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A window of opportunity

Delivering prevention in an ageing world

Health and care
Immunisation
International
Costs
Prevention
Diseases and conditions
Inequalities
Life expectancy

Acknowledgements

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Summary

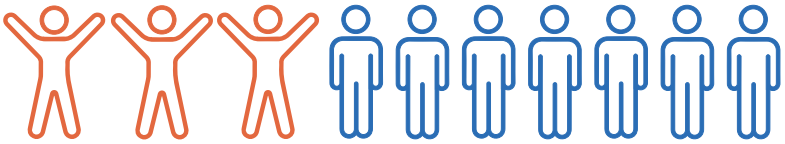
There are clear health and economic benefits to investing in preventative healthcare throughout people's lives. However, despite repeated commitments to prioritise prevention at the G20 level, and the creation of a joint task force involving finance and health ministers, action continues to lag.[1] In an ageing world, this needs to change.

The COVID-19 pandemic has highlighted:

- Many governments' continued failure to prioritise prevention
- The need to tackle health inequalities
- The need for flexibility and resiliency of healthcare systems to respond to existing and emerging needs and how ill-equipped many of them are to cope with an ageing population

However, it has also shown how quickly governments can adapt their health systems when they choose.

ILC global data analysis and trend work found that:



By 2050, the proportion of people aged 50 and over will increase by 11 percentage points, resulting in 40% of the G20 population being aged over 50

G20 citizens aged 50 and over collectively lived 118 million years with disabilities in 2019 due to largely preventable diseases

Across the G20, preventable conditions cost economies 1.02 trillion USD in yearly productivity loss among those aged 50-64 – this is roughly equivalent to the estimated loss in global worker income for the first half of 2021 as a result of COVID-19

Over the last two years, we have engaged expert stakeholders from around the globe to identify concrete actions we can take to progress the prevention agenda. The first step will be to secure **investment in systems designed for prevention.** This will enable us to take action to:

Inspire and engage policymakers, healthcare professionals (HCPs) and individuals to invest, promote, and take action on prevention

Democratise access to prevention to reduce health inequalities

Use technology effectively to improve access to preventative healthcare, improve uptake rates, reduce barriers, and empower patients

There are already pockets of good practice across the G20. But we need to see action everywhere.

Investment in systems designed for prevention

Making this happen will first require a step change in commitment to prevention. We need **more investment**, and better, more **integrated strategies and structures** to support the prioritisation of and access to prevention and **drive efficiency in healthcare delivery**. To help make a prevention-based approach easier to implement, we should **address perverse incentives** that deprioritise prevention and modernise **payment models** to support it.

Recommendations

G20 countries should:

- Start by increasing spending on prevention to at least 6% of health budgets (as in Canada). Once this is achieved, continue to align prevention spending to the preventable disease burden

To ensure a cohesive and unified approach to prevention, G20 countries should:

- Develop national preventative health strategies with clear action and evaluation plans
- Develop and deliver plans for prevention with all key actors including NGOs and employers

To support the efficient delivery of preventative interventions, all G20 governments should:

- Move towards integrated healthcare systems with shared objectives and outcomes across public health, health services and social care

To align incentives and accountability to support prevention, countries should:

- Pool budgets across public health, health services and social care, as well as NGOs and other community-based services, through formal national legislation
- Move away from a fee-for-service model to a value-based payment model, such as bundled payments or population-based payments, that emphasise quality and outcomes

Inspiring and engaging key actors

We need to inspire and engage key actors in the prevention agenda. This includes policymakers, HCPs and individuals. Policymakers decide how health budgets are spent, and whether and how to prioritise prevention. HCPs deliver vital preventative interventions and play a key role in encouraging people to take them up. Individuals make decisions every day that impact their health – whether to access services, take up healthy behaviours, or use medication.

However, at the moment we lack **appropriate accountability and incentives** for governments to invest in prevention. And **advocates for prevention** do not speak with a united voice, which makes the message easier to ignore.

We aren't **using the extended healthcare workforce effectively** to support the prevention agenda, and a **shortage of HCPs**, along with a lack of interprofessional collaboration and **poor working conditions**, is contributing to lower quality and equity of care, and poorer health outcomes.

At the same time, individuals who need preventative services, particularly those from marginalised groups, may **distrust public health bodies and the healthcare system.** There's also a lack of clear communication around prevention due to capacity constraints across the healthcare workforce, and, in many cases, **government reluctance to intervene in people's health.** In addition, people face a range of barriers and disincentives to making and keeping up healthy choices.

Recommendations

Policy makers

To hold national governments to account and to incentivise action on prevention, the World Health Organization (WHO) should:

- Create a country-level ranking system to demonstrate each country's success and progress against targets for reducing the burden of preventable diseases

To encourage policy makers to take action, prevention advocates should:

- Work together to create a global coalition united around a small number of simple overarching prevention asks, to avoid dilution

of the message – these could include a call for all governments to spend at least 6% of health budgets on prevention

Healthcare professionals

To address the HCP shortage and improve working conditions and retention, G20 countries should:

- Take action to address gaps in representation across the healthcare workforce, and workforce shortages in remote communities and professions with a particular shortage of workers
- Take proactive approaches to equality, diversity and inclusion among HCPs, with a particular emphasis on gender and race issues
- Ensure that salaries keep up with inflation (as a minimum)

To make better use of the extended healthcare workforce, G20 countries should:

- Through interprofessional collaboration, ensure the full range of HCPs are involved in delivering preventative interventions and developing and delivering national health strategies
- Ensure that all HCPs are trained, equipped, and incentivised to promote prevention efforts

Individuals

To improve trust, G20 public health bodies and governments should:

- Encourage HCPs and providers to develop links with local actors (such as faith leaders and community groups) who are trusted by key communities, to disseminate information

To inspire individuals to take up preventative health interventions, G20 governments should:

- Encourage the use of behavioural science approaches to improve health outcomes and inform government health policy
- Experiment with different financial incentives to encourage people with chronic conditions to adhere to medication regimens, lifestyle change programmes, or take up other preventative health interventions and ensure that all approaches are subject to high quality evaluation

Democratising access to prevention

We must remove the barriers to preventative interventions, allowing those who need them to access them. Delivering prevention in people's communities, workplaces and homes is one way of breaking down barriers that relate to poverty, geography, and disability and ill health. Implementing **person-centred approaches** and **targeting tailored services** to populations at particular risk, such as social minorities, are also critical.

The **high cost of health care interventions** can be a barrier to individuals. Also, **lack of integration** across different health and care services can leave people falling through the cracks. And in some cases, older adults are locked out of preventative health interventions by **ageist** assumptions and/or explicit age barriers.

Recommendations

To invest in an agenda for prevention across the life-course, G20 countries should:

- Implement national life-course vaccination and NCD programmes and ensure parity of targets across all age groups
- Ensure that cost is not a barrier to access to vital preventative services and activities such as screening for NCDs, preventative medications and vaccinations

To provide prevention where people are, G20 countries should:

- Support healthcare providers to build partnerships in their communities including with NGOs, community-based organisations, and workplaces, and to offer in-home healthcare delivery

To deliver person-centred healthcare, G20 countries should:

- Establish person-centred care as a central tenet of healthcare system delivery

To deliver targeted approaches that meet the needs of individuals, G20 countries should:

- Use community and population-level data to drive improvements in health

Using technology effectively

There are a huge range of ways in which technology can support the prevention agenda and democratise access to preventative interventions. We can use big data to support targeted interventions; help HCPs to deliver support; and connect individuals directly to preventative healthcare.

However, there are currently a number of barriers to realising the potential of technology.

A lack of data privacy standards and interoperability between systems; a lack of trust in the sharing of personal data; and the costs incurred by healthcare providers mean we're **failing to realise the potential of data sharing**. Poor infrastructure and poor digital literacy means that **digital exclusion** prevents many from using technologies. **Failure to include users when designing technology** also means take up is low, particularly among those who most need access to support.

Financial and other incentives are also poorly aligned within healthcare systems, and HCPs don't always have the skills they need to support the use of digital technology. There's also **a lack of transparent, systematic health technology assessment (HTA) frameworks for digital solutions** to provide a clear route from business innovation to widespread adoption by healthcare providers.

Recommendations

To encourage data sharing across and between healthcare systems and public health bodies, G20 governments should:

- Extend and enhance data coordination efforts established in response to COVID-19, and support data sharing across healthcare systems
- Implement data use accountability and a code of conduct to provide clarity on who can access what data, for what purposes, and under what type of consent

To address public concerns about data privacy, G20 governments should:

- Provide clear transparency and consent processes, and guidance on what data protection laws mean for patients,

healthcare providers and creators of healthcare technology

To overcome inequalities in access to health technology, G20 governments should:

- Invest in technology infrastructure and in building digital skills and literacy among individuals and HCPs
- Support the development of simple-to-use, accessible technology, with user-led development as a core requirement for public investment and/or adoption by healthcare systems
- Focus public investment on areas of key need (identified through data and consultation) where there may be a lack of private funding here to support development

To improve HCPs' digital literacy:

- Healthcare systems should ensure that HCPs receive adequate training on the use of technology and how it fits into their current practices

To encourage healthcare systems to use digital solutions, G20 governments should:

- Implement a health technology assessment framework for digital solutions with input from stakeholders to ensure it meets a wide range of users needs
- Invest in an accelerated regulatory path for companies to bring digital health applications to market

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Introduction

Across the G20, people are living longer, but not necessarily healthier, lives. Left unchecked, the situation will get worse. But prevention works, and is cost effective.

However, while there are pockets of promising practice emerging across the G20, there is still a need for more robust evaluation of these initiatives, and little is being done systematically to reorient healthcare systems towards prevention.

The COVID-19 pandemic has exposed and amplified health inequalities. Had we invested in prevention sooner, we might have avoided such a heavy toll on society in terms of both health and the economy. But the pandemic also showed how quickly governments can respond to safeguard the health of their populations when they choose: galvanising the whole healthcare workforce, democratising access by expanding physical infrastructure, rapidly adopting technology, and providing greater digital support, and communicating the importance of preventative actions to the whole population.

However, there's no guarantee these positive steps will continue once the immediate threat has faded. Globally, adult vaccination rates are unacceptably low and approximately one in every three adults is living with multiple chronic health conditions[2] – many are preventable, but prevention still isn't prioritised. Where prevention is implemented, budgets aren't always spent in the most effective ways, and interventions don't always reach those who need them most.

Why is prevention important?

What do we mean by prevention?

In this report, we take a broad view of prevention which includes:

Primary prevention: interventions that aim to prevent diseases or injuries before they occur. These include preventing exposure to hazards and communicable diseases, altering unhealthy or unsafe behaviours, and increasing resistance to disease or injury should exposure occur.

Secondary prevention: interventions that aim to reduce the impact of a disease or injury that's already occurred. These include detecting and treating disease or injury as soon as possible to halt or slow its progress.

Tertiary prevention: interventions that aim to soften the impact of an ongoing illness or injury with lasting effects. These include helping people to manage long-term, often complex, health problems and injuries.[3]

We use this definition because we recognise the important role all three types of preventative intervention can have in improving individual health and helping individuals to continue contributing to society.

Around the world, our societies are living longer, but unhealthier – affecting economies, healthcare systems, communities, families, and individuals. Many of the effects are borne by older people and are felt earlier and more deeply among those from marginalised and underserved groups. However, a significant proportion of these conditions are preventable: poor health isn't an inevitable consequence of ageing. Nor should we accept the gross health inequalities that we have seen between the richest and poorest both within and across countries.

As the UK's specialist think tank on longevity, we believe that societies must adapt now if we are all to enjoy the benefits of society's increased longevity. Health promotion and disease prevention is fundamental to achieving this.

Delivering change requires multinational and multi-stakeholder action across societies.

What we've achieved so far

In 2019. we began our year-long *Prevention in an ageing world*[4] programme, which aimed to make the case for prevention.

In our flagship report *Never too late: Prevention in an ageing world*,[5] we identified three key action areas that are crucial to embedding prevention across the life-course:

Inspire and engage policymakers, healthcare professionals (HCPs) and individuals to invest, promote, and take action on prevention

Democratise access to prevention to reduce health inequalities

Use technology effectively to improve access to preventative healthcare, improve uptake rates, reduce barriers, and empower patients

We sought to reshape the discourse around prevention and demonstrate the case for government investment, by focussing on the health and economic consequences of inaction. We engaged decision-makers and health and policy experts at key events around the globe in Abu Dhabi, Taipei, Austin, Geneva, Sydney, and London: all the way to the G20 Health Ministers' Meeting.

Our global programme helped to push prevention up the political agenda. Following our engagement at the 2019 G20 Health Ministers' meeting in Japan, world leaders committed to preventing ill health throughout people's lives. For the first time, the G20 established a joint task force, including experts from finance to health ministers, to improve prevention, surveillance, preparedness, and responses to health challenges.[6]

The United Nations declared 2020-2030 to be the Decade of Healthy Ageing. Following a submission by the ILC, the WHO's *Immunisation Agenda 2030*[7] made life-course and adult immunisation strategic priorities. It also extended its *Global Action Plan for the Prevention and Control of Non-Communicable Diseases* and its *Global Coordination*

Mechanism which coordinates all stakeholders towards the implementation of the *Global Action Plan*, until 2030.[8]

Now, our *Delivering prevention in an ageing world*[9] programme is focussed on moving the discussion from demonstrating ***why*** countries must invest in prevention, to suggesting ***how*** they can do this. We consulted expert stakeholders through a range of meetings and interviews to canvas opinion and examples of good practice.

As it stands, prevention is still perceived by many as a 'nice to have' rather being fundamental to our healthcare systems. This needs to change.

In this report, we set out practical actions that can be taken to move this agenda forward.

Report scope

Our report emphasises the important role of prevention in the context of an ageing world, where more of us are at risk of poor health at different stages of our lives.

We also focus on healthcare systems and other key actors whose role is crucial in ensuring access to preventative health services and activities.

While reform is needed across all sectors, particularly to tackle the social determinants of health, addressing this is outside the scope of our research. And healthcare systems mustn't pass the buck. We therefore focus on unequal access to healthcare which remains a significant barrier to delivering prevention in an ageing world.

We recognise the importance of a life-course approach to achieve the full potential of investing in prevention, particularly in lower-income countries where child and maternal health is still suboptimal. However, the role of prevention in later life is often ignored, despite there being much that can be done to improve health outcomes for this cohort.

The case for prevention across the G20

As populations age, there is a greater chance that more people will suffer from preventable ill health and disability. And while G20 countries have significantly improved their health outcomes in the last 20 years, we're still far from eliminating the burden of preventable disease.

Our societies are living for longer, but not necessarily more healthily

The G20 represents almost two-thirds of the world's population. **29% of G20 inhabitants are aged 50 or over. This is expected to rise to 40% by 2050.** Without investment in health services that prevent or slow the rate of health decline, we will likely see a huge increase in the number of people living in ill health.

To understand ill health across the G20, we looked at how many people experienced how many "years lived with disability", which isolates the impact of ill health – including the loss of productivity.

G20 citizens aged 50 and over collectively lived:

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118 million years with disabilities
in 2019, due to age-related and largely preventable diseases.[a]

The global disease burden could be reduced by about 40% over the next two decades using interventions that already exist today; over 70% of those gains could be achieved through preventative interventions.[10]

Poor health is affecting our economy

The economic consequences of productivity lost through ill health[b] are significant. As we age, ill health increases our likelihood of leaving the workforce. In Europe alone, people who report being in good rather than poor health are over four times more likely to be in work between the ages of 50 and 65, and over 10 times more likely between the ages of 65 and 74.[11]

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[a]Cancer (lung, colorectal, ovarian, breast, prostate), cardiovascular disease, chronic obstructive pulmonary disease, musculoskeletal disorders, type 2 diabetes, and HIV.
[b]'Lost productivity' refers to absenteeism from work, presenteeism (whereby people go to work but do not perform to their full potential due to ill health), early retirement due to ill health, and premature mortality.

There are also wider benefits: G20 countries that spend more on prevention see people not only working more, but consuming , volunteering, and caring more.[12] The impact is felt even in high-income countries where gains in health are more difficult to achieve. Recent ILC research looking at England found that extending healthy life expectancy (HLE) by just one year would add around 3.4 months to the average working life and 4.5 months to overall life expectancy.[13]

Governments don't need to invest huge amounts in prevention before seeing the economic benefits. A recent ILC report, *Health Equals Wealth: The Global Longevity Dividend*[14] found that across the G20 **increasing preventative health spend by just 0.1 percentage points could unlock an additional 9% of spending every year by people aged 60 or over, and 10 hours of volunteering for each person aged 65 or over**.

New analysis by ILC confirms that across the G20, preventable conditions cost economies:

1.02 trillion USD

in yearly productivity loss among those aged 50-64. This is roughly equivalent to the estimated loss in global worker income for the first half of 2021 as a result of COVID-19.[15]

This is made up of:

994 billion USD

lost as a result of largely preventable non-communicable diseases.[c] This is more than what the US spent on its military for the same year.[16]

32 billion USD

lost as a result of largely preventable communicable diseases.[d] This is more than what India spent on its military for the same year.[17]

[c]Cancer (lung, colorectal, ovarian, breast, prostate), cardiovascular disease, chronic obstructive pulmonary disease, musculoskeletal disorders, type 2 diabetes.
[d]HIV and flu.

G20 productivity loss in 2019: Breakdown by condition (USD)	
Musculoskeletal disorders	$533,960,053,152
Cardiovascular disease	$156,836,765,327
Chronic obstructive pulmonary disease	$123,204,584,699
Type 2 diabetes	$102,977,166,349
Breast cancer	$32,372,334,500
Flu	$27,171,236,404
Colorectal cancer	$18,876,254,975
Prostate cancer	$16,786,050,831
Lung cancer	$7,389,122,479
HIV	$5,105,397,898
Ovarian cancer	$2,278,565,919

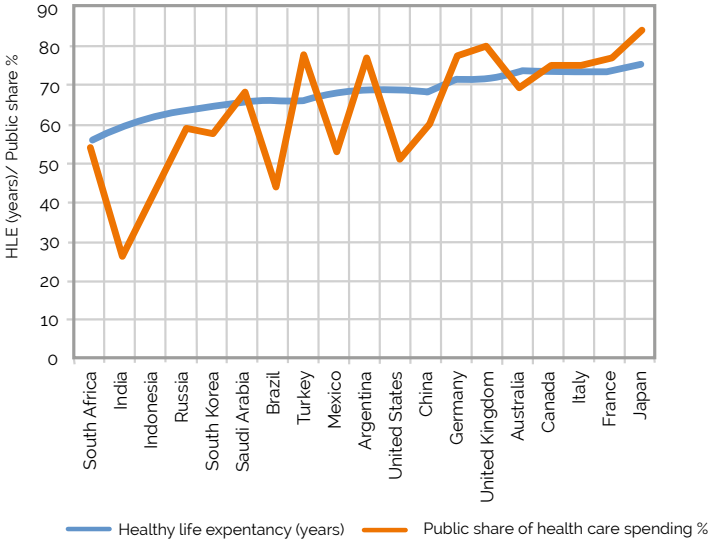
These figures only represent a part of the health and economic burden. We must not forget that there are a number of other vaccine-preventable diseases that will contribute greatly to the burden as well. Such data at the G20 level, however, is unavailable.

Investing in systems designed for prevention

The critical role of the state

The starting point for any meaningful action on prevention must be greater investment. Governments play a key role in improving health outcomes for the G20 and therefore must take responsibility for improving individual health. **We tend to see the highest healthy life expectancy in countries where the state pays for a greater share of health spending**.

The relationship between HLE and the proportion of health spending covered by the state[18]



While spending more isn't the only solution, current levels of investment are not sufficient to make progress. OECD countries, for instance, spend on average less than 3% of their total health budgets on prevention. In the context of an ageing population and a growing burden of preventable disease, this is short-sighted and unsustainable.

Across the OECD, Canada spends the highest proportion of its health budget on preventative healthcare at 6%.[19] This budget comes under public health and includes: health promotion and prevention; occupational health and addiction; and community health services. This level of spending has contributed to positive outcomes that include:

- A steady decrease in the avoidable mortality rate, from 150 per 100,000 citizens in 2000 to 116 per 100,000 today
- An increase in life expectancy from 79 to 82.1 years
- One of the OECD's highest five-year survival rates for lung and breast cancers

A reasonably substantial increase in spending (from less than 3% to 6% of total health budgets) would appear to be both achievable and remarkably effective. For the UK, this target represents a £2.687 billion investment (or 4.5% of the £60 billion spent on COVID-19 measures).

But simply increasing spending is just the starting point.

In an ageing society, more people are likely to live with more chronic conditions and co-morbidities.[20] People with multiple conditions often need to consult with many different healthcare providers in different settings. But across the G20, HCPs continue to work in silos with little or no integration of systems. But it's not just chronic conditions we should be worried about. Infectious diseases pose a significant threat as we age, because our immunity declines and because we are at higher risk of co-morbidities. There has to be a greater focus on vaccinating adults. However, many countries lack the right infrastructure.

In addition, all G20 countries will need to actively address health inequalities, engage everyone involved in population health, and ensure data and technology infrastructures are in place to work for all. In the context of an ageing world, where inequalities are rife and increasing, countries across the world will need to invest in the structures and policies needed to support a long-term shift from 'illness services' to 'health services' and promote healthy ageing for all.

Strategies and structures for integration

To ensure that the money we invest is spent well, we need to establish integrated health and care systems that support a preventative approach, and to develop clear strategies for preventative healthcare.

In some countries, public health and primary healthcare are funded and provided separately, while in others they are more integrated. For instance, to tackle the growing burden of chronic disease, the Minnesota Department of Health and local public health departments are working with primary care practices to streamline referrals to community services, use health information technology facilitate

follow-up, and integrate non-traditional providers such as community health workers and community paramedics into more coordinated systems of care.[21] While several countries have worked to improve integration across health, public health and care systems, there is no consistent approach across the board and these integrated systems often have no basis in legislation and no formal powers or accountabilities.[22] They're often voluntary partnerships that rely on the willingness and commitment of organisations and leaders to work collaboratively. In the UK, these are referred to as integrated care systems (ICSs), which will be enshrined in law from 2022.[23,e]

However, the potential benefits of integration are significant. For example, the relationship between **primary care and public health** is complex. Integrating these functions would increase efficiencies – for example, sharing population-based information about prevalent health problems and health risks within communities could help implement community-wide screening or vaccination programmes; and insight from primary care could help with design and implementation of local targeted preventative health programmes.[24,f]

The NGO sector plays a vital role in connecting marginalised and underserved communities to preventative services when they're failed by mainstream healthcare services, so NGOs should also be part of more integrated health systems.[25] However, they aren't often involved in strategic health system decision making, such as design and delivery of services. This can lead to unnecessary duplication of preventative services and reduces the likelihood of effective interventions.[g]

Changing the emphasis from a collection of disparate disease-focused care models to an integrated system will make it easier to serve communities in convenient locations (where people are) and support tailored services.

Integration will also encourage a greater focus on population health and prevention, and can help address other issues, such as:

- Clarity for healthcare providers on who's responsible for what
- Preventing people from falling through the cracks
- Improving timely access to care

[e]See case study 1 in *Delivering prevention in an ageing world: Case studies* report.
[f]See case study 2 and 3 ibid.
[g]See case study 4 ibid.

- Helping people stick to health plans (sometimes called 'adherence')[26]
- Improving health literacy and self-care
- Improving job satisfaction for HCPs
- Improving patient satisfaction and empowerment
- Reducing duplication of efforts and inefficient use of resources[27]

Alongside these new structures we need clear strategies for preventative healthcare. These should set clear objectives and targets, aligned to the particular disease burden in each country, with full consideration of how to determine the most desirable outcomes.

G20 countries already have many strategies for addressing individual health conditions for specific socio-demographic groups. But collectively, these lack the clear oversight and direction needed to support interaction between different parts of public health and healthcare systems and to address services and activities (like preventative health) that cut across them. This can lead to misalignment of preventative interventions.[28]

This approach risks wasting resources if health services and activities address the same conditions and issues. But more importantly, it risks failing to offer important services, leaving some patients to fall through the cracks.

Policy fragmentation increases the health and economic burden on healthcare systems, with siloed working, wasted resources, ineffective preventative interventions, and little coherence across local and national health delivery. It can also mean that we overlook certain approaches to improving population health, such as addressing the clustering of co-morbidities, which has become a serious health problem globally.[29]

Recommendations

- G20 countries must start by increasing their spending on prevention to at least 6% of health budgets (as achieved in Canada). Once this is achieved, continue to align prevention spending to the preventable disease burden

To ensure a cohesive and unified approach to prevention, all G20 countries should:

- Develop national preventative health strategies with clear action and evaluation plans
- Develop and deliver plans for prevention with all key actors including NGOs and employers

To support the efficient delivery of preventative interventions all G20 governments should:

- Move towards integrated healthcare systems with shared objectives and outcomes across public health, health services and social care

Improving incentives across systems

"How people are incentivised is absolutely crucial. If you're on a fee-for-service basis, then you're more likely to be treating medically, rather than advising about how to prevent in the first place. While there are G20 countries trying to move away from a fee-for-service model, to a capitation model in healthcare, you still see it. We need to make sure that incentives are aligned between organisations so that they have a common goal and they can work together for things."

Andrew Harrison, Group Managing Director, Health at Hanover Communications

The current incentives and accountabilities in many healthcare services make it very difficult to incentivise providers and HCPs to prioritise prevention or to work towards a shared goal or vision. By using the right incentives and accountabilities we can engender greater service integration, improve efficiency by reducing duplication of efforts, and even support better use of health technologies.

Incentivising prevention

At the organisational level, we should ensure that the goals of different healthcare providers don't conflict. At the health system level, we should ensure that healthcare providers (and professionals) are remunerated appropriately and incentivised to provide preventative services.

For instance, in a fee-for-service model, reimbursement is based on the number of services HCPs provide. These models incentivise providers to do more (i.e., tests, procedures, visits) to increase revenue, rewarding the most expensive interventions without consideration of their ultimate health impact. This can actively disincentivise preventative healthcare, including disease management, as it's a cost-effective solution.

These models can also encourage a siloed healthcare system through their focus on individual services, making it unable to support coordination across different HCPs and providers in a way that supports the needs of patients.[30]

And because they don't incentivise quality or value of care, more efficient digital solutions often face an uphill battle to reimbursement.[31] Nevertheless, the pandemic offered a model for this: for example, some countries chose to reimburse telehealth consultations at the same rate as in-person visits.[32] Pooling budgets is an important way of ensuring that integrated systems can function effectively by aligning incentives across all providers. Budgets should be pooled across a wide range of organisations, including NGOs and other community-based services, to deliver greater integration and to allow funds to be targeted at the most at-risk populations.

We also need to break down the barriers to effective preventative healthcare that result from fragmented budgets, which often promote siloed working and present barriers to collaboration.[33]

For example when budgets are allocated to specific population groups – whether by age, condition, socio-demographic factors, or other issues – it can make it difficult to fund prevention.[34]

Similar issues arise when budgets are allocated by geography, because we tend to see poorer regions losing out.

We also see fragmentation when budgets are allocated separately to different disease control programmes. For instance, if there are

separate budgets for a national HIV programme and a national drug misuse programme, this will hamper efficient HIV prevention for groups that may benefit from both.[35]

Pooling budgets across geographies, populations and conditions is an effective way to address this fragmentation.

There is also a need for action to realign payment structures. Value-based payment models tend to focus on patient outcomes.[h] For instance, in a population-based payment model, provider payment is based on population health outcomes. This incentivises them to keep people well, even if it means reduction in healthcare activity, and helps support prevention activities, as well as enabling greater integration of care. These models, particularly those based on population health outcomes, will often include one budget to be shared between providers. Integrating the work of all actors, NGOs and businesses within the healthcare system will help improve prevention delivery.

Targeting need

At present, prevention funding isn't always allocated in line with need: for example, two key preventative interventions are immunisation and screening programmes. They're cost-effective and bring significant health benefits – but they're generally underfunded and subject to huge inequality in access for certain groups.

- Immunisation programmes account for less than 10% of total prevention budgets across OECD countries[36]
- The same figure applies for cancer screening programmes (cancer being the leading cause of loss of life expectancy across G20 countries overtaking CVD in 2016, according to ILC analysis)[37,38]
- Only a handful of countries have met the current WHO vaccination target of 75% for those aged 65 or over[39] and targets for other adult vaccines are non-existent Overall, cancers account for only 6.5% of healthcare expenditure in the EU, even though most can be prevented[40]

G20 governments will need to ensure that preventative efforts are targeted where they will do the most good. This includes not

[h]See case study 5 ibid.

simply treating those already benefitting the most, but also the most marginalised and underserved, as this is where we will see the greatest improvements in HLE.[41]

Driving efficiency in healthcare delivery

Many countries have seen increases in health expenditure in recent years – some additional costs have been necessary to improve population health outcomes, but others could be avoided through greater efficiencies that spring from increased integration. Inefficiencies in healthcare systems can also affect health outcomes, partly by delaying timely and efficient access to healthcare. Addressing such inefficiencies may help avoid practices that unintentionally widen inequalities in health.

Evidence suggests that one-fifth of health spending across the OECD is wasted. This includes:

- Appointments with primary care physicians for referrals to specialist services
- Unnecessary hospital admissions[i]
- Repeated diagnostic tests or services
- Overdiagnosis or overtreatment
- 'Low-value care' that only works for some patient groups: this includes interventions that patients don't want – or wouldn't have wanted had they been properly informed about the likely effects, which also hinders information gathering on such treatments, leading to less effective interventions[j]
- Discarded medicines, due to redundant prescriptions or non-adherence: 50% of all medicines (roughly 8% of global health expenditure)[42] aren't used as prescribed or indicated by a HCP[43]

Integrating functions, including fostering open communication and sharing of information, can help to address these inefficiencies.

We can also use behaviour change campaigns targeting both clinicians and patients to reduce low-value care.

[i] See case study 6 ibid.
[j] See case study 7 ibid.

Recommendations

To align incentives and accountabilities to support prevention, G20 countries should:

- Pool budgets across public health, health services and social care, as well as NGOs and other community-based services, through formal national legislation
- Move away from a fee-for-service model to a value-based payment model, such as bundled payments or population-based payments, that emphasise quality and outcomes

Actions to inspire and engage

To make progress on prevention, we need to move from statements of commitment to action on prevention.

To see the step change we need, we must inspire and engage all the actors directly involved in preventative healthcare delivery (and take-up) with the prevention agenda:

- **Policy makers** to invest in preventative services and activities, and ensure their healthcare systems are supported to deliver these services
- To equip **HCPs** to deliver preventative healthcare in a systematic, integrated way
- To persuade **individuals** to take up preventative interventions throughout their lives

Policy makers

"Every government wants to fix the preventative health funding problem that's at hand, but the health benefits and cost savings from that funding may not be realised for the next 10 to 15 years… It is often easier to fund more medicines, more doctors' visits and hospital services today rather than preventative health funding for which there may be no immediate return."

Paul Sinclair AM, Chair, International Pharmaceutical Federation: Board of Pharmaceutical Practice

Policy makers decide how health budgets are spent; for instance, whether to spend more money on prevention or on curative treatment. They play a key role in deciding how to address the biggest causes of population ill health, and in turn, what services or interventions are needed and how healthcare and public health systems are organised.

Governments too often focus on investing in cure rather than prevention. Unlike curative treatment, which is about helping people today, preventative treatment is about helping in the future; it can take decades before we see the full impact of a preventative health intervention. Many governments find it hard to pass over short-term need for something that won't see results until much further down the line. And because governments work within much shorter timescales than healthcare interventions, they're less likely to invest in prevention as they're unlikely to reap the benefits.

But during the pandemic, we saw governments reorient their healthcare systems, to prioritise prevention and safeguard population health. In China, the State Council established a joint *Prevention and Control Mechanism for COVID-19*, led by their National Health Commission along with 32 ministries and commissions. This mechanism was for pandemic prevention and control, and to communicate key messages to the public.[44] But we know significant barriers still prevent many countries from fully embedding prevention within healthcare delivery.

Poor international accountability and incentives

While there are several international policies that address prevention, these often lack sufficient accountability and incentives to ensure implementation by national governments.

Prevention clearly has buy-in from national leaders. The WHO implemented its *Global Action Plan for the Prevention and Control of Non-Communicable Diseases (2013-2020)* as a direct result of two international declarations. The First Global Ministerial Conference on *Healthy Lifestyles and Noncommunicable Disease Control* in April 2011 saw ministers of health endorse the *Moscow Declaration on NCDs* in May 2011, while heads of state endorsed the *UN Political Declaration on NCDs* in September 2011. Similarly, in 2019, UN member states adopted a high-level Political Declaration on universal health coverage, which was an important step towards recognising that tackling cost as a barrier to healthcare is vital to improving population health.[45] This year, the European Commission confirmed that the second *EU4Health* work programme will receive €835 million budget with funding being allocated across four focus areas, including health promotion and disease prevention. This is an enormous contribution considering that the budget for the seven-year health programme from 2014-2020 was only €450 million.[46]

Clear direction and accountability from the WHO would encourage swifter progress towards delivering prevention.

Targets and ranking would encourage and incentivise countries to take action without interfering with national health agendas. For instance, the WHO's *Immunisation Agenda 2030*[47] has set out clear targets for improving vaccine coverage but implementation at country level seems to fall behind. In addition, many of the WHO's targets focus on paediatric vaccination rather than life-course vaccination,

meaning country strategies to improving uptake among adults is slow. There should be targets for all adult vaccinations and are age-related preventable NCDs in line with the WHO's existing targets and progress tracking; for example, it's targets for adult flu vaccination and its progress tracking in the *Global Action Plan for the Prevention and Control of Non-Communicable Diseases 2015 progress monitor* report. A ranking system for all preventable diseases (including adult vaccination), would also enable governments to track how they fare compared to other (similar) countries.[48]

Prevention advocates lack a united voice

While WHO accountability is crucial, there are also expert stakeholders around the globe who are strong advocates for prevention. They can play a key role in holding policy makers to account.

However, the general health arena is crowded with stakeholders with opposing interests, or interests that appear to clash. Bringing these voices together to speak as one on the overall need for prevention is vital, and there are precedents from which to learn, which point the way forward.[k]

A coalition will need to focus on the points of agreement, looking past the NCD/CD dichotomy and the specific needs or goals of people with individual health conditions, and aligning itself with higher-level but specific objectives; simply asking governments to "take action on prevention" is unlikely to gain significant support or momentum.

"I think we have to start speaking with one voice… to make the arguments [for prevention] coherently and in a way that the policymakers will understand."

Dr Richard W. Besdine, Professor of Medicine and Professor of Health Services Policy & Practice, Brown University

[k]See case study 8 and 9 ibid.

Recommendations

To hold national governments to account and to incentivise action on prevention, the WHO should:

- Create a country-level ranking system to demonstrate each country's success and progress against targets for reducing the burden of preventable diseases

To encourage policy makers to take action, prevention advocates should:

- Work together to create a global coalition united around a small number of simple overarching prevention asks, to avoid dilution of the message – these could include a call for all governments to spend at least 6% of health budgets on prevention

Healthcare professionals

To make progress on prevention, HCPs need to not only deliver preventative interventions but promote them. The message is fragmented and comes from only a few HCPs at present. To make progress, everyone who works directly with patients must promote the prevention message. This includes doctors and nurses, but also allied health workers and support staff such as, receptionists, who are often the first point of contact.

To do this we need to provide education and training, tailored and related to individual HCPs' daily practices and delivered in an environment where workers from different services interact. Offering training in settings with mixed groups of different types of providers helps them to learn about the different healthcare roles and their strengths and encourages a culture of collaboration and mutual respect and awareness.[49,50] Education will help to create the paradigm shift needed to prioritise prevention across the life-course. This includes moving away from only prioritising childhood vaccination to prioritising both childhood and adult vaccination.

HCP shortages

Even before the pandemic, the WHO predicted a global shortfall of 18 million HCPs by 2030, over twice the 7 million shortfall estimated in 2013.[51] Asia has some of the greatest shortfalls, as well as the greatest number of preventable deaths.[52] This isn't a new problem; the WHO first raised it in their 2006 report, *Working Together for Health*. ILC has also published research which found that a result of population ageing, COVID-19 and Brexit, the UK economy could see a shortfall of 2.6 million workers by 2030, with the health and social care sector being particularly at risk.[53]

Shortages are a significant barrier to the effective delivery of preventative healthcare, contributing to poorer health outcomes disproportionately felt by marginalised and underserved communities.[l] There's a lack of HCPs with training to care across the life-course, particularly in rural areas of developing countries. Many regions also lack a workforce that represents the demographics of patients.[54] For instance, in the US, only 23% of Black patients, 26% of Hispanic patients and 39% of Asian patients have a physician who shares their race or ethnicity, compared with 82% of White patients.[55]

In our UK-focused report we argued for more inclusive hiring practices, including hiring more men in the health and care sector. which is predominantly female.[56,57] Making the healthcare profession more inclusive and reflective of the populations it serves is a key priority across the globe.

"What we have is [a] very serious debt of trained healthcare professionals to look after our older population, and across various jurisdictions. So how can we develop this? We need to [train] more professionals to be able to provide healthcare for older adults, this will improve our quality of care."

Dr Osahon Enabulele, President-elect, World Medical Association

Poor working conditions

HCPs are overworked: in the US, severe burnout affects a third of all critical care nurses and 45% of critical care doctors.[58,m]

[l]See case study 10 ibid.
[m]See case study 11 ibid.

It's also relevant that the healthcare workforce is disproportionately female:

- Women make up 70% of the global healthcare workforce but hold only 25% of senior roles
- Balancing career and family, along with physical and mental distress and burnout, affect not only workforce retention but also quality and equity of care[59,60]
- In the US, as many as 700,000 nurses are expected to retire or leave the workforce by 2024; by 2030 it's believed one third will have left
- A study in China found that women had significantly higher rates of depression, anxiety, stress, and insomnia than their male counterparts, as well as higher rates of mental health problems[61]

Most of these issues also affect workers from ethnic minorities.[n] In the UK, 30% of workers from ethnic minorities reported poor mental and physical health during the pandemic, compared with just 8% of White staff.[62]

Using the extended healthcare workforce

Across the G20, there is a tendency to rely on primary and secondary healthcare providers disproportionately. The extended healthcare workforce can play an important role, including nurses, community pharmacists, allied HCPs (in related services, including physiotherapists, podiatrists and occupational therapists), and all those who work directly with patients. The pandemic has demonstrated how we can use their support to reduce pressure on healthcare systems. But not many of the world's healthcare systems are designed to maximise their roles in prevention.

This could be addressed by implementing a multidisciplinary health team model that involves all those involved in delivering healthcare. This would mean HCPs, allied workers, community pharmacists, NGOs, communities and local actors, workplaces and public health officials working in partnership, with fair reimbursement and funding. This could significantly improve access to, and effectiveness of, primary and secondary care, reduce the burden on primary care physicians, and increase our healthcare systems' ability to deliver more patient-centred healthcare.[63]

[n]See case study 12 ibid.

"One of the reasons why prevention might not be convenient is the way that our healthcare systems are structured in our different countries, with over-reliance on some professions and under-leveraging of others."

James Appleby, CEO, The Gerontological Society of America

Community pharmacists[o] are highly accessible and trusted, and understand the needs of their communities. Six European countries have given them the ability to renew repeat prescriptions for chronic medications, as well as expanded powers to dispense and administer flu vaccinations, including in homes, businesses, and community locations. Five countries have also granted them extended powers to dispense certain medications previously only accessible via hospitals.[64] With these expanded powers, and the unique role they have in healthcare delivery, there is an opportunity to further involve them in supporting individuals to adhere to medication regimens, particularly for conditions like cardiovascular disease, diabetes, and osteoporosis but also to improve take-up of vaccination by granting them expanded powers for all adult vaccination. Such involvement, however, would require the right incentives and accountabilities to be in place.[65]

NGOs play a vital role in connecting marginalised and underserved communities to preventative services when they're failed by mainstream healthcare services.[66] In many lower-income countries, NGOs provide a huge safety net, often running hospitals and delivering vital preventative services.[67]

The pandemic has led many voluntary organisations to cut back and close their services due to lack of funding.[68] Government funding has also decreased over the years, with more organisations having to rely on other less reliable fundraising streams.

The impact of these cuts is demonstrated by Mobile Health Clinics (MHCs)[p] in the US. MHCs are vehicles that are deployed in familiar community areas such as shopping malls, parks, or community and recreational centres and offer vital healthcare services. But during the pandemic, only 19% of MHCs provided their usual services and only 10% provided COVID-19 screening. They continue to be an untapped resource, sitting separately from mainstream healthcare, with much of

[o]See case study 13 ibid.
[p]See case study 14 ibid.

their funding coming from philanthropy. They're not involved in wider health system decision making, and they're not widely supported or receiving government funding.[69]

NGOs continue to be underfunded and undervalued despite often being more cost-effective than mainstream services. They have huge potential to relieve pressure on mainstream healthcare services and to fill in where healthcare infrastructure is damaged or inadequate.

"NGOs are absolutely critical in terms of being able to deliver preventative services at the right place, at the right time, within people's communities. And they're often accessible and affordable for all people. Sometimes governments are slow or reluctant to think strategically about the role they can play. With COVID, NGOs have been in probably the most enviable position, to be able to react very quickly to the demands within communities, and to step in very quickly to support statutory health and social services."

Andrea Nicholas-Jones, Director of Strategic Partnerships and Policy, Action for Elders

After years of calls for an expanded role, the pandemic has forced policy makers to recognise the vital role of the extended healthcare workforce. We should take this as a model for how we might widen roles. The UK authorised paramedics, midwives, operating department practitioners, podiatrists, and physiotherapists to deliver flu vaccines, with some authorised to deliver the COVID-19 vaccination, relieving pressure on the NHS during the pandemic,[70] while Australia is planning to allow dietitians, speech pathologists, occupational therapists and podiatrists to administer the COVID-19 vaccine as well.[71]

Different countries will find that different allied healthcare services are best suited to deliver preventative interventions, based on several criteria, including their patient demographic, their accessibility, and whether their area of work links with risk factors for disease. For instance, midwives may be well placed to administer vaccinations, and podiatrists should be involved in cardiovascular strategies. Allied HCPs and community pharmacists could also work alongside doctors as part of multidisciplinary health teams.

Recommendations

To address the HCP shortage and improve working conditions and retention, G20 countries should:

- Take action to address gaps in representation across the healthcare workforce, and workforce shortages in remote communities and professions with a particular shortage of workers
- Take proactive approaches to equality, diversity and inclusion among HCPs, with a particular emphasis on gender and race issues
- Ensure that salaries keep up with inflation (as a minimum)

To make better use of the extended healthcare workforce, G20 countries should:

- Through interprofessional collaboration, ensure the full range of HCPs are involved in delivering preventative interventions and developing and delivering national health strategies
- Ensure that all HCPs are trained, equipped, and incentivised to promote prevention efforts

Individuals

"We need to bring people to the centre of this issue of prevention. There is little literacy around self-care. People need to be empowered and supported, to be able to take care of their own health and rely less on our health system."

Aminatou Sar, West Africa Hub and Senegal Country Director, PATH

We all make decisions throughout our lives about whether to access health services, engage in healthy behaviours or use medication. Empowering people with the information and tools to look after their own health and promoting self-care[q] is a critical plank of health promotion. However, not everyone has access to the information and tools needed to remain healthy.

[q]The WHO defines self-care as "the ability of individuals, families and communities to promote health, prevent disease, maintain health, and to cope with illness and disability with or without the support of a healthcare provider": https://www.who.int/reproductivehealth/self-care-interventions/definitions/en/

During the pandemic, many countries invested significant resources in engaging with groups at greater risk of poor health outcomes: Canada's *South Asian COVID Task Force* ensured that public health guidance on COVID-19 included several Asian languages including Punjabi, Tamil and Gujarati; used TV and radio ads on channels popular with this demographic, and created Tik-Tok videos, and graphics to forward through WhatsApp.[72]

We can do more to build on what we've learned about enabling people to support their own health and to ensure that people are equally able to make healthy choices and access health interventions.

Public distrust of the public health and healthcare system

Lack of trust in public health bodies and the healthcare system is a key barrier to accessing preventative health interventions, particularly for people from marginalised communities that have historically had negative experiences with the healthcare sector or their governments.

The pandemic demonstrated the importance of overcoming cultural barriers to build trust, including offering messaging in a wide range of languages and accessible formats.[73] It spurred some countries to act on the urgent need to connect with marginalised communities by building partnerships with trusted figures or institutions. For example, in Israel, health officials worked to communicate the importance of vaccination to Ultra-Orthodox (Haredi) Jews and very devout Muslims. Religious leaders used their platforms to share messages and their own images of being vaccinated.[74,r]

However, the potential of such partnerships to get across more everyday health messaging has yet to be fully realised.

Opportunities to influence individuals' health decisions

The pandemic has demonstrated the importance of public health measures in safeguarding population health, and has led to G20 countries using a range of strategies to encourage vaccine uptake.

Some of the 'gentler' interventions include:

- The South Korean government using SMS nudge campaigns including reminders and instructions to its citizens on how to prevent the spread of disease[75]

[r]See case study 15 in *Delivering prevention in an ageing world: Case studies* report.

- Hong Kong[76], Canada[77], Latvia[78] and Poland[79] among others using cash incentives and collaborating with industry to offer big rewards
- Israel offering free food with a cultural twist (hummus in Arab quarters, tscholent for Orthodox Jews, and ice cream for children)[80]
- A Berlin vaccination centre hosting a DJ to encourage take-up[81]
- Romania offering free coffee and books to vaccinated individuals[82]

Other countries have taken a more stringent approach:

- Japan's government has taken to publicly shaming individuals who break COVID-19 rules:[83] Japan's population has one of the lowest vaccination trust levels in the world[84]
- France, which has the lowest levels of vaccine trust globally, made it mandatory for individuals to show a COVID-19 *passe sanitaire* (health pass) to enter public spaces, including events, cafes, restaurants, shopping centres and for long-distance transport: 91.4% of the population had received their first dose by the end of August 2021 compared to the 76.6% EU average[85]

As our population ages, it's becoming increasingly important for many to adopt healthier lifestyles and adhere to health and medication regimens that can support us to live well for longer. The WHO estimates that adherence to chronic disease medications is as low as 50% in developed countries and even lower in developed countries. Non-adherence, contributes to poorer health outcomes because it impacts the success of treatment. It also impacts the economy. For instance, the annual cost of medication non-adherence is estimated at €125 billion in Europe.[86]

Rooting approaches in behavioural science may be one way to develop more effective ways of helping people take up screening, be vaccinated, and adhere to medication regimens. However, at present, behavioural science is often overlooked as an effective way to drive improvements in health outcomes.

In light of the pandemic, there is a clear window of opportunity to engage governments and policy makers with taking a more active approach to supporting healthier behaviours among individuals.

Some Governments are already using behavioural science in healthcare; for example, the UK Government invested in the creation of a Behavioural Insights Team which has worked across public services and has now established a Health Incentives team within the Department of Health and Social Care to explore the role of incentives in encouraging healthy behaviours.[87,88] However, this approach is not widespread across the G20.

Behavioural science could potentially be useful right across the range of preventative interventions, from large-scale population interventions to smaller 'nudges' to individuals.

There is already promising evidence around the potential of behavioural incentives work. For instance, a randomised controlled trial of people on statins found that financial incentives improved adherence. There is real potential to explore how financial and other incentives might improve adherence with preventative regimens. However, such approaches need to be robustly evaluated.[s]

Recommendations

To improve trust, G20 public health bodies and governments should:

- Encourage HCPs and providers to develop links with local actors (such as faith leaders and community groups) who are trusted by key communities, to disseminate information

To inspire individuals to take up preventative health interventions, G20 governments should:

- Encourage the use of behavioural science approaches to improve health outcomes and inform government health policy
- Experiment with different financial incentives to encourage people with chronic conditions to adhere to medication regimens, lifestyle change programmes, or take up other preventative health interventions and ensure that all approaches are subject to high quality evaluation

[s]See case study 16 ibid.

Actions to democratise access to prevention

To support individuals to take up preventative interventions, we also need to bring down the barriers to accessing preventative health care. The WHO has estimated that less than half of the world's population will have access to basic and essential healthcare services by 2030.[89]

Democratising access is about ensuring no one is excluded from the health services they need, whether due to where they live or for any other reason. It's also about actively engaging communities to deliver prevention in a way that responds to their individual needs.

There is ample evidence that socioeconomic factors cause the majority of health inequalities in society.[90] Clearly, tackling the social determinants of health is vital, but so too is ensuring equitable access to the health interventions that can enable everyone to live longer and healthier lives.

Many people are affected by more than one of these barriers, contributing to poorer health outcomes. For example, we know that indigenous communities in all countries have consistently poorer health outcomes. They're more likely to experience disability and reduced quality of life, and their average life expectancy is 20 years less than the rest of the population. They're also more likely to live with cardiovascular disease, diabetes, HIV/AIDs, and malnourishment. In Australia, indigenous community uptake of adult pneumococcal vaccine and flu vaccine is much lower than for the rest of the population.[91]

Addressing barriers

Economic barriers

Cost barriers mean that some people are unable to afford healthcare. A recent report by the UN found that income inequality has increased in most developed countries and in some middle-income ones. such as China.[92] Half the world's population can't obtain essential health services; for almost 100 million people, health expenses are high enough to push them into extreme poverty.[93]

Out-of-pocket charges can be a barrier for those living in poverty or with multiple health problems. Despite world leaders having pledged to achieve universal health coverage by 2030, many countries still require individuals to pay high out-of-pocket charges. In some EU countries, these payments account for almost half of all health spending per household.[94]

Indirect economic factors, such as reluctance or inability to take time off work or transportation costs, also affect access. Women, particularly those with lower incomes, may have other responsibilities, such as caring, that prevent them from finding the time or money to get to or comply with preventative interventions.

Geographical barriers

Rural and remote communities tend to have fewer health facilities, and often lack access to affordable transport. This is a particular concern for prevention in an ageing society as in many countries these regions tend to have a higher concentration of older people, for whom geographical barriers may be compounded by mobility issues.

- In South Africa, older people in rural areas have less access to facilities offering diabetes diagnosis than in urban areas[95]
- In China, adults in rural areas are 22% less likely to be screened for hypertension than in urban areas, due to poor transport links[96,t]

Knowledge barriers

- Low health literacy may prevent people from accessing vital health services – but this is often a consequence of cultural, economic, or geographical barriers. A US-wide study[97] found that those with poorer health literacy are on average older, less educated, and more likely to come from an ethnic minority
  - ➢ Those with low health literacy were more likely to delay getting care and have more difficulty finding a provider than those with adequate literacy
- In Indonesia, cancer constitutes a significant health burden (13% of all deaths are caused by cancer) but around 70% of cancer patients only see their physicians at a late stage
  - ➢ Causes include low awareness, and inadequate/inaccurate information on cancer and cancer treatment[98]

Addressing needs across the life-course

Older people are locked out of vital preventative healthcare in too many countries whose health policies prioritise the needs of younger people over older people. For instance, the concept of premature

[t]Data from the *China Health and Nutrition Survey* between 1993-2011.

mortality, defined by the WHO as deaths occurring between the ages of 15 and 70, is inherently ageist, by implying that survival after the age of 70 is less important than survival at younger ages, but has gained widespread global health policy acceptance in the last decade and a number of global targets (have since been developed to reduce premature mortality arising from the NCD burden.[99] This means that even in countries that generally have good access to preventative services are ill equipped for preventing ill health in an ageing world. The failure to support prevention among older adults also places a heavy burden on the economy.

- Being older reduces one's likelihood of receiving proper cardiological investigations, from echocardiography to cholesterol measurement[100]
- Older people are particularly at risk of mental health problems, due to life stressors, such as a drop in socioeconomic status with retirement, and the biological ageing process[101]
- In the US, annually one in every seven USD spent on treating eight of the most expensive conditions for people aged 60 and over[u], was due to ageism.[102]
- Older people often face barriers to access as a result of deteriorating health in later life, meaning that those most in need of preventative treatment are less likely to receive it, leading to conditions worsening:
  - For people aged 40 and over, mental and neurological disorders account for almost a fifth of the total number of years lived with disability[v]
  - In China, adult flu vaccine coverage is extremely low due to vaccine administration only being offered in hospital facilities and local Chinese Center for Disease Control and Prevention offices rather than more widely in the community like it is for children[103]

[u]The eight health conditions are: cardiovascular disease, chronic respiratory disease, musculoskeletal disorders, injuries, diabetes mellitus, smoking-related diseases, mental disorders and non-communicable diseases.
[v]Based on WHO data, this is a proportion of the total number of years lived with disability arising from all-cause mortality and morbidity, including conditions which aren't preventable.

To have an effective approach to prevention in an ageing world we need to address the ageism that underlies the failure to meet the needs of older adults. And the solutions can be quite simple. For instance, having adult immunisation registries with a call and reminder (e.g., text, call, or letter) as was practiced during the rollout of the COVID-19 vaccine in most countries.

A key reason why older adults are locked out of vital preventative healthcare, is ageism. While there has been growing concern for the role it plays in society and its impact in health – including it being one of the four action areas of the UN *Decade of Healthy Ageing (2021-2030)*. And the WHO has recognised it as a social determinant of health – it is clear that it continues to impact people's health across the globe.[104]

Age should not be a barrier to good health. We need to break down ageism and start to build truly life-course approaches to prevention.[w]

Barriers for people from social minorities

Being from a social minority can have a significant effect on access to, and experience of preventative healthcare. For example:

- In the UK, older black adults are 40% less likely to be vaccinated against the flu than their white counterparts[105,x]
- In Finland, only 64% of Kurd migrants participated in cervical cancer screening in 2011, compared to 94% of the general population[106,y]
- In Europe, older women – who live longer but in poorer health[107] than their male counterparts – are almost twice as likely to be living alone, making disability likely to be a greater barrier[108]

Breaking down barriers to access for social minorities, and ensuring that services are tailored to improve health outcomes for marginalised and underserved populations is therefore a key priority.[z]

[w]See case study 17 in *Delivering prevention in an ageing world: Case studies* report.
[x]Data from *Seasonal influenza vaccination uptake* between 2011-2016.
[y]Data from the *Finnish Migrant Health and Well-being Study 2010–2012* and the *National Health 2011 Survey*.
[z]See case study 18 in *Delivering prevention in an ageing world: Case studies* report.

Recommendations

To invest in an agenda for prevention across the life-course, G20 countries should:

- Implement national life-course vaccination and NCD programmes and ensure parity of targets across all age groups
- Ensure that cost is not a barrier to access to vital preventative services and activities such as screening for NCDs, preventative medications and vaccinations

Providing prevention where people are

By bringing prevention into the community – making it accessible in the places people go including religious institutions and shopping centres, the workplace, and homes – we can embed it into people's day-to-day lives, overcoming a range of barriers to access.[109]

Working with **NGOs and community-based organisations** is one critical way in which we can improve access to prevention.

Bringing prevention into the **workplace** is another important way in which we can democratise access.[aa] Workplaces are not only well placed to offer interventions like vaccinations or health screenings; they can also help address wider causes of ill health, for example by promoting healthy eating behaviours in work canteens, providing fitness facilities, and offering nudges and rewards for healthy behaviour.[110] Employers' health services need not be on site: they can also provide help navigating healthcare systems, and allowing individuals to take paid time off work to access services.

Workplaces that support prevention will benefit through increased productivity: research suggests that businesses which invest in health and wellbeing consistently outperform the market.[111] But employers often lack government support for such schemes, and so have little understanding of how they can help, which interventions are best, or how they can implement them. Lack of financial support or incentives means that small businesses in particular don't have the resources to undertake preventative services and activities.[ab]

[aa] See case study 19, 20, 21, and 22 ibid.
[ab] See case study 23 ibid.

Preventative interventions in people's homes can range from at-home testing kits (as seen prominently during the pandemic) to remote monitoring and online support groups. These interventions not only help sustain and improve care quality (resulting in lower mortality and higher patient satisfaction), and enable people to live independently for longer, but can also reduce the burden placed on healthcare systems.[112,ac]

"I work mainly in the local community. It's thought of as quite an affluent area, but there are many pockets of poverty. I have witnessed low literacy skills, with low health literacy… If we could have better collaboration between various healthcare professionals, religious groups, even sports/leisure centres, we could address these issues and reach and support everyone, not just people who can afford to pay for extra health advice."

Deborah David, Registered Dietitian, freelance consultant, DeborahDavidNutrition.co.uk

Recommendations

To provide prevention where people are, G20 countries should:

- Support healthcare providers to build partnerships in their communities including with NGOs, community-based organisations, and workplaces, and to offer in-home healthcare delivery

Person-centred healthcare

Person-centred approaches include patients as equal partners in planning, developing and monitoring their own care, offering them appropriate, tailored solutions to meet their needs.[113] This doesn't mean giving people whatever they want, but instead person-centred approaches are about seeing each patient as a whole individual and considering their desires, values, social and economic circumstances, and lifestyles. This approach helps people to develop the knowledge, skills, and confidence to better manage their own health and make informed decisions. Person-centred approaches support the development of care plans that are meaningful and manageable for individuals, making it more likely that people will stick to them (this is sometimes called 'adherence').

[ac]See case study 24 and 25 ibid.

Countries that embark on person-centred care reform see more integrated healthcare approaches as a direct outcome.[114,ad]

Recommendations

To deliver person-centred healthcare, G20 countries should:

- Establish person-centred care as a central tenet of healthcare system delivery

Targeted approaches

We need to take more targeted approaches to ensure community and population-level interventions meet the needs of individuals. One way to achieve targeting is through coproducing interventions with NGOs, patient groups, community organisations, workplaces or other actors who work closely with the target populations.[ae]

This approach is best used in combination with population health management, which uses data (e.g., data from national identity cards or healthcare provider patient data) to better understand emerging health needs within populations or communities, or to uncover underlying structural barriers arising from discriminatory policies and practices at the population level.[af] Using this approach, HCPs can better anticipate and address ongoing health needs and deliver targeted services to a community or population.

Recommendations

To deliver targeted approaches that meet the needs of individuals, G20 countries should:

- Use community and population-level data to drive improvements in health

[ad]See case study 26 and 27 ibid.
[ae]See case study 28 ibid.
[af]See case study 29 ibid.

Actions to support the effective use of technology

Huge technological advances have been made across the G20 over the last couple of decades, from telehealth and wearable technologies to artificial intelligence. Many of these technologies can enable the improvement of population health by democratising access and allowing individuals to engage more with their own healthcare. There's clearly no shortage of innovation, data, and ideas. But in the last year we've seen countries respond to the COVID-19 pandemic by rushing in technological solutions without carefully considering their implications or impact.

There's a risk that we will come to see technology as a 'plug and play' tool that can solve health challenges with no further solution required. But the reality is that high-tech solutions have often over-promised and under-delivered.

Not only are there barriers that prevent many countries from unlocking the full potential of healthcare technology – we must also recognise that it can't fix all society's problems, and if implemented without due consideration it can even exacerbate existing inequalities.

We must make sure that any healthcare technology adopted is usable, that it responds to the issues it's most needed for, that it's accessible across the health system (and beyond), that users can control it, and that all stakeholders – from patients to HCPs – know how to use it.

Data analysis to support targeted services

We can use 'big data' to help reduce health inequalities and improve health outcomes at the population level, uncovering disease trends, patterns in the spread of disease, and differences in take up of preventative interventions.[ag]

This type of analysis can be used to develop targeted interventions, particularly to improve health outcomes among marginalised and underserved populations, or those most at risk of ill health. Unlike traditional surveillance systems, it can provide real-time information, include data collected directly from individuals, and bring together intelligence from a wide range of sources to uncover otherwise undetectable patterns.[115]

Epidemiological surveillance is key to disease prevention and control measures, particularly with communicable diseases. During the pandemic, the UK, the US, and a number of European countries deployed community-wide syndromic surveillance using national health

[ag]See case study 30 ibid.

records or self-reports via COVID-19 symptom tracker apps.[116]

The UK, for example, could build on the NHS app to create a health dashboard for every individual that brings all health data into one place.[ah] This would allow everyone involved in patient health to access it, including primary care physicians, hospitals, pharmacists, and allied healthcare services, as well as patients themselves. Governments may need to legislate to ensure healthcare providers upload patient data, using national data standards to incentivise use.

Similar interventions could support the prevention of other communicable diseases and enable early clinical and public health interventions.

There's a lot of health data that could be useful to the prevention agenda: individual patient data, data from health systems, public health, and health research. We could use this to strengthen collaboration and coordination within and between public and private sectors, drive innovation, reduce health inequalities, and promote take up of preventative services.[117] But much of it isn't joined up. Some of the key underlying barriers to data sharing include:

- **Poor infrastructure (interoperability) and data standards:** public health and healthcare systems lack technical solutions to collect, integrate and share complex data to enhance interoperability. Lack of health sector data standards is a major barrier.[118] We saw the effects of poor data interoperability during the pandemic, when HCPs weren't able to adequately document patient status, leading to suboptimal care pathways. Countries with adequate data infrastructure in place, like electronic health records (EHRs), found they were central to an effective and coordinated response.[119,ai] Moving forward, giving all those involved in healthcare delivery access to EHRs (with appropriate privacy controls) can support HCPs in their work to encourage take-up of preventative interventions including medication or lifestyle changes.[120]
- **Lack of trust** between data providers and users: data privacy concerns include fears that governments will prioritise increasing efficiency and fulfilling their own objectives rather than benefitting individuals, and fears over the level of data sharing. While the public can overestimate the extent of data sharing already happening, there is a great deal happening without the data

[ah] See case study 31 ibid.
[ai] See case study 32 ibid.

owners' direct knowledge. The EU's *General Data Protection Regulation* (GDPR) theoretically gives individuals control over their personal (including health) data, but in practice they have limited access.[121] And these fears are reflected globally. the public fear misinterpretation, misuse, or intentional abuse of their data. A 2018 study by the Institute of Global Health and Innovation[122] found that a quarter of UK respondents weren't willing to share their health data with their doctor, almost two-thirds of people in the US felt the same. During the H5N1 flu pandemic, Indonesia refused to provide H5N1 samples with the WHO due to fears that they could be used for financial gain.[123]

- **Data sharing costs** such as money, time, and resources: if the organisation sharing data must bear the costs without necessarily benefitting there's no incentive to share. The benefits of data often take time to manifest, making it attractive to spend budgets on more immediate benefits.

Addressing these challenges will be critical to realising the potential of data sharing.

Recommendations

To encourage data sharing across and between healthcare systems and public health bodies, G20 governments should:

- Extend and enhance data coordination efforts established in response to COVID-19, and support data sharing across healthcare systems
- Implement data use accountability and a code of conduct to provide clarity on who can access what data, for what purposes, and under what type of consent

To address public concerns about data privacy, G20 governments should:

- Provide clear transparency and consent processes, and guidance on what data protection laws mean for patients, healthcare providers and creators of healthcare technology

Connecting individuals to preventative healthcare

Technology can help overcome access barriers for marginalised and underserved populations, particularly those in rural and/or resource-poor areas, or those with a disability, helping them live independently for longer. At the same time, it can reduce the burden on healthcare systems by reducing emergency visits to hospital.

During the pandemic, it's been crucial in connecting people to vital healthcare services, with at least 14 OECD countries scaling up video consultations and remote monitoring.[124,125]

We've also seen drones used to deliver life-saving health interventions to geographically isolated communities.[126,aj]

Another new application of technology is the electronic health record system (EHR). This can give all HCPs full access to patient data and histories and help deliver services online, such as prescriptions and appointment booking. An EHR can help HCPs deliver more timely and effective treatment and encourage greater integration of healthcare. Used correctly, it can reduce the burden on healthcare systems by freeing up resources, speeding up internal processes and improving communication between HCPs and patients.[127] It can also help patients become more health literate and take better control of their health. Few countries have fully embraced the EHR system. For instance, vaccination records are often not electronic nor connected to allow access by different HCPs and public health actors. This hampers effective and targeted vaccination campaigns and as a result, public health optimisation and security.

[aj]See case study 33 ibid.

Digital exclusion also prevents many from using such technologies: and those people are often already at the highest risk of poor health outcomes. We must ensure that everyone benefits from technology-based interventions equally to avoid widening the existing digital divide, further exacerbating health inequalities, or even creating new ones.

One barrier that contributes to the digital divide and prevents equal take-up of technology is poor digital infrastructure, such as lack of access to high-speed internet access or to devices, software, and applications. It's estimated that over 40% of people are without internet access globally.[ak] Even in wealthier countries such as the UK, one in 10 households still doesn't have it.[128]

Another barrier is **poor digital literacy**. In 40 of the 84 countries in the world for which data is available, including Brazil, Japan, and Portugal, less than half the population possess basic computer skills, such as being able to copy a file or send an email with an attachment.[129]

Both of these barriers disproportionately affect those in rural and/or resource-poor areas, people from ethnic minorities, older people, those from less privileged socioeconomic backgrounds, or those living in developing countries.[130] There are underlying reasons why these barriers haven't been addressed:

- **Lack of investment in lower-tech technologies:** governments may be too quick to favour innovations requiring cutting-edge products over low-tech solutions, thinking that they may be more cost-effective or offer greater health benefits. Take-up is often low as many don't have the equipment to use these solutions.[al]
- **User-led design is not common enough** when developing new technologies: these risk being irrelevant to those for whom they are intended. In the UK, recent research by the National Institute for Health Research[131] finds that excluding people from the design of assistive health technologies is a key factor that contributes to seven in 10 users eventually abandoning these kinds of innovations. Preventative interventions that could greatly improve people's health often fail to reach the people who could most benefit from them because the technology used isn't inclusive or age-friendly.[am]

[ak] See case study 34 ibid.
[al] See case study 35 ibid.
[am] See case study 36 ibid.

- **Lack of coordination of efforts** by governments, industry, NGOs and academics to overcome social and economic inequality, ensure that the right health technology interventions are designed and adopted, and that they address inequalities in access.

"The digital divide is increasing as more and more technology gets deployed. So, that's something you have to plan for. You have to design with everyone and for everyone, and engage in participatory design where there is good representation throughout the process. You don't want some techie in Silicon Valley programming your algorithms for ageing populations without engaging with ageing populations."

Patricia Mechael, PhD MHS, Co-founder and Policy Lead, HealthEnabled

HCPs may also have poor digital literacy skills. HCPs need the skills to support the prevention agenda effectively and to make the best use of the tools available. This includes recognising that prevention services such as vaccination may require using a combination of digital and in-person consultations to inform, remind and prescribe vaccination. Indeed, a larger conversation needs to be had on what role digital solutions should have in supporting effective healthcare delivery.

Adopting **technologies that aren't intuitive or user-friendly** can damage confidence and disincentivise fast adoption. Another widespread barrier is a **lack of comprehensive training**. From formal education to up-skilling, training in digital healthcare is often taught as an elective, standalone subject rather than being integrated across programmes.[an]

There are also too **few opportunities to upskill workforces**, meaning HCPs are often required to learn on the job. Rather than making services more efficient and effective, this may do the opposite. Furthermore, opportunities to upskill are often taught in professional silos, hindering healthcare integration.

Unless these issues are addressed, healthcare systems will not be able to create digital cultures where technology is perceived as an integral component of healthcare delivery.

[an]See case study 37 ibid.

Recommendations

To overcome inequalities in access to health technology, G20 governments should:

- Invest in technology infrastructure and in building digital skills and literacy among individuals and HCPs
- Support the development of simple-to-use, accessible technology, with user-led development as a core requirement for public investment and/or adoption by healthcare system
- Focus public investment on areas of key need (identified through data and consultation) where there may be a lack of private funding to support development

To improve HCPs digital literacy:

- Healthcare systems should ensure that HCPs receive adequate training on the use of technology and how it fits into their current practices

Empowering individuals with user-centred technology

A wide range of technological innovations – from gamification to social media – help empower individuals to take control of their health and wellbeing, and improve it by supporting health literacy. These can help to engage them with the importance of prevention.

But in many countries the public are confused by having to deal with multiple systems for similar purposes. Having separate systems to book appointments, check medical (including vaccination) records and receive health information can make it unclear which products or services to use, or which are most appropriate. This may discourage the public from using digital health technologies altogether.

Globally, more older people are going online,[132] so there is potential for health technology to offer solutions across the life-course.

We must ensure that we use simpler more intuitive technologies that individuals regularly use – wherever possible, to help address digital exclusion.[ao] One way to achieve this is using national **health technology assessment (HTA) frameworks for digital solutions** to evaluate new healthcare technology proposals. HTAs for digital

[ao]See case study 38 and 39 ibid.

solutions can emphasise user-led design at every step of the process, including co-production with relevant stakeholders such as patient groups, NGOs, academics, and the public and private sector. Doing so will ensure solutions are cost-effective and problem-led, and that they address digital exclusion by ensuring that technologies work for the devices people have.

Seeking this external input will also help businesses to get their solutions adopted by healthcare systems and help create a better market for good digital solutions.

Many middle- and low-income countries lack transparent, systematic HTA frameworks despite their greater need for efficient allocation of scarce resources.[133] HTAs for digital solutions help national healthcare systems make decisions on the allocation of limited healthcare funds to different health technologies.

These frameworks provide recommendations on which technologies should be financed or reimbursed[134] by looking at factors such as their costs, clinical effectiveness and impact on organisations. Without such a framework it becomes very difficult for manufacturers to make the business case for investment in digital health technologies and secure reimbursement, even if they're clinically proven.[135]

Germany recently created the Digital Healthcare Act, which allows nationwide reimbursement for a wide range of digital health solutions that meet certain safety, data privacy and efficacy conditions.[136] It also includes a regulatory 'fast-track' to market for compliant digital health apps that adds apps to a central registry accessed by HCPs, making them eligible for reimbursement by statutory health insurance providers.

HTA frameworks for digital solutions can also overcome a tendency for manufacturers to design innovative technologies that aren't aimed at solving health problems. Considerations include: does the technology work? For whom does it work? How well does it work? At what cost does it work? And how does it compare with other technologies already in use by healthcare providers?[137]

But to ensure HTA frameworks focus on the right criteria they need input from stakeholders like patient organisations, NGOs, and a wide range of policy makers. This tends to lend emphasis to technologies that improve quality of life, as well as life expectancy and do so cost-effectively. The aim is to meet users' needs rather than use the latest technology.

Combining national coverage rules – such as those created by Germany's Digital Healthcare Act – and the increased use of value-based reimbursement approaches will stimulate the development and adoption of innovative, beneficial digital health solutions. Both are needed to ensure that all medically beneficial solutions are adopted.[138]

"There's an awful lot of technology looking for a solution, coming up with solutions and then trying to retrofit them to the problems. We need to start flipping this into a problems-led approach here, asking people to identify the problem and then think about solutions to it."

Dr Huw Vasey, Head of Innovation and Business Engagement, Economic and Social Research Council: UK Research & Innovation

Recommendations

To encourage healthcare systems to use digital solutions, G20 governments should:

- Implement a health technology assessment framework for digital solutions with input from stakeholders to ensure it meets a wide range of users needs
- Invest in an accelerated regulatory path for companies to bring digital health applications to market

Conclusion

Despite there being a strong case for investment in prevention, G20 countries are still failing to prioritise preventative health interventions.

To overturn the historical emphasis from a curative to a preventative approach will require a step change in the level of commitment from policy makers and health systems. This will include not only more investment, but better, more integrated policies and structures to support the prioritisation of prevention.

Over the last two years, ILC has been making the case for action through the *Prevention in an ageing world* programme. We started by demonstrating ***why*** countries must invest in prevention – by not simply increasing budgets but funding the identification, development and implementation of the types of integrated systems that make joined-up prevention possible. We identified three action areas that we believe are crucial to embedding prevention throughout people's lives:

- **Inspiring and engaging** policy makers, HCPs and individuals to invest in, promote and take action on prevention
- **Democratising access** to prevention to reduce health inequalities
- **Using technology effectively** to improve access to preventative healthcare, improve uptake rates, reduce barriers, and empower patients

We've followed this up with *Delivering prevention in an ageing world*. This programme involved in-depth discussions with expert stakeholders to suggest some practical first steps G20 countries might take – dealing with ***how*** they might take action.

We've identified not only what we should be doing but also the barriers currently holding back the widespread application of effective preventative approaches around the world. We must address these barriers if we're to see any real progress on delivering prevention without exacerbating existing inequalities.

Poor health is not an inevitable consequence of an ageing population – but we will see a growing burden of preventable disease if governments continue to stand by. G20 governments have already committed to improving population health and investment in prevention – and during the intense responses to the COVID-19 pandemic, we've seen a path to how these commitments might be implemented. We have a window available where we can build on those responses and make those adaptations permanent – we must take it.

What happens next

A window of opportunity: Delivering prevention in an ageing world, marks the second phase of our *Prevention in an ageing world* programme, and a fundamental step forward by demonstrating not only ***why*** countries must invest in prevention but ***how*** they can deliver it through a set of robust recommendations. But the conversation isn't over.

We will drive forward our recommendations, build greater political momentum, and hold countries to account. Phase three of our prevention programme will launch *The Global Health, Wellbeing, and Prevention Index.* This unique approach offers a holistic perspective to understanding population health, not offered by existing tools and data analyses. The index will track population health, not just through health indicators but also through an economic and environmental lens. The index will form central to a major 3-year initiative to drive forward meaningful action, investment, and collaboration across the G20 on preventative health. We want this programme to sit at the heart of global policy and political engagement on prevention and we will achieve this by:

1. Developing a robust *Global Health, Wellbeing and Prevention Index* which will track country progress on prevention and hold governments to account
    - Our vision: we want the annual launch of the index to be adopted by international and national organisations and to be what drives government health policy
2. Engaging and supporting leading global health leaders at key political and global health forums to move from commitment to action on prevention
    - Our vision: We want to hold an annual global health policy conference that becomes the centre for driving solutions to investing in prevention
3. Building consensus and strong relationships with leading organisations across the world to form a 'coalition of the willing' to demand action and influence governments, including health and finance ministers.
    - Our vision: We want to create a united voice on prevention and push recommendations forward. A key objective of the coalition will be for countries to commit to investing 6% of their health budgets on prevention

In June, we will launch The *Global Health, Wellbeing, and Prevention Index* at our Global residential prevention summit. This three-day prestigious event, hosted at the Centre for Global Health in Annecy, France, will bring together leaders at the forefront of global health and policy to further shape and inform our activities and vision for phase three.

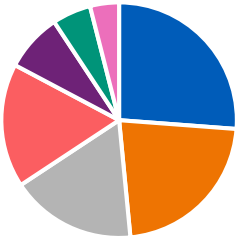
Over the next year, we want to work with organisations from across the world to join forces, hold governments to account and drive action on prevention in an ageing world. If you're interested in collaborating with us or want to find out more, email prevention@ilcuk.org.uk.

Appendices

Appendix 1: Delivering prevention in an ageing world - engagement

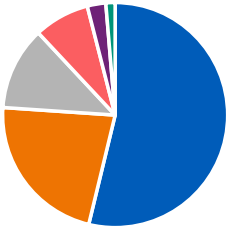
Our programme consulted expert stakeholders across the world. We produced three consultation papers, informed by 1:1 interviews and desk research, and held three consultation roundtables with stakeholders from around the world, an open consultation survey and a series of online discussion events.

Who have we engaged?



- Academics
- Industry
- Healthcare professionals
- International NGOs
- Inter-governmental organisations
- National government
- National NGOs

Where have we engaged?



- Africa
- Asia and Pacific
- Central Asia/Middle East
- Europe
- Global
- North America

Throughout the programme, we directly engaged with 81 expert stakeholders, from 75 different organisations, and indirectly engaged with many more through our media and engagement work.

As part of the programme we have hosted and/or participated in sessions at the following events:

- Future of Ageing: Reimagining ageing – Where next for prevention? December 2021
- International Federation on Ageing 15th Global Conference: Rights Matter, November 2021
- Expert roundtable: Delivering prevention in an ageing world: Effectively utilising technology, April 2021
- Expert roundtable: Delivering prevention in an ageing world: Democratising access to prevention, March 2021
- Expert roundtable: Delivering prevention in an ageing world: Inspiring and engaging, March 2021
- The NHS White Paper: Harnessing prevention for the success of future reforms, February 2021
- Future of Ageing: Together for tomorrow, December 2020
- World Health Summit, October 2020
- Delivering prevention in an ageing world launch, September 2020

We published in-house and guest blogs and videos, along with a series of side reports, to push forward the discussion on, and make a stronger case for, prevention. Our side reports include:

- Money talks: Investing in proactive health measures to support healthy ageing, (joint report with ILC-Canada), November 2021
- Years lost: boosting life expectancy through preventative health interventions, November 2021
- Up in smoke: The impact of smoking on health and economic activity, August 2021
- Delivering prevention in an ageing world consultation paper: Using technology effectively, April 2021
- Delivering prevention in an ageing world consultation paper: Inspiring and engaging people with prevention consultation paper, March, 2021
- Delivering prevention in an ageing world consultation paper: Democratising access to prevention consultation paper, March 2021

- Health matters: Why we must commit to delivering prevention in an ageing world, February 2021
- Delivering prevention in an ageing world leaflet: September 2020

Appendix: Estimating productivity

The analysis of the estimated costs associated with productivity losses is explorative and aims only to give an estimate of the potential impact of largely preventable diseases on productivity. Differences in study design (e.g., definitions of patient groups), methods (e.g., human capital or friction costs), reporting (e.g., by time losses or cost) and the complexities of estimating each aspect of productivity loss make synthesising the available evidence very difficult.

Limitations include the simplification of assumptions made by linking disability weights to the cost of productivity losses. Additionally, the research assumed the labour force participation rate and unemployment rate available for each country was applicable to the population aged 50-64, which may overestimate the proportion of people working.

However, in many ways these estimates are likely to be conservative, as they focus specifically on losses in the working population aged 50-64. This is likely to be a significant underestimate for three key reasons. Firstly, the diseases are linked to 3.5 million deaths (excluding flu data) in the population of focus each year, which will have a large impact on labour supply. Secondly, calculations assume a retirement age of 65 and no impact of the diseases on retirement. In reality, early retirement is likely to be more common for people with these diseases. Additionally, more people are working beyond retirement age and they are likely to have a lower productivity rate if they experience these health problems. Finally, the data was not available to estimate productivity losses in carers. Where carer productivity losses were included in published papers, they were sizable.

A further complication is the likelihood of interactions between the diseases, in particular cardiovascular disease and type 2 diabetes, which share a number of risk factors. People with chronic conditions, such as diabetes, may also have complications and comorbidities. This complexity has not been factored into the analysis and was rarely considered by the published papers.

To calculate productivity loss we used two methods, (one for flu and one for the remaining conditions), this is primarily due to global data for flu being limited.

The following calculation was used to obtain productivity loss for flu:

Productivity cost

= total population infected*employment rate*GDP (PPE)

***proportion of working time lost**

The following calculation was used to obtain productivity loss for the remaining conditions:

Productivity cost

= total cases (aged 50-64)*LPR*(1-UR)*DW*GDP(PPE)*CC

Definitions: LPR, labour force participation rate; UR, unemployment rate; DW, disability weight; GDP(PPE), gross domestic product per person employed; CC, correlation coefficient.

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About the ILC

The International Longevity Centre UK (ILC) is the UK's specialist think tank on the impact of longevity on society. The ILC was established in 1997, as one of the founder members of the International Longevity Centre Global Alliance, an international network on longevity.

We have unrivalled expertise in demographic change, ageing and longevity. We use this expertise to highlight the impact of ageing on society, working with experts, policy makers and practitioners to provoke conversations and pioneer solutions for a society where everyone can thrive, regardless of age.

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