INTERNATIONAL ETHICS

Principles for public health action on infectious diseases

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The outbreak of Severe Acute Respiratory Syndrome (SARS) earlier this year led to some drastic measures in the name of public health, including the quarantining of patients and contacts, public naming of SARS patients, and threats of severe legal penalties for non-compliance. Some of these measures conflicted with basic human rights, and raise ethical concerns. We believe that SARS did present an unusual combination of features, but none of those features was individually unique or without precedent. Existing legal and ethical principles may be applied to each of the questions arising from such an outbreak, and authorities should be guided by those principles rather than short-term considerations.

The SARS epidemic

The panic engendered by the outbreak of SARS is nothing new in the arena of infectious disease. One need only consider the precedents offered by leprosy, bubonic plague, sexually transmissible infections including HIV/AIDS and influenza pandemics to understand that fear (rational or otherwise) and infectious disease march hand in hand. Governments and community leaders need to act on the best evidence available and protect the rights and well-being of all citizens including those who may be unwell. Unfortunately, the opposite is commonly the case.

In India, authorities did little to quell the concerns of the population. As was noted in an earlier edition of this *Journal*, 'the authorities' methods created confusion, used coercion and spread panic. Suspected patients were banished to infectious disease hospitals, like criminals to jail. Most of them were ignorant of their medical problem—some did not even know whether they had tested positive (1).'

In China, the Supreme Court declared that intentionally spreading disease and endangering public security or leading to serious injury, death or heavy loss of private property was punishable by imprisonment or *death*. Officials guilty of negligently allowing the disease to spread could face three years in gaol (2). A man in Northern China was sentenced to death for killing the head of the local SARS prevention team following a prohibition on people entering SARS-affected regions. Police staffed checkpoints in China and arrested patients suspected of having SARS who had not stayed in quarantine (3).

Such incidents occurred all over the world. Singapore enacted stringent laws to deal with those breaching quarantine orders (4). In Canada, members of the Immigration and Refugee Board wore masks to hearings of cases brought by Chinese claimants (5). In Manila, two overseas workers treated for typhoid suffered discrimination when the media was informed that they were infected with SARS (6). In Hong Kong, authorities used a police electronic tracking system used in criminal investigations for tracing contacts and monitoring compliance with quarantine (7).

On the other hand, it should be noted that, the Equal Opportunities Commission in Hong Kong responded quickly to complaints of SARS-related discrimination (8).

What is SARS?

SARS appears to be a completely new disease. Progress in understanding it has been rapid, and the causative agent is now believed to be a novel coronavirus, but much remains to be discovered.

A patient can be a 'suspected' case if he/she has fever, cough or respiratory symptoms, and some epidemiological link to another SARS case (personal contact or residence in an affected area). Added X-ray changes or a positive laboratory test puts the patient into the 'probable' category. Significantly, there is still no 'confirmed' category of SARS diagnosis—even now that the virus is known, the tests available cannot be relied upon either to confirm or exclude the diagnosis.

These non-specific case definitions have become even more problematic now that the recognised outbreak has ended; one of the strongest features of the outbreak was the apparent absence of asymptomatic transmission, and thus the ability to link new cases to known prior cases. At least one patient presents to any major hospital each day with a completely different disease, but with all the other features of a suspected case of SARS.

Although the absence of asymptomatic transmission made control more feasible, SARS can be seen as an extremely dangerous disease, and (equally importantly) a disease capable of generating considerable anxiety among both health workers and the general population. Although less infectious than influenza, it seems to spread like some forms of the common cold (by coughing, perhaps direct contact with contaminated hands and materials, and perhaps even via sewage disposal systems). Some patients become highly infectious 'super-spreaders', accounting for many secondary cases. There is no particular behaviour or lifestyle choice that influences the risk of infection. SARS spreads very easily to those caring for patients, including doctors, nurses and other health workers. (This feature instantly guarantees it will be taken seriously.) The overall case fatality rate is high and, although the death rate is highest in the elderly, previously fit doctors and nurses were dead within a few days of the arrival of the disease in their wards.

An unusual feature of the outbreak was the rapid spread of information. Once the SARS coronavirus had spread out of China, information about the disease spread even more rapidly than the disease itself, and public concern and public health measures began within days.

SARS is neither the only new disease to emerge in the modern era nor the only one to spread among health workers. It does not have the highest level of infectiousness, or even the highest case fatality rate. But, unlike other worrisome diseases like Ebola, this is the first time since the First World War that a highly virulent and infectious disease with a brief incubation period has threatened to spread rapidly and widely into industrialised countries, and yet at the same time offered very feasible strategies for control.

Protection from disease versus protecting liberty

How in situations, such as that posed by SARS, is it possible to balance the interest of the public in being protected from disease with the interest of the public in preserving individual liberty? In essence, the criteria to be relied upon are no different from those for any other infectious disease. First, any response should be made on the basis of the best scientific evidence available on the extent of risk to health that the disease poses to others. The risk to others must be shown to be great and those suspected of being infected somehow recalcitrant in their behaviour.

Involuntary quarantine of an individual may be seen as the equivalent of criminal detention. In many countries it is still the case that quarantine is ordered without any of the procedural safeguards usually demanded in criminal trials.

Transparent processes should be adopted where individuals have the opportunity to challenge decisions made by authorities. This should diminish some of the resentment felt by those who feel they have been targeted inappropriately. This must go hand in hand with providing the most up-to-date information to the public about the disease and making the utmost efforts to discourage discrimination. In the most extreme cases, action may be taken and the opportunity for challenge (or perhaps compensation) provided subsequently.

The Siracusa Principles on the Limitation and Derogation of Provisions in the International Covenant on Civil and Political Rights, (Annex, UN Doc E/CN.4/1985/4 [1985]) form a helpful framework in considering whether and how people should be deprived of their liberty. They may be summarised as follows:

- The restriction is provided for and carried out in accordance with the law;
- The restriction is in the interest of a legitimate objective of general interest;
- The restriction is strictly necessary in a democratic society to achieve the objective;
- There are no less intrusive and restrictive means available to reach the same objective; and
- The restriction is not drafted or imposed arbitrarily, i.e. in an unreasonable or otherwise discriminatory manner (9).

In the case of China, the power to quarantine was supported by law. Putting aside the question of penalties for breach of the law, it is unclear whether the law provides opportunity for challenge or redress. One might also question whether the restrictions imposed were the least intrusive or restrictive necessary. Within the framework offered by the Siracusa Principles, the imposition of the electronic tracking system adopted in Hong Kong might also be considered questionable.

Confidentiality

When may confidentiality be breached and to whom? When might it ever be appropriate to provide a person's details to the public? During the SARS outbreak there have been many examples of the breaching of confidentiality between doctor and patient. It is difficult to see how much of such behaviour can be justified in ordinary circumstances. It is well-accepted that breaching confidentiality dissuades people from coming forward for medical assistance and from being frank in their discussions. This is particularly true when the person infected with the disease may also suffer discrimination should this knowledge become widely known.

If a decision is taken that the risk to others is sufficient to merit a breach of confidentiality then consideration should be given to which people actually need to know the information. It will be very rare that information concerning a person infected with, or suspected of being infected with, a disease will need to be broadcast indiscriminately.

Forcing health professionals to treat patients

Particularly during the earliest part of the epidemic, when it was unclear what (if any) personal protective measures would be effective, health workers were called upon to put themselves at a very real (but unknown) degree of risk. Many had seen their colleagues die within days after relatively brief contact with SARS patients. It would be understandable if they wanted to flee rather than admit new patients. A public health perspective says they should stay at work; would it be acceptable for the hospital authorities to oblige individual health workers to stay at their posts? In similar situations in the past, with the emergence of a new disease with unknown characteristics, doctors and nurses have been asked to volunteer for the most dangerous tasks. Commonly these volunteers have been the single, childless, non-pregnant members of staff. Many, as in the SARS outbreak, have volunteered, to their credit. Others, perhaps influenced by the general trend towards a commercial model of medical services, have chosen to take the low-risk option. From a legal point of view many hospital staff would have signed contracts obliging them to perform their duties without any consideration of personal risk, but it is more likely that their decision to stay at work is motivated by the altruism the public and their peers expect from them.

Conclusion

It turned out that SARS was not the 'Armageddon disease' that some infectious disease experts fear—a highly infectious disease with a high case fatality rate, short incubation period, no proven treatment, and a high proportion of transmission by asymptomatic individuals. It happens that it is not as highly infectious as originally feared, and the combination of gowns, gloves, masks and eye protection with careful handwashing is highly protective. However, it is definitely a serious concern; less infectious than influenza but with a case fatality rate similar to invasive meningococcal disease. Its sudden appearance in heavily populated and industrialised areas linked by rapid global air transport meant that, if it had been as bad as feared, it would have created a global disaster beyond the control of any health service in the world. This explains why such drastic measures were taken in several countries.

SARS may well come back, or something even worse may appear. But even in the face of a completely new disease, there are precedents and guidelines for the kind of public health measures that are acceptable and likely to be helpful. Public health and civil authorities need act consistently with these principles so that human rights do not become an unnecessary casualty in the efforts to confront new disease threats.

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