

# comment

“Tubthumping headlines won’t solve the primary care workforce crisis” **DAVID OLIVER**

“The things that GPs value need to be recognised and preserved” **HELEN SALISBURY**

**PLUS** The value of admin tasks for junior doctors; cost of living and health

**TAKING STOCK** Rammya Mathew

## Tough times ahead for a depleted workforce

**T**he recent changes to covid-19 restrictions indicate a new phase of the pandemic, where we are supposedly learning to live with the virus. Masks are not required, testing is no longer readily available to the public, and isolation has become optional rather than mandatory.

I’m sure that many businesses are pleased to see an end to testing and isolation, in the hope that covid-19 related absences among their workforce will now rapidly decline. But what about the NHS? Last month the remaining population controls against covid-19 ended. As a result, cases rose steeply throughout the population, leading to high absence rates among NHS staff as they were off sick or needed to self-isolate.

This has inevitably meant cancelling operations, outpatient appointments, and diagnostic tests. We’re still declaring covid outbreaks on many of our wards—leading to fewer available hospital beds, which has a further detrimental impact on waiting lists and patient flow through the NHS.

When the message being relayed to the public is that the pandemic is virtually over and that the NHS is in some sort of accelerated recovery mode, it’s no wonder that patients have a low tolerance for more news of cancellations. It’s adding fuel to the fire when public satisfaction with the NHS is already at its lowest recorded level since 1997.

Last week NHS England announced that infection and prevention control measures introduced during the pandemic were being relaxed, partly to help free up capacity in healthcare services to tackle the huge treatment backlog. I’m afraid that, no matter what infection prevention and control measures we take in the workplace, we’ll inevitably still be exposed to the virus in our lives outside work. This is crippling our

ability to do the much needed catch-up work now facing almost every sector of the health service.

Worn-out NHS workers are the ones caught in the middle of this bind—either through being acutely unwell with covid and having to take time off or working in understaffed departments, unable to provide a decent service. I dread to think of the impact of long covid on top of this, as it’s yet to be fully felt or at least captured in available statistics—but recent data from the Office for National Statistics warn that many of the people affected will probably have symptoms for a year or more.

Suffice it to say, this is not the recovery that any of us had anticipated or hoped for. With a stretched, depleted, and unwell workforce, the NHS’s staff and its patients have tough times ahead.

Rammya Mathew, GP, London  
rammya.mathew@nhs.net  
Twitter @RammyaMathew  
Cite this as: *BMJ* 2022;377:o1090

**This is not the recovery that any of us had anticipated or hoped for**





**OPINION** Anna Harvey Bluemel

## How trainees can find lessons in clinical administration

What feel like mundane tasks are the grease on the NHS's wheels

**A**s I'm the most junior doctor in the acute medical unit, each of my days starts in a similar way. I take a piece of off-white NHS paper, which has boxes and bed numbers already printed on it, and add patients' names down the side. During the board round, I keep a careful track of the tasks that need to be completed for each patient.

I use the classic box system—which is somehow passed down through generations of medics without anyone ever really explaining to you how it works—to keep track of my progress. Typical jobs include filling in referral forms, negotiating investigations with radiologists and endoscopists, taking blood and placing cannulae, and gathering collateral histories from relatives.

My day-to-day work mostly falls into the category of “admin.” A frequent complaint of junior doctors, especially those in foundation year 1 (FY1) who don't have full GMC registration, is that too much time is spent doing these tasks, rather than being trained through clinical contact. Indeed, this is a longstanding international concern, with *Forbes* reporting in 2016 that doctors “waste two-thirds of their time doing paperwork.”

I agree there is always a conversation to be had about ensuring training is fit for purpose and that it is allowing juniors to develop the skills they need to progress. Yet in reflecting on my first job as a junior doctor, I see these seemingly small “admin” tasks differently: as an opportunity to learn about myself and my approach to a clinical workload in a relatively controlled and supported environment.

Each morning, it's up to me to prioritise the jobs I do. While senior doctors might emphasise certain tasks that need to be completed as a matter of urgency, I am responsible for how I conduct my working day to maximise the chances of the patients who are under my care being seen by the right people and investigated in the right way.

### Managing workload

Gaining experience in how to prioritise these “low stakes” (that is, not immediately life or death) tasks gives junior doctors an opportunity to tentatively begin to manage their clinical workload.

I have found that the more experience I have navigating the complexities of these daytime jobs, the more confident I felt in prioritising my time during on-call shifts,

**FY1 tasks are not just a rite of passage or a job to be done. They have a huge bearing on a patient's experience**

where there was often a higher level of clinical prioritisation required.

I have also come to value the learning I've gained from communicating with other members of the multidisciplinary team during these “admin” jobs. Take the quintessential task of phoning the on-call radiologist to discuss a request for a scan. You feel under great pressure to secure this scan and are nervous. But after the first few times, you learn to anticipate the questions you may be asked, and eventually come to the conversation armed with all the information you might need to secure the scan.

These interactions not only teach us about professional communication—they allow us as very junior doctors to explore our clinical “personalities” in how we approach interactions that have the potential to be challenging. Ultimately, this experience of clinical communication is valuable; when it comes to discussing important clinical handovers—say, about a deteriorating patient on a night shift—you are able to go into the

**OPINION** Neena Modi

## Rising costs spell disaster for the nation's health



Black storm clouds are hanging over the nation as inflation rockets, national insurance rises, and the energy price cap lifts—unleashing escalating energy prices across the UK.

This perfect storm of rising costs will disproportionately affect the health of the poorest in society, adding to already unacceptably wide inequalities in the UK.

Energy bills are expected to rise by almost £700 this year for a typical household. Shockingly, this means that energy bills are expected to rise by more than 50%. This is five times the previous biggest increase of £139, which came into effect only in October last year. As a result, more than one in four households in the UK will be living in fuel poverty.

Fuel poverty is part of a cycle of poor health because of the many interactions between

**It is likely a further 1.3 million people will be pushed into absolute poverty**

challenging socioeconomic circumstances and societal inequities. Living in cold temperatures increases the risk of respiratory infections and exacerbates many chronic conditions. The indirect effects of fuel poverty are also concerning; households that spend a greater proportion of their income on energy have less to spend on food and other health necessities. Financial insecurity drives greater social isolation, and carrying a greater burden of debt causes mental health problems for both adults and children.

Politicians may say that we must bear the rising cost of living together, but the problem is that these costs are not equally distributed. People who live in low income areas do not have lower fuel bills. They also bear the brunt



conversation with the confidence that you have all the information you might need.

In my experience, your FY1 year is not simply a rite of passage or a job to be done because “someone has to do it, and you only have to do it for a year” (as one of my consultants so succinctly put it). These admin tasks, so often the domain of the most junior member of the team, are the grease on the wheels of the NHS, and they have a huge bearing on a patient’s journey and experience.

Alongside this, managing your own workload of these sometimes seemingly disparate, isolated tasks sets the blueprint for how you approach a clinical workload throughout your career; communicate with other healthcare professionals, patients, and relatives; and begin to lead a team. So to my fellow FY1s: I see your beautifully filled in referral forms, your deft handling of a tricky collateral history over the phone, or that time you got the radiologist to approve a scan that led to a diagnosis. Enjoy the small victories—you’re doing a great job.

Anna Harvey Bluemel, academic foundation doctor, North East and North Cumbria Integrated Care System  
Cite this as: *BMJ* 2022;376:o675

of decades of inaction in improving home insulation. It is the poorest who will struggle to keep afloat, and whose health will suffer, when the financial storm hits.

The UK government says it has done enough to support households through the cost of living crisis, but this support is not fairly weighted to protect the poorest in society.

The consequences of government policies and treasury decisions are that it is likely that a further 1.3 million people, including 500 000 children, will be pushed into absolute poverty over the next year. This will spell disaster for the health and wellbeing of the UK’s poorest citizens who already suffer substantially poorer health than their richer counterparts.

Neena Modi, president, BMA  
Cite this as: *BMJ* 2022;377:o938

## ACUTE PERSPECTIVE David Oliver

### Facts the Mail omits in its GP bashing

**T**he *Daily Mail* and the *Mail on Sunday* have been publishing incendiary articles about GPs for many years. The pandemic and the resulting extra strain on services have been an accelerant, with headlines acting as patient crusaders.

Last week an article appeared with the headline, “Now GPs want to work even less! Doctors table urgent motion in a bid to cut core opening hours to 9-5—shaving two and a half hours off.” The nub of the story is that the local medical committee in Avon tabled a motion for the national LMC conference, calling for the core contracted hours of 8 am to 6 30 pm to be cut to 9 am to 5 pm.

I don’t doubt many patients are having serious problems accessing NHS services, including GPs. This was reflected in the latest satisfaction survey. But the *Mail*’s story left out some important facts and context.

The UK has among the fewest doctors and nurses per 1000 people among the Organisation for Economic Cooperation and Development countries or the EU. Numbers of full time equivalent qualified GPs haven’t risen since 2015 and recently have fallen. GPs are leaving the profession faster than people are entering training, and fewer international medical graduates now come to the UK. Yet annual recorded GP and practice nurse consultations have increased by 16% in that same period, hitting record highs.

A *BMJ* paper in 2019 showed that UK GPs saw far more patients a day than counterparts in 10 other high income nations. Most patients are satisfied with online or telephone consulting, with only a minority preferring face to face (currently around 60% of consultations).

**GP numbers have fallen, yet annual GP and practice nurse consultations have risen by 16%**

General practices receive an average of £155 a year for each registered patient, for unlimited primary care: GP partners must cover indemnity, employee costs, building maintenance, and much more. See how far £155 gets you in private healthcare. The median number of patients on each GP’s list is over 2000, a rise of around 200 in a decade.

We’ve seen cuts to social care, local government, and community nursing; growing pressures on ambulances and emergency departments; and scarce acute beds, compounded by record numbers of people on waiting lists for planned secondary care. As a result, GPs can find themselves holding additional risk or providing unfunded follow-up and monitoring.

The article used a graph showing that “average GP working hours per week” were 38.5, compared with 42 in 2008. This would still be “full time” in many jobs. And the figure is based on contracted hours. GPs report working well beyond those official hours in surveys the *Mail* acknowledged but glossed over. And many GPs combine clinical sessions with work in education, training, and medical management—partly because of the relentless nature of seeing too many patients in too little time, but also because such activities are important to the NHS.

It might make for tubthumping headlines, but forcing GPs into longer hours, with more clinical days, more contact time, and lower pay, won’t solve the workforce crisis or improve access for patients, which the *Mail* claims as its mission.

David Oliver, consultant in geriatrics and acute general medicine, Berkshire  
davidoliver372@googlemail.com  
Twitter @mancunianmedic  
Cite this as: *BMJ* 2022;377:o1091



## Adjusting our expectations

I recently attended a workshop exploring the effects of switching to a “remote by default” model of general practice. This was made necessary for infection control at the height of the pandemic. The reasoning goes that if there’s no need to physically examine a patient to reach a diagnosis, why bother being in the same room?

In the real world, a complex mix of factors should influence our choice of consultation method, not all of which are considered when setting up new models of care. In many surgeries, remote consulting brought with it a triage system where appointments are allocated depending on information provided on an online form. This should enable practices to work out who really needs face-to-face GP interaction and where a phone call or help from another member of staff might be appropriate. Although always expressed in efficiency terms, this is often about rationing access to a scarce resource—one of a shrinking number of GPs.

Although offering some sort of e-consultation is now compulsory, some practices now require an online form for every appointment, while others bury the link on their website and carry on as before. In the workshop we were asked to consider scenarios where patients struggled to navigate systems. Some described patients’ frustration being interpreted as hostility by overburdened reception staff. In others the patients gave up, unable to fill in a computer form and lacking the time or

phone credit to stay on hold for help to do so. The clear risk is that we miss a chance to cure, and the next presentation may be with a more serious illness or even an advanced malignancy.

There was consensus among the clinicians and patients present that most of the problems could be avoided (or ameliorated) by continuity of reception and clinical staff. However, I was disappointed to hear this was “not a realistic response.” Apparently, I have unrealistic expectations when I describe my version of what good general practice looks like: long term relationships, easy communication, and timely access.

This is the service most people would like for themselves and their relatives. So, when did we agree to settle for less? In whose manifesto did it say that GPs would switch to an impersonal service reached by an online form, where your stated problem would be allocated to a doctor you didn’t know or your request for help might result in generic advice delivered electronically?

I’m encouraged by the committed young doctors joining our profession, but if we’re to keep them, and to stem early retirements, we need an injection of hope. We need to feel confident the things we value as GPs will be recognised and preserved—and that we, in turn, will be respected and listened to.

Helen Salisbury, GP, Oxford  
helen.salisbury@phc.ox.ac.uk  
Twitter @HelenRSalisbury  
Cite this as: *BMJ* 2022;377:o1106

When did we agree to settle for less than long term relationships, easy communication, and timely access?



## LATEST PODCAST



### Creativity and wellbeing

Paula Redmond, a clinical psychologist who supports healthcare workers, joins this podcast episode to talk about the common struggles NHS staff are going through right now, protective factors against burnout, and how creativity has helped her during difficult periods.

She starts by describing the impact on healthcare professionals of not being able to deliver the care they want to: “It has an insidious, eroding effect on self-esteem and our connection with work—particularly for health professionals when we are so values driven. We come into this work because we want to make a difference and help people, and often our identities and sense of self-worth are really tied up in that. But it means that when things are going wrong at work, when we’re not able to make a difference, it can really cut to the core of what’s important to us and how we feel about ourselves as people. Our professional and personal identities can get so fused that when one is struggling, it’s really hard to function in any other aspect of our lives.”

Redmond shares how being creative has been a source of joy and accomplishment for her:

“Creativity is a real, innate part of being human. Even if we’re not creating, we can surround ourselves with beauty and that’s good for us. Something like crafting, for example, combines both pleasure and mastery, which are two factors that are key in terms of lifting mood. If we think about some of the activities that we might do to help us relax—watching TV or scrolling on our phones, for example—we can spend hours doing that and we might feel more relaxed, but we don’t necessarily feel fulfilled. Whereas craft is something that can combine both the sense of being engaged in something beautiful, but also a sense of achieving something.”



Listen and subscribe to *The BMJ* podcast on Apple Podcasts, Spotify, and other major podcast apps

Edited by Kelly Brendel, deputy digital content editor, *The BMJ*

# Can the world become a place where the planet and people flourish post-pandemic?

Covid-19 has impeded achievement of the sustainable development goals and a radical rethink of the global economy is required to meet them, argue **Fran Baum and colleagues**

In 2015, the world adopted 17 sustainable development goals (SDGs) with 169 targets to be achieved by 2030. These goals aimed to create a world in which people and the planet flourish. They were more ambitious than the previous millennium development goals and linked human wellbeing with the sustainability of the planet. Achieving these goals would make the world fairer, more sustainable, biodiverse, and healthy as well more participatory, decolonised, and democratic. Yet even before the covid-19 pandemic concerns emerged about whether governments had the will to achieve these aspirational goals. Covid-19 has cast further doubt and seen reversals rather than progress on many of the goals.

We examine the effect of covid-19 on progress across the five inter-related dimensions of the SDGs—planet, people, prosperity, peace, and partnership<sup>1</sup>—and discuss the political, social, and economic transformations required to meet them. Although creating new challenges for the SDGs, covid-19 has shown that governments can change policy rapidly when they want to. Similar rapid changes are now needed to advance progress towards achieving the SDGs, including radical reforms to fiscal and economic systems to reduce inequities and devise policies that confront the interests of elite groups.

## KEY MESSAGES

- The UN sustainable development goals were intended to create a sustainable planet and a world in which all people could flourish by 2030
- The covid-19 pandemic has set back the achievement of the SDGs
- It has worsened social determinants of health, increased socioeconomic inequities, and restricted civil society activism
- New economic models are needed that enable strong social security, education, and health systems, and encourage participatory democracy

## Planet's ability to support human life

Planetary health and tenable human life on earth are at risk. Irreversible climate change will have a huge negative effect on health, particularly for those living in poor and marginalised settings. Unless there are immediate, rapid, and large reductions in greenhouse gas emissions, limiting warming to 1.5°C or even 2°C will be unachievable.<sup>2</sup>

Although the pandemic has had some positive effects on the planet (eg, reducing air travel), some countries are reducing their environmental safeguards and seeing natural resources as “capital” on which to build their post-pandemic economic recovery.<sup>3</sup> Countries rapidly

## Indigenous peoples may be our best guides—livelihoods based on principles of living in harmony with nature and protecting the liveability of the planet

adopted new policies to limit the human and economic effects of the covid-19 pandemic, yet no government has similarly acted for the arguably greater existential threat of climate change.<sup>4</sup> Nothing short of rapid, transformative change to protect ecosystems and reduce carbon dependence will be enough to safeguard planetary and human health.

Our best guides to this future may be indigenous peoples around the world, many of whose livelihoods remain based on principles of living in harmony with nature and protecting the liveability of the planet. For example, Australian Aboriginal methods of agriculture and land management are now informing current fire reduction strategies across the country.<sup>5</sup>

Young people around the globe are also demanding more political action on climate change. Governments, especially of countries that are major emitters of greenhouse gases, must step up their efforts

and place long term health above short term growth and not allow temporary energy crises, including that resulting from Russia's February 2022 invasion of Ukraine, to divert them from reducing emissions. Some businesses are also realising that adapting to a post-carbon world through more localised production (eg, reducing energy use) and material throughput (eg, minimising waste) is vital to future profitability.<sup>7</sup>

## Lives in which people can flourish

The SDGs envisaged a world in which people can flourish, where poverty and hunger are reduced, and extreme poverty is eliminated by 2030. Health and wellbeing, access to quality education, and the reduction of socioeconomic, gender, and other inequalities were also seen as critical for people to fulfil their potential (table 1). Even before covid-19 it was projected that 670 million people would be extremely poor in 2030.<sup>20</sup> The World Bank estimated that collapsing supply chains and economic contraction associated with the pandemic pushed around 97 million more into extreme poverty in 2021 raising the estimated total to 732 million people.<sup>21</sup>

Disparities in covid-19 infections and mortality were experienced by minority ethnic groups in various parts of the world and reflect longstanding patterns of racism.<sup>22,23</sup> The pandemic also contributed to increases in violence against women, girls, and LGBT+ people, and higher rates of poverty and food insecurity among women.<sup>24,25</sup> Women experienced greater income and employment losses than men as well as increased domestic caring demands.<sup>25</sup> Globally, the pandemic both revealed and exacerbated the social protection gap between high and low income countries, with health inequities likely to increase.<sup>26</sup>

In his July 2020 report to the Human Rights Council,<sup>27</sup> the special rapporteur

## How covid-19 has affected progress towards the 17 sustainable development goals<sup>8</sup>

Goal	Effect of covid-19
1. No poverty	Covid-19 has led to the first increase in extreme poverty in a generation. Around 97 million people were pushed back into extreme poverty in 2020
2. Zero hunger	An additional 70-161 million people are estimated to have experienced hunger in 2020 as a result of the pandemic
3. Good health and wellbeing	Covid-19 has halted or reversed progress in health and shortened life expectancy. Health workers are in short supply in many regions and have been stretched to their limits by the pandemic. A multinational cohort study found covid-19 in pregnancy was associated with consistent and substantial increases in severe maternal morbidity and mortality and neonatal complications <sup>9</sup>
4. Quality education	Covid-19 has wiped out 20 years of education gains. An additional 101 million (9%) of children aged 5-14 fell below minimum reading proficiency levels in 2020. Sustained school closures could result in poorer learning outcomes and longer term adverse effects on skill accumulation and inequities in earnings because of differential impacts by household socioeconomic status. <sup>10</sup> Nearly 370 million children were estimated to be unable to receive school meals because of closures in April 2020, and seven months later 70% of these children still lacked access to school meals. <sup>1</sup> An extra 10.75 million children are predicted to have delayed development because of covid-19 related closures to early childhood care and education <sup>11</sup>
5. Gender equality	Covid-19 is adding to the burden of unpaid domestic and care work and squeezing women out of the labour force. It has also led to a steep increase in violence against women and girls. Evidence from past epidemics shows that adolescent girls are at particular risk of dropping out and not returning to school even after the crisis is over <sup>12</sup>
6. Clean water and sanitation	The pandemic has shown the critical importance of adequate access to clean water, sanitation, and hygiene in preventing disease. Despite heightened awareness of the access gap, revenue losses by water utilities because of covid-19 affect their ability to make the necessary capital investments to improve access <sup>13</sup>
7. Affordable and clean energy	The temporary decline in economic activity owing to the pandemic affected energy demand and revenues of energy companies. <sup>14</sup> The global financial crisis may lead to decreased investment in renewable energy, slowing progress towards affordable clean energy. <sup>14</sup> For example, only 28% of health facilities in sub-Saharan Africa have access to reliable electricity, which is vital to run lifesaving equipment as well as accessing information <sup>15</sup>
8. Decent work and economic growth	Covid-19 has led to the loss of the equivalent of 255 million fulltime jobs and will lead to an increase in youth who are not employed, in school, or in training. The effect on remittance flows largely from foreign workers in developed countries to lower income countries has been very uneven—declining 1.6% overall for 2020. This is dwarfed by the fall of >30% (excluding China) in foreign direct investment in low and middle income countries. <sup>16</sup> The pandemic is intensifying the risk of trafficking of children and child labour
9. Industry, innovation, and infrastructure	The pandemic has had a mixed to moderately negative effect on goal 9. <sup>10</sup> Global manufacturing production fell by 6.8% in 2020 as a result of covid-19. Air passengers decreased by 60%, from 4.5 billion in 2019 to 1.8 billion in 2020. But the pandemic has accelerated the uptake of digital technologies for health, education, and governance, <sup>10</sup> and manufacturing of technology products fuelled economic recovery, with 4% growth in the last quarter of 2020 compared with the same period in 2019. The pandemic has disrupted global value chains and the supply of products. Publicly funded basic research over decades in the US enabled development of the crucial viral protein and the concept of RNA modification (mRNA). The US government paid an additional \$10.5bn to vaccine companies to accelerate development <sup>17</sup>
10. Reduced inequalities	The pandemic has deepened existing inequalities, with the poorest and most vulnerable communities the hardest hit. <sup>6</sup> Social, political, and economic inequalities amplified the effect of the pandemic. Covid-19 is expected to increase the average Gini index for developing countries by 6% and is likely to reverse progress made in reducing income inequality since the financial crisis
11. Sustainable cities and communities	The pandemic has worsened the plight of the more than a billion people living in slums. Overcrowding in slums and informal settlements makes it difficult to follow recommended social distancing and self-isolation measures. There was a sharp short term reduction in pollution levels <sup>18</sup>
12. Responsible consumption and production	The disruption to global supply chains may worsen food loss at the production stage. <sup>19</sup> Lockdowns in many countries prevented restaurants from selling purchased food, resulting in waste. <sup>19</sup> The pandemic has boosted plastic consumption, including single use masks, personal protective equipment, and sanitiser bottles. <sup>19</sup> Increases in food and other deliveries to households have also increased plastic waste. <sup>17</sup> Reduced economic activity resulted in a short term reduction in use of natural resources, but there is pressure to loosen regulations and postpone new measures to reduce resource use <sup>10</sup>
13. Climate action	Greenhouse gas emissions were projected to drop by around 6% in 2020 because of travel bans and reduced economic activity, but this improvement is only temporary. There was pressure to reduce environmental safeguards and lack of clarity on environmental investments <sup>10</sup>
14. Life below water	The drastic reduction in human activity resulting from the pandemic may be a chance for oceans to recuperate but it will be temporary. There was pressure to reduce safeguards for marine biodiversity and ecosystems <sup>10</sup>
15. Life on land	Reduced economic activity led to a short term reduction in threat to biodiversity. <sup>10</sup> Pressure exists to reduce biodiversity and ecosystem safeguards, including regulation conventions <sup>10</sup>
16. Peace, justice, and strong institutions	The pandemic increased public deficits and debt, and disrupted legislative processes and public debates. <sup>10</sup> However, it also increased pressure on governments to mitigate health and economic consequences of covid-19 and to increase access to healthcare in countries without universal healthcare coverage <sup>10</sup>
17. Partnerships for the goals	Foreign direct investment fell by up to 40%. <sup>8</sup> International trade slowed and remittance flows to low and middle income countries fell to 1.6% below 2019 levels, but this reduction was much smaller than predicted <sup>10</sup>

on extreme poverty and human rights noted that “poverty is a political choice” and eliminating it requires transformative policies including tax justice and redistribution, universal social security, and equitable participatory governance. The adoption of participatory governance is essential to hold governments to account and strengthen the political will for such redistributive policies.

There is enough wealth in the world for all countries to meet their SDG targets; distribution, not scarcity, is the fundamental and policy amenable problem.<sup>23</sup> Social security, public health, and education systems need to be based on the right of all people to have access to them as such systems are essential to redress systemic inequities that marginalise social groups and to ensure

that quality healthcare, childcare, and education are accessible to all.

### Prosperity for all

The SDGs are also intended to provide the means by which all people can enjoy a prosperous and fulfilling life. An important pathway to prosperity is ensuring decent work through strengthened labour rights, protection of trade unions, and proper pay and working conditions. Social protection measures that safeguard people against shocks and stresses are also critical to decent work. Yet the pandemic has seen those already in informal or casual work being more likely to lose their jobs and at increased risk of covid-19.<sup>28</sup>

Table 1 provides examples of how wealth inequalities have worsened markedly

during the pandemic, with 2020 recording the steepest increase in global billionaires’ share of wealth on record. The 2022 World Inequality Report notes that the poorest half of the global population owns just 2% of total global wealth, while the richest 10% now own 76%.<sup>29</sup> In wealthier countries, governments rapidly introduced massive income and business support programmes that saw public debt soar in a way that would have been unthinkable before the pandemic.<sup>22</sup> This had a mixed effect: although the support maintained most people’s pre-pandemic income, it created “cheap money” for banks and investors in a liberalised and under-regulated financial system. Those owning companies directly benefiting from a pandemic (eg, drugs and online sales) or with the financial means to speculate more broadly (eg, in equity

markets, derivatives, real estate) saw their wealth increase substantially.<sup>30</sup> At the same time millions of people around the world struggle for the prerequisites for healthy living. A small progressive tax (eg, 2%) on wealth could be used to improve access to health services, quality education, social security, and better work conditions for those with fewer resources.

A fundamental change is needed in the way prosperity is understood and measured. Achieving the SDGs will require rethinking the idea that an economic system must be based on GDP growth. Instead, alternative measures of prosperity need to be adopted, such as the genuine progress indicator<sup>32</sup> or the happy planet index,<sup>33</sup> both of which incorporate environmental and social components not measured by GDP.

Disruptive models of degrowth or prosperity without growth are also required to challenge embedded economic path dependencies. Examples include steady state economics, which aims for a balance between production and population growth without exceeding boundaries of planetary health,<sup>34</sup> and doughnut economics, which defines the environmental and social space in which inclusive and sustainable economic development can happen.<sup>35</sup>

---

## Peace and freedom from violence and conflict

---

Wars, regional conflicts, terrorism, and attacks on human rights activists pose serious threats to peace. For people living in conflict zones, the covid-19 pandemic reduced already constrained mobility and opportunities to establish a new life elsewhere. In 2021 the UN Refugee Agency<sup>36</sup> noted that borders were less likely to be open to refugees and that 168 countries fully or partially closed their borders at the peak of covid-19; around 100 of these countries made no exceptions for people seeking asylum.

The pandemic also provided cover for clawing back civil liberties and democratic systems. For example, concerns were raised about the implications of militarised approaches to public health mandates in many countries.<sup>18</sup> The global civic society alliance CIVICUS reported that in 2020, 87% of the world's population lived in countries rated as having "closed," "repressed," or "obstructed" civic space—an increase of over 4% in 2019.<sup>18</sup> It also identified restrictive legislation to silence critical voices, censorship and restrictions on access to the internet, and attacks on journalists over

pandemic reporting in at least 32 countries.<sup>37</sup> In 79 countries, security forces used excessive force during protests related to covid-19.

A more peaceful world is requisite to all the other SDGs being met. In turn, if all people's basic needs were met, rights to democratic expression were respected, inequities were reduced, and we lived within our ecological limits, peace would be more likely. Peaceful relations within and between countries rely on effective, accountable, and inclusive governance systems that can legitimately resolve conflicts between the rights of individuals and those of the community. These systems should facilitate the free flow of information, promote informed decision making and trust in governance institutions during global crises, and provide protected spaces for civil society participation.

---

## Partnership for public good with genuine power sharing

---

SDG 17 considers "multistakeholder partnerships and voluntary commitments"<sup>38</sup> important for achieving the SDGs. Rather than sparking greater multilateral partnerships for health, covid-19 highlighted persisting power imbalances between high income countries and lower income countries.

Covax, a global health partnership set up to provide equitable access to covid-19 vaccines, was initially hailed as an exemplar of global solidarity but was almost immediately undermined by bilateral advance market commitments between rich countries and vaccine manufacturers that prevented it from securing sufficient supplies.<sup>40</sup> This resulted in rich countries having much higher covid-19 vaccine coverage than low and middle income countries. The EU, Germany, Switzerland, Canada, and the UK have so far failed to support efforts at the World Trade Organization to agree a temporary intellectual property waiver to reduce barriers to covid-19 technologies, including vaccines.<sup>41</sup>

The growing influence of the financial sector on global health is also a concern. For example, the covid-19 pandemic saw an increase in the trend to use investment bonds (a form of loan to governments or other agencies) to finance healthcare.<sup>42</sup>

Investors are also encouraged to support SDG aligned businesses through profit-making socially responsible investments.<sup>26</sup> These approaches will inevitably increase wealth disparities since only the wealthy have the capital for profitable investment. WHO's ability to provide global leadership

## Transformative political, social, and economic reforms are needed to disrupt the status quo and promote wellbeing for all

for health has also been reduced by a steady erosion of its autonomy and capacity over the past two decades,<sup>43</sup> and this will likely worsen as it, alongside other UN agencies, seeks private financing to cover inadequate public funding.

The interdependence of all SDGs means more holistic approaches are required, and these will rest on effective public interest partnerships. First, the power imbalances of multi-stakeholder partnerships must be addressed. Private sector interests should not dominate international, regional, national, or local partnerships to realise the SDGs. For example, multi-stakeholder partnerships enable food corporations to participate in the formulation of nutrition policy despite their conflict of interest.<sup>44</sup> Public interest, civil society's voice, and elected officials should instead be prioritised in policy making so that public good is at the forefront.

In addition, effective intersectoral action such as WHO's "health in all policies" is needed to break down barriers between different sectors and to encourage a joint focus on shared outcomes. Countries will need to establish mechanisms to build citizen trust and adopt collaborative budget processes such as Brazil's participatory budgeting, whereby residents allocate a portion of public funds to local priorities and needs, including health.<sup>46</sup> The public sector must also value, reward, and encourage effective public participation and genuine power sharing.<sup>46</sup>

---

## Conclusion

---

Transformative political, social, and economic reforms are needed to disrupt the status quo and promote wellbeing for all. These reforms will enable a redistribution of wealth and power through a fairer economic system based on tax justice and prosperity rather than prioritising growth. They will also reduce carbon dependence to halt global warming and protect and restore the earth's ecological systems.

---

Fran Baum, professor, University of Adelaide  
fran.baum@adelaide.edu.au

---

Lauren Paremoer, lecturer, University of Cape Town  
Joanne Flavel, researcher

---

Connie Musolino, researcher, University of Adelaide  
Ronald Labonte, professor, University of Ottawa

Cite this as: *BMJ* 2022;377:e067872

# Why is access to respiratory protective equipment still an issue for NHS staff?

The evidence on airborne transmission of SARS-CoV-2 is overwhelming

**T**he World Health Organization and the US Centers for Disease Control and Prevention (CDC) both recognise the airborne transmission of SARS-CoV-2, at short and long range, yet there continue to be delays in implementing respiratory protective equipment across the NHS for staff caring for infectious covid-19 patients. Why?

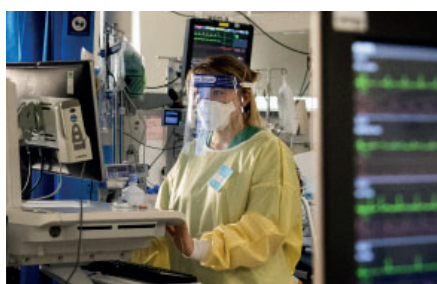
The evidence on airborne transmission of SARS-CoV-2 is overwhelming, readily available, and expertly communicated. SARS-CoV-2 is an aerosol-borne virus which infects hosts by being inhaled, and this has long been acknowledged in UK government messaging on ventilation.

In the first wave of covid-19 in 2020, the lack of appropriate personal protective equipment (PPE) for healthcare staff was blamed on supply and production issues. This excuse could have had some credibility if one was to ignore decades of pandemic planning that ought to have pre-empted such an occurrence.

However, two years later the official line is that there are no supply issues. So why are staff still not being provided with adequate PPE? It has never been clear if the stated insufficiency of supply is because this has been calculated based on guidance for non-airborne precautions (except for aerosol generating procedures) which, if altered to more sensibly cover physiologically produced aerosols such as when breathing and talking, would significantly alter the levels of supplies required. Given the formal reassurances, this is not a viable reason, particularly in a resource rich country.

## Fit tests

Another concern is about fit testing all staff for PPE. While it would have been difficult in the initial stages to fit test all staff, that can no longer be the case given that we are two years into the pandemic. Trusts that have switched to using FFP3 masks have, in some instances, done so midway through a pandemic wave (for example, Cambridge University Hospitals NHS Foundation Trust in December 2020), demonstrating feasibility even when the healthcare system was under pressure.



## Many trusts have demonstrated that where there's a will, there's a way

Entire staff groups were able to be fit tested over the Christmas holiday period with staff at higher risk of being exposed to covid-19 prioritised and tested within a week. Testing clinics can be opened up before shifts start to enable latecomers or those returning from isolation to be tested and return to work.

Practical considerations include the methodology used for fit testing, either traditional smell testing or the use of aerosol measuring devices (such as Portacount). The former can be challenging as some staff retain the smell of the chemical after a single fail and require a repeat appointment on an alternative day, which makes rapid deployment challenging. Portacounts or similar devices enable both the tester and worker to cycle through multiple disposable options quickly and give real time feedback on how secure the fit is.

Many trusts have demonstrated that where there's a will, there's a way, and that it is feasible to implement these processes.

Since January 2021, FreshAir NHS (a group of frontline NHS workers and supporters calling for recognition of airborne transmission and the urgent need for ventilation and PPE) have been requesting that the UK infection, prevention and control (IPC) guidance is updated to accept that airborne transmission of SARS-CoV-2 occurs in all settings and conditions, necessitating airborne mitigations. Initially supported by a petition of 1500 signatories, the request was shared with the UK prime minister and the first ministers, health ministers, and chief medical officers of all four nations. To date we have not received a response even to

acknowledge the letter and accompanying rationale for ventilation and FFP3 (or equivalent) provision in healthcare settings. These components are critical, but are not sufficient by themselves as a prevention strategy (vaccination and administrative means are also important); however, any approach to prevention that omits airborne mitigation is woefully inadequate.

## Technical debate?

Two years in, there has been very little acknowledgment from the government that there remains an issue with PPE, likely due to the negative press surrounding shortages at the beginning of the first wave; remember nurses in bin liners? On 4 January there was some recognition from Chris Whitty, the chief medical officer for England, when he stated that wider adoption of FFP3 respirators within healthcare "was a technical discussion with several different views on it." However, denouncing the importance of this problem as a mere technical debate fails to do it justice when so many NHS healthcare workers have died from covid-19 or have longstanding ill health resulting from work acquired covid; or when the bereaved are yet to have answers on why and how this was allowed to happen.

We anticipate that unless airborne transmission is acknowledged, clearly explained, and acted on in infection and prevention control guidance, the discipline of infection control is in danger of relegating itself to obscurity as a credible specialty. High reliability theory, in particular "crew resource management," dictates when in a crisis, defer to experts and expertise as opposed to simply those in management positions or other positions of power. The NHS needs to embrace the breadth of scientific disciplines and evidence base needed to save lives and minimise suffering caused by infectious pathogens to the benefit of staff and patients.

Christine Peters, consultant clinical microbiologist, Glasgow

Tom Lawton, consultant critical care, Bradford

Matt Butler, consultant physician, Cambridge

Huw Waters, materials scientist

Eilir Hughes, general practitioner

Cite this as: *BMJ* 2022;377:o1082



# LETTERS Selected from rapid responses on bmj.com

## LETTER OF THE WEEK

### People should be called what they choose to be called



Russell's letter calling for an end to the anglicisation of our colleagues' names caused me to reflect on my experience (Letters, 26 March).

I was born in the UK to first generation immigrant doctors from Sri Lanka. For most of my life, my first name has been shortened to the first three letters to make it easier for others to say. This is a throwback to primary school when my teacher announced she could not say my name and abbreviated it for me. I cannot honestly say whether I thought much about whether I liked it or not, but it was clear that it was more important to make things easier for others. I did briefly regret the choice of "Vas" once I was at medical school because of the inevitable jokes.

A year ago, following publicity around the Black Lives Matter movement, I decided to reclaim my full name. I realised that in shortening my name I had anglicised it and in doing so had suppressed a part of my identity. My friends were supportive and took it on themselves to practise the pronunciation. I was touched by their genuine efforts though they did not always get it right. It was more challenging to get colleagues to adapt to calling me something different.

Ultimately, we should call people what they want to be called. In retrospect, I wish I had thought to reclaim my full name earlier and would encourage anyone considering this to do so. I do not agree with Shakespeare when he wrote, "What's in a name? That which we call a rose by any other name would smell as sweet." By reclaiming my full name, it certainly felt easier to show up as my true self rather than presenting an edited persona to the world.

Vasandhara Thoroughgood, GP, Colchester

Cite this as: [BMJ 2022;377:o1070](#)

## SELF-CARE INTERVENTIONS FOR HOMELESS PEOPLE

### We can reach homeless people in emergency departments

Hopkins and Narasimhan point out that the universal right to health will never be achieved if we continue to underserve the homeless population (Analysis, 26 March).

We need to help healthcare workers provide non-stigmatising care. Medical schools lack training on homeless people and their unique health challenges. Almost all junior doctors have an emergency department rotation, and many homeless people use emergency care as their main contact with medical professionals. This is an opportunity for intervention.

There is a generally poor understanding of government directives around homelessness—if the "severe weather escalation plan" is activated, for example, people can stay in hospital until suitable accommodation is found. Poor communication between government and healthcare workers is entrenched.

Education of healthcare professionals is key to helping the homeless population. Medical contact, most often through emergency departments, provides an opportunity to signpost people towards important resources. We need to do better.

Isabella V C Watts, clinical and research fellow in oncology, London

Cite this as: [BMJ 2022;377:o1057](#)

## LOW BACK PAIN

### Gait analysis can help improve lives of people aged 60 and over

I am in the "people aged over 60 years" group described by Traeger and colleagues (Practice Pointer, 26 March). As a result of an incident 14 years ago I had a fracture of the shaft of my left femur that required surgical intervention.

I subsequently developed intermittent right sided low back pain. Physiotherapy followed on several occasions, and recently, when the pain became continuous, I saw a chiropractor for spinal stretching exercises. Those treatments had only a limited, short term effect.

A gait analysis revealed my left leg to be shorter than the right. A heel raise was prescribed, which has led to much improved posture. I can stand up straighter, have achieved the best relief of low back pain so far, and need no analgesics.



Gait analysis was not mentioned by Traeger and colleagues, but it is important to make physicians treating this age group aware of this resource.

Ronald J Atkinson, retired consultant medical oncologist, Hillsborough

Cite this as: [BMJ 2022;377:o1059](#)

## INTERRUPTING DOCTORS' WORK

### Hospital ward rounds are irritating and ineffective

As a GP with reasonably recent exposure to the ward round, I find it amazing that hospital teams work in this irritating and ineffective way (David Oliver, 19 March).

A group of people going from bed to bed literally looking down on patients. No privacy. Anyone can wander past—even if they don't interrupt, their presence does. It's like GPs having their surgeries in the waiting room.

Why can't hospital clinicians sit in prepared rooms where patients can be brought? They could have a quiet environment, a static computer with access to all records, and the opportunity to develop a meaningful relationship. Bloods could be taken there and then. This might not be appropriate for very sick patients, but then GPs still see sick patients in their consulting rooms. It would be hugely empowering for clinicians and patients, and it might stop ward processes and the public environment hijacking good care.

Graeme Mackenzie, GP, London

Cite this as: [BMJ 2022;377:o967](#)

## OBITUARIES

### Kenneth Frohnsdorff

Consultant physician in geriatric medicine East Kent Hospitals (b 1933; qualified King's College Medical School, London, 1960; MRCP), died from cancer on 27 February 2022

Kenneth Frohnsdorff spent his national service in the Royal Army Medical Corps, attached to the Gordon Highlanders in Aberdeen. He then undertook his junior doctor training at Freedom Fields Hospital in Plymouth, Odstock Hospital in Salisbury, and Jersey General Hospital in St Helier, Channel Islands, where he enjoyed presiding as duty doctor for the Jersey Battle of Flowers. When appointed as consultant physician in East Kent he helped develop the department of geriatric medicine at St Mary's Hospital, Etchinghill, and encouraged the development of multidisciplinary teams in the stroke unit at the Royal Victoria Hospital, Dover. In retirement he enjoyed his hobbies of archaeology and history, and holidaying with his family. He leaves his wife, Sarah; and two children, Max and Alice.

Sarah Frohnsdorff

Cite this as: *BMJ* 2022;376:o772

### Geoffrey Joseph Bourke

Professor of public health medicine and epidemiology (b 1929; q National University of Ireland, Dublin, 1954; DPH, MA, MD, DIH, FFPHMI, FRCPI), died from prostate cancer on 25 September 2021

Geoffrey Joseph Bourke was a senior faculty member at University College Dublin and was known to generations of doctors during their undergraduate careers, culminating in the leadership role of dean of the Faculty of Medicine. However, it was his broader interest in establishing the Faculty of Public Health Medicine at the Royal College of Physicians of Ireland that contributed to professional education and training of public health specialists. He was founder dean of that faculty, which remains the training body for public health medicine today. Predeceased by his first wife, Marese, and his second wife, Marian, Geoffrey leaves four children and 10 grandchildren.

Cecily Kelleher

Cite this as: *BMJ* 2022;376:o766



### Neville Seymour

Orthopaedic and trauma consultant Derriford Hospital, Plymouth (b 1933; q Leeds 1957; FRCS), died from a lower respiratory tract infection secondary to longstanding bronchiectasis on 4 December 2021

Neville Seymour obtained his consultant post in Plymouth in 1967. He retired from the NHS at the age of 60 and thereafter had a thriving medicolegal practice. He married a fellow Leeds medical graduate in 1962, a union that wasn't exactly welcomed by either family at the time (Virginia was from a Catholic background and Neville from a Jewish one); however, this was a love match that lasted almost 60 years. In his later years Neville became Virginia's carer after she had become disabled after a dense stroke. He gained many new household skills and also became an adept cook. Predeceased by one of his sons, he leaves Virginia, two sons, six grandchildren, and six great grandchildren.

Andrew Seymour

Cite this as: *BMJ* 2022;376:o768



### John Samuel Staffurth

Consultant physician Guy's Hospital (b 1920; q St Thomas' Hospital, London, 1942; MD, FRCP), died from old age on 10 September 2021

John Samuel Staffurth ("Sam") was appointed consultant physician at Lewisham Hospital, with five sessions funded by the Medical Research Council. He set up a simple clinical radioisotope laboratory and experimented with isotopes of sodium and potassium. After several years, Sam transferred fully to the NHS and inaugurated teaching, initially for overseas candidates and ultimately for undergraduate students from Guy's. He published over 30 papers, predominantly on thyroid disease. At the end of his career he moved to Guy's Hospital and he retired in 1985. Sam met his future wife, Jean (née Baker), at an interview for a locum post. They married in 1959, moved to Bromley, and Jean became a radiotherapist. Sam died with Jean by his side. He leaves three sons and nine grandchildren.

John Nicholas Staffurth

Cite this as: *BMJ* 2022;377:o847



### William Irvine Fraser

Professor (learning disability) Cardiff University and honorary consultant psychiatrist Cardiff Community Healthcare Trust (b 1940; q Glasgow 1963; CBE, MD, FRCPsych, FMedSci), died from dementia and old age on 15 February 2022

William Irvine Fraser ("Bill") achieved a precocious consultant appointment at the age of 29 in Fife. Consultant posts at the Royal Edinburgh and Gogarburn hospitals and editorship of the *Journal of Intellectual Disability Research* followed. He accepted a chair in 1988 and moved to Cardiff. He was a specialist adviser to the Welsh chief medical officer, assistant editor of the *British Journal of Psychiatry*, and medical adviser to Mencap. He combined a dry wit with inspirational leadership skills, recruiting many talented doctors into a "Cinderella" specialty, but was happiest when sailing his boat. He leaves his wife, Joy, two sons; and four grandchildren.

Peter McGuffin

Cite this as: *BMJ* 2022;376:o767



### Edward Young

Consultant anaesthetist Reading (b 1936; q Guy's Hospital, London, 1961; FRCA), died from dementia on 7 March 2022

Edward Young ("Eddie") was appointed consultant anaesthetist to the Royal Berkshire Hospital, Reading, in 1972 and worked there until his retirement in 1996. Even as senior registrar, he was a superb clinical and scientific teacher with huge concern for trainees' education and wellbeing. As consultant he became involved with the establishment of intensive care and the implementation of the new operating department assistant scheme. Eddie was a keen runner and continued running marathons until his 60s. He won the *Observer's* Azed crossword cup 11 times. He was a gifted raconteur with a host of stories, which often included the eccentricities of his surgical colleagues, all delivered with kindness. Predeceased by his wife, Sally, in 2013, he leaves four children.

Tim Smith

Cite this as: *BMJ* 2022;376:o773



## Jennifer McCaughan

Nephrologist and director of Northern Ireland's Histocompatibility and Immunogenetics Laboratory

Jennifer McCaughan (b 1982; q Edinburgh 2006; MRCP, PhD, FRCPath), died from metastatic leiomyosarcoma on 7 December 2021

Told by a teacher at her primary school that an activity would have to be postponed until the next day, 4 year old Jennifer said, "Procrastination is not good." Friends of McCaughan believe she never, ever procrastinated.

"She was an outstanding doctor, with a razor sharp mind, and good at passing difficult exams first go," said Peter Maxwell, former training director for renal medicine at Queen's University Belfast. "She was at the start of a career that promised great achievements when her cancer was diagnosed in 2020."

Appointed to the joint post of consultant nephrologist and director of Northern Ireland's Histocompatibility and

Immunogenetics Laboratory in September 2019, McCaughan set about adapting services to cope with the pandemic and improve transplantation numbers. In 2020 a total of 158 kidney transplants were performed in Northern Ireland—more than in any previous year.

As demand for covid-19 testing soared, she rolled out a new way of working at the laboratory, dividing the staff into teams of two, covering day and night shifts and bank holidays. She also introduced training videos.

Elaine Boyle, manager at the laboratory, said she and McCaughan were proud of how team members had adapted to different work patterns to undertake covid testing while supporting Northern Ireland's busiest time for kidney transplantation. "This has been the greatest achievement of the team to date," she said.

In a tweet the British Transplantation Society described McCaughan as "a committed and energetic colleague, who was a great advocate for her patients and the transplant programme in Belfast."

### Early life and career

McCaughan was born in Ballymoney, County Antrim, the eldest of three children of Jim, a presbyterian minister, and his wife, Alison, who worked in adult education. She went to Hazlett primary school in Articlave, County Londonderry, and then Coleraine Grammar School, where she developed a love of science. She graduated from Edinburgh University medical school in 2006 and received the Scottish Association for Medical Education prize for the most distinguished woman graduate of the year.

She started clinical training in Northern Ireland and in 2010 was appointed to an academic clinical fellowship and started her higher specialist training in renal medicine. "Jennifer was attracted to nephrology because as a junior doctor she had seen the transformative effect of transplants on patients with end stage kidney failure on dialysis," said Maxwell.

As a research student at Queen's University Belfast, McCaughan focused on long term complications related to kidney transplants and during her doctoral studies became interested in histocompatibility and immunogenetics (H and I). After completing her doctorate in 2015 she spent a year in Toronto, undertaking a combined nephrology and H and I laboratory fellowship.

"She also had a particular interest in patients deemed high risk for transplant rejection. She provided detailed clinical and scientific advice on how to transplant these patients," said Maxwell.

In a blog post for *The BMJ* in 2017 ([blogs.bmj.com/bmj/2017/01/24/jennifer-mccaughan-and-aisling-e-courtney-is-balancing-risk-the-most-important-skill-in-clinical-medicine](https://blogs.bmj.com/bmj/2017/01/24/jennifer-mccaughan-and-aisling-e-courtney-is-balancing-risk-the-most-important-skill-in-clinical-medicine)), submitted when she was a final year nephrology trainee, she urged doctors to be less conservative in assessing the risk of kidney transplants for some patients.

"Objectively, the risk of transplanting highly sensitised patients after a short time on dialysis with a kidney associated with increased immunological risk has a favourable risk-benefit ratio. Subjectively, physicians fear the potential for rejection and graft loss so patients wait. And wait," she wrote.

Optimal patient management required much improved risk-benefit analysis, she argued. "The capacity to do this effectively for each patient is the cornerstone of personalised medicine and an attribute of the exceptional clinician," she concluded.

She was a co-author of more than 30 papers on kidney failure and transplantation and was respected for befriending staff at all levels in the organisations where she worked. A person of deep Christian faith, she continued to support renal unit and laboratory colleagues even after her terminal diagnosis. "Hers was a short but intensely lived life," said Maxwell.

Joanna Lyall, London  
joannalyall50@gmail.com  
Cite this as: *BMJ* 2022;376:e0488

### McCaughan was a great advocate for her patients and the transplant programme in Belfast

