The Royal Society of Medicine

Commentary

Journal of the Royal Society of Medicine; 2022, Vol. 115(1) 12–15
DOI: 10.1177/01410768211046839

How to avoid harmful national quarantines: primary care led local public health: a historical perspective

Edward H Reynolds
Department of Clinical Neurosciences, King's College, London, UK
Corresponding author: Edward H Reynolds. Email: reynolds@buckles.u-net.com

'plagues and wars always find people equally unprepared'[1]
'the doctor was there to order isolation'[1]

In March 2020, the UK introduced a national quarantine for an infectious disease for the first time in over 140 years. A year later, I ask and attempt to answer the question:

Why has the UK reintroduced harmful national quarantines not once but three times in the last year, although such quarantines were abandoned in 1877 as impractical without serious economic and social consequences, as indeed we have witnessed, but also avoidable with a new system of 'medical inspection' or local public health?[2]

Local public health. National quarantines abandoned. 1875

The 1875 Public Health Act[3] is the foundation stone of modern public health. It established local urban and rural authorities responsible for their own public health led by a local Medical Officer of Health (MOH), invariably a General Practitioner (GP). Working with the local Council, the MOH was responsible for water and food hygiene, sanitation, and all issues injurious to health arising in the home, school or work place; and crucially for the diagnosis, recording, management or isolation and prevention of infectious diseases.

Also under the 1875 Act, the Local Government Board (LGB) was given the power to make regulations to prevent the spread of infectious diseases. In the 1877 Report of the LGB, the Medical Officer noted:

> *A quarantine which is ineffective is a mere irrational derangement of commerce; and a quarantine of the kind which ensures success is more easily imagined than realised. Only in proportion as a community lives apart from the great highways and emporia of commerce, or is ready and able to treat its commerce as a subordinate political interest, only in such proportion can quarantine be made effectual for protecting it. In proportion as these circumstances are reversed, it becomes impossible to reduce in practice the paper plausibilities of quarantine. The conditions which have to be fulfilled are conditions of national seclusion.*

Harmful national quarantines were therefore abandoned in favour of a new system of 'medical inspection' or local public health.[2]

The effectiveness of the new system was illustrated in 1910 when an astute GP, Dr. Carey, detected a local outbreak of the Plague in East Suffolk.[4] He prevented an epidemic by the rapid mobilisation of the local public health facilities, including laboratory diagnostic confirmation, isolation of contacts and slaughter of rats, ferrets and rabbits, all overseen by the local Government Inspector.

The severe 1918–1919 influenza pandemic evolved in the last year of an exhausting world war and its aftermath with the mass movement of troops and debilitated refugees and civilians. The nature of the infection was unknown, it was not notifiable and no central authority had an overview of the situation.[5] In the UK, there was no overarching Ministry of Health, which was established later in 1919 as a result of the pandemic. Initially, the Government suppressed information about the epidemic for fear of undermining the war effort and morale. It was left to the depleted LGB and local councils to cope as best they could in an uneven manner with the closures of schools and theatres etc., the restriction of public gatherings and the encouragement of respiratory hygiene and social distancing.[5]

By the time of the Second World War, primary care-led local public health had been reinforced with the support of the Ministry of Health. Before, during and after the Second World War, my father, a single-handed GP, was also MOH for our village of

Caerleon in Monmouthshire with a pre-war population of about 3000. He was responsible for the local diagnosis, notification, isolation, treatment or vaccination of the many bacterial or viral outbreaks of that pre and post-Second World War period. Working with a Committee of another GP and two of the Urban District Councillors, he produced an Annual Report covering all aspects of the public health of the village, including communicable diseases. His Report for 1937 includes vital statistics – that is, births and deaths, in great detail; social conditions, including housing and sanitation; medical and social services, almost all, including isolation hospitals, outside Caerleon; food and factory hygiene. That year, the dominant infectious diseases of the village were tuberculosis and scarlet fever, but the infant school had to be briefly closed on three occasions because of outbreaks of chickenpox, mumps and measles, respectively. Other notifiable infectious diseases of concern during that period included diphtheria, typhoid, paratyphoid, poliomyelitis, pneumonia and whooping cough.

The National Health Service and local public health

The origins of the NHS in 1948 were rooted in the above public health and social concerns and inequalities of the first half of the 20th century, aggravated by two world wars. The introduction to the 1946 Act states clearly that the NHS was 'designed to secure improvement in the physical and mental health of the people of England and Wales and the prevention, diagnosis and treatment of illness'.[6] The intention had been to integrate all services within local government but under pressure, especially from medical professionals, the hospital services were separated under Regional Health Boards. Public health services remained linked to local urban and rural councils or boroughs. MOHs continued: (1) to supervise local antenatal, infant, child and school services; (2) to promote improvements in sanitation, social conditions and services; and (3) to be responsible for infectious diseases, including a much greater emphasis on vaccination programmes from the 1950s onwards.

The last great pandemics to hit the UK were the so-called 'Asian' or 'Hong Kong' variants of the influenza A2 virus during the winter of 1957 (H2N2 variant) and the successive winters of 1968/1969 and 1969/1970 (H3N2 variant), both of which were suspected to have originated in China.[7,8] Influenza was not a notifiable disease then and so the exact number who died is uncertain, but excess deaths for the two winters of 1968/1969 and 1969/1970 combined were approximately 80,000, more in the second than the first winter. During that first winter, the epidemic was less severe but more prolonged with weekly excess death rates between 2000 and 3000. In 1969/1970, the epidemic was more acute and severe with weekly excess death rates rising to between 7000 and 10,000.[7] The NHS, which had much greater capacity then, was under severe pressure, requiring extra beds. Medical students were drafted in to assist. Although some called for a national strategy, the Ministry of Health, aware of the impracticalities, demurred. There was no epidemiological modelling with alarming projections and the press was more restrained.[8] GPs, MOHs and local public health services remained primarily responsible for managing the epidemic.

The 1974 NHS reorganisations led briefly to the undermining of comprehensive local public health by abolishing MOHs and distributing their duties among: (1) Community physicians attached to hospitals; (2) new Social Service departments; and (3) GPs who, together with their health visitors, were in the frontline of infectious diseases, including responsibility for vaccinations.[9] The concept of local public health was renewed by the Acheson Report of 1988[10] with newly titled 'Directors of Public Health' required to produce Annual Reports on their local populations, albeit with much larger town, city and county boundaries than hitherto, supported by 60 National, Regional and Local Public Health laboratories.

The demise of local public health and the fragility of the NHS

In the last 20 years, local public health has been progressively eroded, beginning with the abolition of the Public Health Laboratory Service Board in 2003 and the centralisation of responsibility for the control of communicable diseases, firstly in the Health Protection Agency and then, with the 2012 Health and Social Care Act, in Public Health England, supported with only nine laboratories and eight regional centres.[11] At the same time, in 2012, other public health functions were taken out of the NHS and given to top-tier local authorities charged with improving public health but answerable quite separately to the Secretary of State. These reorganisations effectively abolished the system of local 'medical inspection' that had successfully prevented national quarantines for over a century.

Another predisposing factor to vulnerability to the 2020 Covid pandemic was reduction in the capacity of the NHS initiated by the 1990 NHS and Community Care Act. I have discussed elsewhere[12,13] how the introduction of market forces and

fragmentation in the NHS resulted in Service principles being subordinated to or in constant tension with Business principles, such that the NHS has been constantly under pressure with hospitals in particular at near maximum capacity even in summer months. An early sign of this in 1995 was the patient with a severe head injury who had to be helicoptered from Kent to Leeds, where he died, because there were no intensive care beds available in the whole of London or the South East. Since then, the NHS/NHB has rarely been out of the news with concerns about under-funding, under-staffing, patient safety and staff morale. Three statistics vividly illustrate the problem. In the last 30 years, approximately 60,000 acute and general hospital beds (34%) have been lost to the NHS, only some reflecting productive changes in clinical practice. In 2018, there were 85,000 cancelled surgical operations, a rarity before 1990. It is well known that prior to the outbreak of the pandemic, the NHS had vacancies for 100,000 staff, half of them nurses but including doctors, all leading to enormous Agency bills and financial inefficiency. The constant preoccupation with short-term financial and Service pressures undermined any attempt at long-term planning for unexpected demands, especially a pandemic, and led to the regrettable need of the Government to 'Save the NHS'. Any planning for future pandemics will need to address the issue of NHS capacity and in particular a realignment of Service and Business principles to ensure the highest clinical standards are linked to greater financial efficiency.[13]

The reintroduction of national quarantines. 2020

When the new and untreatable Covid 19 virus struck the UK in February 2020, the previously robust local public health defences no longer existed and the NHS was functioning precariously at maximum capacity. As of July 2021, over 130,000 have officially died of the virus, but excess deaths suggest the figure may be over 150,000. Sadly, the UK has one of the worst death rates in the world notwithstanding three national quarantines for the first time since the 1875 Act in March and October 2020 and January 2021. The predictable economic and social consequences of such quarantines have been all too visible. The economy has suffered its greatest decline since the Second World War, with rising unemployment, loss of businesses and damage to large sectors, including the arts, entertainment and hospitality. The long-term harm to children's education and mental health has been profound, as also to the mental and physical health of the adult population, aggravated by the great pain of separation from the dying and the living, family and friends. With the future plans of almost all on hold, many have become anxious prisoners of the quarantines.[1] It is regrettable that there have been no measures of the harms to mental and social wellbeing to evaluate alongside those of commerce and the virus. So extensive are the personal, social, educational, economic and indirect health costs of a national quarantine that it is debatable and is debated whether these disastrous consequences are as bad or worse than the disastrous effects of the epidemic?[14]

When the pandemic is over, there will be a detailed enquiry of what went wrong and how to do better in future pandemics. This is neither the time nor place for such detailed analysis, but one conclusion seems almost certain, that is, that never again should we have to experience such impractical and avoidable harmful national quarantines, as was understood in 1877. Never again will Government ministers want to or need to make agonising balancing decisions between lives and livelihoods, health and wealth; or to make arbitrary, incoherent and inconsistent decisions about how many people may meet, where and when and in which tier; decisions for which they are wholly unqualified and that should be left to local public health professionals in the front line.

Patient and contact isolation

One other conclusion seems probable. We have known for centuries that apart from hygiene, sanitation and disinfection, the key to preventing the spread of an untreatable infection is ISOLATION of patients and contacts, for which purpose isolation hospitals were commonly available prior to the beginning of the antibiotic era in the mid-20th century. As I have illustrated, the key to isolation and the prevention of contagion is local public health, as we have successfully practised in the past and other countries have demonstrated in this pandemic.[15] A good example is Thailand with only 67 deaths in 2020, largely due to the mobilisation of one million volunteer health workers together with border controls, including free quarantine hotels for Thais. Unfortunately, in the spring of 2020, instead of building up our depleted local defences, the Government made the monumental misjudgement of establishing a new centralised test, trace and isolate system run by private companies with little or no experience in public health. As others have pointed out, despite impressive numbers of tests,[16] the data for contact tracing is consistently poor at around 60% in November of last year.[17] But worst of all, we have no statistics for the number of isolations, which is the objective of the system. In the absence of significant

supervision and support for isolation, it has been predicted that fewer than 20% of those asked to isolate are doing so, confirming that the centralised system is an expensive failure,[18] contributing to the second and third waves and quarantines. If only half the allocated 37 billion pounds (so far) had been directed to primary care with GPs and their support staff in the front line of 'medical inspection', where isolations can be encouraged and documented, the outcome could have been very different. If GPs can now be involved in Covid vaccination, there is every reason to believe they should have been involved in test, trace and isolate.

Conclusion

As we have seen in the last year, national quarantines are so harmful to the personal, economic and social life of the country that it is difficult to imagine that any Regulatory Authority, if ever asked, would approve of such a health policy, except as a last desperate measure to allow time to initiate more effective, less harmful local public health measures, as was understood in 1877. Unfortunately, the primary careled public health defences against infectious diseases which proved successful throughout the 20th century had been dismantled and inappropriately centralised in the 21st century. This together with the simultaneous reduction in capacity and increased fragility of the NHS left the country particularly vulnerable to a pandemic. Regrettably, during the first national quarantine in the spring of 2020, the Government failed to learn the lessons of the past or from the example of other more successful countries, leading to two more harmful national quarantines. History and present experience indicate that to prevent further harmful national quarantines the way forward is to revive a modernised partnership between primary care and very local authorities with the guidance and support of central government. The UK has one of the most comprehensive primary care services in the world, as illustrated again this year during the rapid implementation of the vaccination programme. Almost everyone is registered with a general practice and no one is better placed to understand and address the health issues of patients, families and their local communities than GPs. The reinvolvement of primary care together with more granular local authority structures will be the key to preventing further disastrous national quarantines in the future.

Declarations

Competing Interests: None declared.

Funding: None declared.

Ethics approval: Not applicable.

Guarantor: EHR.

Contributorship: EHR.

Acknowledgements: None.

Provenance: Not commissioned; peer reviewed by Neil Snowise and Yuri Zagvazdin.

ORCID iD: Edward H Reynolds https://orcid.org/0000-0001-8959-7787

References

1. Camus A. The Plague. *Penguin Classics*. London: Penguin Books, 2013, p.30, 149.
2. Reynolds EH. The prevention of the importation of infectious diseases in England in 1877. *JRSM* 2020; 113: 478.
3. House of Commons. Public Health Act, 1875. Legislation.Gov.UK, 1875.
4. Black J and Black D. Plague in East Suffolk 1906–1918. *JRSM* 2000; 93: 540–543.
5. Spinney L. *Pale Rider. The Spanish flu of 1918 and how it changed the world*. London: Vintage, 2017.
6. National Health Service Act 1946. 9 & 10 Geo. 6c, 81.
7. Miller DL, Pereira MS and Clarke M. Epidemiology of the Hong Kong/68 variant of influenza A2 in Britain. *BMJ* 1971; 1: 475–479.
8. Honigsbaum M. Revisiting the 1957 and 1968 influenza pandemics. *Lancet* 2020; 395: 1824–1826.
9. Gorsky M. Local leadership in public health: the role of the medical officer of health in Britain, 1872–1974. *J Epidemiol Community Health* 2007; 61: 468–472.
10. Secretary of State for Social Services. *Public Health in England*. The Report of the Committee of Enquiry into the future development of the public health function (Cm289). London: HMSO, 1988.
11. Roderick P, Macfarlane A and Pollock AM. Getting back on track: controlling Covid-19 outbreaks in the community. *BMJ* 2020; 369: m2484.
12. Reynolds EH. A better future for the NHS: a historical perspective from the frontline. *JRSM* 2018; 111: 374–376.
13. Reynolds EH. National Health Service or National Health Business? An historical perspective. *Royal College of Physicians: Commentary* 2019; 4: 20–22.
14. Carney M. Value and values. BBC Reith Lectures. December 2020.
15. Crozier A, McKee M and Najan S. Fixing England's Covid-19 response: learning from international experience. *JRSM* 2020; 113: 422–427.
16. Rae M and Friedman E. An efficient test and trace regime is not a numbers game. *BMJ* 2020; 370: m3553.
17. Griffin S. NHS England should manage test and trace system, says independent SAGE. *BMJ* 2020; 371: m4330.
18. Harding-Edgar L, McCartney M and Pollock AM. Test and trace strategy has overlooked importance of clinical input, clinical oversight and integration. *JRSM* 2020; 113: 428–432.