



GMC warns of IMG exodus from UK

Hardening of anti-immigrant rhetoric across the UK could drive more internationally trained doctors away, the GMC warns.

New data show an increasing number of internationally trained medical graduates (IMGs) leaving Britain. A continuation of this trend would create “huge holes” in the NHS workforce that the service would struggle to fill, the regulator said.

The regulator’s 2024 workforce report highlights that 4880 doctors who obtained their primary medical qualification in another country and who had been working in the UK left—a 26% rise on 2023. This was the first marked rise since the pandemic, with the GMC noting that only 3968 left in 2022 and 3824 in 2021.

Doctors who qualified in other countries currently make up just under half (around 42%) of the UK medical workforce.

GMC chief executive Charlie Massey said, “Internationally qualified doctors who have historically chosen to work in the UK could quite conceivably choose to leave if they feel they have no future job progression here or if the country feels less welcoming.

“Any hardening of rhetoric and falling away of support could undermine the UK’s image as somewhere the brightest and the best from all over the world want to work.”

The warning follows an open letter to *The BMJ*, in which doctors said a rising “wave of racism” and far right activity in the UK was forcing some ethnic minority staff to consider relocation (*BMJ* 2025;391:r2230).

GMC data also show the number of IMGs joining the NHS plateauing. Last year’s 20 060 was slightly up on the 19 629 who joined in 2023 but was a much smaller rise than in previous years. The regulator also said that IMGs were less likely to secure a post. Of those passing the GMC’s exam last year, only around one in eight connected to a designated body—indicating they are working as a doctor—within six months, compared with one in five in 2023.

Amit Kochhar, BMA representative body chair, said, “First year doctors have been on strike in protest at the absurdly low number of training places. If successive governments can’t plan to train the medical workforce we need and can’t attract doctors who trained abroad, who exactly do they expect will treat patients in the future?”

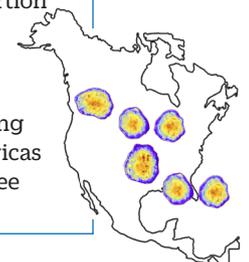
The GMC’s report comes as the NHS Race and Health Observatory last week launched a drive to tackle “rampant levels of bullying and harassment” of ethnic minority staff.

Gareth Iacobucci, *The BMJ*
Cite this as: *BMJ* 2025;391:r2432

Charlie Massey, GMC’s chief executive, said racism undermines the UK’s image as “somewhere the brightest and the best from all over the world want to work”

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MEDICAL NEWS



PETER BYRNE/PA/ALAMY

NHS to make thousands of staff redundant

The NHS will be allowed to overspend this year to pay for staff redundancies. Wes Streeting (left), the health secretary, said the slashing of “unnecessary bureaucracy” will raise £1bn a year, with savings being put back into patient care. However, the NHS won’t see any extra money immediately, with redundancy payouts costing an estimated £1bn.

NHS leaders in England had been negotiating with the Treasury for a redundancy fund to pay for the job cuts. *The BMJ* understands a compromise has been reached that means the NHS will be allowed to overspend this year on the condition it is paid back in future years.

Speaking at a conference in Manchester, Streeting gave the NHS permission to cut 50% of head count within integrated care boards. He told the conference that every £1bn saved was enough to fund an extra 116 000 hip and knee operations.

BMA chair of council Tom Dolphin said, “To suggest these projected savings could fund an extra 116 000 hip and knee operations may well be the case, but we do not have enough surgeons, anaesthetists, and other theatre staff—or operating space fit for purpose—to meet existing demand.”

Jacqui Wise, Kent [Cite this as: *BMJ* 2025;391:r2399](#)

Economic inactivity UK risks crisis from rising ill health

One in five working age adults in the UK are now unfit to work because of ill health, a government report warned. Rising levels of sickness mean that the nation needs a fundamental shift in how people are helped to stay in or return to work, said the report, commissioned by the Department for Work and Pensions. The department also called for alternatives to GP fit notes, which it described as “often problematic.” It said that a fifth of working age adults were now out of the labour force because of problems such as mental ill health or musculoskeletal conditions.

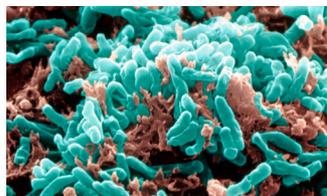
Tobacco control Vaping overtakes smoking in UK for first time

People who use e-cigarettes now outnumber smokers in the UK for the first time, figures from the Office for National Statistics show. In 2024 the UK had 5.4 million vapers aged over 16 and 4.9 million smokers, showed data from the ONS’s opinions and lifestyle survey. The proportion of adults saying they currently smoked cigarettes decreased from 10.5% in 2023 to 9.1% in 2024, the lowest since records began in

1974. In contrast, the percentage who vaped rose from 9.8% in 2023 to 10% in 2024.

Tuberculosis World deaths fall for first time since pandemic

Global efforts to tackle tuberculosis are starting to bear fruit, as the number of cases fell for the first time since the covid pandemic. The World Health Organization said that although the number of cases fell in 2024—the first time since 2020—progress in reducing the



burden of TB was missing targets in most parts of the world. Global funding for TB programmes has stagnated since 2020, and further cuts from 2025 will endanger progress, WHO warned.

Child obesity Levels in schoolchildren at highest outside pandemic

One in 10 children starting school in England has obesity, rising to one in five by the time they leave primary school, data show. Figures from the child measurement programme, from over 1.1 million

children in state maintained schools during the 2024-25 academic year, showed that 10.5% of reception pupils (aged 4-5) and 22.2% in year 6 (aged 10-11) were classed as having obesity.

ADHD England’s GPs need bigger role, says taskforce

GPs need better training to recognise attention deficit/hyperactivity disorder (ADHD) and should be incentivised to take on aspects of care for the condition, a major review recommended. The ADHD taskforce, launched by the government and the NHS in response to rising demand, said that GPs should have “a central role” in diagnosing and managing ADHD. This would be similar to how they help patients with other chronic conditions such as diabetes and depression, the report advised.

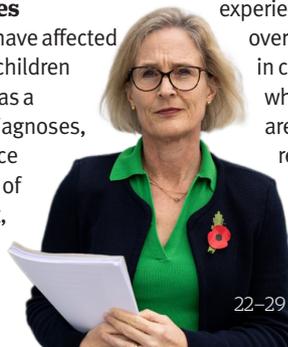
Child health Failings affect children’s hearing services

Systemic failings have affected hundreds of deaf children and their families as a result of missed diagnoses, inconsistent service quality, and a lack of national oversight, a damning report

concluded. Camilla Kingdon (below), consultant neonatologist at the Evelina London Children’s Hospital and former president of the Royal College of Paediatrics and Child Health, was commissioned by the government to lead a review into paediatric audiology in England. It concluded that nearly 300 children had had a misdiagnosis but that this was likely to be an underestimate, as the review and recall of patients is ongoing in some areas.

New RCPCH standards for children in care

The Royal College of Paediatrics and Child Health published a new set of standards to ensure that every young person entering the UK care system has a comprehensive review of their physical, mental, and emotional health and wellbeing. The college said that its initial health assessment delivery standards would provide a landmark framework to improve experience, outcomes, and overall wellbeing of children in care, including those who are placed out of area, seeking asylum or refugees, living in secure settings, or receiving prolonged respite care for disabilities.



IN BRIEF

Staff wellbeing

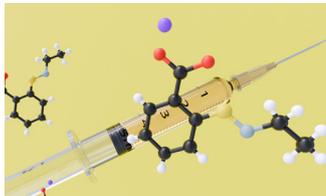
Cost cutting hits NHS staff's tea and coffee

An NHS trust has axed free tea and coffee for its staff in a bid to save money. University Hospital Southampton NHS Foundation Trust confirmed that it had stopped providing milk, tea, and coffee for most staff to save £50 000 a year. This follows an announcement in May that the trust was cutting 750 jobs from its workforce of around 13 000 to save £110m from its £1.3bn turnover. But Sam Crooks, a senior regional officer for the Royal College of Nursing in Southampton, said the change was shortsighted.

Vaccines

"Follow US lead" and remove mercury, says RFK

The US health secretary, Robert Kennedy Jr, called on the world's health bodies to "follow America's lead" and remove mercury from



all vaccines. In July the US moved to ban the mercury based preservative thiomersal from all flu vaccines. Kennedy said that the move was to "put safety first." Before the ban thiomersal was used only in multidose vials of the flu vaccine in the US and accounted for only about 5% of adult flu vaccine doses used in the last flu season.

Weight loss drugs

Trump makes price deal for Ozempic and Mounjaro

US president Donald Trump signed deals with the drug giants Novo Nordisk and Eli Lilly to lower the prices of anti-obesity drugs and get more US citizens to take them. The deal will cover tirzepatide (Zepbound and Mounjaro, by Eli Lilly) and

semaglutide (Wegovy and Ozempic, by Novo Nordisk). The deals lower prices for the GLP-1 agonist class of drugs that will be provided through US Medicare and Medicaid drug programmes for older people, some people with disabilities, and those on low incomes. The lower prices will also apply to direct-to-consumer sales of the drugs through the new government website TrumpRx.gov.

Legal

Trust fined £565 000 over patient's death

A hospital trust has been fined £565 000 over the death of a young woman in a mental health unit who killed herself with plastic items after numerous earlier attempts. Alice Figueiredo, a patient at Goodmayes Hospital in Redbridge, east London, died by suicide in July 2015 after 18 similar attempts to harm herself. North East London Mental Health Trust, which runs the hospital, and a ward manager, Benjamin Aninakwa, faced manslaughter charges at a trial at the Old Bailey. The jury acquitted them but found them guilty of health and safety offences.

If you're struggling, you're not alone. In the UK and Ireland you can contact Samaritans on tel 116 123 or email jo@samaritans.org or jo@samaritans.ie

Cite this as: *BMJ* 2025;391:r2416

SIXTY SECONDS ON... ART GALLERIES AND HEALTH

PICASSO ON PRESCRIPTION?

Maybe he should be. Looking at art in galleries produces measurable benefits for health and wellbeing, concludes research from the Institute of Psychiatry, Psychology, and Neuroscience at King's College London.

MEDITATE AT THE TATE?

The study actually took place at the Courtauld Gallery in London. Fifty volunteers aged 18-40 viewed either original artworks or reproductions of the same paintings in a matched, non-gallery environment. Participants' heart rate and skin temperature were monitored. Levels of the stress hormone cortisol and pro-inflammatory cytokines were sampled before and after viewing.

SOUNDS ARTFULLY DONE

The study hasn't yet been peer reviewed, but a preprint shows cortisol levels fell by an average of 22% in the gallery group and 8% among those looking at reproductions. The pro-inflammatory cytokines IL-6 and TNF- α dropped by 30% and 28% in the original art group, with no change in the second. This suggests art has a potential calming effect on inflammatory responses, the researchers said.

MASTER PEACE

The original artworks, including paintings by Gauguin, Manet, and Van Gogh, also caused more variation in heartbeat patterns, indicating bursts of emotional arousal, the researchers found.

STILL LIFE FOR A CHILL LIFE?

Tony Woods, the study's senior author, said, "Stress hormones and inflammatory markers are linked to a range of health problems, from heart disease and diabetes to anxiety and depression. That original art lowered these markers suggests cultural experiences may play a real role in protecting both mind and body."

SO, ART IS GOOD FOR YOU?

There is certainly growing interest in potential benefits. Last year a report concluded that visiting or taking part in an arts event confers notable benefits, including alleviating pain, frailty, depression, and dependence on medication.



Jacqui Wise, Kent

Cite this as: *BMJ* 2025;391:r2412

Doctor suspended for a year for lewd act at party

A consultant pathologist has been suspended for 12 months after spilling beer on a junior female colleague's cleavage at a work party and licking it off her breasts.

Mark Johnson also sent derogatory and sexually demeaning text messages to the same woman about other colleagues, a tribunal found.

GMC lawyers had argued for erasure, but several other allegations of sexual harassment stemming from the same party were not proved, the tribunal found.

The main witness against Johnson was his victim, an administrative assistant named only as Ms A. She had willingly answered his messages, many of which involved sexualised discussion of other colleagues.

In her first account after making a complaint Ms A related an encounter during West Suffolk Hospital's 2022

The conduct was not at the most extreme end of the spectrum of sexual misconduct

Tehniat Watson

work Christmas party. "Dr Johnson purposely poured his beer down my chest and proceeded to clean it up using his mouth. I did not react to this as fast as I would have done if I was sober," she said. "I only realised after it had happened when Ms Vinnicombe appeared and shouted, 'What the fuck are you doing,' at Dr Johnson."

Johnson, who joined West Suffolk Hospital in 2013, left in 2023 after disciplinary proceedings. At his tribunal hearing he acknowledged having sent the text messages but denied the beer spilling event had taken place. But he was found to have committed serious misconduct.

Reflective testimony

The panel noted that Johnson had undertaken numerous courses on boundaries and had written reflective testimony, which "demonstrated his capacity to gain insight and to remediate." But the GMC's lawyer argued this insight had come late in the day and that Johnson had already been warned about boundaries at work before the misconduct happened. She noted that, even after undertaking a "perils of social media" webinar in 2021, Johnson had continued to send personal and sexualised messages to Ms A.

However, the tribunal found Johnson's conduct was "not at the most extreme end of the spectrum of sexual misconduct" and "his reflections demonstrated empathy, understanding, and practical change," said its chair, Tehniat Watson. This was supported, she said, by his subsequent employment record at University Hospitals Sussex NHS Foundation Trust, with his new line manager describing his conduct as "exemplary."

Johnson was suspended for 12 months with immediate effect.

New tribunal guidance on sexual misconduct cases will come into force on 24 November, after an analysis found that in nearly a quarter of cases tribunals imposed more lenient sanctions than those recommended by the GMC.

Clare Dyer, *The BMJ* Cite this as: *BMJ* 2025;391:r2380

Billions spent on waiting lists without success, damning report finds

The £3.4bn that NHS England (NHSE) spent on trying to bring down waiting lists for elective care after the covid-19 pandemic has been poorly managed and has not delivered, an influential committee of MPs has concluded.

In a report highly critical of NHSE, the Public Accounts Committee said too many people were still waiting too long for diagnostic tests and treatment and the pace of change to meet targets was too slow.

Three years ago NHSE set out an elective care recovery plan to get waiting times closer to statutory targets by March 2025. This included building diagnostic test centres in the community, rolling out surgical

hubs, and streamlining outpatient appointments in hospitals.

Now, following the government's decision to abolish NHSE, the Department of Health and Social Care (DHSC) will take on responsibility for managing these diagnostic and surgical transformation programmes. But "unless it gets a grip" there is a "serious risk" DHSC will not meet its target for 92% of people on the waiting list to be treated within 18 weeks by 2029, the MPs warn.

The report highlights that NHSE missed its recovery targets by big margins. By July 2025 22% of patients were waiting more than six weeks for diagnostic tests—far higher than the standard of 1%.

Waiting times were also below



LYNSEY ADDARIO/GETTY

Senior doctor dies after hospital he worked at gave wrong drug

A senior histopathologist died from an overdose after being given the wrong medicine by staff at the NHS trust where he worked.

Ray McMahon (right), a professor of gastrointestinal pathology at the University of Manchester and consultant histopathologist with Manchester University NHS Foundation Trust, had a cardiac arrest after being given the drug, which was three times too strong.

McMahon died in February aged 68, four days after being admitted to Wythenshawe Hospital with a low grade fever, reduced appetite, and cough. An inquest into his death heard that an infectious disease consultant had recommended McMahon be given liposomal amphotericin, a drug used to treat fungal respiratory infections.

The drug is normally stored at room temperature on a shelf

targets. Patients on only 59% of clinical pathways were being treated within 18 weeks of referral, against a target of 65% by March 2026 and a long term goal of 92% by March 2029.



We are now seeing chilling echoes of past failures
Clive Betts

The report points out that nearly 192 000 patients were waiting over a year for care by July 2025. Such long waits should have been eliminated by March 2025, according to targets set after the pandemic.

NHSE spent £2.2bn of capital funding on diagnostic transformation and £1.04bn on surgical transformation, but there was little focus on outcomes for patients and the measures did not reduce waiting times as intended, the report says.

The report added that NHSE set a target to reduce follow-up outpatient appointments by 25% (from 2019-20 levels) by March 2023 but achieved a reduction of only 0.1% against this target between June 2022 and July 2023.

The committee said NHSE should set out what it has learnt from the failure of the outpatients programme and use this to inform

THE REPORT
points out that nearly **192 000** patients were waiting over a year for care by July 2025

in the pharmacy but, in error, a preparation of liposomal amphotericin that needed to be stored in the fridge was prescribed instead. This led to a trainee pharmacist looking in the fridge and wrongly identifying non-lipid amphotericin as the correct drug.

Liposomal amphotericin requires a considerably larger dose than the non-lipid drug. As a result, McMahon was given a significant overdose of the non-



future policy plans. The MPs also warned that DHSC was not being realistic about the immense effort needed to reduce elective care waiting times and that digital solutions were being treated as a “cure-all.”

The report says the integration and sharing of digital records across the NHS is a key weakness and basics in IT connectivity were lacking.

The committee also raised “significant concerns” that the reform of NHSE and DHSC and the 50% cuts to integrated care boards have been announced without delivery plans or funding in place and warned that uncertainty over planned cuts may limit the ability of NHS organisations to plan for the future.

Clive Betts, deputy chair of the Public Accounts Committee, said, “Unfortunately, our report establishes that billions have been poured into the system over the past few years without the requisite focus on making sure that money does what it was intended for: improving outcomes for patients.

“Alarming, in the government’s approach to the absorption of NHSE and 50% cuts to local health boards, we are now seeing chilling echoes of past failures on HS2 [rail] and the new hospital programme.”

NHSE and the DHSC were approached for comment.

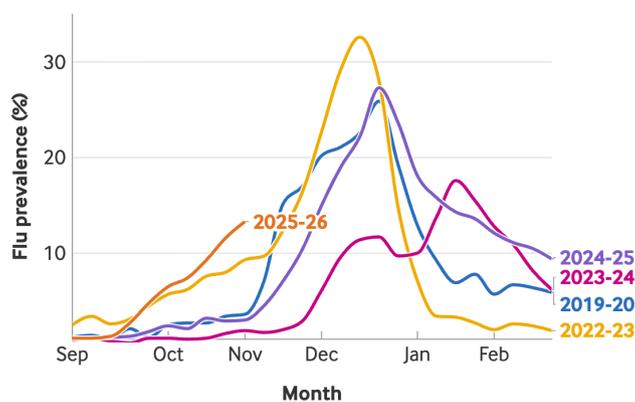
Jacqui Wise, Kent
Cite this as: *BMJ* 2025;391:r2433

lipid drug for nearly an hour. His condition deteriorated and he suffered a fatal cardiac arrest.

Acting senior coroner Zak Golombek concluded that McMahon died after an overdose of the incorrect drug and that neglect had contributed to his death.

McMahon’s wife, Claire, a retired GP, said, “Ray devoted his whole life to the NHS, but as a patient he was failed by Wythenshawe Hospital.”

Clare Dyer, *The BMJ*
Cite this as: *BMJ* 2025;391:r2374



NHS faces dire winter, officials warn, amid fears over mutated flu strain

England is facing one of the toughest winters in its history as an early wave of flu sweeps the nation, health officials warn.

Flu rates have started to climb much sooner than usual, and experts warn that the H3N2 strain, currently dominant in England, mutated seven times over the summer, making it more severe than normal.

Amid growing concern that hospitals will be overwhelmed, officials have urged all eligible groups—people over 65, people with certain long term conditions, pregnant women, and children—to be vaccinated.

Jim Mackey, chief executive of NHS England, said, “There’s no doubt this winter will be one of the toughest our staff have ever faced. The thought of a long, drawn-out flu season has kept me awake at night.” He added, “Australia has just endured its worst flu season on record—and all the signs suggest the NHS will face similar.”

Surveillance report

The UK Health Security Agency’s latest surveillance report shows that less than a third (31.4%) of the nine million people in England with at least one long term health condition have had a flu vaccine. As of 9 November, 65.1% of people aged 65 or over, 31.4% of pregnant women, 36.6% of children aged 2, and 36.8% of children aged 3

had been vaccinated this year. UKHSA warned that vaccine uptake is currently lower among over 65s than in the equivalent week in last year’s flu season.

NHS frontline staff also seem to be shunning the flu jab. In September NHS England urged all patient facing staff to get vaccinated, noting that uptake had fallen steadily: from 74% in 2019-20 to just 37.8% in 2024-25. But as of 13 November only a third of NHS staff (34.3%) have had a jab, data show.

“More severe illness”

Concern over the effect of the A/H3N2 strain on this year’s season is also high. Antonia Ho, consultant in infectious diseases at Glasgow University, said, “The dominant circulating virus (A/H3N2) tends to cause more severe illness than A/H1N1, particularly in older adults.” She added, “It has arrived five weeks earlier than a ‘normal’ flu season, which means a smaller proportion of the vulnerable population may have received the vaccine.”

However, on 11 November a UKHSA preprint paper suggested the 2025-26 vaccine is up to 75% effective at preventing hospital attendance in children and up to 40% in adults. This is broadly in line with a typical flu season.

Gareth Iacobucci, *The BMJ*
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FOREVER CHEMICALS

What are they and what are the health risks?



Current regulations in the UK may not be sufficient to mitigate the effects of the widespread presence of PFAS in consumer products and drinking water. **Katharine Lang** looks at the issue

Recent news has highlighted concern about the presence in drinking water of perfluoroalkyl and polyfluoroalkyl substances (PFAS), a group of more than 10 000 synthetic chemicals used in consumer products since the 1950s.

The non-stick, water repelling, and grease repelling properties of PFAS mean they are widely used. Skin creams and cosmetics, floor and car polish, dishwasher rinse aid, fabric treatments, food packaging, non-stick cookware, and outdoor clothing and shoes are just some of the household items that rely on PFAS. Other uses include firefighting foams, human and animal medicines, and medical devices, and they are widely used in the chemical, pharmaceutical, automotive, and aerospace industries.

Within their molecules, carbon and fluorine atoms form a strongly linked chain that is not easily broken down in the environment, leading them to be dubbed “forever chemicals.”

? How do the chemicals get into the water system?

PFAS enter the water system through two main pathways. They leach directly into groundwater from firefighting foams, plant protection products such as insecticides, landfills, and from industrial use and manufacturing processes.

Many also enter waterways from households, being shed from clothing during washing, from

cookware, and from cosmetics into wastewater. Even after treatment many remain in the water that comes out of our taps.

? What are the health effects of PFAS?

Different PFAS have been linked to various health concerns, such as affecting the reproductive system, harming the development of fetuses, changing liver enzymes, disrupting thyroid function, increasing cholesterol concentrations, and lowering antibody responses to vaccines. But many of these links require further study to be properly understood.

Because they are so numerous, some PFAS are studied more than others, says Hans Peter Arp, expert adviser at the Norwegian Geotechnical Institute and professor at the Norwegian University of Science and Technology.

“The different PFAS do vary in their toxicity,” Arp says, “But since there are so many PFAS there are huge data gaps for the new, emerging PFAS that are being manufactured and occurring in the environment at increasing levels.”

There is more evidence for negative health effects of perfluorooctane sulfonate (PFOS), perfluorooctanoic acid (PFOA), perfluorohexane sulfonic acid (PFHxS), perfluorononanoic acid (PFNA), and perfluorodecanoic acid (PFDA) than other PFAS.

Earlier this year the World Health Organization’s International Agency for Research on Cancer classified

PFOA, which has been used since the 1940s, as carcinogenic to humans, “on the basis of sufficient evidence for cancer in experimental animals and strong mechanistic evidence (for epigenetic alterations and immunosuppression) in exposed humans,” and PFOS as possibly carcinogenic to humans.

Jagdish Khubchandani, professor of public health at New Mexico State University, says we can use available evidence to grade the effects of the chemicals, with most evidence available for the older PFOS and PFOA. Epidemiological studies have documented many of these health effects, with animal study data supporting them.

He says, “There is strong evidence for cancers of the kidney or testes and maybe for liver or thyroid. There is strong evidence for immune dysfunction and endocrine disorders of the thyroid and moderate for some other hormones, and strong to moderate evidence for low birth weight or preterm delivery.”

Emerging evidence suggests effects on fertility, menstruation, metabolic and vascular function, and liver and kidney function, Khubchandani adds.

Studies have found links between PFAS exposure and subtle delays in cognitive, motor, and language development in infancy, difficulties with executive function, cognition, motor skills, and behavioural problems, and attention deficit/hyperactivity disorder (ADHD) and autism in childhood. However, other studies reported null or even

protective findings, so the overall picture remains unclear.

Two published studies have looked specifically at PFAS and the risk of autism and other neurodevelopmental disorders. One found weak evidence of a possible link between autism and exposure to PFAS in pregnancy. The other found a stronger association but was carried out in a group of children with a raised genetic risk of autism. And a meta-analysis of 58 studies into possible links between prenatal and postnatal exposure to PFAS and neurodevelopmental disorders was inconclusive.

As with many of the other health concerns, these links require much more investigation to definitively prove and understand the extent of any risk.

Arp says that the lowering of antibody responses to vaccines can occur at trace levels of certain PFAS, making it the “most critical” concern for further study.

How are PFAS regulated?

PFOS was banned internationally in 2009 under the Stockholm Convention on Persistent Organic Pollutants, PFOA in 2019, and PFHxS in 2023. However, although these chemicals can no longer be produced, they persist in drinking water supplies, with PFOS still the most prevalent of the PFAS found in UK water samples.

Arp says that in the case of the PFAS most studied—PFOA, PFOS, PFNA, and PFHxS—there is enough evidence for regulators such as the



The multigenerational impacts of PFAS pollution would be irreversible

Hans Peter Arp

US Environmental Protection Agency (EPA) and the European Food Safety Authority (EFSA) to ask for stricter threshold exposure concentrations. Regulators could also instigate global restriction measures through the Stockholm Convention.

The key regulations in the European Union, says Arp, include those related to the EFSA derived threshold of 4.4 ng per kilogram of body weight per week of specific PFAS (a sum of PFOA, PFOS, PFNA, and PFHxS) and the introduction of “relative potency factors” (RPFs). These compare the toxicity of a specific PFAS to a standard reference compound, usually PFOA, for a particular toxicological effect (such as liver toxicity), to make “thresholds based on diverse mixtures of PFAS we are being exposed to,” says Arp.

In the UK, although there is no statutory limit on PFAS, a March 2025 report from the Drinking Water Inspectorate, which regulates public water supplies in England and Wales, set a guideline value of 0.1 µg/L for the sum of 48 named PFAS (equivalent to 0.1 parts per billion) for drinking water in the UK.

This limit was based on an “assessment of existing scientific knowledge” to “provide a precautionary margin of safety,” but the regulator emphasised that “low levels of PFAS detected in some untreated water abstracted for public drinking water supplies has no acute or immediate impact on human health.” However, many local and regional water authorities are struggling to reach this limit



There is strong evidence for cancers of the kidney or testes and maybe for liver or thyroid

Jagdish Khubchandani

because of the widespread use and persistence of PFAS and the additional purification processes, such as reverse osmosis (a water purification process that forces water through a semipermeable membrane), needed to remove them from drinking water.

The US, meanwhile, has only recently set limits. In April 2024 the EPA introduced the country’s first enforceable drinking water standard for some PFAS (PFOA, PFOS, PFNA, PFHxS, and hexafluoropropylene oxide dimer acid (HFPO-DA, brand name GenX)).

Khubchandani says that with this standard the EPA has suggested that “there is no safe level of PFAS,” with a maximum allowed level set to zero. He added that individual US states and jurisdictions can, or have, established their own guidance to set stricter limits on PFAS in drinking water. To date, only Virginia has introduced legislation to do so.

More concerning is a recent move by the EPA. Just last week (10 November) it published new guidelines proposing to loosen regulations on PFAS, exempting some companies that make or import these chemicals from requirements to report them.

Furthermore, Arp says that conducting risk assessments on persistent substances like PFAS is “extremely challenging.”

He says, “We need to not only look at acute effects but multigenerational chronic effects, which are hard and costly to conduct. However, the consequences of multigenerational impacts of PFAS pollution would be irreversible, as the PFAS we emit will remain in the environment for millennia.”

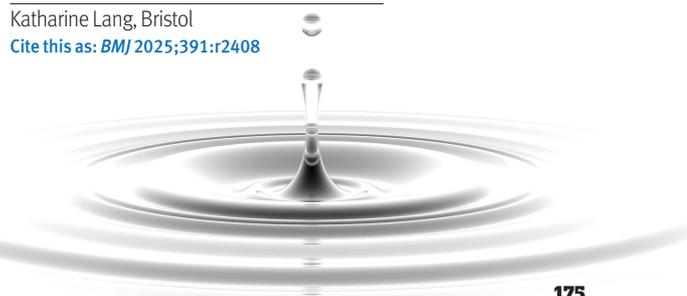
This is why, he says, “we need to find ways to both use fewer PFAS and to emit fewer PFAS, even before we fully understand the health effects in detail.”

Katharine Lang, Bristol

Cite this as: *BMJ* 2025;391:r2408



Although the UK has no statutory limit on PFAS, the Drinking Water Inspectorate has set a guideline value of **0.1 µg/L** for the sum of **48** named PFAS (equivalent to **0.1** parts per billion) for England and Wales



Balancing the risk and benefits of the effect of weight loss drugs on children

As the use of GLP-1 agonists becomes increasingly common in adults, and obesity persists in children and adolescents, should these treatments be more available for younger people, asks **Katharine Lang**

? How common is obesity in under-18s?

Government figures show that in England 9.6% of children in school reception year (age 5) have obesity, a slight rise from 2022, and 22.2% of year 6 children (11 year olds), down from 22.7% in 2022. Just under a fifth of 11-12 year olds (19%) and 13-15 year olds (18%) have obesity. In all under 19s levels of obesity have fallen slightly since 2020-21 but are still higher than before the pandemic.

Julian Hamilton-Shield, professor in diabetes and metabolic endocrinology at Bristol University, says this general trend is not unexpected, given that the pandemic kept children at home and they generally did not get as much exercise as they would have previously.

Within those figures, however, the situation is complex, with much higher levels of obesity in more deprived areas. This gap widened hugely during the height of the pandemic: in 2021 almost 35% of children in the most deprived areas and 14.5% in the

least deprived had obesity. The latest figures, published on 5 November, are similar: 29.2% and 13%.

Severe obesity is also an increasing problem in the UK, with the number of children and adolescents referred to specialist weight management clinics or complications from excess weight (CEW) clinics (box) continuing to rise. “Being a tier 3 CEW clinic, we’re not seeing any fall-off in our referrals,” says Hamilton-Shield. “Only this week, we saw two new type 2 diabetes patients get newly diagnosed, and we never used to see them.”

In the US obesity in young people continues to rise. Data from the Centers for Disease Control and Prevention show that the prevalence in those aged 2-19 years increased from 19.5% in 2008 to 22.5% in 2023, says Daniel Ganjian, a paediatrician at Providence Saint John’s Health Center in Santa Monica, California.

“This means that roughly one in five young people is now classified as having obesity,” he says, adding that



The side effect profile will be very similar to the side effect profile in adults

Julian Hamilton-Shield

“even more alarming” is the tripling of extremely severe obesity rates over the past 15 years.

? Which GLP-1 drugs are available for obesity in young people?

A NICE spokesperson tells *The BMJ*, “Mounjaro [tirzepatide] is not yet licensed in the UK for children and young people, although I understand that Wegovy and Ozempic [both semaglutide] are [to treat type 2 diabetes], although both are restricted to use in young people aged 12 and above.”

The spokesperson adds that NICE was unable to make a recommendation on Wegovy for managing overweight and obesity in young people aged 12-17 years because its manufacturer, Novo Nordisk, did not provide an evidence submission. “The situation remains we will review this decision if the company decides to make a submission,” the spokesperson says.

So, although GLP-1 drugs are licensed for adolescents as a treatment for type 2 diabetes, they are not yet widely available outside trials as a treatment for obesity in this age group, with very limited availability for under 12s in trials.

Hamilton-Shield says NHS England is still working on a funding system for GLP-1s for weight loss in adolescents, so funding is currently a bit piecemeal. But he adds, “Semaglutide has a licence for 12 and over so can be prescribed outside of trials. Tirzepatide does not have a licence for under 18s so would need to be on a case by case basis, based on need and a logical case for using it instead of licensed semaglutide.”

He also emphasises that although GLP-1s can be prescribed outside CEW clinics, the vast majority of NHS prescribing is within CEW services.

In the US the situation is somewhat different. Ganjian says that GLP-1 receptor agonists are available as

CEW CLINICS: HELPING YOUNG PEOPLE MANAGE WEIGHT



CEW (complications from excess weight) clinics have a key role in the management of obesity in under 18s in England—and will be important in the rollout of GLP-1 drugs to children, says Julian Hamilton-Shield of the University of Bristol.

This role includes evaluating eligibility. “If you were coming to one of the CEW clinics that was able to prescribe GLP-1s, then you’d have to be over the age of 12, because that’s the current licence,” says Hamilton-Shield. “You would have to have a BMI over 30. And it’s quite likely you would have one of the complications, such as liver disease or obstructive sleep apnoea requiring ventilation.”

Secondary prevention

CEW clinics are doing secondary prevention work, Hamilton-Shield points out. “We’re trying to prevent people ending up with end stage liver failure. We’re trying to prevent people requiring overnight ventilation that will inevitably lead to cardiovascular compromise. We’re trying to push people with type 2 diabetes into remission, so they don’t get the complications of type 2 diabetes so quickly.”

Clinic numbers increasing

CEW clinics have expanded in the UK over the past few years. An evaluation of child weight management services in 2020-21 found that, although 36% of acute care NHS trusts in London provided such services, in the Midlands, which has some of the highest levels of childhood obesity in England, only 4% of trusts did.

Now, there are 37 clinics in England, including several in the Midlands. And more services are planned. The NHS’s medium term planning framework has established a goal of making demonstrable progress in delivery of new obesity service models for children and young people in 2026-27.



? What are the risks to children of taking GLP-1 drugs?

“GLP-1 agonists for young people are generally considered efficacious, leading to meaningful weight loss and improvements in cardiometabolic factors,” says Ganjian. “However, there are significant safety and availability considerations.”

The most common side effects, he says, are gastrointestinal (nausea, vomiting, and diarrhoea), which can lead to discontinuation. He adds, “There is also a lack of long term data on the growth, development, and prolonged safety of these drugs in children.”

a prescription treatment and are no longer restricted to just medical trials for the over-12s or post-puberty youngsters.

Two key GLP-1 receptor agonists are approved by the FDA for chronic weight management in adolescents: liraglutide and semaglutide. Both are approved for adolescents aged 12 years and older. Tirzepatide, a dual GIP/GLP-1 agonist, is not yet approved by the FDA for paediatric weight management, though it is being studied in trials involving young people, Ganjian adds.

And although drugs that are FDA approved can be prescribed by any licensed physician in the US, Ganjian points out that—because they are relatively new for the paediatric population—treatment is typically initiated or managed by paediatric endocrinologists or physicians with special expertise in adolescent weight management.

? What does clinical research say?

There have been several clinical trials into the use of GLP-1s in adolescents, most in those with type 2 diabetes, for which it was initially developed. Preliminary results indicate that side effects are similar to those seen in adults, mostly gastrointestinal symptoms that are mild to moderate, and that the treatments promote significant weight loss.

Although actual mass lost tends to be lower than in adults, as the children are growing, the treatments significantly decreased mean BMI for age, with a meta-analysis showing a mean decrease of 0.28.

Hamilton-Shield’s clinic is involved in several trials, which he says seem to have promising results for weight loss, and no significant side effects so far.

“The side effect profile will be very similar to the side effect profile in adults, because we’re only giving them

to adolescents,” he says, pointing out that, physiologically, once you’ve gone through puberty you’re an adult.

Two large placebo controlled international trials, in which several UK centres are involved, are currently assessing GLP-1s purely for weight loss and maintenance in children and teenagers with obesity.

Step Teens, a phase 4 trial that began in September 2024, is recruiting 500 12-15 year olds with a BMI above the 95th centile who have been unable to lose weight through structured lifestyle modification (diet and exercise). The three year trial will involve semaglutide administered by weekly subcutaneous injection (2.4 mg or the maximum tolerated dose per week). Primary completion is November 2028, with the study due to finish in November 2031.

Step Young is a phase 3 trial that is due to report in December 2026. It is running two age groups—6-12 year olds and 12-18 year olds—both of which will be treated with semaglutide (starting at 0.25 mg weekly and increasing gradually to a maximum of 2.4 mg weekly) by subcutaneous injection. For inclusion in the study, the younger children need a BMI at or above the 95th centile, the teenagers a BMI at this level or above the 85th centile with at least one weight related comorbidity.

Further information on GLP-1 use and outcomes in children and young people will come from the Enhance programme, run by Sheffield Hallam University and Leeds Beckett University, but involving several centres. The programme is examining the outcomes in several hundred children and adolescents taking GLP-1 drugs in the CEW clinics so should give a real world evaluation of their use, says Hamilton-Shield, who is a co-investigator on the programme.

IN 2021 almost **35%** of children in the most deprived areas and **14.5%** in the least deprived had obesity

In the US, the high cost of the drugs and often limited insurance coverage means that many families pay a lot out of their own pockets, even when a specialist has recommended the treatment. This might lead parents to try getting the drugs through irregular channels, which is by itself a major worry for Hamilton-Shield.

“There have definitely been cases where the drug has been acquired from other sources,” he says, adding that the drugs should be prescribed by specialists who understand the drug, in a multidisciplinary team where safety and efficacy can be well monitored.

“Inherently, I would feel that it’s potentially unsafe for families to acquire this drug from other sources and not have it well monitored,” he warns. “I can understand the motivation behind it. I can understand many parents might feel desperate to help their young people.

“However, I can’t advocate for it, because it’s not prescribed by a specialist and it hasn’t got the safety monitoring inbuilt like we have in clinics, where not only the medical aspects but the psychological aspects and dietary aspects are well monitored.”

There is a lack of long term data on the growth, development, and prolonged safety of these drugs in children

Daniel Ganjian



Katharine Lang, freelance journalist, Bristol

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PATIENTS NEED
DOCTORS
DOCTORS
NEED JOBS



PATIENTS NEED
DOCTOR
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THE BIG PICTURE

Strike 13 in 33 months for doctors

Resident doctors picket outside St Thomas' Hospital in London on 14 November, the second day of a five day strike.

Thousands of resident doctors joined the strike across England, the 13th walkout since March 2023, in their long running dispute with the government over pay and conditions.

The last strike in July is estimated to have cost the NHS £300m.

Alison Shepherd, *The BMJ*

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JAMES MANNING/PXALAMY

AI in the doctor-patient encounter

A new BMJ series introduces the concept of triadic care and shows the critical need for governance

Artificial intelligence (AI) in healthcare has rapidly evolved from a concept to a tangible clinical presence.¹

A new BMJ series on generative AI (www.bmj.com/collections/gen-ai) provides insights into this technological shift, introducing the concept of “triadic care,” whereby clinicians, patients, and AI jointly shape clinical encounters.² The series highlights that effective triadic care depends on preparing both patients and clinicians.

Future articles will explore how it can strengthen patient autonomy and agency³ and the competencies clinicians need for triadic care.⁴ Although this technological evolution offers potential benefits, its successful implementation depends critically on robust governance frameworks and institutional readiness.¹⁻⁶ The challenge is to ensure that AI is used ethically by defining when it is useful, who benefits and under what conditions, and how responsibility is distributed.¹⁵

Healthcare institutions and regulatory bodies face the challenge of governing rapidly evolving AI systems while ensuring patient safety and maintaining clinical standards.⁶ Persistent concerns over design quality, accuracy, liability, and privacy necessitate robust safeguards and stronger oversight before tools are widely adopted.¹⁶ Without coordinated regulation, market incentives rather than clinical need will shape adoption, as has happened in women’s health innovation.^{7,8}

Regulatory approaches are emerging globally but remain inconsistent.⁹ The European Union’s AI Act 2024 classifies many healthcare AI applications as “high-risk systems,” requiring conformity assessments, risk management systems, and post-market surveillance.¹⁰ The US Food



The European Union’s AI Act is one of the most advanced examples of regulatory harmonisation

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and Drug Administration has set out regulatory pathways for AI or machine learning tools, while the UK Medicine and Healthcare Products Regulatory Agency has established guidelines for software and AI as medical devices.^{9,11}

However, important gaps remain. Cross-jurisdictional harmonisation is limited, post-market surveillance systems are underdeveloped, and many AI tools operate in regulatory grey areas.⁹ International bodies such as the World Health Organization and International Organisation for Standardisation are developing standards, but implementation varies widely.⁹

Regulatory bodies need flexible guidelines that can keep pace with AI while upholding rigorous safety and efficacy standards.⁹ This includes harmonising regulations and establishing consistent, comprehensive frameworks.

The EU’s AI Act is one of the most advanced examples of regulatory harmonisation in the field of AI.¹⁰ By introducing a risk based classification system, the act coordinates AI oversight across all EU member states. This is particularly important for high risk applications, such as those found in healthcare, where patient safety and ethical considerations are paramount.¹² High risk designation requires that AI systems adhere to strict requirements for transparency, accountability, and quality management standards.

Institutional governance

As the series highlights, achieving effective triadic care, with clinicians, patients, and AI working together, requires good institutional governance and readiness.^{2,3} Many healthcare institutions still lack fundamental AI governance structures, deploying AI tools without adequate oversight,¹³ which poses serious risks to patient safety and clinical quality.¹⁻¹³

Some hospitals are forming governance committees, bringing together clinicians, data scientists, and patient representatives to assess AI use.¹⁴ However, all institutions need such committees with the necessary authority to oversee AI integration. The Australian Commission on Safety and Quality in Health Care also recommends integrating AI governance into patient safety and digital health frameworks.¹⁴

The American Medical Association has advocated obligatory AI literacy education for clinicians and revisions to liability frameworks that establish shared accountability between clinicians and AI developers.¹⁷

Professional liability frameworks also lag, creating uncertainty about shared responsibility and physician accountability when using AI tools. Professional associations and licensing bodies must mandate AI literacy training for healthcare professionals and revise liability frameworks to reflect triadic care.^{15,19}

Accountability of technology companies developing healthcare AI remains limited.¹²⁰ Their commitment to monitoring and reporting is essential to maintain safety and public trust.

This new BMJ series underscores the transformative potential of AI in healthcare and the significant governance challenges accompanying its rapid adoption. Without urgent and coordinated action, the benefits of AI risk being undermined by avoidable harms and loss of public trust.

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Global patterns of youth alcohol consumption

Regional variation is influenced by economic development and alcohol policy

The prevalence and level of alcohol consumption in adolescents aged 15–19 in high income countries has fallen.^{1–3}

However, the two groups monitoring global adolescent drinking, the World Health Organization (WHO) and Institute for Health Metrics and Evaluation (IHME), have observed only minimal reductions.

WHO reported a 2% absolute reduction in prevalence of alcohol consumption in the past year from 2000 to 2019 among adolescents,^{4,5} and IHME found a decrease in “high alcohol use” from 12.7% in 1990 to 12.3% in 2021.⁶ However, this apparent small decline disappears when you adjust for changes in the size of the youth population.

More importantly, although the global average of consumption in the past year among adolescents is stable, regional trends differ widely.⁴

Regional variation

From 2000 to 2022, the prevalence of drinking in the past year among adolescents aged 15–19 decreased by 2.1% and 7.5% in the WHO African and European regions, respectively, while other regions had relative increases: Americas (4.7%), Eastern Mediterranean region (1.3%), and the Western Pacific region (1.9%). The biggest relative increase was in the South East Asian region (26.7%).⁴

By World Bank income classification, the prevalence increased by 15.7% in lower and middle income countries but decreased for all other income classifications. One reason for this is that alcohol use is strongly associated with economic growth in lower and middle income countries,^{7,8} and with increases in disposable income and shifts in marketing and other commercial determinants of health.⁹ In wealthier countries, this association diminishes, as countries adopt



The increase in alcohol consumption in South East Asia is associated with economic growth and marketing

stronger alcohol control policies.¹⁰ The exception to this pattern is Muslim majority countries, where prohibitions limit alcohol uptake regardless of economic growth.¹¹

WHO data on the European region are supported by the European School Survey Project on Alcohol and Other Drugs,¹ which found that among students aged 15 to 16, the prevalence of alcohol consumption fell from 58.3% in 1999 to 42.5% in 2024. Among 20 countries with data for 1999 and 2024, 17 experienced decreases, Hungary and Croatia increases, and Italy remained stable (<2% absolute change).

Alcohol consumption patterns in Thailand show the power of alcohol policies. The country had an increase in youth drinking until about 2008⁷ but reversed the trend through the implementation of alcohol control policies, including excise taxation increases and restrictions on availability.^{12,13}

After the introduction of these policies, household and high school surveys from 2010 to 2024 showed stable youth drinking,^{14,15} with some increases in women’s alcohol consumption. This is partly because of increasingly targeted marketing to women, which is seen not only in Thailand but in other lower and middle income countries.¹⁶

Furthermore, an analysis of tax changes found that a 10% increase in the inflation adjusted taxation rate of the total alcohol market was associated with a 4.3% reduction in

the prevalence of lifetime drinking among Thai youth.¹⁷

Usually, shifts in alcohol use and harms are strongly correlated.^{18,19} However, in times of crisis, population drinking trends may mask drinking polarisation. Although most people drink less, a minority drink more as heavy drinkers use alcohol to cope with stress in crisis situations,¹⁹ and this causes total alcohol related harm to increase even as average consumption falls.²⁰

For example, in the US, the proportion of adolescents aged 12–17 reporting alcohol use in the past month decreased from 9.4% in 2019 to 6.8% in 2023.²¹ However, among drinkers, high intensity drinking, defined as consuming 140 g or more of pure alcohol at one time, increased from 5.6% in 2019 to 7.4% in 2023.

This increase in high intensity drinking is mirrored by an increase in the age standardised fully alcohol attributable mortality of 3.7% a year among people aged 15–24 between 2000 and 2020.²² Similarly, in the EU, although youth alcohol consumption fell during the covid-19 pandemic, alcohol-attributable mortality increased in this age group by 16% from 2019 to 2021.²³

Scientific and media reports of decreasing youth drinking in high income countries often conclude that alcohol consumption will continue to decline, leading to a “dry generation.”³ However, these decreases are counterbalanced by increases in other regions, particularly in South East Asia.

As alcohol consumption remains an important risk factor for global disease burden among youth,²⁴ it is essential to address the challenge of high drinking levels in high income countries and the increase in youth alcohol use in other regions.

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REVEALED Thousands of NHS doctors are trapped in insecure “gig economy” contracts

Thousands of locally employed doctors - many of them international graduates and from ethnic minorities - are trapped in insecure NHS contracts with no access to training, career progression, or national safeguards. **Emma Wilkinson, Hristio Boytchev and Abi Rimmer** report

Locally employed doctors (LEDs) are being “exploited” by NHS trusts using insecure contracts that deny them training, progression, and nationally agreed benefits, *The BMJ* has found.

Freedom of information (FOI) data obtained by *The BMJ* show that almost nine in 10 UK NHS acute trusts rely on these contracts that cover tens of thousands of doctors, many of whom are international medical graduates or from ethnic minority backgrounds. Experts warn that the NHS is effectively “behaving like a gig economy employer.”

Local contracts let trusts set terms without guarantees on pay, hours, teaching, or supervision. While locally employed jobs can provide a short term staging post, interviews with doctors from around the UK have uncovered shocking examples of experienced specialist doctors trapped in inappropriate contracts, some for more than a decade, including working long hours without supervision or the right to speak up when work deviates from their contract.

Doctors have told *The BMJ* that they are potentially losing out on thousands of pounds in pay, some having had verbal promises of specialty doctor posts that never materialised. “We know these exploitative practices are widespread,” says Rob Fleming, specialist anaesthetist and member of a campaign group, the SAS Collective. “Every doctor who doesn’t achieve their potential is a catastrophe.”

The BMA’s deputy chair of council, Emma Runswick, describes *The BMJ*’s findings as “further stark

evidence of the way that locally employed doctors are exploited in a contractual ‘wild west,’ with dire terms and conditions and a lack of clear development opportunities.

The GMC says that LEDs are the fastest growing part of the profession, driven mostly by those who graduated outside the UK (66%). From 2019 to 2023 the number of LEDs in England and Wales rocketed by 75% to 36 831 doctors (figures). Royal medical colleges, the BMA, the British Association of Physicians of Indian Origin, and the GMC have all called for better treatment of this group, including an automatic right to training and supervision.



Every doctor who doesn’t achieve their potential is a catastrophe
Rob Fleming

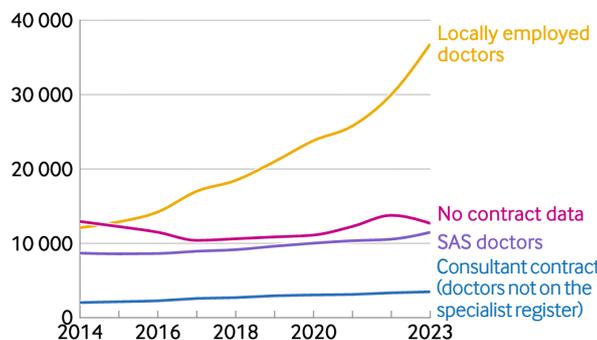
Growing shadow workforce

The vast majority of UK acute trusts use locally employed contracts, *The BMJ* has found. Of 179 trusts that responded, 156 (87%) employed at least one full time equivalent doctor on a local contract in 2024. The median number of LEDs employed in each trust was 55, and the total was over 18 000. In the NHS trusts that provided usable data, around two thirds of LEDs were from ethnic minority backgrounds—more than 10 000 overall.

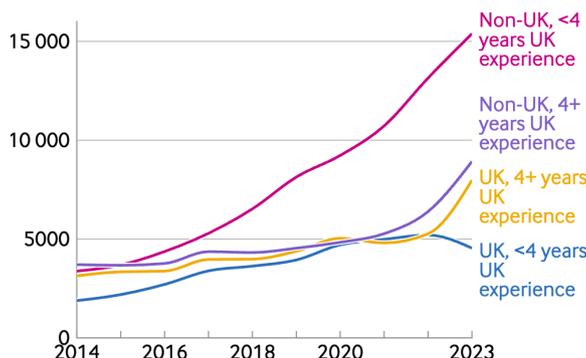
These figures are based on trusts’ own definitions of local posts. Titles and employment categories vary widely—including “trust grade,” “clinical fellow,” and “locally employed doctor”—meaning that the numbers reported by trusts may not be directly comparable or may not capture all doctors on local contracts.

The Royal College of Physicians recommends that once a doctor has been employed in the same specialty by the same trust for more than two years, they should be moved to a nationally negotiated contract appropriate to their training—typically a specialist, associate specialist, and specialty (SAS) doctor contract, although this isn’t a legal requirement. Others, including the BMA and the SAS Collective, have echoed this call. But data and case studies gathered by *The BMJ* show that this isn’t happening.

At the NHS trusts that responded, more than 4000 LEDs (around a quarter in total) had been employed by the trust for more than two years. In a second round of FOI requests, responses from nine NHS trusts showed that doctors from ethnic minority backgrounds were more likely to have been employed as LEDs for more than two years.



Licensed doctors on neither register (GMC Specialist or GP) and not in training in England and Wales, by NHS contract role



Number of licensed LE doctors in England and Wales, by primary qualification and years of UK experience

Trapped despite seniority

One such doctor, a surgeon with a degree from South East Asia, told *The BMJ* that she had been on an LED contract for over 17 years. Over time her responsibilities had significantly grown and included teaching, but this wasn't reflected in her contract, making it hard for her to apply for new positions. When she raised these issues with her line manager she was told that she could either accept the situation or quit.

Many doctors trapped in local contracts spoke to *The BMJ* on condition of anonymity, as they were afraid that raising concerns might jeopardise their careers. Another senior doctor in the East of England region has been trapped in an inappropriate contract for nearly a decade, despite repeatedly attempting to secure the specialty doctor position that she believes she should have had since 2015. She says, "There's not many people like me who will stay 10 years in the job. I have family and health issues, so I can't physically move to a new job—I'm just not in a position to."

Also in a surgical specialty, this doctor had completed six years of training before having to leave because of health problems. Once recovered, she returned to a role that later turned out to be a trust registrar contract. Ongoing clerical errors, repeated changes to staff management, and constant "changing of goalposts" mean that she's now paid thousands of pounds less a year than she should be: £25 000 less, she estimates.

"I was never told that there will be a point that this contract isn't right for you or that there needs to be an end to this contract," she says. "So, even though I went for help and information, I wasn't given the information to make a sensible decision."

Two tier system

Partha Kar, consultant endocrinologist and a Royal College of Physicians elected councillor, has been working to raise awareness of the issue. Last



LEDs are exploited in a contractual wild west
Emma Runswick



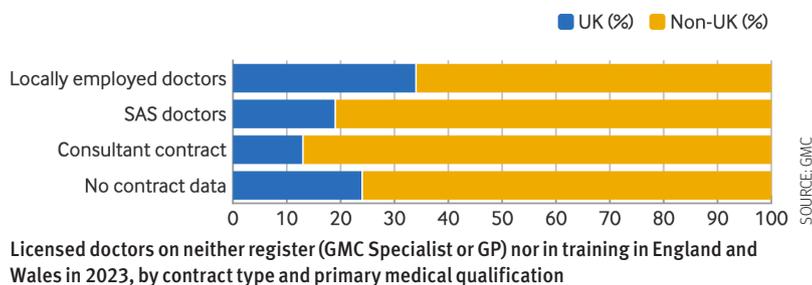
It's like having a parallel shadow industry within the NHS
Partha Kar



Many doctors feel unable to challenge their employment status
Kantappa Gajanan



This is a stagnant post—there is no scope for growth. That's the problem with the locally employed doctors—the local trust, they have their own rules, and we're just doing the gap filling role in the service delivery system here
Doctor working in plastic surgery in the North West on a trust grade registrar contract



year he coauthored the college's guidance on how LEDs should be treated by NHS trusts. The guidance notes that this rapidly growing part of the NHS medical workforce lacks standardised educational support and career development. All doctors working in the NHS, it advises, should have access to high quality education, training, and leadership opportunities, with fair pay and supervision.

Kar's inbox is full of examples of LEDs who have no structured supervision or education, are refused leave, and are just being used to fill rota gaps. He believes that the lack of national guidance is deliberate and that local trusts have been left "to do whatever they want." Accurate data are also hard to come by, as trusts use a variety of names for these posts.

The GMC's own research has concluded that this group of doctors have "vastly different workplace experiences and need targeted and specific support to make the most of their expertise." In response to *The BMJ's* investigation a GMC spokesperson said, "Locally employed doctors provide a vital resource for the NHS—among them are many highly skilled and experienced professionals. Our own data show that many currently feel unsupported and unable to progress their careers in the way they want."

Kar describes a "two tier system"

for doctors in the NHS. "It's like having a parallel shadow industry within the NHS workforce," he says. "It's all very messy at the moment." He adds that, without benchmarks or standards, no one knows what contracts and opportunities everyone should be aiming for or even what the "basics" should be. "NHS England doesn't have national guidance—at least some basics of what an LED contract should look like, which anybody can compare it to," he says. "That's a big issue, and it opens up all sorts of issues around pay, working conditions, and training conditions."

Kar wants to see a national framework that holds trusts to account. There should be no such thing as a non-training doctor, he says, and everyone should have access to clinical and educational supervision and the ability to progress their career.

Kantappa Gajanan, SAS and LED forum chair for the British Association of Physicians of Indian Origin, says that in recent years the association has been approached by a growing number of LEDs. He tells *The BMJ*, "Through our work we have reviewed a wide range of LED contracts across various NHS trusts—some short term, others extending for several years. Many of these doctors are international medical graduates, and there's a clear need to raise awareness about the implications of LED contracts."

"Unfortunately, many doctors feel unable to challenge their employment status due to multiple factors, including family responsibilities, financial pressures, visa constraints, career progression concerns, and the fear of uncertainty. These circumstances often compel them to accept contracts that may not reflect their skills, experience, or contribution."



Many of our trust grades have not had appraisals for the past two years. The trainees do get their appraisals. We don't have teaching opportunities, and we don't have time for learning. We can't be stuck like this

IMG from Pakistan, working in Yorkshire on a local contract for more than two years



I was never told that there would be a point that this contract isn't right for you or that there needs to be an end to this contract. I wasn't given the information to make a sensible decision

Surgeon who estimates she is losing £25 000 a year on a local contract

Dead end roles

The lack of progression has left many LEDs feeling stranded. A doctor working in plastic surgery in the North West region on a trust grade registrar contract said that this was his second "trust grade" post since moving from India. "This is a stagnant post—there is no scope for growth," he says. He has an educational supervisor, but there's no time for teaching and no pathway for him to progress.

He tells *The BMJ*, "I have seven or eight years of experience, so the consultant, the clinical lead here, has asked them to offer me an associate specialist post, but I don't know when. I don't have anything in writing.

"The previous doctor worked for four years, and she was two years more senior than me. The clinical lead was promising to get an associate post for her, but it didn't happen, and this is why she left."

He has lots of colleagues in the same position, he adds, who feel as though they are there just to fill a service gap, with no thought given to their career development. He explains, "That's the problem with the locally employed doctors—the local trust, they have their own rules, and we're just doing the gap filling role in the service delivery system here."



I'm kind of trapped in this LED contract. It's been so annoying, and it's been going on for years. It's so unfair

IMG from Greece, working in the UK on a local contract for six years

Another doctor, who has been on a local contract since 2016, tells *The BMJ*, "I'm kind of trapped in this LED contract." After training in Greece he was put on an LED contract in the UK, but he didn't understand its significance. He says that his total pay is similar, but it has less pension entitlement, no career progression, and no spare time. The lack of progress was what made him start asking questions, but nothing has changed. When he asked his line manager how to change the contract, they didn't know how. The situation has made him angry and upset. "It's been so annoying, and it's been going on for years," he says. "It's so unfair."

A neurosurgeon working in the North West region since 2013 tells *The BMJ* that only when a colleague suggested that he was "overworked and underpaid" did he realise the implications of his local contract. He came to the UK as a senior clinical fellow after training in South Africa. Despite performing thousands of operations and passing his Royal College of Surgeons exams in 2019, he's frustrated at the lack of career progression. Yet moving to another trust leaves him in fear of being "messed around" again.

Another doctor, working in Yorkshire after moving from Pakistan more than two years ago, says that he felt "stuck." Despite being fully qualified he was initially put on a local contract for 18 months that mirrored foundation year 1 pay, before the BMA got involved and the trust was ordered to award him back pay. He's now in a core training level job, although still a local contract, as he was able to share the rota with someone less than full time. But many of his colleagues are stuck in foundation level roles with nowhere to progress and are paid £7000-£8000 less than they would be, had they been able to progress to other roles.

The worst part, he says, is that they're all expected to do "service provision" jobs with no training opportunities and no chance to get experience in different specialties. "I've been working for two years and

three months now, and I haven't had a specialty ward yet," he explains. "I haven't been to geriatrics. I haven't been to an acute medicine ward. I haven't been to respiratory or neurology, or any other ward."

At his stage an SAS contract isn't relevant, he adds, but he wants more opportunities to develop. "Many of our trust grades have not had appraisals for the past two years," he says. "The trainees do get their appraisals. We don't have teaching opportunities, and we don't have time for learning. We can't be stuck like this."

Fear and frustration

Several international medical graduates described having experienced depression, burnout, and discrimination. One told *The BMJ* how he'd left surgical training after experiencing mental health problems but on returning to work in London was given a trust grade post and was expected to work unsafe hours. He found a permanently short staffed team with "minimal consultant oversight," irregular last minute rotas, and overtime beyond safe limits. The adjustments he needed were refused.

He says that the contracts for LEDs are often incomplete or vague, referencing "trust policy" without providing access to those policies. He tried to rally his colleagues on several issues, including exception reporting overtime—but, being international medical graduates, many of them didn't want to rock the boat. He's now decided that, despite many years of experience, he needs to leave surgery and apply for radiology training positions.

One of his colleagues was facing deportation and was offered only a three month extension, which didn't meet his visa requirements. A BMA local representative tells *The BMJ* that visa dependence leaves LEDs with little leverage. He says, "People who need visas might end up taking a less desirable job because it offers them a permanent contract. That gives the doctors themselves less leverage, because they don't want to jeopardise any sort of position."

"It took seven years to escape my contract"

Peter Rose, a paediatrician at Peterborough City Hospital, spent seven years on a locally employed registrar contract before successfully moving to a specialty doctor SAS contract owing to specific service need and persistence from medical leadership.

After leaving training in 2016 because of burnout he was retained locally in a general acute job. In 2021 the healthcare trust was struggling to fill a post for a paediatrician specialising in epilepsy, and he was offered a substantive SAS (specialist, associate specialist, and specialty) post. By this point he was on a locally employed doctor (LED) contract, but he met all the criteria for a specialist working independently.

Even with that clear service need, however, it still took two years for the paperwork to be signed off and the post agreed, he notes. He now leads the trust's large and extremely busy paediatric epilepsy



People can be stuck in essentially indentured servitude indefinitely
Peter Rose

service, overseeing 600 patients. "I've been able to rebuild a service from the ground up," says Rose. "It's been quite rewarding in that sense." But had that opportunity not arisen, he adds, he's not sure that he would have been moved to an SAS role.

LED contracts are inherently insecure, he explains, as they're usually fixed term and you don't know whether they will be rolled over. He's seen the important difference that the move to an SAS contract has made in his own career, and he now works to advocate the same for others as the Royal College of Paediatrics and Child Health's SAS committee representative.

Rose says, "There's a financial element to it, because it's cheaper to keep someone in a locally employed contract, but it's quite exploitative in the sense that you can keep people stuck in essentially indentured servitude indefinitely."

"Contractual wild west"

Responses to *The BMJ's* FOI requests to see sample contracts confirm that many trusts use contracts that mirror older, nationally agreed contracts—some dating back as far as 2002. These contracts offer none of the safeguards introduced in the 2016 resident doctors' terms and conditions, such as reporting when a doctor's work varies from their agreed work schedule.

The BMJ spoke to one BMA representative in the South East region, where doctors have been battling against the use of a 2002 contract. He says, "It doesn't have any of the same protections in terms of things like exception reporting, so the mechanism for declaring unsafe hours and hopefully unplanned overtime, any of that sort of stuff, doesn't exist for locally employed doctors at this trust."

Managers repeatedly say that doctors will move to the 2016 contract, he adds, but they've been saying this for a long time with no change. He explains, "These are pure service provision-type LED contracts, which come with all of the hard work and disruption of long on-call shifts, busy on-call rotas, and none of the protections." He says that people end up in an "indefinite loop," repeating

the second year of foundation training again and again.

The Royal College of Physicians has urged trusts to take a consistent and proactive approach to supporting internationally qualified doctors who are new to the NHS and on local contracts, while campaigners in the SAS Collective have called for automatic transition to SAS contracts after two years.

The BMA's Runswick calls out the "fundamentally unfair" treatment of LEDs. "These doctors are disproportionately from ethnic minority backgrounds or are international medical graduates—contributing to the institutional racism within the health service," she says. "It's a profound waste of talent and expertise to keep doctors trapped in roles where they can't offer their full potential or are expected to do so without the proper recognition."



People who need visas might end up taking a less desirable job because it offers them a permanent contract. That gives the doctors themselves less leverage, because they don't want to jeopardise any sort of position

BMA local representative



There's not many people like me who will stay 10 years in the job. I have family and health issues, so I can't physically move to a new job
LED, East of England

She adds that the government must mandate fair, standardised contracts. "This means the use of the appropriate SAS national contracts to those working at the level of a specialty doctor and above, and the 2016 resident doctors' terms and conditions for early career LEDs," she says.

A spokesperson for the Department of Health and Social Care says that LEDs are "an integral and highly valued" part of the NHS and that it is aware of reports from doctors that "trusts are not appropriately treating staff . . . This is completely unacceptable, and we are committed to improving working conditions through the implementation of elements of the SAS pay deal."

NHS Employers also says that LEDs are "valuable" to the NHS and should be supported to help develop their careers. But nationally agreed contracts, although recommended, are not always suitable, says its chief executive, Danny Mortimer.

"LED contracts work in a wide variety of roles, and employers should make these roles clear, equitably managed, and appropriate for that post," he advises. Mortimer adds that NHS Employers would like to see greater use of SAS contracts where appropriate and is working with the BMA to enable LEDs who do SAS level work for more than two years to move onto SAS contracts.

Fleming, who has been campaigning for change with the SAS Collective after seeing some of the worst excesses of LED contracts, says that the NHS must be stopped from "behaving like a gig economy employer." He concludes, "We believe that locally employed doctors should be offered the appropriate permanent SAS contract for their work. As well as employment rights, this would give these folks the professional identity they are currently being denied."

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CHRIS WHITTY **Why honesty about uncertainty is the answer**

England's chief medical officer said in a recent lecture that misinformation has always accompanied progress in medicine—and that the battle is winnable if we prioritise transparency

Through every single one of the past 160 years there was extensive misinformation about health—and yet the improvements continued,” said Chris Whitty, chief medical officer for England. “It is extremely important that we take on this misinformation, but we also should accept that this is a battle that is winnable.”

Whitty was speaking at Health Misinformation: Unpacked, an event held in October at the London School of Hygiene and Tropical Medicine, where Whitty is also professor of public and international health.

He reminded the audience that public health has advanced despite resistance, from smallpox vaccination to sanitation, and said the current moment is not uniquely perilous.

Whitty also challenged the notion that the UK is experiencing a collapse in confidence in vaccination. “People who are peddling disinformation often try to give the impression that the public is split down the middle. That is untrue,” he said. “Over 92% of children are vaccinated with the six-in-one vaccine and 91.9% with the MMR vaccine. This has been described as ‘falling off a cliff,’ but a lot of it is to do with accessibility.”

Declining coverage, he said, often reflects practical barriers rather than ideological opposition. “Many of the people who are not vaccinated don’t find it easy to get access.”

Why misinformation spreads

Whitty outlined four main motives behind health disinformation: financial gain, political or institutional rivalry, vanity, and misunderstanding.

Financial gain is a “surprisingly common” driver, he said.

“There are also incentives to discredit the authorities, which may be deliberate state-to-state, or to do with political positions. Or there may be rivalries where people are trying to discredit an individual or an institution or company.” Whitty called this the “worst kind of disinformation,” where “someone knows they are lying from start to finish and they are doing it for their own

Good data and accurate description are the key to all discussions



interests.” He cited Russian bots as perhaps the clearest example.

Vanity, he said, can also tempt people into misinformation. “If you want exposure, start peddling a contrarian line.”

Whitty distinguished deliberate deceit from honest misunderstanding. “The central reason people take notice of misinformation is that they want the best for themselves and their families. We absolutely should start off with a deeply respectful position towards people who are doing this.”

Government communicators aren’t always the most effective messengers: “Sometimes government is the right person to give reassurance and sometimes it definitely is not. A nurse, a doctor, a scientist—or indeed a friend—is in a much stronger position.”

Marketing of doubt

Whitty cited historical examples of deliberate misinformation, from early 20th century leaded petrol promotion to the tobacco industry’s systematic denial of harm. “The cigarette industry playbook is the standard one. By the mid-1950s they were well aware cigarettes kill people and cause cancer,” he said. “They started off with denial, then moved on to marketing of doubt.”

A precursor, he said, was the petrol industry. “It knew from a very early stage that putting lead into petrol was going to be harmful.” Whitty credited Alice Hamilton, the US occupational health pioneer, for exposing such tactics and showing how commercial actors weaponised uncertainty to delay regulation.

And he warned that health professionals

can unintentionally spread falsehoods by repeating them. “A journalist will ask, ‘Do covid-19 vaccines turn your teeth green?’ And if I repeat the question it’s been planted in people’s heads.”

While acknowledging that social media amplify falsehoods, Whitty noted that recovery is possible when evidence re-emerges—and that data driven communication can rebuild public confidence. He pointed to the rebound in vaccination rates for pertussis in London, which dipped for a period. When cases of pertussis rose, the rates of vaccination also rose. “Once you’ve lost you don’t lose the battle indefinitely, just for a period of time. And then you just have to get back on your feet again.”

Whitty cited data from the Ipsos veracity index showing that public trust varies sharply between professions. “Always at the top come nurses, then doctors.”

Trust, he said, depends less on authority than on familiarity. “Those who trust authority are likely to trust government, but if you don’t trust authority you’re not going to trust government,” Whitty said. During the covid pandemic, for example, large numbers of people with African heritage were slow to get vaccinated. “Once people started communicating from their own communities—Somali doctors and nurses communicating with Somali communities, for example—vaccination rates started to go up.”

He urged academics and clinicians to prioritise transparency and precision. “It is our job to prevent misinformation becoming the dominant narrative.

“The public are very sensible. But they have legitimate questions and it is our job to answer them clearly and fairly.”

He concluded, “If you do not make the uncertainties clear, you will correctly lose trust. Good data and accurate description of uncertainty are the key to all discussions. If you shy away from the uncertainties, you will lose the long term war.”

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ROLE MODEL

“We must make clinical academia more appealing”—the rehabilitation doctor encouraging a new generation

Manoj Sivan, professor of physical and rehabilitation medicine, tells **Kathy Oxtoby** about his passion for getting medical students and trainees involved in research

NOMINATED BY ROSIE SOLOMON

“Manoj’s passion to improve care and outcomes for his patients is truly inspiring. Working with him and the rest of the rehabilitation healthcare team inspired me to pursue a career in academic medicine.

“I want to thank him for being a great role model, being very approachable, working tirelessly with juniors like me, and inspiring many of us in our career paths.”

Rosie Solomon, foundation year 2 doctor, Manchester Royal Infirmary NHS Foundation Trust

NOMINATE A ROLE MODEL

To nominate someone who has been a role model during your medical career, send their name, job title, and the reason for your nomination to emahase@bmj.com

“I believe in adding life to years, not just years to life,” says Manoj Sivan, professor in physical and rehabilitation medicine at the University of Leeds and honorary NHS consultant at the Leeds Teaching Hospitals NHS Trust. “It’s what we do in my specialty.”

“We care for adults with long term conditions and complex physical and mental disabilities. This care is inherently multidisciplinary, relying on a team approach. Many of these patients fall between the cracks of well established specialties and often receive suboptimal care in modern healthcare systems,” he says.

A patient with polytrauma and traumatic brain injury, for example, requires “not only excellent acute treatment but also comprehensive long term care to maximise their recovery and reintegration into personal and societal roles,” he says. “Our specialty provides this continuum of care, from the day of injury through ongoing support in the community.”

Being a doctor was not Sivan’s first ambition. He grew up in Hyderabad in southern India in the 1980s and initially planned to pursue engineering. His perspective changed after watching the film *Anand*, which portrays a doctor’s emotional journey to save his friend who is dying of cancer. “The film made a lasting impression on me and shifted my focus towards medicine,” he says.

Sivan completed his undergraduate medical training at Coimbatore Medical College in Tamil Nadu in 2000, followed by postgraduate training in trauma and orthopaedics at Madras Medical College in Chennai.

He moved to the UK in 2003, driven by a desire to pursue advanced training, and worked as a doctor in a range of acute specialties. It was his curiosity to look beyond the usual specialties that led him to rehabilitation medicine.

“I had heard a great deal about physical medicine and rehabilitation in the US, and in 2006 I took up a registrar level post in rehabilitation medicine in Cambridge to experience it first hand. I found a deep purpose in caring for people with long term conditions, working beyond the acute phase, and helping them regain function and improve their quality of life.”

In 2007, he entered academic training in the specialty in Leeds, securing the country’s first National Institute for Health and Care Research academic clinical fellowship in rehabilitation medicine, “a milestone that shifted my career towards academia.”

I believe
medical
students
should be
more actively
involved in
research



He became a consultant in 2012, was appointed associate professor in 2017, and achieved full professorship in 2023.

Teaching and mentoring the next generation through research is a core part of his role as a clinical academic working across both the university and the trust.

“I believe medical students should be more actively involved in research and empowered to lead research outputs,” he says. “This exposure can spark an interest in clinical academia, a field that has seen a steady decline over recent decades. While clinical academia demands hard work and offers fewer financial incentives than private practice, we must find ways to make it more appealing to the bright minds of the future.”

Sivan, who is a former president of the British Society of Physical and Rehabilitation Medicine, was the first UK physician to be honoured with the Sidney Licht award by the International Society of Physical and Rehabilitation Medicine in 2024, for lifetime achievement in the specialty.

Sivan says he is “committed to encouraging more resident doctors to pursue this field and engage in research that improves the lives of people with long term conditions and disabilities—ultimately putting more smiles on patients’ faces.”

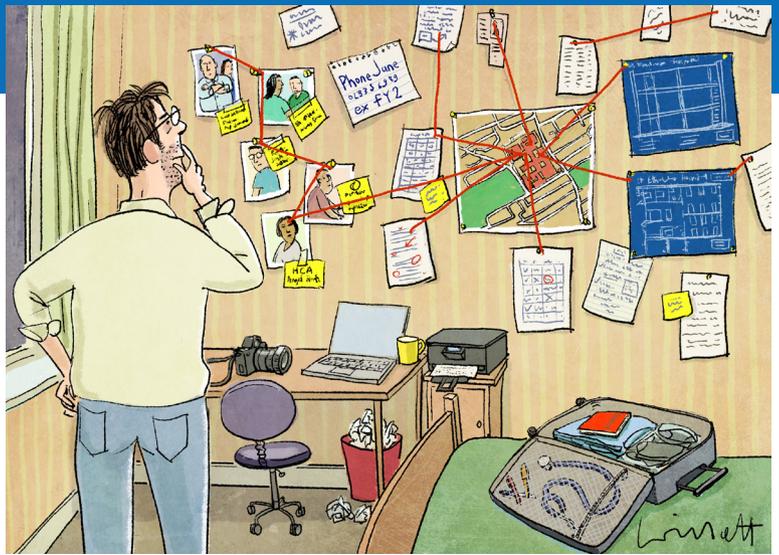
In his limited free time, Sivan enjoys music. “I’ve always admired composers—their ability to create music that transcends culture and heals people. In many ways, music is like medicine, both are universal and restorative, just like my own specialty.”

Kathy Oxtoby, London

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How can I prepare for the first day of a new rotation?

Starting a new rotation can be daunting, but a little planning can help ease the transition, **Elisabeth Mahase** hears



Focus on what you can control

Stephanie Santos Paulo, locum senior house officer and editorial registrar at *The BMJ*

“Before launching headfirst into your new job, set aside some time to think about the one you’ve just finished. Take a thorough history: Did I enjoy it? What were some of the highs and lows? What do I feel more confident doing? What will I miss? A post-rotation temperature check can help you recognise areas where you’ve made progress. It’s also a chance to reflect on the aspects of your work that bring you joy and frustration, which may be useful for informing future career choices, or for making small, positive changes to your work habits.

“No first day will be totally seamless, so focus on the things you can control. It’s worth speaking to someone who did the rotation before you, so you know where and when to show up, and who to look for. If the job is somewhere you’ve never worked, factor in a long commute in case you get lost.

“No matter how well you prepare yourself, some transitions will feel easier than others. One of the hardest first days for me was switching from palliative care to emergency medicine as a foundation year 2 doctor. After four months in a hospice I worried that I wouldn’t cope with the pace of the emergency department. It did turn out to be a baptism of fire, but with time and practice my confidence grew.

“Introduce yourself to your colleagues and make a point of learning their names—or at least reading from their badges—early on. They are your most valuable resource, so treat them kindly.”



Embrace change

Hakim Rezgui, internal medicine trainee in Manchester

“Change is something to be embraced. Each rotation brings new faces, new routines, and, most importantly, new experiences. The highs, the lows, and the unknowns are what help to shape us. So instead of dreading change, try to welcome it.

“Before you start, find out who is currently working your future rotation. A quick chat with the outgoing trainee can tell you more than any handbook ever could, from what time the ward round really starts to which consultants like an early update and who to ask for help.

“Reach out to your clinical supervisor early on, ideally before your first day, and arrange to meet in the first few days. This will help you structure personal development plans in good time and maximise your learning opportunities during the rotation.

“From a clinical perspective, you’re not expected to know everything before you start. It’s certainly reasonable to brush up on the common presentations, but remember you’re there to learn, so don’t overthink it.

“Once on the ward, focus on how the team works day-to-day. Get to know the nurses, healthcare assistants, pharmacists, physiotherapists, and occupational therapists. They’re the backbone of the ward and will help you find your rhythm. Every ward runs differently and teamwork really does make all the difference.

“Finally, something I always remind myself prior to new rotations—if those before you managed to find their feet, why can’t you?”



Don’t forget the essentials

Divya Singh, internal medicine trainee and BMA Wales Resident Doctors Committee representative

“Each specialty brings unique responsibilities, learning opportunities, and an entirely different set of team dynamics. Preparing effectively can ease the transition and help you make a confident, professional start.

“Begin with a quick clinical refresher. Focus on the common clinical presentations, emergencies, and procedures relevant to the specialty. Resources like the Oxford handbook series, local guidelines, or online apps like MDCalc and Induction can be helpful. While you’re not expected to know everything, being familiar with the basics allows one to work more safely and efficiently. The BMA’s specialty explorer can also help you to plan and develop your career.

“Understanding the day-to-day workflow is equally important. If possible, contact a current or previous resident doctor on the team to learn what the rota and typical duties will entail. It’s crucial to familiarise yourself with local protocols, handover procedures, and how referrals are made.

“Don’t forget the essentials: clean scrubs or appropriate attire, a working stethoscope, pens, a notepad, and access to the hospital’s IT systems. Aim to arrive early on your first day to orient yourself and make a good first impression.

“Equally important is your mindset. As a resident doctor you’re still learning—so ask questions, take notes, and reflect on feedback. Be proactive but know your limits, and always escalate concerns when unsure.”

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