this week

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MARK THOMAS

GMC criticised for stake in fast food

The doctors' regulator has been called on to account for its £81.3m investment account, which includes junk food and drug companies

EXCLUSIVE Doctors have criticised the GMC after *The BMJ* discovered that the regulator has investments in fast food firms, drug companies, private medical insurers, and private healthcare providers.

A freedom of information request showed that it has investments totalling nearly £870 000 in the food and soft drink companies McDonald's, Nestlé, Starbucks, PepsiCo, Coca-Cola, and Unilever, which owns the ice cream brands Magnum, Wall's, and Ben & Jerry's.

The GMC also invested more than £1.2m in drug companies, including Novo Nordisk, AstraZeneca, Merck, and Roche, more than £470 000 in private insurance or healthcare providers such as Humana Health and UnitedHealth Group, and more than £1.3m in medical device manufacturers, including Intuitive Medical, makers of the da Vinci robotic surgical system.

The GMC, which charges doctors £161 as a one-off registration fee and then £420 in annual fees, invests its money through Churches, Charities and Local Authorities Investment Management. It told *The BMJ* it had a say in how the money was invested and access to all decisions through CCLA's reporting. The GMC gave CCLA £50m to invest in 2019, worth £81.3m in January.

The investments have been criticised because of the link between fast food and soft drink companies' products and rising rates of obesity worldwide and because the investments are not published on the GMC's website.

Martin McKee, London School of Hygiene and Tropical Medicine professor of European public health, said, "Many doctors whose work involves dealing with the harms caused by junk food marketing would, if they knew, despair at how their money is being invested.

"I have previously raised concerns about the GMC's accountability, but accountability requires transparency."

Sam Everington, a GP in Tower Hamlets, east London, and chair of the local CCG, said, "Doctors in the UK would be horrified to know their money is being invested in fast food companies that are the cause of so much disease and reduced quality and quantity of life. This is no different from investing in tobacco companies."

The Glasgow GP Margaret McCartney said, "Practising UK doctors have no choice but to pay substantial annual fees to the GMC. The organisation must show that it is using its funds wisely, and I'm not convinced it is. It is unclear to me why the

(Continued on page 382)

LATEST ONLINE

- Surge in urgent cancer referrals in response to awareness campaigns
- Cardiologists in Romania accused of reusing cardiac devices taken from dead patients
- Five US medical associations form coalition against gun violence

SEVEN DAYS IN

One in six patients in hospitals in England are medically fit to leave

PETER D NOYCE / ALAMY

A sixth of patients in England's hospitals, or more than 13 000 people, are medically fit to leave, an analysis by the Nuffield Trust shows. The number of people in hospital whose discharge has been delayed by seven to 20 days has remained relatively stable since October 2020. But the number of patients staying in hospital for three weeks or more when they are medically fit to leave rose from an average of 2350 in October 2020 to 6390 in December 2022.

And delays are getting longer. People staying in hospital for more than three weeks were delayed for an extra 21 days on average, nine days more than in December 2021.

The analysis found a complex mix of reasons behind delayed discharge. Just under a quarter of patients staying in hospital for seven or more days who were medically fit for discharge were waiting for further assessment, a discharge summary, or agreement on further care. Another 25% were waiting for a care package at home, either for community health services or help with personal care, arranged by social services. A further 22% were waiting for a short term bed, such as for rehabilitation. And the remaining 18% were waiting for a permanent bed in a care or nursing home.

Jacqui Wise, Kent Cite this as: *BMJ* 2023;380:p578

Covid-19

Covid infection survey is paused by UKHSA

The Covid-19 Infection Survey, set up in April 2020, will be paused from the end of March as the UK Health Security Agency reviews its surveillance, it said, "to ensure it is proportionate, cost effective and considered alongside how we monitor a range of other infectious diseases." The survey for the week ending 28 February showed that an estimated one in 40 people in England tested positive for SARS-CoV-2, with similar rates in Scotland and Wales, while in Northern Ireland the rate was one in 75.The agency said that it would announce details of any new surveillance surveys in due course.

Vulnerable adults will be offered spring booster

Covid vaccine boosters will be offered this spring to adults aged over 75, care home residents, and anyone aged over 5 who is immunosuppressed, in line with advice from the Joint Committee on Vaccination and Immunisation. The committee chair, Wei Shen Lim, said, "This spring programme will bridge the gap to the planned booster programme in the autumn, enabling those who are most vulnerable to be well protected throughout the summer."

Latin America "has to be medically self sufficient"

Countries across the Americas and the Caribbean must bolster their surveillance of covid-19 and continue to vaccinate against the disease if they are to leave the pandemic behind, said senior officials at the Pan American Health Organization. They called for the region to reduce its reliance on imported medical supplies and pharmaceuticals, to avoid repeating its experience of covid. As the region imports 10 times more health products than it exports, the strength of its response hinges on the generosity of wealthier nations.

NHS England

Local NHS chief criticises "micromanagement"

The head of an integrated care board (ICB) criticised NHS England for its "micromanagement" and called for ICB leaders to be given more autonomy in organising services for their local areas. Speaking at the Nuffield Trust Summit, Patricia Miller (right), chief executive of Dorset ICB, highlighted "a lack of freedom" for leaders to shape the direction of the 42 ICBs. NHS England had even demanded it signs off the wording of job advertisements for executive directors, she said.

Workforce

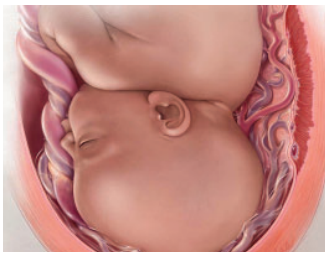
NHS plan is "meaningless without numbers"

Fiona Myint, vice president of the Royal College of Surgeons of England, has warned that the NHS workforce plan, which the chancellor promised in his autumn statement, must be fully funded and include the numbers of doctors and nurses needed in the future, after reports that these would be excluded. She said, "In surgery, we see the effects of staff shortages every week when the absence of theatre nurses and anaesthetists lead to operations having to be cancelled. With so many lives on hold waiting for surgery, the government cannot afford to fudge the workforce plan."

Screening

Evidence call for vasa praevia screening

The UK National Screening Committee is consulting on screening for vasa praevia in pregnancy, a rare condition where the umbilical cord vessels run unprotected through the membranes



covering the cervix. When a pregnant woman's membranes rupture, these vessels may also be ruptured and cause severe blood loss, in some cases leading to death of the baby. Diagnosing vasa praevia allows for a planned caesarean section to reduce the risk of haemorrhage. The closing date for the review is 3 June.

Scan service in mobile trucks finds liver damage

More than 830 people with cirrhosis or advanced fibrosis were identified in the eight months from June 2022 from 7000 FibroScan ultrasound tests delivered through NHS England's scanning service. The pilot scheme uses mobile trucks at GP clinics, recovery services, food banks, diabetes and sexual health clinics, and homeless shelters. They are expected to scan 22 000 people in the scheme's first year. Only a third of liver cancers are diagnosed at an early stage, but the programme aims to improve this.

MEDICINE

Across the world the average consumption of salt is more than twice what is recommended by WHO

WHO

Measures to cut salt intake are lacking

Only nine countries (Brazil, Chile, Czech Republic, Lithuania, Malaysia, Mexico, Saudi Arabia, Spain, and Uruguay) have sufficiently comprehensive policies to reduce salt intake to healthy levels—covering only 3% of the world's population—said a WHO report. Worldwide, the average person probably consumes 10.8 g of salt a day, twice the 5 g advised. Tom Frieden, president of Resolve to Save Lives, which works to reduce cardiovascular disease, said, "There are proven measures that governments can implement and important innovations, such as low sodium salts. The world needs action, and now, or many more people will experience disabling or deadly—but preventable—heart attacks and strokes."

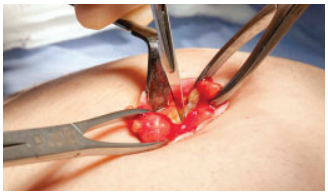
Regional director is fired for abusive conduct

WHO has dismissed Takeshi Kasai, the regional director for its Western Pacific region, for abusive conduct. He was placed on leave last August after complaints. In a statement WHO said that it had received allegations of misconduct against Kasai in 2021-22 and investigated them in line with its zero tolerance policy on abusive conduct. News reports said that 30 staff members had accused him of creating a "toxic atmosphere" and of racist, abusive, and unethical behaviour that undermined the UN agency's efforts to stop covid-19 in Asia.

Care backlogs

Waiting lists in England grew in January

Some 7.21 million people in England were waiting for hospital treatment in January 2023, up by 13 000 since December. The number waiting more than 18 months for treatment has decreased, from 54 882 in December 2022 to 45 631 in January. The government's elective recovery plan aims to eliminate waiting times of over 18 months (78 weeks) in the NHS by April 2023. The Royal College of Surgeons of England said that patients waiting for operations such as hip and knee replacements or general surgeries such as gallbladder removals and hernia repairs were waiting the longest.



Abortion

Scrap the two doctor rule, says Sacha review

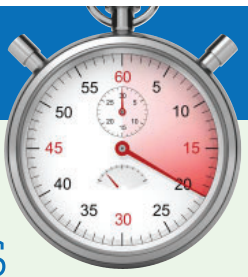
Nurses and midwives should be allowed to authorise an abortion, prescribe abortion drugs, and perform vacuum aspirations, the Shaping Abortion for Change (Sacha) study has advised. If adopted, this would mean scrapping the requirement for two doctors to authorise an abortion. The authors said that ultimately the UK was likely to decriminalise abortion, but Kaye Wellings, co-leader of the study, said, "In the meantime, as abortion provision is increasingly nurse led, it makes sense for nurses to be able to sign off abortions instead of having to pass their paperwork to a doctor, who may have no contact with the patient."

Cite this as: *BMJ* 2023;380:p584

STAFFING

In 2022 only a fifth (22%) of medical staff said they felt able to do their jobs properly, because of staff shortages, down from 39% in 2020

[NHS staff survey to which 600 000 responded September to December 2022]



SIXTY SECONDS ON . . . PETROL PUMPS

MMM, BENZENE . . .

You may like the aroma of petrol, but visits to the pumps could become rarer in Hawaii if the state government gets its way. It's just passed a bill requiring climate change warnings to be displayed on all pumps to try to cut consumption. If signed into law it would be the first US state to do so.

WHY HAWAII?

The Pacific state is particularly vulnerable to the effects of climate change. Reports say average temperatures could increase by as much as 4.2°C by the end of the century. Up to 40% of Hawaii's coral reefs, which bring in $385bn (£318bn) a year in tourism revenue, could be lost by 2100. Moreover, the economic and public health risks increase the vulnerability of children, elderly people, and economically disadvantaged groups.

ANYONE ELSE PUMPING UP WARNINGS?

In 2021 Cambridge, Massachusetts, became the first US city to put climate and health warnings on petrol pumps. The city council said it wanted to "underscore the fact that each individual's behavior can make an impact on the environment and on public health." The same year Sweden made labels with a climate impact rating mandatory on fuel dispensers and charging stations.

DO THE LABELS WORK?

A 2021 review article in *Global Challenges* concluded that such warnings "may activate extant climate concern norms and shift public opinion toward long term support of sustainable transportation emissions policies and practices."

FUEL FOR THOUGHT

The problem seems to be execution—and opposition. North Vancouver was the first Canadian city to put labels on pumps in 2016, but the energy industry helped design them. Swedish activists have also complained their labels are vague and should be more explicit, like those on cigarettes.

AW, TRUCKS!

It gets worse. Other US states have avoided labels because of constitutionality fears. Bloomberg has reported that in 2015 an oil industry trade group said labels were the "type of forced speech the Supreme Court has ruled is absolutely unconstitutional."

Mun-Keat Looi, *The BMJ*

Cite this as: *BMJ* 2023;380:p581

(Continued from page 379)

GMC holds so much money and why it has chosen to invest as it has. When the chief executive is paid over a quarter of a million per year, and a further six staff are on more than £200 000, doctors should know, with complete transparency, where their fees are being invested and why."

A GMC spokesperson told *The BMJ* that as a registered charity it had a duty to make sure it protected and maintained the value of its financial assets. CCLA works with companies such as Unilever, PepsiCo, Nestlé, and Coca-Cola to urge them to commit themselves to producing healthier products that are more accessible and more affordable, the spokesperson added. "We apply a number of ethical restrictions to the types of companies CCLA invests in on our behalf," they said. "This includes products and services such as tobacco, alcohol, pornography, gambling, and high interest rate lending.

The GMC must show it is using its funds wisely, and I'm not convinced that it is
Margaret McCartney

"In addition, we are able to exclude companies where we have concerns about their approach to corporation tax."

CCLA also avoids investing in companies involved with the production of landmines, cluster munitions, and chemical and biological weapons or the extraction of thermal coal or tar sands, the spokesperson added.

The GMC's Council reviews the investment policy annually, and the spokesperson said the regulator was considering whether current exclusions remained relevant. The GMC is also looking at publishing its investments on its website after *The BMJ* highlighted they were not displayed transparently.

SOME OF GMC's DIRECT INVESTMENTS AT THE END OF JANUARY

Fast food
Nestlé
McDonald's
Coca-Cola
PepsiCo
Starbucks
Unilever (owner of Magnum, Wall's, and Ben & Jerry's ice creams)

Pharma
Abbott Labs
AstraZeneca
ICON
Merck
Novo Nordisk
Roche
Zoetis

Medical devices
Danaher
Edwards Lifesciences
Illumina
Intuitive Surgical (makers of Da Vinci)
Medtronic
Stryker
Thermo Fisher Scientific

Private healthcare
Humana
UnitedHealth Group

Ronald MacDonald, final year Scottish graduate entry medicine student, Universities of Dundee and St Andrews
Cite this as: *BMJ* 2023;380:p580

Appetite suppressant semaglutide to be used to treat obesity in England

A drug used for treating diabetes has been recommended by NICE to treat thousands of people in England with obesity. Doctors will be able to prescribe semaglutide (marketed as Rybelsus and also known as Wegovy) to help people lose weight as part of their treatment in an NHS specialist weight management service.

The drug, manufactured by Novo Nordisk, works by suppressing appetite by mimicking the hormone glucagon-like peptide-1 (GLP-1), which is released after eating. Patients inject it once a week.

NICE first recommended the drug in draft guidance last year, after a clinical trial of just under 2000 volunteers found that people lost on average 12% more weight with semaglutide alongside supervised weight loss coaching than with just coaching. The mean BMI in the trial was 37.9, although it did not include people with type 2 diabetes.

In final guidance NICE has recommended the drug's use alongside a reduced calorie diet and increased physical activity in adults who have at least one weight related comorbidity and a BMI of at least 35. For patients with a south Asian, Chinese, black African, or Caribbean family background it recommends reducing the BMI threshold by 2.5, to allow for the

NEWS ANALYSIS

Advisory panel rejects calls for ban on recreational use of nitrous oxide

As cases of neurological damage from recreational use rise, **Jacqui Wise** looks at the implications of the advisers' report

A government commissioned review has concluded that the possession of nitrous oxide should not be banned but measures are needed to tackle non-legal supply.

The decision by the Advisory Council on the Misuse of Drugs came despite reports of an increase in neurological harms, including nerve and spinal cord damage, related to heavy, persistent use.

The council was asked to review the harms of nitrous oxide in 2021 by the then home secretary, Priti Patel, who said she was "ready to take tough action." But the independent panel concluded: "Current evidence suggests that the health and social harms of nitrous oxide are not commensurate with control under the Misuse of Drugs Act 1971."

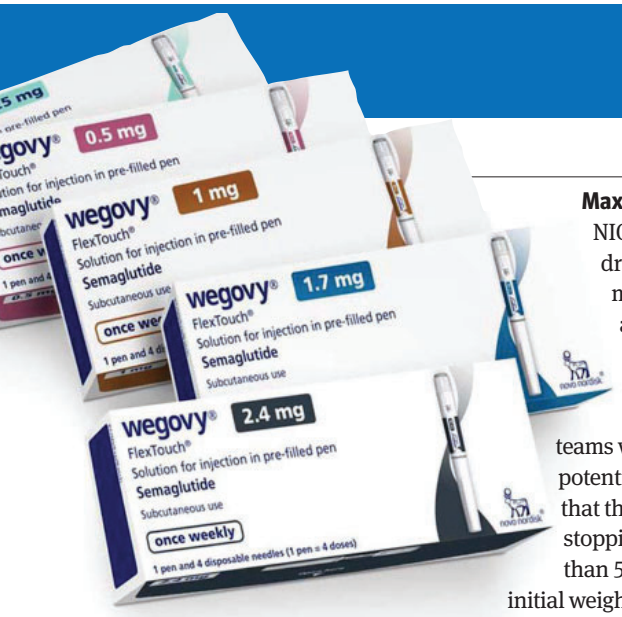
It said sanctions for offences under the act would be "disproportionate" to the level of harm associated with the drug and would create "significant burdens" for legitimate users of the substance. Nitrous oxide is widely used in the food industry and in medical settings for sedation and pain relief.

Instead, the council said the gas should remain under the Psychoactive Substances Act 2016 but this should be better enforced. The act makes production, supply, and importation of nitrous oxide for inhalation illegal, but not possession.

Neurological harms

The panel concluded that the types of harms have not changed since its last report in 2015 and that the number of deaths and demand for treatment for problematic use of nitrous oxide remained lower than for other drugs.

Despite a lack of data on the number of people being treated, health professionals were submitting increasing numbers of inquiries to UK poisons centres. Guy's and St Thomas' NHS Trust said it had seen increasing numbers of people presenting with peripheral neuropathy symptoms



increased risk at a lower BMI in people from some ethnic minority groups.

Weight related comorbidities could include prediabetes or type 2 diabetes, hypertension, obstructive sleep apnoea, or cardiovascular disease.

Maximum two years

NICE recommends the drug be prescribed for a maximum of two years and must be delivered as part of specialist weight management services, by multidisciplinary teams who will also monitor potential side effects. It advises that the NHS should consider stopping semaglutide if less than 5% of the patient's initial weight has been lost after six months of treatment, given the reported side effects. During the Step 1 clinical trial, used by NICE to help formulate its recommendations, the main side effects of semaglutide were gastrointestinal disorders, which included nausea, diarrhoea, constipation, and vomiting.

THE NHS should consider stopping semaglutide if less than **5%** of the patient's initial weight has been lost after six months of treatment, given the reported side effects

Healthy choices

The dose used in the Step 1 trial was 2.4 mg. NHS England said it could not disclose the price for treating obesity with semaglutide and that this should not be extrapolated from the price of lower doses used in treating diabetes (0.25 mg, 0.5 mg, and 1.0 mg, at £73.25 a pack, excluding VAT).

Duane Mellor, a registered dietitian and a senior lecturer at Aston Medical School, said, "Although semaglutide can be prescribed for 24 months, the lifestyle support needs to continue, and our society needs to change to support people in continuing to make healthy choices and live healthier lives.

"We need semaglutide to be seen as part of the toolkit that supports people to be able to improve their health, not a magic or singular solution."

Gareth Iacobucci, *The BMJ*

Cite this as: *BMJ* 2023;380:p556

Our society needs to change to support people in continuing to make healthy choices and live healthier lives
Duane Mellor

associated with chronic nitrous oxide use, from four in 2020 to seven in 2021 and 32 in 2022. The Royal London Hospital reported diagnosing and treating one case of nitrous oxide induced subacute degeneration of the spinal cord on average every nine days.

The council recommended that healthcare professionals be educated on the immediate and long term harms associated with nitrous oxide use. It said the risks of serious consequences were dose dependent and the widening availability of larger canister sizes may be behind the rise in cases. Single use cartridges, known as bulbs or whippits, hold around 8 g of gas. They induce transient effects, and one report said more than 17% of users reported using 25 or more cartridges in a single session. Larger canisters, containing up to 2 kg of gas, are now sold.

The Royal London reported treating a case of nitrous oxide induced subacute degeneration of the spinal cord on average every nine days

Recommendations

The report called for systematic monitoring of neurological and other harms and of antisocial behaviour and traffic accidents associated with nitrous oxide. Ministers should also explore approaches to tackling non-legitimate supply, such as restricting direct and online sales, and canister sizes.

Harry Sumnall, professor of substance use at Liverpool John Moores University, said tackling supply should be a priority, although it would be a challenge, as local councils had few resources. "While targeted action could be taken against those online sellers subject to UK law, many retailers offering large canisters are based abroad and, realistically, few packages posted directly to consumers will be intercepted," he said.

A Home Office spokesperson said that the report would now be considered.

Jacqui Wise, Kent

Cite this as: *BMJ* 2023;380:p569

NEUROLOGICAL HARMS OF NITROUS OXIDE AND TREATMENT

- Subacute combined degeneration of the spinal cord is a pattern of myeloneuropathy usually associated with severe vitamin B_{12} deficiency
- The commonest early symptoms are tingling and numbness in the hands or feet
- Other early symptoms include skin crawling and, later, staggering walk, lower limb weakness, muscles stiffening, bladder or bowel incontinence, and impotence or other sexual dysfunction
- Patients with pre-existing vitamin B_{12} deficiency are more vulnerable to developing neurological symptoms
- Although nitrous oxide can cause serious and permanent disability in young people, it may be effectively treated if symptoms are recognised early
- Deaths are rare and occur because of secondary effects rather than the gas's direct toxic effect. Reported causes include acute asphyxiation because of hypoxia, which may occur when nitrous oxide is used in confined spaces or when used with a plastic bag over the head
- GPs who suspect neurological problems should refer patients to a neurology day unit or similar
- Standard treatment involves stopping nitrous oxide use, alongside vitamin B_{12} supplementation—a two week course of intramuscular hydroxocobalamin 1 mg
- Patients should be encouraged to engage with local drug and alcohol services

Ministers urged to drop preconditions and negotiate

Junior doctors in England began a three day walkout this week after the government's 11th hour offer of talks, just before 10 pm on Friday 10 March, was abandoned. Ministers would engage only on condition that the strike was cancelled and that the discussions were limited to future pay, with a one-off payment to offset 15 years of pay erosion.

In response, the co-chairs of the BMA's Junior Doctors Committee, Vivek Trivedi and Robert Laurenson, told the health and social care secretary, Steve Barclay, that until he put forward a "credible offer" for England's 75 000 doctors in training they would not be in a position to call off the strikes. "We remain open to talks with government any time and anywhere to bring this dispute to a swift resolution and restore the pay that junior doctors have lost," they said. "If the health secretary is truly committed to this, he needs to drop these unreasonable preconditions and begin proper negotiations with us."

Pay restoration

The strike action has arisen against a backdrop of growing discontent. Junior doctors say they have been underpaid, underappreciated, and overworked for years. The average salary for a trainee doctor has not kept pace with inflation for more than a decade, and they are demanding "pay restoration" to reverse their estimated 26% real terms cut in pay since 2008. The BMA has said this would require a 35.3% pay rise, costing around £1.65bn this financial year.

The NHS Staff Survey showed that the proportion of junior doctors who were satisfied with their pay halved in a single year from 34.5% to 17.1%, in 2022.

The BMA's ballot on taking industrial action was backed by 98% of junior doctors in the largest ever turnout in a BMA ballot.

"You can't negotiate with no numbers"

Speaking from a picket line at University College London Hospital, Laurenson said junior doctors had felt lost and demoralised for many years. He added: "We put our case to the government, and they gave us nothing in return. They didn't give us any numbers. They gave us nothing except for a demand to remove strike action. You can't negotiate with no numbers."

Laurenson said ministers' recent tactics of engaging with other health unions, and the experience of the 2016 junior doctors' strike, had led him to believe they were not negotiating in good faith. "Doctors have been bitten once by this government before, so we're very cautious when dealing with these kinds of people," he said, urging Barclay to show some "faith and goodwill" to rebuild trust.

Saffron Cordery, deputy chief executive of NHS Providers, said the dispute was a "major and unwelcome distraction" for NHS leaders, noting that recent industrial action had resulted in more than 140 000 procedures and appointments being rescheduled. "We need a rapid resolution," she said.

Gareth Iacobucci, *The BMJ* Cite this as: *BMJ* 2023;380:p599

Voices from the picket lines

As junior doctors staged a 72 hour walk after pay talks failed, **Gareth Iacobucci**, **Elisabeth Mahase**, **Chris Stokel-Walker**, **Malina Zachariou**, and **Charlotte Rose** asked what drove them to action

1 Martin Whyte, Royal Victoria Infirmary, Newcastle

"I've been a doctor for eight years, and all I've seen in that time is that workloads have become more intense. We're not worth 26% less than we were 15 years ago. We're seeing this play out in a number of ways, most notably in a massive attrition of our workforce. Doctors are becoming full time locums because pay in training is not commensurate with the work required. And instead of becoming cardiologists or surgeons, junior doctors talk about moving to Australia."

2 Amanda Baird, Royal Victoria Infirmary, Newcastle

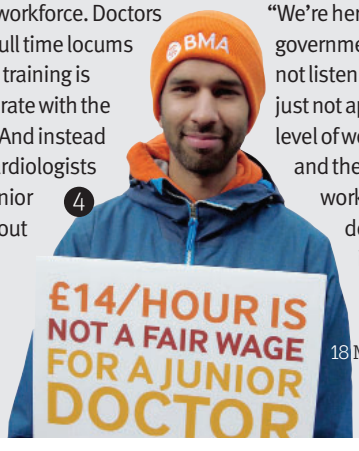
"I'm striking because we are severely underpaid for a job that just gets harder and harder. The NHS is run on goodwill, but the goodwill is running out. Ultimately, I can't think of a single doctor who doesn't work overtime, hasn't done extra hours, hasn't picked up extra shifts. We're all at breaking point, and it's not going to last much longer. I can think of patients I've seen who have died or had poor care because we couldn't provide it."

3 Bhamini Puvaneswaran, Royal Victoria Infirmary

"I'm striking because of the inequality of pay and cost of living. Just as an example, my mortgage has gone up by £1000 a month, energy bills are five times what they were last year, all our professional subscriptions, nursery fees, school clubs—everything adds up, and my wage doesn't cover all of this. Luckily, my household has two incomes, but it's still a push. I've been a doctor since 2009. It's just been really difficult to manage with our current income and hours worked."

4 Vivek Trivedi, co-chair of BMA Junior Doctors Committee, Royal Victoria Infirmary

"We're here because the government continues to not listen to us. Our pay is just not appropriate for the level of work we've put in and the responsibility and workload we carry. The doctor workforce is feeling undervalued,



leading them to look for alternative careers outside medicine, making the workforce crisis worse, and leading to poorer standards of care. I got into medicine because I liked the appeal of the problem solving aspects and that you get to interact with people on a day to day basis. But the job satisfaction quickly dissipates when you're just firefighting every day."

5 Chanelle Smith, FY2 doctor, East Lancashire Hospitals Trust

"We are in a situation where junior doctors, who are making life and death decisions, are earning about £14 an hour. That's about the same as someone who works in Pret—and good on the management there for paying their employees a fair wage. Student loans, indemnity fees, exams, etc have left many junior doctors struggling financially. Doctors love what they do, and they would not be standing on the picket lines otherwise. We want to see improvements for patients and colleagues—and that is the responsibility of employers."

6 Joe, trainee anaesthetist, University College London Hospital

"Striking was a really difficult decision as I love my work and I want to always do the best for patients. The situation has become so bad that it feels like we have a responsibility to strike to protect the NHS. The situation—with pay, working conditions, rota gaps, and the feeling that we aren't able to provide the service that we want to—has pushed a lot of people to breaking point. Leaving would be an absolute last resort, but I think that a lot of us feel that if things don't get better it might be something that we have to consider."

7 Matt Bilton, chair of the Thames Valley Regional Junior Doctors Committee, Oxford

"I think ultimately everyone recognises that paying doctors appropriately will benefit everyone. Unless something happens to improve pay and to bring full pay restoration doctors will continue to consider opportunities elsewhere. Practising medicine is possibly the best job in the world, but this isn't a hobby. We're getting a lot of support from the public, with people tooting their horns and others stopping to offer their support and solidarity, which is really appreciated."

8 Claire Mashford, anaesthetics trainee, working in emergency department, Ipswich Hospital

"I don't think the way we're being treated is fair. We are not being paid in the same way as our colleagues were 10-15 years ago, and the financial situation we're facing is markedly different. Although I'm on a good wage, most of it goes into my costs and my childcare just so I can come to work. We're also under a lot more pressure than our colleagues 15 years ago. There are so many more people coming into the NHS to use the services. Everyone's fed up."

9 Emma Flint, psychiatry trainee, Warneford Hospital, Oxford

"Taking action wasn't a decision any of us took lightly. We're losing doctors in massive numbers, and we need to think about what's going to help retention—and that starts with fair pay. But there is also the issue of making the NHS safe for patients and to keep it a sustainable organisation. If we want to encourage people to carry on joining the profession we need to start with pay restoration. This will also improve care for patients and training for junior doctors. I will keep striking if it's needed, but I would like to see the government engage with the BMA."

10 Hamish Bain, internal medicine trainee, University College London Hospital

"Part of the big problem is that I actually took a locum shift to cover the days that I would be striking. I did one day of locum work, and it covers three days' pay. So I can make more money working for the NHS in a locum capacity instead of a training capacity. And that's wrong. A lot of my friends have already left medicine, which is really sad. I really don't want to leave, but at a certain point I've got bills to pay."

11 Alice, FY1 doctor, University College London Hospital

"When you're paid £14 an hour, you're just constantly balancing all the money in your head the whole time and thinking you can't get the tube every day, you can't buy lunch every day. And then the job itself is really stressful and really difficult. I think for me taking strike action was about realising I actually can't live on my salary. I will definitely keep on fighting."

12 Shreevatsa Udupa, internal medicine trainee, Ipswich Hospital

"Being a doctor is very altruistic, but I think the government is taking advantage of this. We have called on the government multiple times to come and have a chat with us because [striking] is not a pleasant thing for us. The government are the only people who can do anything about this. I hope we don't have to do this again, but I'm happy to do so if it means that me and my colleagues have a decent quality of life."

Cite this as: *BMJ* 2023;380:p598

GUY BELL/ALAMY

THE BIG PICTURE

Junior doctors strike in fight for higher pay

Striking junior doctors form a noisy picket line outside St Thomas' Hospital in central London, on Monday.

The picket was just one of hundreds held across England as the country's 75 000 junior doctors held a three day walkout in search of higher pay and better working conditions.

The doctors, who were not included in a pay deal that the government offered to other healthcare workers last year, are demanding "pay restoration" from the government to reverse an estimated 26% real terms cut in pay since 2008-09, which, according to the BMA, would require a 35.3% pay rise.

Robert Laurenson, co-chair of the BMA's Junior Doctors Committee, speaking from another picket line at University College London, said, "It's been really tough for junior doctors over the last decade. Now they are coming together to stand together, to fight back."

Alison Shepherd, *The BMJ*

Cite this as: *BMJ* 2023;380:p606

OPINION Jennifer Darlow

Strikes are a grim prospect, but a broken NHS is worse

Many striking junior doctors fear for the service's future

GUY BELL/SHUTTERSTOCK

At a time of constant news reports in the UK of different professional groups taking industrial action, a doctors' walkout could easily be lost in the clamour to be heard. Yet the decision, as with any health professional choosing to strike, is multifaceted and never simple.

When it comes to this week's junior doctors' strikes, it is easy to be whipped up into a frenzy by social media, hospital WhatsApp groups, and other lobbying emails, which can present a one sided view—quoting salaries of only the least well paid among peers, comparing statistics of dubious validity, and suggesting that doctors are among the most hard done by in society. If I'm honest, some of these views don't sit comfortably with me.

People's lives are potentially at stake. I work in a large paediatric hospital where many of the patients I see daily rely on food banks, have little stable income, and cannot afford to heat their homes. How can a doctor tell a patient who suffers such financial hardship that their care has been cancelled due to a strike as my already above average salary is not enough?

The truth, however, is that unless something changes, the level of care patients have come to expect will become increasingly unsustainable. Even among public sector workers, doctors have experienced particularly harsh pay cuts, losing 25% of their salaries in real terms from 2011 to 2020. This is not a biased number, just a simple fact.

The consequences are considerable. It has contributed to a huge recruitment and retention problem. Why would anyone want to work in the NHS when they are paid far more for the same work elsewhere? Staffing problems are leading to delays, an overstretched workforce, and an unsafe NHS.

Of course, for some doctors the strike will solely be about pay. But, while the dispute is primarily a disagreement about salaries, to me it is more about what the money represents.

Morale is at an all time low in the NHS and it is easy to see why. We have seen growing waiting lists for elective care, problems retaining the medical workforce, and the worst waiting times for emergency care on record. I have seen many colleagues, both junior and senior, sobbing behind closed clinic room doors, as they try to tackle the ever increasing daily challenges.

High levels of stress

As I near the end of my registrar training, there have been days when I have covered as consultant, registrar, and SHO due to a lack of staff. Like so many who are asked to do the same, this entails high levels of stress, early starts, and late finishes. There is no time back in lieu, no extra pay, and usually no thanks from managers. It is simply an expectation that this is the norm. Sometimes emails are sent asking what can be done to change this, placating replies are received, shoulders are shrugged, and we are back in the same situation once again.

Everyone should feel valued when they work. I don't want to feel daily trepidation about how often I will have to apologise to patients for the delays in their investigations or treatment, or how overbooked the clinics will be. I want to arrive when I am supposed to, take breaks in the day, and leave on time so I can be with my family.

Not long ago I was a hero—alongside all my NHS colleagues. We were honoured on Thursday evenings as people stood on their doorsteps in the chill March air, applauding those who bore the responsibility of saving lives. In April 2020, our then prime minister Boris Johnson said the NHS was "the beating heart of this country . . . powered by love."

The strike is symptomatic of a deeper sense of exasperation after years of working in an exhausted system

Now, according to the government, my value is 26% less than what it was in 2008. While MPs' pay has remained roughly the same, they are happy for staff in an increasingly broken NHS to respond to greater demands for less pay.

Owing to pre-arranged annual leave, the decision to strike has been taken away from me. From the comfort of my home, I expect to see reports of anger at the strike, with many well made points about the advantages of being a doctor. Some doctors understandably want increased pay for its own sake, yet for many of my colleagues, the strike is symptomatic of a deeper sense of exasperation after years of working in an exhausted system that seems to have little respect for patient safety or the welfare of its workforce.

Now that the claps have faded, an NHS once "powered by love" has seen a loss of heart. A strike is a horrible thing—affecting thousands of people and limiting healthcare. Yet for many of those striking it's the longstanding feeling of our work being undervalued and our concerns about service provision being disregarded that is driving this. Many of us fear how much further healthcare standards will fall before anything changes. As the morale, goodwill, and number of junior doctors declines, it brings the NHS down around it, and we all come tumbling down.

Jennifer Darlow, ST7 paediatric haematology trainee, Manchester

Cite this as: *BMJ* 2023;380:p588

ANALYSIS

Strikes, patient outcomes, and the cost of failing to act

Ryan Essex and colleagues consider whether patients have more to gain than lose from workers' industrial action in poorly functioning health systems

KEY MESSAGES

- Strikes by healthcare workers are usually not just about pay but reflect dissatisfaction with underinvestment in health systems
- The limited evidence base does not support the singular narrative that strikes are harmful to patients
- In some contexts, patients may benefit when strikes bring about improvements to the healthcare system

Growing demands on healthcare workers have seen them become more vocal about their dissatisfaction with the conditions of the health systems in which they work. In the first year of the covid-19 pandemic, there were at least 6500 protests by healthcare workers globally, a 62% increase from 2019-20 in countries where continuous protest activity data is available.[1] In the UK nurses, ambulance workers, and other NHS staff staged a series of strikes in 2022-23, and consultants have voted to follow junior doctors in taking strike action.[2] Strikes have also been seen across Europe.[3]

Strikes by healthcare workers often prompt passionate and polarising debate. Staff concerns about working conditions and compensation are pitted against the risks of strikes for patients. Government and regulatory bodies commonly raise concerns about patient harm when trying to avert planned industrial action. Strike action by healthcare workers has been likened to "airline pilots threaten[ing] to parachute from their planes and leave their passengers without a pilot in mid-air."[4]

In 2016, the GMC instructed junior doctors in the UK to call off their planned strike, citing the potential harms to patients. The GMC went as far as threatening sanctions, reminding junior doctors they could be "struck off, for unprofessional conduct" if they participated in the strike.[5] Similarly, in Australia, the government "repeatedly used 'patient safety' to name, blame and shame the nurses for their action and to falsely attribute the 'everyday' deficits and failings of the health care system to the industrial action being taken."[6] In response to the 2022-23 national nursing and ambulance worker strikes in the UK, health secretary Steve Barclay accused unions of taking a "conscious choice to inflict harm on patients."[7]

Although patient safety is important, such debates overlook the trade-off between the immediate consequences of striking and the accumulating patient safety risks related to chronic underinvestment in healthcare systems that lead healthcare workers to strike in the first place. The potential risks to patient safety of a strike must be considered relative to the risks to patients regularly imposed by the baseline functionality of a health system. Insofar as strike action has the potential to change the trajectory of poorly performing health systems, there are risks in failing to strike as well.

Strikes serve as a window into the consequences of austerity, underinvestment and deprioritisation of health

Strikes are driven by structural failings

There are multiple complex and context specific reasons that healthcare workers are driven to strike.[8] Several parties share responsibility for healthcare delivery and influence the quality of patient care, including the government, hospital management and insurance companies, and the public.[9] The inter-relatedness of these groups' actions and obligations with respect to patient care is reflected in the grievances of striking healthcare workers.

Data on global healthcare worker protest action in 2020-21 from the Armed Conflict Location and Event Data Project, a not-for-profit real time database of political violence and protest, suggests that, although most healthcare worker protests concerned remuneration or working conditions, these issues were often framed as part of larger systemic failures such as quality of services for the public and infrastructure investments.[1] Polish nurses striking in 2009 linked concerns about wages and working conditions to government reforms and general neglect of the healthcare system.[10] Similarly, in Kenya, striking healthcare workers link devalued salaries and delayed remuneration to the deterioration of public services.[11]

Importantly, healthcare workers also use strikes as tools to raise public policy concerns (such as military coups or repressive government policy[12])—occasionally for reasons that may compromise or oppose expanding access to care, for instance, by resisting government regulation.[13] The composition of the group taking collective action often reflects power and hierarchy within the health professions. In many countries, including India and Pakistan, for example, predominantly female occupational groups responsible for frontline care, such as community health workers, lack representation in policy platforms and have gone on strike in response to unjust workforce policies, wage delays, and other challenging working conditions.[14 15] Strikes are, therefore, rarely solely about pay or working conditions. They serve as a window into the consequences of austerity, underinvestment and deprioritisation of health, occupational hierarchies, and intersectional power dynamics within the health sector and broader society.

Kenyan nurses and other healthcare workers on strike demonstrate over low pay in Nairobi in 2016. Far right: Indian Junior Doctors Association protest in Amritsar in 2009. Below: junior doctors in England during the 2016 strike

Are patients harmed by strikes?

Although patient harm is an important potential consequence of strikes, evidence on the effect on patient outcomes is limited. A 2022 systematic review and meta-analysis of observational studies compared patient mortality during a strike with that before or after the strike. Across more than 1.8 million admissions or presentations to care, in the aggregate, there were no clear negative effects on patient mortality.[16] However, studies included in the systematic review were highly variable in quality and setting, and several studies included in the meta-analysis suggested the possibility of patient harm. For example, an analysis published in 2012 examined patient mortality data from all hospitals in New York state over 20 years, finding that in-hospital mortality was over 18% higher for patients admitted during a nurses' strike.[17]

The over-representation of high income countries in these reviews further limits the usability of the evidence. For example, the five observational studies included in the meta-analysis from low and middle income countries show substantial variability in patient outcomes, possibly related to differences in the ability of "safety nets" in these contexts to absorb the effects of strike action through alternative services. A population based cohort analysis conducted in Kilifi, Kenya, for example, found no significant change in all-cause patient mortality over 128 strike days (public sector doctors' or nurses' strikes, median strike duration 18.5 days) during 2010-16. This may have partly been because of the ongoing availability of private sector and faith based services.[18] When medical officers from nearby facilities were trained and redeployed to cover for neonatal care unit doctors striking for 69 days in rural India in 1999, there was no signfiicant increase in mortality or high risk deliveries during the strike.[19]

An additional limitation of data on the health effects of strike action by healthcare workers is the narrow focus on a few specific outcomes (mostly mortality), sometimes limited to only public or only private services.[20] This means other effects on the health system might have been missed. For example, a small number of studies—including an observational study of a single institution during the 100 day public sector physician strike in Kenya in 2016-17—suggest strike action in low resource settings increases mortality in nearby facilities dealing with surges in patient volume.[21] Especially when strikes compromise access to care in public hospitals, short term increases in patient volume could strain services and jeopardise patient outcomes.

Studies that measure outcomes such as hospital attendance and wait times indicate that action is clearly disruptive. Across studies, there is generally a substantial decrease in the number of presentations to care or hospital admissions during strikes and other services, including outpatient appointments, are affected.[22] In many cases, however, broader health service delivery changes vary depending on who strikes. When junior doctors strike, studies suggest that waiting times and length of stay in hospital either do not change[23] or become shorter, indicating services become more efficient.[24-26] For example, a 2008 study from New Zealand that examined a five day strike found no differences in the number of emergency presentations between strike and control periods, but waiting time and length of stay were significantly lower during the strike period.[26]

The overall evidence on the health consequences for patients of healthcare worker strikes is therefore limited, with mixed findings that are poorly generalisable across settings. Thus the narrative that strikes damage patient safety is not clearly substantiated by current evidence.

Failing to act also affects patient safety

During the 1982 UK nurse strike, a student nurse wrote in the *Guardian* that "we owe it to our patients to strike, to improve their conditions, to improve our morale and to increase the incentive so that more people join the profession."[27] Two decades later, Jennings and Western argued that, for nurses in the UK, the question was "not whether that action is ethical but whether it is unethical not to take action."[28] The potential costs of failing to strike have received little attention, but discussion about collective action by healthcare workers should factor in its potential to bring about broader change.

Some of the costs of failing to act in the UK have been laid bare by recent industrial action by nurses, ambulance workers, and junior doctors. Lengthy patient wait times, limited equipment, and staff and bed shortages have been exacerbated by covid-19,[29] and these sub-standard conditions have undeniably jeopardised patient wellbeing and patient safety. Many contend that the UK government has ignored or dismissed these concerns for many years[30] instead of taking meaningful action to prevent or deal with the crisis.

Although the evidence about the effects of strike action is inconsistent, the dire state of the NHS is clear. With no sign that the government is going to change course, strike action can be understood as an act of patient advocacy. Some patients may therefore support healthcare worker strikes. Though an extreme case, the public was widely supportive of doctors' civil disobedience in Myanmar,[31] but even in the UK, the public has largely been supportive of recent strikes by nurses and ambulance workers, placing the underlying responsibility on the government.[32]

BEN CURTIS/AP/ALAMY; NARINDER NANU/AFP/GETTY

The overly narrow framing of strikes as harmful to patients is not supported by current evidence and shifts focus away from structural failings

Better pay and conditions

If strikes were effective (ie, resolved quickly with staff demands met), that evidence would add to the case for strike action. However, little evidence exists on whether healthcare worker strikes improve patient care, and there are no systematic data on the number of strikes that result in demands being met in full or partially.[33] Still, there are several examples of healthcare worker strikes that have secured important gains. For example, the 1982 UK nurse strike led not only to the government offering a pay increase of over 12.3% but to the introduction of a national pay review body.[27] While the independence of that body is now being questioned, it was at the time an important step forward and arguably a factor that contributed to the relative stability of pay and working conditions in the NHS for many years.

Beyond strikes, several studies point to the benefits of industrial action and union membership more generally, at least in terms of pay. For example, a cross sectional study of around 14 000 healthcare workers in the US found that, although labour union membership remains low overall (13.2%), unionised healthcare workers had significantly higher reported weekly earnings ($1165 *v* $1042; mean difference, $123, 95% confidence interval $88 to $157, P<0.001) and better non-cash benefits than non-unionised workers. Furthermore, union membership protected against race based wage disparities in this sample.[34]

Strikes as advocacy

While patient safety obviously matters, the overly narrow framing of strikes as harmful to patients is not supported by current evidence, and also shifts focus away from the structural failings that drive strike action in the first place. When health workers lack other avenues to enact change, failing to strike against suboptimal working conditions may actually be more harmful to patient health in the long run.

Multiple dimensions of healthcare strikes deserve further attention. Further work is needed to explore the ways in which contingency planning can safeguard against patient harm without also minimising the effect of collective action. More research is needed regarding salient differences in who strikes and where—as well as deeper analysis of processes that might be used to incorporate the concerns of health workers to avert future strike action. Many countries, including the UK, are seeking to restrict the right to strike for health workers and others.[35] This should be resisted, not only as a right fundamental to any democratic country, but because strike action can be an act of advocacy to demand better of our healthcare systems.

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Cite this as: *BMJ* 2023;380:e072719w

EDITORIAL

The World Health Organization's pandemic treaty

Global equity underpins the first draft and must remain a key priority

SAZZAD HOSSAIN/EYEPIX/GETTY IMAGES

The covid-19 pandemic showed that gross inequities in population morbidity, mortality, and access to medicines persist between nations, reflecting the colonial histories and current political status of international governance. It is therefore welcome that "equity" underpins the World Health Organization's call to action to its member states, as they negotiate a new international instrument to advance collective action for pandemic prevention, preparedness, and response—the pandemic treaty.[1] On 1 February 2023, WHO released a *Zero Draft of the Pandemic Treaty* for its member states' consideration at the meetings of the intergovernmental negotiating body in February and April 2023.[2]

The draft contains several provisions that seek to operationalise equity through international law, including redistributing resources. As the sociologist and medical historian Alexandre White wrote, the International Health Regulations—the current international law for public health emergencies of international concern—"position Europe and more broadly the West as the sites that must be protected from the infectious disease threats of the rest of the world."[3] Whether the pandemic treaty perpetuates this framing—creating an unjust world more vulnerable to pandemics—or begins to diverge from the coloniality that underpins international infectious disease law will depend on negotiations of the draft text and certain critical provisions.

The term "pandemic" usually describes the worldwide spread of an epidemic. The WHO draft's definition of pandemic is much narrower: encapsulating the "global spread of a pathogen that . . . overwhelm[s] health systems with severe morbidity and high mortality . . . causing social and economic disruptions." This narrowed scope will limit the operation of some of the treaty's equity provisions to circumstances that are oriented to the interests of high income countries and exclude health emergencies such as localised epidemics of Ebola virus disease, Marburg virus disease, or mpox, or pandemics that do not overwhelm health systems but disproportionately affect vulnerable populations. Careful drafting of what occurs in the periods between pandemics might tackle these concerns.

A more equitable world is one that prevents the conditions that give rise to pandemics

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Differential responsibilities

Inclusion of "common but differentiated responsibilities" recognises that some states hold more resources than others globally and should bear a commensurate degree of differentiated responsibility. High income countries have indicated an unwillingness to incorporate this principle into global health law, arguing that it is inconsistent with universal obligations for pandemic preparedness and response.[6] But having "common but differentiated responsibilities" is about achieving universality by placing special obligations on parties with resources—including those obtained through colonialisation—to achieve global equity.

A range of provisions seek to tackle global inequities in accessing diagnostics, vaccines, and therapeutics. These include establishing a predictable global supply chain that ensures global supply of pharmaceutical raw materials and ingredients; reinforcing multilateral mechanisms to incentivise the transfer of technology and knowledge; and excluding indemnity clauses of indefinite or excessive duration from supply and purchase contracts.

Most significant is the inclusion of procedures for a "pathogen access and benefit sharing" system. In the draft treaty, pathogen access and benefit sharing would apply in pandemics and in between them, with the intent of establishing a multilateral, fair, equitable, and timely system for accessing pathogens with pandemic potential and their genomic sequences and for the equitable sharing of benefits that arise from their use. This includes real time access by WHO to 20% of pandemic related product volumes, such as vaccines, distributed on the basis of public health risk and needs, especially to developing countries.

Whether member states reinforce equity in the pandemic treaty draft text—or water down provisions—will have direct repercussions for the next pandemic. This requires member states and WHO to guarantee effective participation of all member states, strong civil society engagement, and transparency in the processes.[9] This is not only a matter of justice; a more equitable world is one that prevents the conditions that give rise to pandemics, is more prepared, and is more able to respond when outbreaks become pandemics.[11]

Cite this as: *BMJ* 2023;380:p463

Find the full version with references at http://dx.doi.org/10.1136/bmj.p463

EDITORIAL

A decade after Francis: is the NHS safer?

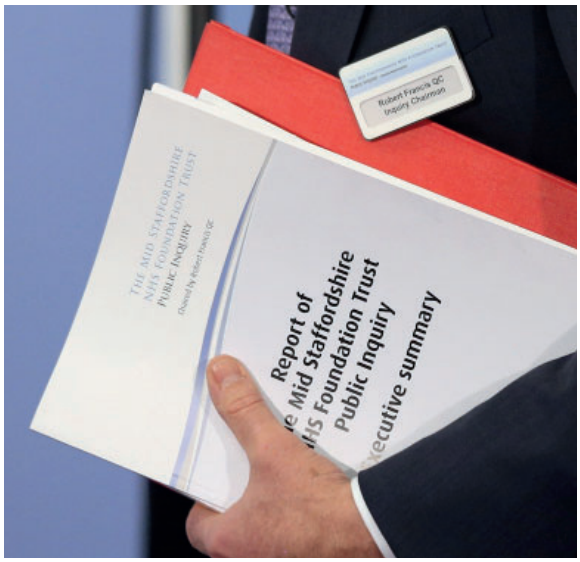
Recurrent organisational catastrophes remain a disheartening reality

It is 10 years since Robert Francis published the three volume report of the public inquiry into failings at Mid Staffordshire NHS Foundation Trust.[1] Few will need reminding of the harrowing accounts of care at Stafford Hospital or the inquiry's damning verdict—covering not just the trust but system failures at multiple levels. The government's response to the inquiry promised wide ranging interventions and legal and regulatory reforms to tackle problems of culture, openness, and willingness to learn.[2 3] What is the legacy for the safety of patients in England?

The statutory duty of candour on provider organisations when patients are harmed was implemented quickly, as was the requirement that providers appoint a "freedom to speak up" guardian to promote openness and ensure people's concerns are heard. The Care Quality Commission's (CQC) approach to inspection was reformed. Frameworks for responding to patient safety incidents have undergone two major shifts, while the Healthcare Safety Investigation Branch was introduced, then expanded, then restructured.

But, despite growing evidence,[4] standards on minimum staffing ratios have not been realised—and long term financial and workforce challenges, together with post-pandemic pressures on services, have made safe staffing increasingly politically contentious.

Some evidence exists for aggregate improvement across the healthcare system as a whole, whether or not driven by the policy response. The proportion of provider organisations rated good or outstanding for safety by the CQC has risen since 2014, and staff seem more confident about speaking up about concerns.[7] But not all the signs are positive. Service users report



PA/ALAMY

Failure to listen to patients and carers is a recurrent theme of investigations into avoidable harm

a stagnating or worsening picture of openness in community mental health services.[8] And two fifths of staff are still not confident they will be treated fairly if they report concerns.[7] Patient satisfaction is falling,[7] mirrored by declines in indicators of staff wellbeing and morale.[9]

Enduring problems

Staff from racially minoritised backgrounds continue to experience disproportionate challenges in getting their voices heard,[10] and marginalised patient groups remain at high, and possibly worsening, risk of excess morbidity and mortality.[11]

Among the most disheartening features of the post-Francis NHS are recurrent organisational catastrophes. Three aspects of this phenomenon are especially sobering. First is the repeated failure to identify promptly and intervene effectively in the worst of these events, linked to a persistent lack of valid and reliable measures for surveillance, early warning, and risk based regulation.[12] Second is the NHS's ongoing difficulty in tackling problems of culture and behaviour, including the malign influence of individuals whose unacceptable behaviour and conduct create toxic working environments.[13] Third, and perhaps most dispiriting of all, is the disproportionate representation of vulnerable groups in these disasters, including maternity service users and infants, and people with learning disabilities. Failure to listen to the voices of patients and carers is a recurrent theme of investigations into avoidable harm—and one that the system seems incapable of heeding.

What can the NHS do to realise improvement and reduce the likelihood of further tragic events? We suggest three overarching priorities.

These need to start with listening. Psychological safety—a sense among staff and patients that it is safe to speak up without fear of retaliation or being undermined—is critical. But organisations that fail to hear and act will repeat their mistakes and suppress important sources of insight.[14]

Next, therefore, is learning: gathering, collating, and acting on intelligence, quantitative and qualitative, formal and informal, leading and lagging. Investment in systems, processes, and people is central, including taking advantage of new technologies.[15] And there must be an end to the repeated failure to evaluate initiatives and learn from them.

Finally, strong leadership is essential. Making patients "the first and foremost consideration of the system and everyone who works in it"[1] means committing to evidence based improvement. It means an uncompromising focus on addressing cultural and behavioural problems. And it means attending to everyday issues—from operational failures in information systems, through administrative inefficiencies, to consistently demonstrating respect for patients and care for staff—that are central to making openness and safety part of the organisational fabric.

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Cite this as: *BMJ* 2023;380:p513
Find the full version with references at http://dx.doi.org/10.1136/bmj.p513

DATA BRIEFING

What's happened to NHS spending and staffing in the past 25 years?

Ministers are often heard referring to increases in NHS funding and workforce—but what's the true picture behind those numbers? **John Appleby** finds some interesting stories in his analysis of the data from England over time and with demographic change

MARK THOMAS

Twenty five years ago, in the financial year 1998-99, the Department of Health in England spent £36.6bn in total, equivalent to £59bn in 2021-22 prices. The bulk of this covered the NHS but also included public health, arm's length health bodies, and other health services. Today, in 2022-23, the department's planned spending (excluding special covid spending) is likely to be around £165bn in 2021-22 prices, a real terms increase of 180%.

On average, this has meant health spending growing at a rate of around 4.4% each year since 1998-99. Not bad, and the sort of growth that should cover things such as population growth and demographic change, technological change, and improvements in care quality.

But growth in spending has not been an even 4.4% a year (fig 1).[1] Even when adjusted for changes in the population and its demographic structure, it's clear that the bulk of the increase in spending happened between 1998 and 2009 (by 6% a year). Between 2009-10 and 2019-20 average annual growth was just 0.4%.

Worth noting are the large and consistent growth in the number of consultants and the rise and fall in qualified GPs

Unsurprisingly, trends in health staff numbers more or less match spending trends. Between 1998 and 2022 the number of full time equivalent NHS and general practice staff grew by 62%, from 853 641 to 1 381 439. But this growth has been uneven: an increase of 29% between 1998 and 2005 was followed by a 1% decrease between 2005 and 2013, and then an increase again of 26% to 2022 (fig 2).[2-5]

Two key trends

Relative to the population of England over these three periods, total NHS plus general practice staff per head rose by 25%, fell by 7%, then rose again by 19%. If the figures are adjusted, as with spending, to take account of the change in England's demography over the past 25 years, then the current rate in 2022 has more or less recovered to that in 2005, from a low in 2013 (fig 2).

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Understanding staff trends is hampered by the many changes in definition and data collection over the years

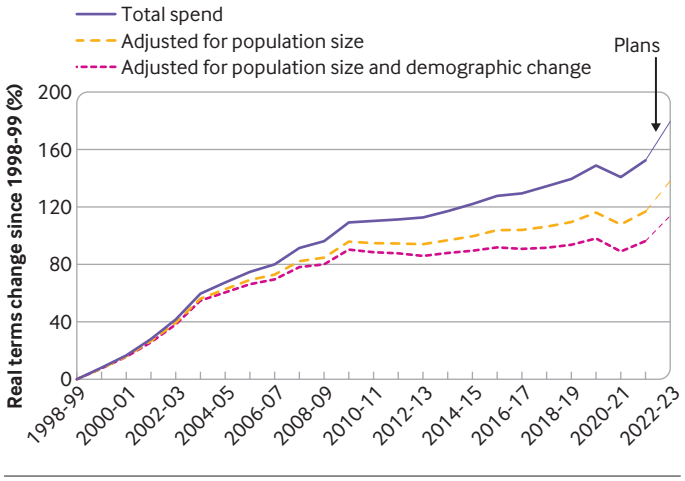
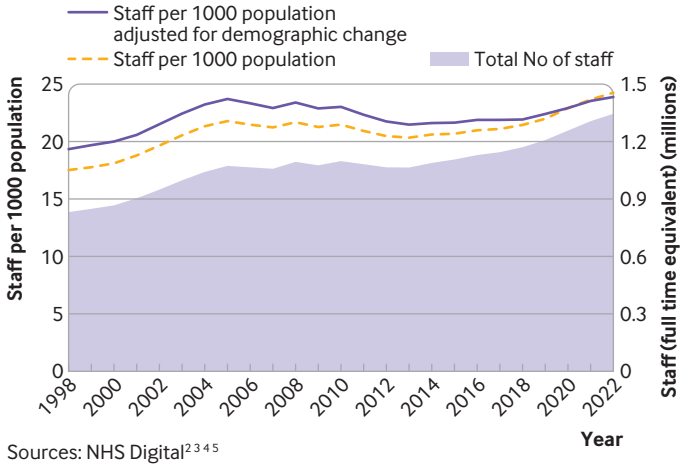
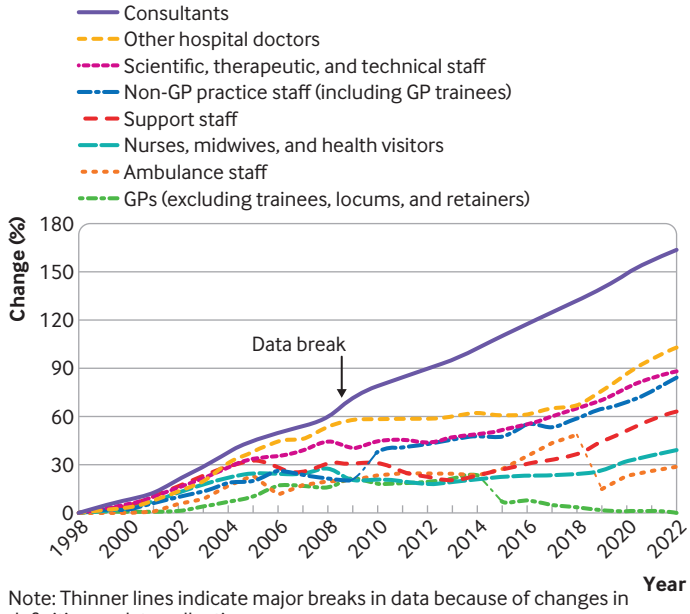


Fig 1 | Change in total health department spending since 1998-99 (excluding covid-19 measures), England, at 2021-22 prices



Sources: NHS Digital[2 3 4 5]

Fig 2 | Change in total number of NHS and general practice staff since 1998-99, England



Note: Thinner lines indicate major breaks in data because of changes in definition or data collection

Sources: NHS Digital[2 3 4 5]

Fig 3 | Trends in NHS staff numbers by professional group, England, since 1998-99

Understanding trends in different staff groups is hampered by the fact that there have been many changes in definition and data collection systems over the years. Fig 3 shows the main trends in NHS and general practice staffing numbers, together with some of the more significant breaks in the data.[2-5]

Two trends worth noting are the large and consistent growth in the number of consultants—a rise of 163% over the past 25 years—and the rise and fall in qualified GPs. Since 2015 the number of qualified GPs (partners and salaried) has fallen by 7%, equivalent to 1900 GPs.

One lesson from these historical trends might be that healthcare could be in a better position now if spending had grown more consistently over time and across staff groups, allowing the workforce to grow in line with population change and to be able to deliver a better quality service.

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Cite this as: *BMJ* 2023;380:p564

PIERRE-PAUL PARISEAU

CLIMATE HEALTH

Doctors have a role in tackling air pollution: here's how some are rising to the challenge

After the death of Ella Adoo-Kissi-Debrah in London, the case for GPs and other medics to become clean air champions is growing, says **Sally Howard**. And some are responding—with individual activism, technological tools, and the UK's first air pollution clinic for children

Air quality in the UK is a public health problem—particularly for children's respiratory health

Outdoor exposure to air pollution contributes to 26 000 to 38 000 deaths a year in the UK and has been shown to increase the risks of heart disease, heart attacks, cancer, and strokes.

The impact on children's health is particularly stark. Air pollution affects children's neurodevelopment and damages lung function, even at lower levels of exposure. Approximately 25 to 30 children and young people die from asthma each year in the UK, one of Europe's worst records, with around 12 of these deaths occurring in London.

Exposure to air pollution in utero has been shown to lead

The case for a greater role for doctors in the UK's air pollution problem has been growing over the past two years. Public officials, parents, and doctors themselves are calling for increased education for medical professionals about the link between air quality and health (box)—and for them to pass this learning on to patients and through policy advocacy. Now, some are rising to the challenge.

It started in earnest with the landmark legal case of Ella Adoo-Kissi-Debrah, who died in February 2013 in the London borough of Lewisham. In April 2021, the south London coroner Philip Barlow concluded that the 9 year old had died of asthma, contributed to by exposure to excessive outdoor air pollution.

In his report, Barlow said that "the adverse effects of air pollution on health are not being sufficiently communicated to patients and their carers by medical and nursing professionals," and that action should be taken by the General Medical Council (GMC), Health Education England (HEE), and others to tackle gaps in undergraduate and postgraduate training of medical professionals around the implications of air pollution in poor health.

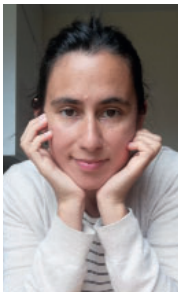
A coroner concluded in 2021 that 9 year old Ella Adoo-Kissi-Debrah (top) died in 2013 of asthma, contributed to by exposure to excessive outdoor air pollution. Her mother, Rosamund, (above) is campaigning to enshrine a right to clean air in the Clean Air Human Rights Bill

to higher infant mortality, lower birth weight, impaired lung development, increased later respiratory morbidity and obesity, and early alterations in immune development.

In guidelines updated in 2022, WHO recommends threshold air quality levels for six pollutants. For $PM_{2.5}$, particles so small they can pass through the lungs into the bloodstream (chiefly caused by the combustion of petrol, oil, diesel fuel, and wood) the guidelines state that concentrations should not exceed 5 $\mu g/m^3$.

In December the UK government set itself the legally binding target of achieving 10 $\mu g/m^3$ of $PM_{2.5}$ by 2040, an ambition criticised by campaigners as "weak" and by medical groups including the BMA as insufficient.

The health and social care costs to the NHS of air pollution will be £5.3bn by 2035 unless action is taken, according to a 2018 report by Public Health England.



Leaflets detailing asthma triggers omit air pollution
Ruth Fitzharris

Check the air quality where a child with asthma lives
Camilla Kingdon

GPs often lack the time for important talks with patients
Kamila Hawthorne

The climate emergency is everybody's problem, including doctors
Mark Hayden

The case for acting

In summer 2022, Ruth Fitzharris found herself in a hospital in London with her 6 year old son Ted.* Ted had suffered a series of asthma attacks during a heatwave. "We were in a respiratory clinic surrounded by tiny children on nebulisers, coughing and wheezing," Fitzharris recalls. "It was truly heartbreaking."

Fitzharris, an activist with Mums for Lungs, joined the grassroots cleaner air campaign after realising that London air pollution was exacerbating her son's severe asthma. A respiratory consultant at Whittington Hospital advised Fitzharris to travel by back roads and to monitor outdoor air pollution levels when her son first started having asthma attacks in 2018. "I was lucky," Fitzharris says. "Mums for Lungs have found that children are more often discharged from hospital after an asthma attack with a leaflet detailing asthma triggers, from which air pollution is omitted."

Mums for Lungs would like better public messaging around air pollution and its public health impacts as well as the introduction of core GP training in the respiratory impacts of air pollution.

In his 2022 chief medical officer's annual report into air pollution Chris Whitty stressed the importance of communicating the health risks of pollution to patients and said that the training of healthcare staff "should include the health effects of air pollution and how to minimise these."

Andy Whittamore, clinical lead at Asthma + Lung UK and a GP, says that the charity's surveys found that two thirds of people with lung conditions want more guidance from their local health services and GPs to manage the impact air pollution has on them. The charity is calling for a comprehensive health education programme, he adds, "to equip health professionals with the skills and knowledge they need to protect those who are most vulnerable to the dangers posed by air pollution."

Medics must speak up

In a December 2022 talk by the Clean Air Fund—*Cleaning our Children's Air: What Should Health Professionals Do*—Camilla Kingdon, president of the Royal College of Paediatrics and Child Health, said that she understood that many medics were "more comfortable leaving legal and policy advocacy to professional bodies such as the colleges." However, air pollution's "staggering" impact on child health dictated that healthcare professionals have a duty to act.

"We can advocate in our relationship with patients," she said. "If a child keeps presenting with asthma look at sites such as [pollution data aggregator] pollution.org to see what the air quality is where the patient lives that day. Don't just look at the patient in front of you and treat the symptoms." Healthcare professionals, Kingdon added, also see first hand the relationship between poverty and high pollution exposure.

Ella's mother, Rosamund Adoo-Kissi-Debrah, is campaigning to enshrine a right to clean air in the Clean Air Human Rights Bill, or Ella's law, a private member's bill set to have its second reading in the Commons in March 2023. Adoo-Kissi-Debrah tells *The BMJ* that, while she understands the "immense strain" on GPs, doctors have "an important role" in speaking up about the effects of poor air on children's health that they witness in clinical settings.

Kamila Hawthorne, chair of the Royal College of GPs, agrees: "As GPs we want to be able to have meaningful conversations with families about how they can mitigate the risks of air pollution, which we know exacerbate heart and lung diseases," she tells *The BMJ*. "GPs are under enormous workload and workforce pressures, however, and we often lack the time to have these important conversations with patients."

Direct action and conversation starters

Veena Aggarwal is a GP registrar in south west London and co-chairs the south London branch of the UK's primary care sustainability network Greener Practice. She believes that many GPs do not yet "make the connection" between air pollution and patient health. "There's also an impotence felt by some GPs who think that even if they know about air pollution levels, what can they practically tell vulnerable patients to do? Move to another area?"

Aggarwal, who undertook a fellowship with NHS England to look at better prescribing of pressurised metered dose

inhalers, which emit powerful greenhouse gasses, thinks it's time GPs spoke out about political indecision. "We need to speak to patients about everything they can do—from taking different routes to writing to their MPs," she says. "We also need to raise awareness among our GP colleagues."

Anna Moore is a respiratory doctor who regularly engages in direct action, tapping the windows of car drivers who let their engines idle outside schools. She believes doctors need to shift their "individualist mindsets."

"We think about a body and how that body has gone wrong but not about the environment that body is living in," she says.

Moore works in a specialist breathlessness clinic where she asks patients how they get around. "If it's by car I'll ask if they know they're exposed to more air pollution in a car than through active travel such as walking and cycling. Few do—there's a worrying lack of awareness."

Katherine Brown, a GP in Cornwall who is also a member of the Greener Practice Network, became a local clean air champion after reading that children growing up in areas of high air pollution levels have smaller lung capacity. "To me, air pollution is the new tobacco," she says. Brown has installed leaflets and posters that highlight the health impacts of air pollution in her Newquay surgery waiting room and talks about air pollution sources with patients "at every opportunity" and particularly when they come for asthma checks or any respiratory illness. "A simple, 'How do you get to school?' is a good conversation starter," she says.

Cycling healthcare workers on the Ride for their Lives campaign in 2021

Adoo-Kissi-Debrah adds, "We as campaigners do get a lot of support from doctors and it's good to see the NHS taking seriously its role in transport related air pollution emissions." NHS travel and transport accounts for 3.5% of all UK road traffic but a raft of "green plans" are seeking to reduce these impacts.

Seeking solutions

Mark Hayden, a paediatrician at Great Ormond Street Hospital (GOSH), was prompted by the challenge laid down by the coroner in the Adoo-Kissi-Debrah case to bring in a first of its kind clinician's air pollution tool. Designed by GOSH with the MRC Centre for Environment and Health, Imperial College, the tool will display annual average air pollution estimates for patients' local air on the hospital's electronic medical record system, providing clinicians with click through educational resources on air pollution and health, as well as tools to help patients approach their GPs about local air pollution.

Hayden cycled from London to Glasgow in 2021 with a group of activist healthcare professionals to publicise the effect that air pollution has on children's lives. They delivered a letter to politicians at COP26 signed by millions of health practitioners across the globe. He would like to see GOSH's tool rolled out to other settings, including GP surgeries. "Any technology would be able to do it, as it's quite simple," says Hayden. The UK Health Security Agency, the Greater London Authority, and Cambridge University Hospitals Trust have all expressed an interest in the tool.

This spring the UK's first environmental air pollution clinic for children will open at the Royal London Hospital in Tower Hamlets, London. The clinic will examine the impact of air pollution (both indoor and outdoor) on children in one of the country's most polluted boroughs: $PM_{2.5}$ particulate levels in Tower Hamlets are routinely 40 times WHO's threshold (see box, page 396), at over 200 µg/m. The clinic will measure children's exposure at school and on their commutes, using backpack monitoring devices, as well as the particles, chemicals, mould, and damp the children are exposed to at home. The clinic will provide individualised reports with recommendations to reduce patients' pollution exposure.

Jonathan Grigg, senior lead at the clinic, says: "This clinic is our response to the preventable death of Ella by providing information to children, families, and healthcare professionals on exposure to inhaled toxins."

The GMC says that, while its powers do not extend to setting specific content in undergraduate curriculums, "all UK medical students are required to study a framework which has an enhanced focus on health promotion, illness prevention, and tackling health inequalities," and that newly graduated doctors are required to recognise the signs of environmental exposure, evaluate environmental factors that influence health and disease in different populations, and evaluate related hazards in ill health and be aware of ways to mitigate effects.

HEE adds that it is building a range of learning programmes that support healthcare professionals to communicate the links between climate and health, including an air pollution module on its All Our Health elearning programme.

Hayden welcomes the growth in quality data about poor air's health impacts, but would also like to see a broader shift in the medical profession. He says, "As doctors we need to change our mindset from air pollution being the government's or the local council's problem, to air pollution and the climate emergency being everybody's problem, including ours."

*Name has been changed to protect identity.

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Cite this as: *BMJ* 2023;380:p409

THE FIGHT FOR CLEAN AIR—FIVE THINGS GPS CAN DO

1. Inform themselves about the impacts of air pollution on health and how to discuss these risks with patients through resources at www.actionforcleanair.org.uk/health/knowledge-hub-health
2. Talk to patients about how air pollution affects them. Identify their likely exposures such as commutes along busy roads—and don't forget indoor air pollution
3. Look for car dependence in patients, and when people are making multiple short distance journeys (which both cause pollution and lead to high levels of pollution exposure for drivers and passengers) encourage active travel
4. Become a member of the Greener Practice Network and consider joining its special interest Whatsapp group for greener respiratory and clinical care: www.greenerpractice.co.uk/join-our-network/special-interest-groups
5. Sign up for the healthcare providers campaign group Ride for Their Lives: climateacceptancestudios.com/ridefortheirlives