Countries worldwide have implemented strict controls on movement in response to the covid-19 pandemic. The aim is to cut transmission by reducing close contact (box 1), but the measures have profound consequences. Several sectors are seeing steep reductions in business, and there has been panic buying in shops. Social, economic, and health consequences are inevitable.

**Box 1: Social distancing measures**

- Advising the whole population to self-isolate at home if they or their family have symptoms
- Bans on social gatherings (including mass gatherings)
- Stopping flights and public transport
- Closure of “non-essential” workplaces (beyond the health and social care sector, utilities, and the food chain) with continued working from home for those that can
- Closure of schools, colleges, and universities
- Prohibition of all “non-essential” population movement
- Limiting contact for special populations (eg, care homes, prisons)

The health benefits of social distancing measures are obvious, with a slower spread of infection reducing the risk that health services will be overwhelmed. But they may also prolong the pandemic and the restrictions adopted to mitigate it. Policy makers need to balance these considerations while paying attention to broader effects on health and health equity.

**Who is most at risk?**

Several groups may be particularly vulnerable to the effects of both the pandemic and the social distancing measures (box 2). Table 1 summarises several mechanisms through which the pandemic response is likely to affect health: economic effects, social isolation, family relationships, health related behaviours, disruption to essential services, disrupted education, transport and green space, social disorder, and psychosocial effects. Figure 1 shows the complexity of the pathways through which these effects may arise. Below we expand on the first three mechanisms, using Scotland as an example. The appendix on bmj.com provides further details of mechanisms, effects, and mitigation measures.
Economic effects

People may experience loss of income from social distancing in several ways. Although some people can work at home, many cannot, especially those in public facing roles in service industries, a group that already faces precarious employment and low income. Others may be affected by workplace closures, caused by government mandate, an infected co-worker, or loss of business. Yet more may be unable to work as school closures require them to provide childcare. In the UK, 3.5 million additional people are expected to need unemployment payments as a result of the pandemic.

The growth of the informal, gig economy in some countries has created a large group of people who are especially vulnerable as they do not get sick pay, are on zero hours contracts, or are self-employed. They can easily lose all their income, and even if this is only temporary they often lack the safety net of savings. An important risk is housing security, with loss of income causing rent or mortgage arrears or even homelessness.

School closure will affect low income and single parent families especially severely because they need to meet an unexpected need for childcare and lose the benefit of free school meals. They may also face increased costs for heating their homes during the day. In some countries, welfare systems impose strict conditions on recipients that cannot be met by those in isolation.

The link between income and health is well established and acts as amplifiers.

Social isolation

Advising or compelling people to self-isolate at home risks serious social and psychological harm. Quarantine of people exposed to an infectious disease is associated with negative psychological effects, including post-traumatic stress symptoms, which may be long lasting. The effects are exacerbated by prolonged isolation, fear of the infection, frustration, boredom, inadequate supplies and information, financial loss, and stigma. These effects are less when quarantine is voluntary and can be mitigated by ensuring clear rapid communication, keeping the duration short, providing food and other essential supplies, and protecting against financial loss.

In Scotland, a third of the population lives alone and 40% of this group are of pensionable age. Older people are also less likely to use online communications, making them at particular risk of social isolation during social distancing. Social isolation is defined as pervasive lack of social contact or communication, participation in social activities, or a confidante.

Long term, social isolation is associated with an increase in mortality of almost a third. Prolonged periods of social distancing could have similar effects. People who are socioeconomically disadvantaged or in poor physical or mental health are at higher risk. Online and telephone support needs to be provided for vulnerable groups, especially those living alone.

Family relationships

Social distancing measures will place many people in close proximity with family members all or most of the time, which...
may cause or exacerbate tensions. Concern has been raised about potential increases in family violence during restrictions in the UK.\(^{17}\) Risk factors for partner and child abuse include poverty, substance misuse in the home, and previous history of abuse.\(^{18-19}\) Around 60,000 domestic abuse incidents occur in Scotland every year, with young women most affected,\(^ {20}\) and over 2500 children are on the child protection register.\(^ {21}\)

It is important to maintain social work and community support for vulnerable families, including safety advice for women at risk of abuse. Domestic abuse advocates have called for enhanced support, including allocation of hotel rooms for women at risk.\(^ {17}\)

School closures may add to stress in families as parents try to home school children, often juggling this with home working. This burden may fall disproportionately on women. As well as academic learning, schools support development of social and other skills. Prolonged school closures could cause adverse effects on educational and social outcomes for young people in families that lack study space and access to home computing.\(^ {22}\)

Some children who are not at school may be at risk of online or other forms of exploitation—for example, by drug dealers—or being recruited into gangs. Realistic expectations of home schooling, provision of food for those eligible for free school meals, and outreach support for the most vulnerable children will be needed during school closures. Many children will need extra support on return to school.\(^ {22}\)

**Mitigating adverse effects**

In addition to the direct disease burden from covid-19, the pandemic response is already causing negative indirect effects such as those described above. These are borne disproportionately by people who already have fewer resources and poorer health. Prolonged or more restrictive social distancing measures could increase health inequalities in the short and long term.

Our assessment is based on rapid scoping of potential impacts and a non-systematic review of diverse publications, so there is a high degree of uncertainty about the extent of some impacts. However, the range of health concerns identified, beyond those directly attributable to the virus itself, should be recognised in developing and implementing responses. The effects may also vary by context. In low and middle income countries without social safety nets, the effects on population health and health inequalities are likely to be worse than in richer countries, as is beginning to be seen in India.\(^ {21}\)

Actions must be targeted to support the most vulnerable people. The extraordinary measures in the UK to allow businesses to continue paying staff will help mitigate the harms for many workers. But it is important to consider people in precarious work who will not be covered by these measures, and to consider longer term support for those who continue to experience problems once the measures expire. A large multiagency response will be needed to deal with the wide range of needs we have identified.

In the longer term, policy decisions made now will shape the future economy in ways that could either improve or damage sustainability, health, and health inequalities. These include decisions about which sectors to prioritise for support, whether to direct financial support to business or workers, and how to fund the costs. To protect population health it will be essential to avoid a further period of austerity and the associated reductions in social security and public service spending. Instead we must build a more sustainable and inclusive economy.\(^ {20}\)

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**Key messages**

Social distancing measures to control the spread of covid-19 are likely to have large effects on health and health inequalities. These effects have numerous mechanisms, including economic, social, health disrupted behaviours, and disruption to services and education.

People on low incomes are most vulnerable to the adverse effects of Substantial mitigation measures are needed in the short and long term.

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Contributors and sources: MD chairs the Scottish Health and Inequalities Impact Assessment Network. SVK has research interests in social determinants of health and healthy public policy. MT has expertise in quantitative social research and social policy. MMcK is director of the European Observatory on Health Systems and Policies. GMcG is head of the Scottish Public Health Observatory. MD used a health impact assessment checklist to identify potential mechanisms. GMcG, MD, SVK, and MT prepared the paper on impacts shown in the table in the appendix. All authors debated and agreed the findings and contributed to the text of the paper.

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8 Morris JN, Donkin AJM, Wonderling D, Wilkinson P, Dowler EA. A minimum income for social policy. MMcK is research director of the... 12017/13), and the Scottish Government Chief Scientist Office (SPHSU13).

9 Substantial mitigation measures are needed in the short and long term.


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## Table

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<th>Summary of effects</th>
<th>Summary of mitigations</th>
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<td>• Income losses for workers unable to work</td>
<td>• Protect incomes at the level of the minimum income for healthy living</td>
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<tr>
<td></td>
<td>• Longer term increase in unemployment if businesses fail</td>
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<td></td>
<td>• Recession</td>
<td>• Reduce longer term unemployment</td>
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<td></td>
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<td>• Prioritise inclusive and sustainable economic development during recovery</td>
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<td>Social isolation</td>
<td>• Lack of social contact, particularly for people who live alone and have less access to digital connectivity</td>
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<td></td>
<td>• Difficulty accessing food and other supplies</td>
<td>• Provide supplies</td>
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<td>• Provide clear communications</td>
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<td></td>
<td></td>
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<td>• Ensure realistic expectations for home working and home schooling</td>
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<td></td>
<td>• Provide safety advice and support services for women at risk of domestic abuse</td>
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<td>Health related behaviours</td>
<td>• Potential for increased substance use, increased online gambling, and a rise in unintended pregnancies</td>
<td>• Advice and support on substance use, gambling, contraception</td>
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<td>• Reduction in physical activity as sports facilities closed and less utilitarian walking and cycling</td>
<td>• Encourage daily physical activity</td>
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<td>Disruption to essential services</td>
<td>• Direct effects on health and social care demand</td>
<td>• Robust business continuity planning</td>
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<td>• Unwillingness to attend healthcare settings may affect care of other conditions</td>
<td>• Prioritise essential services including healthcare, social care, emergency services, utilities, and the food chain</td>
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<td></td>
<td>• Loss of workforce may affect essential services</td>
<td>• Guidance, online consultations, and outreach, for conditions other than covid-19</td>
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<td>• Attention to supply chains for non-covid medicines</td>
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<td>Disruption to education</td>
<td>• Loss of education and skills, particularly for young people at critical transitions</td>
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<td></td>
<td>• Likely increase in educational inequalities from reliance on home schooling</td>
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<td>Traffic, transport, and green space</td>
<td>• Reduced aviation and motorised traffic with reduced air pollution, noise, injuries, and carbon emissions in short term</td>
<td>• Discourage unnecessary car journeys</td>
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<td>• Restricted public transport may reduce access for people without a car</td>
<td>• Support active travel modes</td>
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<td></td>
<td>• Longer term reluctance to use public transport may increase use of private cars</td>
<td>• Support safe access to green spaces</td>
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<tr>
<td></td>
<td>• Restricted access to green space, which has benefits for physical and mental health</td>
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<tr>
<td>Social disorder</td>
<td>• Potential for unrest if supplies run out or there is widespread discontent about the response</td>
<td>• Mitigation of other effects will reduce risk of social disorder</td>
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<td>• Harassment of people believed to be at risk of transmitting the virus</td>
<td>• Avoid stigmatising ill people or linking the pandemic to specific populations</td>
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<tr>
<td>Psychosocial impacts</td>
<td>• High level of public fear and anxiety</td>
<td>• Provide clear communications</td>
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<td></td>
<td>• Community cohesion could increase as people respond collectively</td>
<td>• Support community organisations responding to local needs</td>
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Figure

Fig 1 Effects of social distancing measures on health