Psychosocial impacts of quarantine during disease outbreaks and interventions that may help to relieve strain

Sarbjit S Johal

Abstract

The threat of outbreak of infectious disease such as non-seasonal influenza A (H1N1), commonly referred to as Swine Flu, can provoke the implementation of public health control measures such as quarantine. This paper summarises the psychosocial consequences that may follow for patients and health care and other front-line workers when using quarantine controls. Those affected by quarantine are likely to report distress due to fear and risk perceptions. This distress can be amplified in the face of unclear information and communication that is common in the initial period of disease outbreaks. This paper outlines recommendations for care of those in quarantine and those working with them, such as helping to identify stressors and normalising their impact as much as possible. This should take place at all levels of response, from public information and communication messages to individual face-to-face advice and support.

Occasions arise where the use of quarantine procedures may be necessary to protect public health. Quarantine refers to restricted movement of those who have been exposed to a contagious disease but who may or may not become ill, whereas isolation applies to restricted movement of persons that are known to be ill with a contagious disease.

Modern quarantine includes a range of disease control strategies that may be used individually or in combination, including; short-term voluntary home curfew, restriction on the assembly of groups of people, cancellation of public events, closure of mass transit systems, and other restrictions of travel.

When planning to care for those in quarantine, one must take account of the multiple psychosocial impacts that the experience of quarantine may have upon patients and their families, workplaces, and communities.

This paper gives an overview of the issues that have arisen when using quarantine to manage infectious disease outbreaks in the past and offers some insights and guidance into how to help manage the psychosocial impact of such restrictions.

Issues concerning people in quarantine or isolation and their families

Maunder et al (2003) reported the results of a study in Toronto, Canada concerning the establishment of a leadership command team and a SARS isolation unit.[1] Patients with SARS reported fear, loneliness, boredom, and anger and they worried about the effects of quarantine and contagion on family members and friends.

Identifying recent contacts for quarantine also provoked fears that the patient would be resented. Staff members were also adversely affected by fear of contagion and of infecting family, friends, and colleagues.

Caring for healthcare workers as both patients and colleagues was emotionally difficult for all involved, and uncertainty and stigmatisation were dominant themes for both staff and patients.

The wider hospital inpatient system was also affected in that there was a need for quarantine upon discharge, or delayed discharge. Patients who were without SARS nevertheless were deprived of family visits and experienced insomnia, anxiety, and interpersonal friction with staff. Limited access to external resources which would normally provide comfort such as books, music, and toiletries also resulted in difficulty. Asian patients also reported stigmatisation and racist reactions in the community because the outbreak was thought to have originated in China.

These findings were also supported by Tansey et al (2007) in a study examining one-year outcomes and healthcare utilisation in survivors of SARS.[2] Many patients experienced social stigmatisation and loss of anonymity and many described the emotional strain of quarantine and isolation.

Issues concerning staff—as healthcare workers and patients

Staff can often have complex and conflicting thoughts and feelings about working during a public health emergency. Healthcare staff asked to work during the SARS outbreak in Toronto in 2003 reported feeling conflicted between their roles as healthcare providers and parents, feeling professional responsibility but also feeling fear and guilt about potentially exposing their families to infection.[1]

Robertson et al (2004) interviewed 10 healthcare workers in Toronto who were quarantined at home for 10 days because of their exposure to SARS and were willing to discuss their experiences. They described experiences that could be categorised as loss, duty, and conflict.

Robertson et al found that workers who treated SARS patients described the likelihood of contracting SARS as 'bad luck' or 'fate' and spoke of the risk pragmatically. Being in quarantine and the need to have to restrict physical contact, to wear a mask, and to remain at home has far-reaching consequences, including loss of intimacy and social contact, culminating in physical and psychological isolation. For example, close family members would no longer hug the healthcare worker.

Parents had to confront changes in normal roles and routines, creating stress for entire families. Most found it difficult to explain the situation to their children without provoking more fear. Healthcare workers felt a duty to protect their children from being taunted or stigmatised by association. Spouses were physically isolated, for example, partners slept in separate rooms and were subjected to further pressure as they assumed responsibilities involving the outside world, such as school runs and shopping, as well as normal routine activities.

In addition to the physical isolation, healthcare workers experienced isolation and stigma as a result of their exposure to SARS. Although most workers rationalised this as a lack of understanding about the illness or the risks involved, all described feeling angry and hurt. Even after the outbreak had been contained and individuals' quarantine had ended, workers remained acutely aware of others' reactions. To avoid the negative response, one worker even denied being a healthcare worker from Toronto.

The psychological consequences of exposure to SARS were expressed in both physical and psychological symptoms. Participants reported emotional strain, sleeping problems and physical symptoms such as shortness of breath and headaches, which they attributed to continually wearing protective masks.

A predominant theme in the SARS literature is whether healthcare workers have a duty to treat high-risk patients. While none of these participants in the Robertson et al study refused to perform their duties, the fear and anxiety associated with the risk of contracting SARS was prominent in their minds.

Robertson et al also found that although their duty as healthcare workers was performed, the dual role of both healthcare worker and family member caused several conflicts. Participants were particularly concerned about infecting family and friends they considered vulnerable.

Conflict was also reported between workers who continued working in high-risk situations and the so-called 'non-essential' staff members who remained at home and were paid. However, the sense of camaraderie that prevailed amongst those who continued to work and the social contact of working together were seen as positive developments.

Further to these Canadian reports, a study of emergency department staff in Taiwan during the SARS outbreak of 2003 also found that healthcare workers were worried about their anticipated overtime hours if other staff were quarantined, as well as the stigma of the illness and the health of their families and themselves.[4]

More recently, Taylor et al found considerable impact on those people affected by quarantine measures during the Australian equine influenza outbreak in 2007.[5] Sixty-four percent of survey respondents believed that reduced contact and movement restriction measures were being followed less strictly by others than themselves. A significant proportion also indicated problems with reduced contact, quarantine and isolation: 13% indicated problems with visitors or visiting others, 13% reported feeling isolated, and 9% indicated general emotional distress.

The importance of clear and transparent information in managing perceptions of public health risks

Staff frequently reported feeling angry about the spread of SARS and the lack of (or conflicting), information given by management and public health authorities.[3] Many learned of their quarantine through media coverage before their managers informed them. Many could not reach public health authorities for information although others realised that the lack of reliable information was a result of SARS being a new condition and that the authorities and management were doing their best to respond to emerging new information.

The lack of clear guidelines on how to minimise infection at home and in quarantine can add to individuals' fears of contaminating family members and to their uncertainty regarding effective risk control. This uncertainty has been argued to add to individuals' sense of unease and increased their perception of personal danger.[1]

As can be seen above, the importance of clear and unambiguous information in a disease outbreak is paramount. At a broader level, Brahmbhatt and Dutta's 2008

review of behavioural analogues apparent in health and economic emergencies illustrates that there is a need for coherent, consistent, and easily accessible information from public health authorities, infection-control experts, and healthcare management.[6]

Recent theoretical work on information cascades and herding behaviour suggests that in situations of obscure information (such as the early stages of a disease outbreak), people may rationally look to the behaviour of others as a source of information. This process can lead large numbers of people to the same incorrect conclusions and unhelpful decisions.

It seems reasonably likely that under the conditions of high uncertainty, poor information, rapid change and emotional stress that exist during an infectious disease outbreak, individuals could arrive at significantly biased subjective assessments on key factual issues, at least for a time. This could lead to an over-estimation of the infection risk and to making less than optimal decisions regarding preventative actions, such as not complying with quarantine restrictions, fleeing, or quitting their jobs prematurely.

Public opinion surveys taken during SARS suggest that people at times held excessively high perceptions of the risk of becoming infected with SARS, or if infected, of dying of the disease. However, other survey evidence also indicates that people are constantly trying to update and improve their subjective probability estimates.[7]

All of this means that the role of information and communication in public health policy and response becomes pivotal. Accurate and timely information needs to be released through official sources to help reduce unwarranted panic and emotional distress and to help people form more realistic probability assessments of subjective risk.

In the early stages of a limited disease outbreak, there may be considerable uncertainty as to whether it will turn into an epidemic or merely disappear. Authorities may often adopt a 'wait and see' approach, especially if an official announcement may trigger the kinds of severe trade and travel restrictions that were imposed on India during the 1994 Surat plague outbreak.

However, against these possible benefits must be balanced against the increased risk of the outbreak turning into a full blown epidemic because of secrecy and delays in launching public health measures or in calling for international assistance.

Modern developments in the plethora of non-official sources of information (e.g. rumours via cell phone or the Internet) mean that unless authorities take proactive steps to ensure otherwise, inaccurate sources of non-official information may undermine credibility, fostering even greater panic, uncertainty and possible foreign sanctions.

A transparent and credible public information strategy at all levels is likely to be the best way to minimise unwarranted panic and increase adherence to public health measures through mobilising the public as a partner in controlling the disease outbreak. An example of this is the information strategy adopted by Singapore during the SARS crisis.

Recommendations and possible interventions

For people in quarantine or isolation: The experience of stress should be taken to be understandable as a universally experienced response to extraordinary life circumstances. Stressors should be identified, articulated and normalised as much as possible. Ensure that the affected person has someone they can talk to who they trust and is knowledgeable about the situation.

For most people the range of normal reactions, such as anxiety and preoccupation should not be viewed as pathological but should be understood and perhaps realigned in order to help adaptation to public health measures.

Psychological advice and pharmacological interventions addressing inability to sleep should be readily available as sleep deprivation is likely to exacerbate other difficulties.

Early on in the SARS crises, the mode of transmission of the disease was unknown and all person-to-person contact was minimised. However, some people in quarantine reported that healthcare workers insisted on spending time with and giving emotional support to them, and this helped to reduce their feelings of fear, anxiety and isolation.

People in isolation or quarantine experience a range of economic and practical problems. Although most of these problems fall outside the health or front-line worker's expertise and control, the worker can help affected people to obtain needed services by referring them to appropriate agencies through civil defence and welfare agency contacts.

Measures to reduce the negative impact of social isolation could include creative solutions to increase effective interpersonal communication, and efforts to provide accurate information to the media to reduce stigmatising reports. Possible tools for improved communication with loved ones could include access to the internet for email and teleconferencing software such as Skype.

Telephone contact is likely to be highly acceptable and helpful though this would have to be considered within the physical limitations of the quarantine areas. Access to newspapers and television may help people maintain a sense of connectedness with the outside world.

For staff members:

The acute stress of working with potentially highly infectious patients should be recognised and acknowledged. Easily accessible practical advice on coping strategies and stress management at work and at home may be useful. Service managers may want to liaise with organisational EAP or occupational health providers concerning this. Other technical advice such as infection prevention control is readily available at the Ministry of Health website.

Authorities can positively support efforts to reduce the job stress that is generated by increased workload and assignment to unfamiliar tasks. In past quarantine episodes, occupational health staff have developed pamphlets identifying signs of anxiety and stress and information about support resources which were distributed to every nursing unit involved in quarantine measures.

For those healthcare professionals or other front-line staff working in dangerous conditions, accessible and timely referral paths should be developed for the few who may require mental health services. For example, a confidential telephone support line set up by staff with knowledge and training to be made available for those staff members in quarantine. Just the knowledge that support is available may suffice for many resilient staff members. There is also an opportunity for leadership by example where service-managers advocate and use peer-support.

Issues regarding stigma for health workers or front-line staff involved in quarantine responses are understandable and are likely to subside only when public information and role modelling by authorities at all levels are improved.

Many of the psychosocial consequences described above can be predicted and measures put in place to address them during pre-emergency times. Other issues may come to light during the event. For example, people being transported from airports to quarantine areas before having uploaded their baggage can be without personal items such vital medication for days. Other issues such as boredom or lack of food can lead to quarantine rules being breached. Ongoing assessment of need is crucial if we are to help people to comfortably comply with these public health restrictions.

Competing interests: None known.

Author information: Sarbjit S Johal, Clinical Psychologist, Risk and Assurance, Ministry of Health, Wellington & Research Affiliate, Joint Centre for Disaster Research, School of Psychology / GNS Science, Wellington

Correspondence: Dr Sarb Johal, Risk and Assurance, Ministry of Health, PO Box 5013, Wellington, New Zealand. Fax: +64 (0)4 4962206; email: sarb@equanimity.co.nz

References:

1. Maunder R, Hunter J, Vincent L, et al. The immediate psychological and occupational impact of the 2003 SARS outbreak in a teaching hospital. Can Med Assoc J. 2003;168:1245–51.

2. Tansey CM, Louie M, Loeb M, et al. One-year outcomes and heath care utilization in survivors of Severe Acute Respiratory Syndrome. Arch Intern Med. 2007;167:1312–20.

3. Robertson E, Hershenfield K, Grace SL, et al. The psychosocial effects of being quarantined following exposure to SARS: A qualitative study of Toronto health care workers. Can J Psychiatry. 2004;49:403–7.

4. Lin CY, Peng YC, Wu YH, et al. The psychological effect of severe acute respiratory syndrome on emergency department staff. Emerg Med J. 2007;24:12–17.

5. Taylor M, Agho K, Stevens G, et al. The social impact of equine influenza and lessons for the future. Paper presented at the 2nd Australasian Mental Health and Psychosocial Disaster Management Conference; 2008.

6. Brahmbhatt M, Dutta A. On SARS type economic effects during infection disease outbreaks. The World Bank, East Asia and Pacific Region, Policy Research Working Paper 4466; 2008.

7. Leung GM, Quah S, Ho LM, et al. A tale of two cities: Community psychobehavioural surveillance and related impact on outbreak control in Hong Kong and Singapore during the severe acute respiratory syndrome epidemic. Infect Control Hospital Epidemiol. 2004;25:1033–41.