "party" and watched the candidates being put through their paces.

At present all vacancies in the Foreign Service and 25% of those in the administrative class of the home Civil Service are filled by candidates who have been through CISSB. They must have obtained, or be certified by their tutors as able to obtain, at least a second-class honours degree, and they must have passed a qualifying written examination on general topics, where also they must show that they can express themselves clearly in good English. About 40% of the candidates fail at this stage. CISSB does not pass or fail the other 60%: it elicits evidence and makes recommendations; a Final Selection Board accepts or rejects the candidates.

The CISSB staff is drawn from the Civil Service, the universities, the Forces, business, and elsewhere, and includes a number of trained psychologists. In addition to this diversity of experience they are helped by confidential reports on each candidate from his school, university, employers, and commanding officer, and by the candidate's personal references.

Mental Tests

When I arrived the candidates had already been given numbers, by which they are known throughout the test, been sorted into three groups of six to eight (seven is considered the most suitable number), and were drinking tea copiously but in a subdued manner to refresh themselves after two hours' mental testing during the afternoon. These tests are of two kinds—cognitive and projection. The former are "intelligence" tests specially designed for this type of sample of the population and are performed at high speed against the clock; only