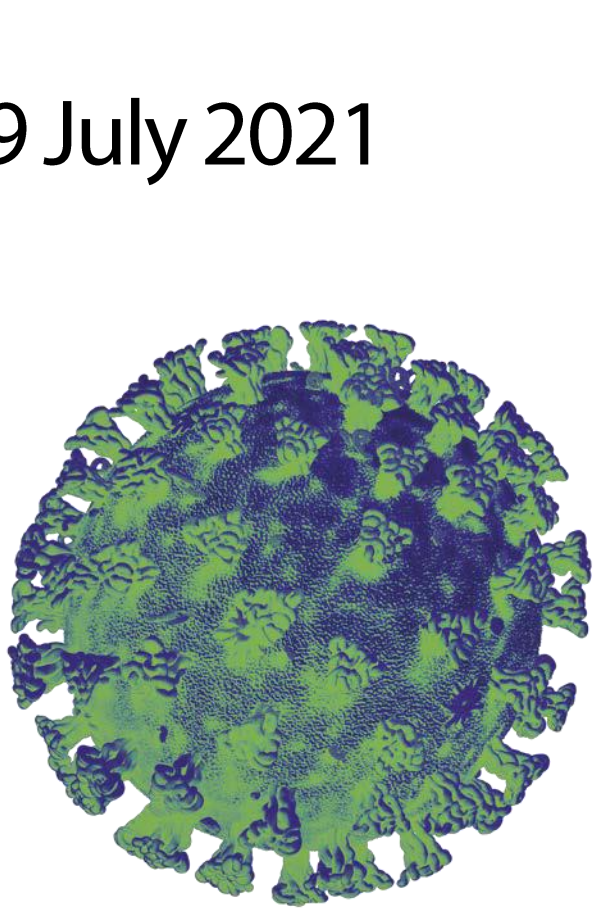
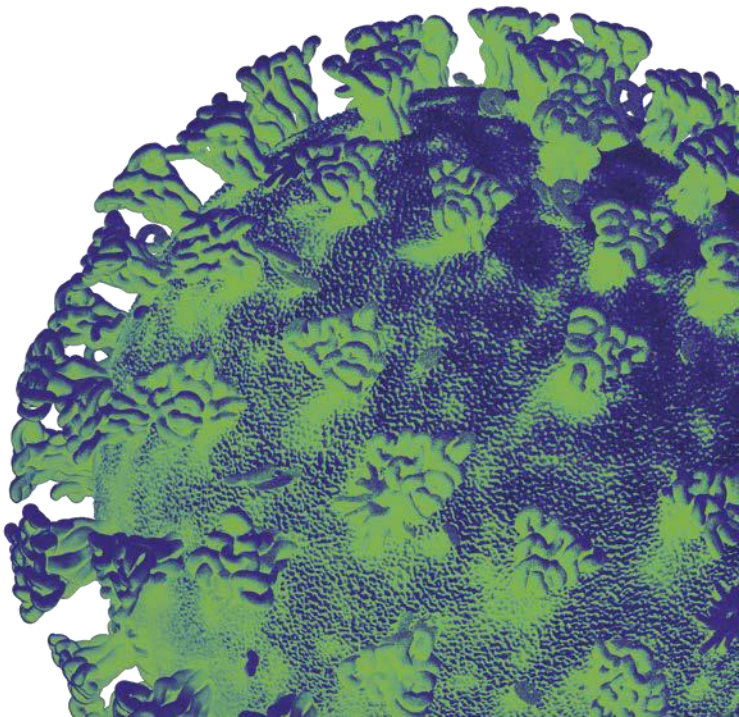
Llywodraeth Cymru
Welsh Government

Technical Advisory Group

Five Harms Arising from COVID-19: Consideration of Potential Baseline Measures

9 July 2021





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Key Points

- It makes sense for Wales to have a continued level of baseline measures as part of adaptive management of the virus but there is no ‘zero harm’ option - we need to consider how to balance harms, where they cannot be minimised completely.
- As we move out of emergency phase, we need fine-tuned policies that minimise and balance the five harms of COVID-19.
- Provision of support to encourage adherence to remaining measures (e.g. self-isolation) and to enable risk-based decision making (e.g. where guidance replaces legal duties, such as 2m distancing) is important to minimise harms associated with baseline measures.
- COVID-19 is a syndemic building on existing inequalities – there are ‘shadow pandemics’ happening, such as food insecurity and violence against women and children. COVID-19 has illuminated issues around health and financial resilience in the population. We need to ensure we have a portfolio of interventions that improve health and reduce inequalities.
- This paper gives an initial qualitative assessment of harms associated with potential baseline measures. However it is not exhaustive, and is to some extent subjective, based on contributor knowledge and experience of the emerging field. More work may be required to look at the relative magnitude of harms.
- New challenges and uncertainties associated with each of these measures will likely evolve and therefore it is important that consideration of the wider harms is regularly revisited.
- Whilst co-production requires time and resource, investment in co-production can go a long way to improving relevance, acceptability and implementation success.

Objective

- To inform consideration of: the five harms going into Winter 2021/22 alongside the releasing of COVID-19 restrictions; which baseline measures may need to be maintained; and how focus may need to shift from direct to indirect harms of the pandemic.

Introduction

- Direct and indirect harms should continue to be at the centre of our thinking in order to minimise, reduce or balance harm, as we consider both the releasing and maintaining of COVID-19 control measures. These harms include (but are not limited to) harms to people and communities, health and wellbeing including inequities, as well as harms to the economy and the environment.

- The direct harms of COVID-19 are being mitigated and managed, however indirect harms are less well understood and measured. This paper attempts to set out evidence and data for these harms, providing a high-level summary of considerations which is in no way exhaustive.

- Harm related to COVID-19 can be broadly grouped into 5 key areas and the colour codes below are used to identify the harms summarised in **Annex 1**.

1. Harm directly arising from SARS-CoV2 infections;
2. Indirect COVID-19 harms due to surge pressures on the health and social care system and changes to healthcare activity, such as cancellation or postponement of elective surgeries and other non-urgent treatments (e.g. harm from cessation of screening services) and delayed management of long-term conditions.
3. Harms arising from population based health protection measures (e.g. lockdown) such as, educational harm, psychological harm and isolation from shielding and other measures.
4. Economic harms such as unemployment and reduced business income arising both from COVID-19 directly and population control measures, like lockdown.
5. Harms arising from the way COVID-19 has exacerbated existing, or introduced new, inequalities in our society.

- The four harms have previously been outlined[1], with the fifth cross-cutting harm explicitly recognising the important impact of inequality on the harm experienced by people in Wales. There have been slightly different definitions given for the four/five harms over time and in different places.

- If this qualitative 'crowdsourced' approach used in this paper is of use, it could potentially be applied to other policies.

[1] Welsh Government | Leading Wales out of the coronavirus pandemic: framework for recovery, 24 April 2020

- For an overview of the current situation and context, please see separate 'Advice from the Technical Advisory Group and the Chief Scientific Advisory for Health (9 July 2021)'.

Considering options for baseline measures

There are a variety of different mitigations that aim to reduce transmission, including: population public health measures such as social distancing and handwashing which can be recommended or mandatory measures, infrastructure improvements (e.g. improving ventilation in public spaces, work desk spacing), protective behaviours (e.g. social distancing and handwashing) and vaccination.

Keeping cases low

- As recommended by the WHO[2], it makes sense for Wales to aim for low levels of COVID-19 cases to prevent new variants. Even though the link between hospitalisation and COVID-19 cases has been weakened, it has not been fully broken. It is also important to note that vaccines are not currently available for children, meaning that they remain vulnerable to COVID-19. While case rates in children have been lower, and the risks associated with COVID-19 are of a lesser magnitude, as the largest cohort of unvaccinated people this might not continue if the virus mutates to become more pathogenic for children.

- High levels of transmission across all ages will lead to an increased call on NHS resources e.g. primary care. We might also see a considerable rebound in other respiratory viruses like flu and respiratory syncytial virus (RSV) and so continued measures to reduce COVID-19 spread will have additional benefits in slowing down other virus transmission. However, there may be a counter argument that it is favourable to see a COVID-19 wave in the summer, if it prevents a winter wave that might coincide with other seasonal viruses and health conditions associated with cold weather. However not all models predict a winter resurgence if baseline protective measures are maintained alongside vaccine roll-out (and Delta remaining dominant).

- Reducing cases should also reduce the prevalence of longer-term symptoms and complications of COVID-19. For example, according to the ONS, 1.4% of the Welsh population were experiencing self-reported long COVID, with just under 30% people indicating their ability to undertake day-to-day activities was 'limited a lot'. Prevalence of self-reported long COVID was greatest in

[2] WHO | COVID-19 Virtual Press conference transcript - 7 June 2021

older age groups, females, people living in the most deprived areas, those working in health or social care, and those with another activity-limiting health condition or disability.

Economic considerations

- Estimates of the financial impact of baseline restrictions across economic sectors is very difficult to estimate due to the way data are gathered and there being no split in the detailed costs of population public health control measures. During the previous Christmas wave the impact of restrictions on key sectors in Wales was estimated at £132m a week. Baseline restrictions are highly likely to cause a degree of economic harm in some sectors although this will be much lower and to a degree would occur anyway because of the changes in individuals' behaviour leading to lower levels of activity (e.g. eating out). By contrast, higher levels of transmission may also impact economic activity through the increasing number of employees self-isolating.

- A pinch point in terms of economic harm is likely to be redundancies happening as the furlough scheme is tapered off prior to ending at the end of September. The Resolution Foundation warns that with high concentrations of low-paid workers still on furlough, this group could face the highest risk of losing their jobs later this year. They also indicate that young people are still the hardest hit in the labour market. However, the Institute of Fiscal Studies also expects to see increased numbers of older jobseekers and anticipate that many may face significant challenges when it comes to finding new jobs.

- The National Institute of Economic and Social Research estimate unemployment to increase in Wales, (from 3.5% in 2019-20 and 4.1% in 2020-21) to 6.0% in 2021-22 and 6.5% in 2022-23. However, projections vary. The Bank of England forecast unemployment to peak at 5.5% in the UK later this year; the Organisation for Economic Co-operation and Development (OECD) has also upgraded their growth forecast for the UK. As the Welsh economy tends to track that of the UK, the more positive outlook could be expected to apply to Wales.

Children and young people

- There is a real danger of a long shadow of measures that continue to cause harm if they are not stopped, that may cause more harm than benefits. For example children being sent home from school when there is one case in a class group may mean eight days of face-to-face teaching (10 days excluding

a weekend) are missed, for 30 children, which adds up to 240 days of school missed. In Wales, an average of 5% of all pupils were absent due to a known COVID-19 related reason between 28 June and 2 July.[3]

- The health benefits of this approach may be negligible if children are less likely to infect people, and cases in children may simply reflect rates in the population, and the chances of people getting seriously ill or dying from COVID-19 are significantly diminished by the vaccination programme. However, the impacts to those children's learning and development will be significant, with impacts being greater for children with additional learning needs, from disadvantaged backgrounds or younger learners who are less able to cope with learning from home.

- Cumulative impacts from repeated isolation periods would exacerbate both these impacts and the inherent inequalities. It is also important to consider the extent to which people will be willing to maintain behaviours such as wearing face coverings and getting tested.

Health inequalities

- Existing inequalities have been exacerbated with additional harms arising from the way COVID-19 has impacted our society (e.g. infection rates, financial impacts, access to support, vaccination uptake) together with the longer-term economic scarring of particular groups such as the employment prospects of young people.

- Health inequalities in COVID-19 have been very wide with age-standardised mortality rates being around twice as high in the most deprived compared to the least deprived Welsh Index of Multiple Deprivation (WIMD) quintile, and mortality rates being higher in certain occupations and population groups (e.g. older people, minority groups). Health inequalities for COVID-19 are mediated by four broad mechanisms: differences in vulnerability (e.g. due to pre-existing health conditions); differences in susceptibility (by exposure to adverse living conditions and chronic stress); difference in exposure due to working conditions etc; and differences in transmission due to housing conditions, lack of green space etc. People experience multiple, interacting aspects of inequality at any one time, such as age, gender, occupation,

[3] Welsh Government | Pupils present in maintained schools: 7 September 2020 to 2 July 2021

deprivation or race/ethnicity. Each of these 'axes of inequality' influences health outcomes in the pandemic.

- Studies suggest that some of the impacts on children and young people in particular will not become evident for some time. While the evidence is of varying quality, consistent themes include impacts on socialisation, communication, emotional and mental health, low levels of physical activity, increased sedentary behaviour, healthy eating and obesity. A review of 63 studies from previous pandemics[4], such as SARS in 2003, has demonstrated the potential for long-lasting effects. The length of time that children felt lonely predicted mental health problems up to nine years later, particularly depression. Children who had experienced more extreme isolation, such as quarantine, were five times more likely to require support from mental health services and experienced higher levels of post-traumatic stress. Poor emotional health in childhood is linked to long-term mental and physical health difficulties, and poor academic and occupational functioning. It is the number one predictor of adult life satisfaction.

Implementing a set of baseline measures

- A recent paper by the OECD modelled the effectiveness of COVID-19 control measures for several countries. International travel restrictions, test and trace, and face coverings all had an effect on reducing virus transmission, as shown below. Workplace closures had a large effect which may indicate that encouraging home working, as a softer measure than full workplace closures, would still likely have some effect on reducing virus transmission.

[4] PubMed.Gov | Rapid Systematic Review: The Impact of Social Isolation and Loneliness on the Mental Health of Children and Adolescents in the Context of COVID-19, 3 June 2020

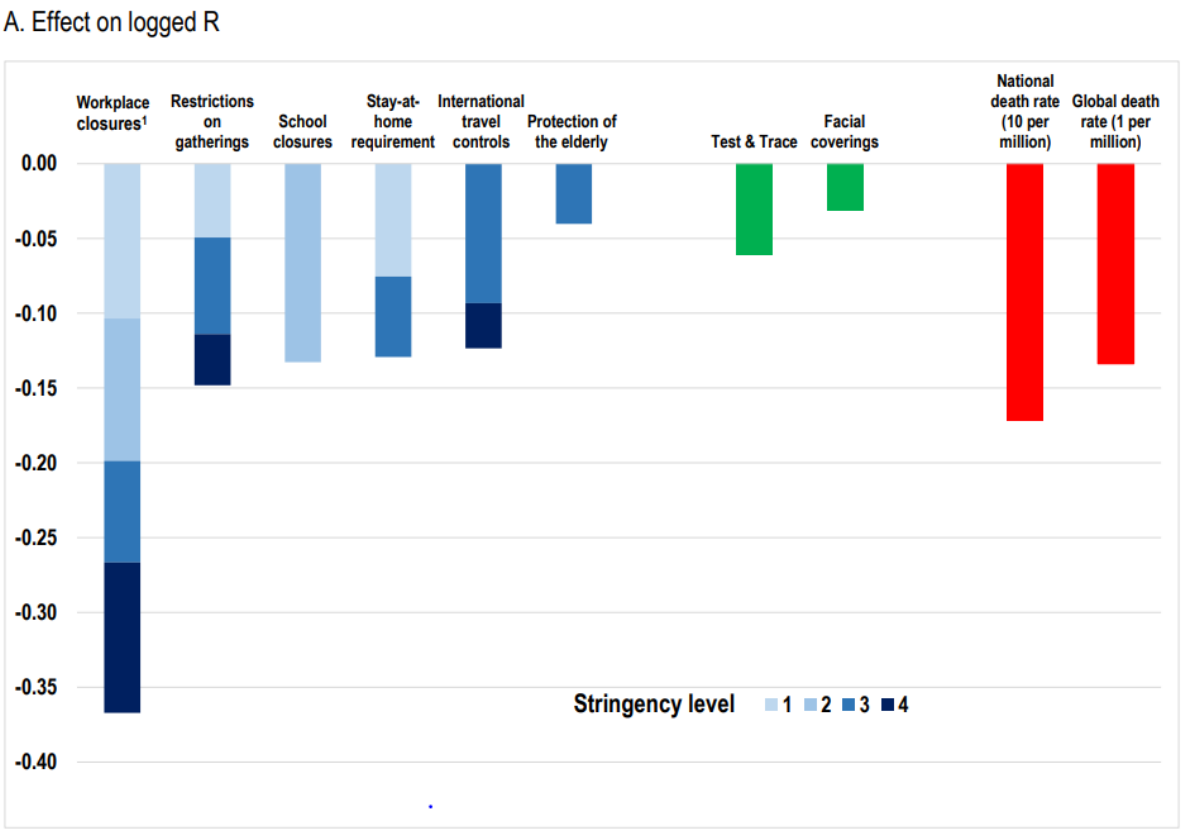

Figure 1: Estimated effects of policies and natural caution on logged R. **Source:** Organisation for Economic Co-operation and Development (OECD)

- Measures need to be turned off (and potentially back on) over time once the level of risk has changed (e.g. emergence of a more pathogenic variant, or reduction in prevalence). Some measures have more of an immediate impact on transmission than others (e.g. isolation on symptoms versus face coverings).

- There might be risks if Wales has a different approach to baseline arrangements to England in terms of confusion or people not following restrictions, lessening their effectiveness. This will potentially modify the magnitude of harms and benefits that are realised from measures. This needs to be considered in a number of aspects, including communication effectiveness of the measures; 'cross-border' working, travel and mixing of households, for example.

- UK Government plan to remove all legal limits on social contact on 19 July. In Scotland, the Covid-19 Protection Level Zero, is broadly similar to alert level one in Wales. The main change to level zero (which they hope to move to on 19 July) includes removing physical distancing and limits on gatherings outdoors from regulations.

- Key uncertainties are summarised elsewhere (see 'Advice from the Technical Advisory Group and the Chief Scientific Advisory for Health, 9 July 2021') and include uncertainties around how behaviours will change, vaccine effectiveness, vaccine uptake and the proportion of people who have previously been infected.

- Whilst co-production requires time and resource, even a minor investment in co-production can go a long way to preventing failure in implementation due to irrelevance or unacceptability. Principles for co-production of guidance as available here, highlighting that co-production should prioritise developing policy in consultation with those who are usually least represented in decision making in order to best reduce the chance of interventions unintentionally contributing to further inequities and maximise the likelihood that interventions improve equity.

Proposed policy options

- The following section discusses proposed policy options for baseline measures (see also **Annex 1**) if the final set of restrictions are lifted in Wales i.e. no limits on the number of people that can gather indoors or outdoors, with caps considered for large events determined by risk assessment. These policy options include:

    1. Continuation of TTP
    2. Travel restrictions and vaccine certification
    3. Promoting working from home where possible and staying home when unwell
    4. Reasonable measures linked to risk assessment in workplaces, retail, hospitality and public services
    5. Testing availability

- This paper does not consider relaxation of quarantine requirements or different policies around vaccination.

- As previously mentioned, this paper attempts to set out evidence and data for these harms, providing a high-level summary of considerations which is in no way exhaustive and is to some extent subjective, based on contributor knowledge and experience of the emerging field. New challenges and uncertainties associated with each of these measures will likely evolve and therefore it is important that consideration of the wider harms is regularly revisited.

1. Continuation of Test, Trace and Protect (TTP)

- Effective TTP should help to reduce harms associated with transmission of the virus by reducing cases, admissions, deaths and long covid. Contact tracing has been estimated to reduce R_t by around 0.3 in Wales.[5] However this will only happen if people self-isolate before infecting other people and are offered appropriate support to do so.
- Evidence from other countries suggests compliance with self-isolation is greater in countries with a strong social safety net e.g. workers paid to self-isolate.[6]
- Financial support to self-isolate is particularly important for people who might have a financial incentive to not comply with isolation advice, such as people who are not entitled to sick pay, self-employed, on zero hours contracts, lower paid or cannot work from home.
- Take-up figures on the financial support scheme show that 13,221 payments have been approved since November 2020.[7]
- Groups who experience higher income precarity often report the lowest awareness of the duty to self-isolate and the financial and practical support available. This impacts on these groups engagement with the testing process and therefore identification of infected and infectious individuals.
- Indirect harms associated with self-isolation include lower productivity and educational losses as well as harms associated with reduced health and care capacity when staff self-isolate.
- Inequalities may also arise as those in occupations at most risk of infection could be most impacted, predominantly in the health and care professions as well as key workers such as those working in public transport and education.
- Key workers are most often women, with available data indicating that more than half of employees of Bangladeshi ethnicity and half of Black, African, Caribbean and Black British employees work are critical workers.[8]
- There will be a mental health impact for people who may be repeatedly required to self-isolate, especially those from disadvantaged communities, those with no garden spaces and those on low incomes.
- Funding has been agreed until March 2022, however there is a financial and opportunity cost of retaining the TTP system.

[5] Technical Advisory Group: modelling the current Welsh Test, Trace, Protect system | GOV.WALES
[6] https://www.nuffieldtrust.org.uk/news-item/to-solitude-learning-from-other-countries-on-how-to-improve-compliance-with-self-isolation-1
[7] https://gov.wales/ps500-self-isolation-support-payment-scheme-extended
[8] https://gov.wales/coronavirus-and-employment-analysis-protected-characteristics-html

2. Travel restrictions and vaccine certification

- Enabling international travel may encourage seeding of cases and new variants from high to low risk areas, with travel restrictions likely to reduce this. If less travel results in fewer cases, then this will reduce pressure on health and care systems. Broadly, reduced travel will have environmental benefits and reduce accidental injury and death.
- However reduced social activity with friends and family living abroad will increase loneliness and isolation and reduce well-being. From an economic perspective, Welsh Government owns Cardiff airport, and travel firms based in Wales will also lose out financially with a lack of international travel. There may also be fewer international business collaboration opportunities and harms to Higher Education sector as a result of fewer international students choosing to or able to study in the Wales.
- Effects of travel restrictions are likely to be unequal across the population and depend on individual circumstances. Wales is also dependent on international travel restrictions set at a UK level.
- Enabling travel through vaccine certification has been applied for other viruses such as yellow fever. If vaccine certification minimises seeding and results in fewer cases, this will mean less pressure on health and care systems. Enabling travel will also reduce loneliness and isolation for people with friends and family living overseas and may improve opportunities for collaboration and business.
- A ‘Free-to-use’ approach to vaccine certification will help to reduce inequalities associated with income. However if there is a digital option only, this may widen inequalities for population groups are unable to use or access digital resources.
- Increased travel may bring environmental harms.

3. Promote working from home where possible and staying home when unwell

- As with TTP, working from home is likely to reduced transmission of COVID-19 and other viruses and bacteria. It may also contribute to reduced air pollution which causes ill health.
- SAGE and TAG have been clear that working from home is one of the key protective behaviours that can help minimise transmission rates. By continuing to work from home where we can, we are able to provide more freedoms in other areas.

- Supportive sickness and working-from-home policies can help prevent the spread of coronavirus in workplaces, which could lead to outbreaks and even more people having to self-isolate or falling seriously ill.
- For some, an improved work/life balance may be possible, but for others well-being and/or safety may be a concern.
- Working from home may be less efficient/effective, could disentangle teams, reduce ability to lead, reduce serendipity and the utility of unscheduled meetings and short purposeful conversations. This may particularly affect new staff or more junior staff.
- Working from home may result in reduced economic activity associated with workplaces in towns and cities, but this may be different for valley towns or rural coastal areas.
- Financial and technological support is likely to encourage adherence to recommendations.
- Working from home is not possible in all industries, which may increase inequalities and in the longer term could potentially skew parts of the employment market. Furthermore, people in higher paid jobs are more likely to be able to work from home (with the lower paid less likely), and so job retention is likely to be higher for remote workers. This potentially undermines the wider aims of a fair work agenda whereby remote working is seen as part of the wider flexible working landscape for all employees including those least likely to benefit from home working so as not to further widen the divide. This depends on the fair work being embraced by employers for the benefit of all employees. Institute for Fiscal Studies analysis[9] shows that those in the bottom income quintile got into more debt during the pandemic while those on higher incomes saved more – widening wealth inequalities.
- Those that can work from home may be able to save more from lower travelling costs – although this may be offset by higher electric/heating costs.
- People who cannot work from home and travel into work may benefit from less traffic on commutes.
- Some evidence suggests “work from home” policies may have adverse employment effects on lower income groups (partly through indirect effects on support services).This impact is already being seen to some extent within the childcare sector. Parents working from home are using less childcare, with a pointed reduction in after school provision. Once furlough ends we may well see increased redundancies and business closures within the childcare sector. This would then impact those who cannot work from home and those on low incomes, as there would be less childcare available more generally,

[9] Journal of Travel Economics and Policy | Fiscal Instruments for air pollution abatement in road transport, 1 Jan 1995.

and more demand for places in those settings that remain open which may lead to increased fees.

- Higher home heating costs will affect those working from home and on low incomes.
- Increased working from home may have complex effects on public transport demand, for instance reducing demand for more expensive peak time tickets that may subsidise the cost of the public transport network.
- People working from home might be an intervention where the benefits are large and the harms are relatively small, based on evidence for the effect of reducing work and leisure contacts on virus transmission.[10]

4. Reasonable measures linked to risk assessment in workplaces, retail, hospitality and public services

- Additional measures could support reduced transmission of COVID-19 and other viruses and bacteria. If measures are effective at reducing cases (both in the community and nosocomial), then this will reduce pressure on health and care system.
- Risk assessments may improve worker and customer perception of a safer environment for staff and visitors, making them more attractive in terms of consumer choice in a similar way to food hygiene scores. Risk assessments may remind people of the continued need to maintain a level of caution outside of work settings. However, some people may be deterred from hospitality premises due to it being a reminder of pandemic.
- Some 'reasonable measures' may have an environmental cost (e.g. increased energy use for ventilated buildings), social cost to individuals (e.g. lack of social contact), or incur a financial cost. Restrictions on numbers will lower incomes and impact employment. This will depend on the sector/establishment and measures taken, which may be unequal. Uncertainty itself can be economically damaging. Business owners will expect compensation, particularly if measures are not universally applied at a UK level. There will be a variable degree and quality of assessment across businesses unless clearly defined with sanctions, with a risk that it becomes a tick box exercise. In some businesses, there may be a potential to be driven by economic rather than health priorities.
- Continuing with face coverings in some settings might be considered a low cost, high impact intervention, especially given that is has now become normal practice in some settings. Evidence in clinical, laboratory and

[10] Transitioning from non-pharmaceutical interventions to vaccination to control COVID-19 transmission

community settings show that face coverings, and especially medical face masks, are likely to have benefit in reducing aerosol transmission of the virus.

- If effective use of face coverings reduces transmission, this will reduce cases, hospitalisations and pressure on health and social care. However there may be a negative impact on particular sections of the community, such as those with hearing difficulties who lip read and those who might be distressed by wearing a face covering. There is also risk of stigmatisation of populations who are exempt. Advice on face coverings for children and young people in educational settings is available here.
- The wearing of face coverings may encourage a feeling of safety amongst service users, however use of face coverings by public service staff (e.g. health services) may also increase anxiety and reduce communication abilities.
- While mask-wearing may increase risky behaviours, growing evidence from across countries indicates that net effectiveness in reducing spread may be high. Face coverings which are more effective are also likely to be more expensive, however there are options for low-cost face coverings which will have some benefit.
- Use of face coverings particularly on public transport may impact on those least able to afford own transport or required to travel to work rather than work at home.
- Continuing with a recommendation to physically distance where possible is another intervention that may be low economic cost and high impact, alongside continued reinforcement of messages around hand hygiene. Social distancing is already well understood and has shown high levels of adherence, which has a significant impact on Rt.
- If guidance reduces transmission, then this should reduce pressure on health and social care services. However following guidance may have a perceived or actual social cost to individuals.
- Some actions may incur a cost e.g. ensuring adequate ventilation or hand hygiene options and some actions may have an environmental cost e.g. increased energy use for heating ventilated buildings. There are potential economic losses to businesses if people choose to avoid places that are more crowded as a result of guidance. There would be potential economic and social harm implications if it continues to be legally enforced. Restaurants and bars will lose income if they need to physically distance.
- While low cost measures can make a notable difference, longer term investment may be required to improve infection control in some settings. There would be potential economic and social harms implications if social distancing continues to be legally enforced.

- Refining baseline control measures that have minimal pain and maximum gain will to be important. Considering measures differently in places where people have to go (e.g. healthcare, workplace) versus settings where people choose to go (e.g. leisure) might help people who are more at risk (e.g. immunosuppressed, older people) to live their lives.

5. Testing availability

- There is a potential to reduce onward transmission if people adopt protective behaviours following a positive test. If wide availability of Lateral Flow Device (LFD) testing works to reduce transmission, this should reduce pressure on health and care systems. There is potential for regular testing to enable people to undertake social activities with enhanced peace of mind, which in turn increases well-being.
- Further evidence on the effectiveness of daily testing as an alternative to isolation for contacts of known cases is expected within the next month and will be important for informing future approaches.
- However the process of regular testing can feel inconvenient and unpleasant, reducing well-being – leading to ‘test fatigue’ in some groups. However a negative test (which has the potential to be ‘false’ negative) may encourage behaviours that are higher risk. There is also risk of symptomatic people using LFDs instead of having Polymerase Chain Reaction (PCR) test, as LFDs are less accurate but more convenient. Free LFD testing would have a financial cost to the system.

Annex 1

1. Harm directly arising from SARS-CoV2 infections
2. Indirect COVID-19 harms due to surge pressures on the health and social care system and changes to healthcare activity
3. Harms arising from population based health protection measures
4. Economic harms
5. Harms arising from the way COVID-19 has exacerbated existing, or introduced new, inequalities in our society

Policy	Benefits	Harms
Test, Trace and Protect (TTP)		
Retain the TTP system, including the contact tracing App. Keep the legal duty to self-isolate when requested to do so by a contact tracer, provide/collect accurate information, and for employers to not discourage self-isolation	• Reduce onwards transmission of the virus, reducing cases, admissions, deaths and long covid. • Could have a big impact on Rt if more people self-isolate before infecting other people.	
	• Reduce pressure on health and social care services if less resource needs to be allocated to COVID-19 management.	• Harms associated with reduced health and care capacity when staff self-isolate.
	• Allows people to get tested/self-isolate for peace of mind.	• Psychological harm associated with self-isolation. • Educational losses associated with self-isolation. • Financial losses associated with self-isolation.
		• Productivity loss when employees are required to self-isolate • Cost to businesses if they are forced to temporarily close.

		• Financial cost of retaining system.
	• Evidence from other countries suggests adherence to with self-isolation is greater in countries with a strong social safety net e.g. workers paid to self-isolate and the offer of temporary alternative accommodation.	• Occupations at most risk of infection could be impacted, predominantly key workers. • People who might have a financial incentive to not comply with isolation advice include those not entitled to sick pay, such as the self-employed and those on zero hours contracts. Lower paid workers and employees that cannot work from home may also have similar incentives. • In addition, those with the highest income precarity report lower awareness of the duty to self-isolate and the financial and practical support available.
Travel restrictions		
Restrictions on international travellers returning to Wales, consistent with UK approach and linked to TTP	• Reduced travel reduces seeding of cases and new variants from high to low risk areas.	• Enabling international travel may encourage seeding of cases and new variants.
	• Fewer cases will mean less pressure on health and care systems.	
	• Broadly, reduced travel will have environmental benefits and reduce accidental injury and death.	• Reduced social activity with friends and family living abroad will increase loneliness and isolation and reduce well-being.
		• Welsh Government owns Cardiff airport so will lose out financially with a lack of international travel. • Harms to Higher Education sector as a result of fewer international students choosing to or able to study in the UK. • Fewer international business collaboration opportunities.

		• Effects are likely to be unequal and depend on individual circumstances (such as income, type of accommodation and household size). • Wales is dependent on international travel restrictions set at a UK level.
A free-to-use digital vaccine certification solution to enable people to travel internationally	• Evidence of use for other diseases e.g. yellow fever	• Enabling international travel may encourage seeding of cases and new variants.
	• If vaccine certification results in fewer cases, this will mean less pressure on health and care systems.	
	• Reduced loneliness and isolation for people with friends and family living overseas.	• Increased travel may bring environmental harms.
	• Enabling international travel may improve opportunities for collaboration and business.	
	• 'Free-to-use' will help to reduce inequalities associated with income	• If there is a digital option only, this may widen inequalities as some population groups are unable to use or access digital resources.
Working from home and staying home when unwell		
Guidance to encourage people to work from home if they can and for	• Reduced transmission of COVID-19 and other viruses and bacteria	

businesses to enable people to work from home, combined with more remote working hubs to give people and businesses more flexibility and choice Public health guidance reinforcing the importance of staying at home when unwell.	• If increased working from home results in fewer cases, this will mean less pressure on health and care systems.	• Working from home may bring about increased prevalence of other conditions (e.g. reduced mental health, musculoskeletal problems).
	• Reduced air pollution which causes ill health • Possibly improved work/life balance	• Well-being and/or personal safety from domestic abuse may be a concern for some people who are encouraged to work from home • Working from home may encourage less healthy working practices (e.g. overworking/burnout, poor posture leading to musculoskeletal problems).
	• Working from home may increase productivity	• Working from home may reduce productivity • Reduced economic activity associated with workplaces in towns and cities
	• The fair work agenda could be strengthened by placing remote working as part of the wider flexible working landscape for all employees including those least likely to benefit from home working so as not to further widen the divide. This forces the importance of fair work being embraced by employers for the benefit of all employees • Financial and technological support to work from home may encourage adherence to guidance	• Not possible in all industries which may increase inequalities and in the longer term could potentially skew parts of the employment market • People in higher paid jobs are more likely to be able to work from home (lower paid less likely), so job retention is likely to be higher for remote workers. • Those that can work from home may be able to save more from lower travelling costs – although this may be offset by higher electric/heating costs. • Some evidence suggests “work from home” policies may have adverse employment effects on lower income groups (partly through indirect effects on support services such as childcare). • Higher home heating costs will affect those working from home and on low incomes.

Reasonable measures linked to risk assessment in workplaces, retail, hospitality and public services.		
Legal requirement on businesses and others to undertake a Covid-19 risk assessment in consultation with those working on the premises and their representatives. Legal requirement on premises to take reasonable measures to minimise the risk of spread of coronavirus and risk to staff (but less specific about individual mitigations in regulations).	• Additional measures could support reduced transmission of COVID-19 and other viruses and bacteria	
	• If measures are effective at reducing cases (both in the community and nosocomial), then this will reduce pressure on health and care systems	
	• May improve worker and customer perception of a safer environment • May remind people of the continued need to maintain a level of caution outside of work settings.	• Some 'reasonable measures' may have an environmental cost e.g. increased energy use for ventilated buildings • Some 'reasonable measures' may have a social cost to individuals.
	• May make Welsh businesses more attractive if they are seen to be more covid safe and looking after their workers in general.	• Some 'reasonable' measures may incur a financial cost • Some people may be deterred from hospitality premises due to reminder of pandemic.

		• Restrictions on numbers will lower incomes and impact employment. This will depend on the sector/establishment and measures taken, which may be unequal. • Uncertainty itself can be economically damaging • Business owners will expect compensation particularly if measures are not universally applied at a UK level. • There will be a variable degree and quality of assessment across businesses unless clearly defined with sanctions - there is a risk it becomes a tick box exercise. • In some businesses, there may be a potential to be driven by economic rather than health priorities.
A legal requirement to wear face coverings on public transport and potentially some other indoor public settings, unless exempt or where the context makes this impossible e.g. eating and drinking in a restaurant.	• Evidence in clinical and laboratory settings that masks prevent aerosol transmission of the virus.	
	• If mask wearing reduces transmission, this will reduce pressure on health and social care. • Evidence that masks used by health professionals can reduce transmission.	
	• Encourages a feeling of safety amongst service users. • Evidence to suggest that the harms of wearing face coverings are minimal	• Use of face coverings by public service staff (e.g. health services) may increase anxiety and reduce communication abilities. • Environmental waste/litter may mitigate against handing out for instance at stations but working with specific sectors employers • While mask-wearing may increase risky behaviours, growing evidence from across countries indicates

		that net effectiveness in reducing spread may be high.
	• Low economic costs when compared to many other measures	• Face coverings which are more effective are also likely to be more expensive.
	• There are options for low-cost face coverings.	• Use of face coverings particularly on public transport may impact on those least able to afford own transport or required to travel to work rather than work at home. • Impact on particular sections of the community such as those with hearing problems who lip read. • Potential harms from exclusion discouraging activity particularly amongst people for whom wearing a mask is uncomfortable or distressing. • Stigmatisation of exempt population. • Cost of masks for people on low incomes.
Guidance around; keeping physical distance where possible, maintaining adequate ventilation in premises, avoiding crowded places, respiratory and hand hygiene, and responsible choices about crowded places	• Reduces spread of COVID-19 and other viruses.	
	• If guidance reduces transmission, then this should reduce pressure on health and social care services	
		• Following guidance may have a social cost to individuals. • Some actions may have an environmental cost e.g. increased energy use for ventilated buildings
	• Relatively low-cost actions can be taken to adopt this guidance	• Some actions may incur a cost e.g. ensuring adequate ventilation or hand hygiene options • Economic losses to businesses if people choose to avoid places that are more crowded as a result of guidance

		• Having more ventilated buildings may increase heating costs
		• There would be potential economic and social harm implications if measures continue to be legally enforced. Restaurants and bars will lose income if they need to physically distance. • While low cost measures can make a notable difference longer term investment may be required to improve infection control in some settings • There would be potential economic and social harms implications if they continue to be legally enforced.
Testing availability		
Wide availability of LFD test kits, either provided free-of-charge through schools or potentially commercially supplied and encouragement for people to use them.	• Potential to reduce onward transmission if people adopt protective behaviours following a positive test.	• A negative test (which has the potential to be 'false' negative) may encourage behaviours that are higher risk. • Risk of symptomatic people using LFDs instead of having PCR Test when they are less accurate.
	• If wide availability of LFD testing works to reduce transmission, this should reduce pressure on health and care systems.	
	• Potential to enable people to undertake social activities with enhanced peace of mind, which in turn increases well-being.	• Regular testing can feel inconvenient and unpleasant, reducing well-being.
		• Free LFD testing would have a financial cost to the system.

	• Free-of-charge testing would reduce barriers associated with cost.	• Some specific groups may experience ‘test fatigue’ due to the recommendation of regular repeated testing. • Some specific groups may feel unable to conduct the test themselves. • Any costs associated with testing will increase barriers associated with income.