# this week

**TRAINEE BURNOUT** page 170 • **PPE CONTRACT FRAUD** page 172 • **PAY AWARD** page 174

LISA MAREE WILLIAMS/GETTY

## Consultants given non-contract fee guide

**EXCLUSIVE** The BMA has published a "rate card" to guide NHS consultants in England on how much to charge employers for non-contractual work.

It provides three minimum recommended rates ranging from £150 to £250 an hour. It also provides equivalent programmed activities. The card is valid immediately and will be reviewed again in September.

Non-contractual work is anything outside a consultant's agreed job plan and includes work relating to waiting list initiatives, weekend clinics, and additional weekend lists (including trauma) and also for covering long term absence. The BMA's Consultant Committee is reviewing further areas of work, including covering gaps in junior doctor rotas, ward rounds after on-call shifts, and resident on-call duties in premium time (including when consultants are too busy to leave, for example, and working from home to deal with radiology results).

In its advice the BMA said non-contractual work should be agreed between a consultant and employer and is subject to negotiation over terms, including pay. "Consultants are within their rights to negotiate their own rates of pay and are not obliged to undertake this work if they deem the rates of pay to be inadequate," the advice says. "Local negotiating committees are able to negotiate standardised rates with employers locally. However, even where such agreements are in place this does not override your right to refuse non-contractual work."

The guidance also provides examples of work not covered under standard terms and conditions, basic rates of pay, and example responses to employers' questions.

Vishal Sharma, chair of the Consultants Committee, said consultants did "huge amounts of work outside their contract," often for "woefully low rates of pay—rates that do not reflect the skills, experience, and responsibility of a consultant."

He added, "Enough is enough, and the BMA is now advising all NHS consultants to insist on being paid fairly for any extra contractual work by ensuring that it is paid at the BMA minimum recommended rate and to decline the offer of extra contractual work that doesn't value them appropriately."

Mike Henley, a urologist who is a member of the committee and of the BMA council, told *The BMJ* that the proportion of consultant work that was extra-contractual was in the region of 20% to 30%.

▶ **THIS WEEK**, pages 174-7

Adele Waters, *The BMJ*

Cite this as: *BMJ* 2022;378:o1872

**The BMA has issued a pay "rate card" for all the work NHS consultants carry out that is not covered in their contract**

### LATEST ONLINE

- GPs can defer fitness to drive questionnaires to other healthcare staff after change in law
- Persistent understaffing of the NHS is putting patients at risk, say MPs
- Quebec doctors' letter forces government rethink on polluted cancer black spot

# SEVEN DAYS IN

## Burnout among trainees is at an all time high, GMC survey shows

STEPHANIE LECOCQ/EPA-EFE/SHUTTERSTOCK

**Burnout among trainees and trainers has never been higher, the GMC has said, warning that NHS backlogs are threatening doctors' health and wellbeing.**

**The UK regulator's annual national training survey, completed by more than 67 000 doctors, shows a continuing worsening trend in answers about workload and burnout. It was completed by 76% of all trainees and 34% of all trainers in the UK.**

**Last year's report showed how the pandemic had reversed previous improvements, prompting the GMC to warn then that the changes should not become part of a "new normal." This year's report shows that the situation has deteriorated further. Charlie Massey, the GMC's chief executive, said, "Support for trainees and trainers must be at the heart of future workforce policy decisions, or we risk creating a vicious circle that, ultimately, will adversely affect patients."**

**Burnout was added to the survey in 2018, and this year 44 000 doctors completed the section. Two thirds of trainee doctors said they were "always" or "often" worn out at the end of the working day, and 44% said they were regularly exhausted in the morning, seven percentage points higher than last year. All specialties showed a rise in the proportion of trainees at high risk of burnout. The highest rate was in emergency medicine, with a third (32%) at high risk, an 11 point rise on 2021.**

Jacqui Wise, Kent Cite this as: *BMJ* 2022;378:o1796

### Monkeypox

**WHO declares a PHEIC after minority decision**

The World Health Organization announced on 23 July that it was declaring monkeypox (below) a public health emergency of international concern. The decision came despite nine members of the expert committee opposing the designation, with six in favour. But at a press conference WHO's director general, Tedros Adhanom Ghebreyesus, invoked a PHEIC. He said more than 16 000 cases had been reported in 75 countries and that five people had died.

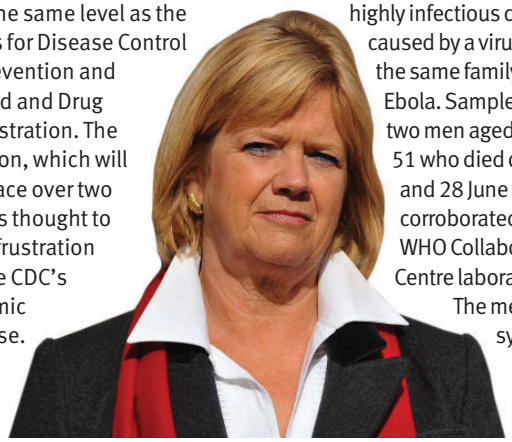
**New clinical symptoms in confirmed cases**

A large study of confirmed monkeypox cases has identified new clinical symptoms that are similar to those of syphilis and other sexually transmitted infections and could easily lead to misdiagnosis. These symptoms include single genital lesions and sores on the mouth or anal mucosa. An international collaboration of 16 countries reported 528 infections diagnosed from 27 April to 24 June 2022. In the study, published in the *New England Journal of Medicine*, 95% of these patients presented with a rash, 73% had anogenital lesions, and 41% had mucosal lesions.

### Covid-19

**US upgrades office to improve pandemic response**

The US Department of Health and Human Services announced its Office of the Assistant Secretary for Preparedness and Response would be raised to an operating division and renamed the Administration for Strategic Preparedness and Response (ASPR). The ASPR will coordinate the response to health emergencies and will be on the same level as the Centers for Disease Control and Prevention and the Food and Drug Administration. The transition, which will take place over two years, is thought to reflect frustration with the CDC's pandemic response.



**BMA welcomes launch of UK covid inquiry**

The UK's covid-19 inquiry was officially launched with extensive terms of reference. It will hold preliminary hearings this year and call the first witnesses next spring. The inquiry chair, Heather Hallett (below), has pledged to deliver reports with analysis, findings, and recommendations while investigations are ongoing, so that key lessons from the pandemic can be learnt quickly. The BMA said that it would submit evidence on how the government had failed in its duty of care to the workforce, such as through PPE shortages.

### Marburg virus

**Ghana declares outbreak of disease borne by fruit bat**

Ghana announced its first outbreak of Marburg virus disease, the highly infectious disease caused by a virus from the same family as Ebola. Samples from two men aged 26 and 51 who died on 27 and 28 June were corroborated at a WHO Collaborating Centre laboratory. The men had symptoms

typical of Marburg virus, including diarrhoea, fever, nausea, and vomiting. The virus is transmitted through fruit bats (above) and through direct contact with body fluids and infected people, surfaces, and materials.

### Polio

**New York reports first Americas case in decades**

The first polio case in the Americas for more than 30 years was reported on 21 July in a young unvaccinated Orthodox Jewish man in Rockland County, about 55 km north of New York City. Health officials said that he had been infected by a strain related to the oral polio vaccine, which is used abroad but has not been used in the US since 2000. Rockland County is home to several large ultra-Orthodox Jewish communities with low uptake of vaccination. The county experienced an outbreak of measles in these communities in 2018-19.

# MEDICINE

## Poisons

**Bites by exotic snakes get more common in UK**

A rise in the number of non-native snakes held in captivity in the UK means that snakebites are becoming more common, said a review of inquiries made to the UK National Poisons Information Service. From 2009 to 2020 some 321 exotic snakebites were reported in 300 patients, involving 68 different species. These bites usually occur in people who keep snakes as a hobby. Bites can result in venom hypersensitisation and the risk of anaphylaxis.

**In the decade to 2020, 321 exotic snakebites were reported in the UK**

## Violence against staff

**Attacks on health workers worsened in pandemic**

Violent incidents against healthcare workers and patients have risen worldwide, said a joint report from the International Council of Nurses, the International Committee of the Red Cross, the International Hospital Federation, and the World Medical Association. Their survey showed persistent violence across


the world, and 58% of the 120 respondents had perceived a rise in violent incidents.

## Climate change

**UK's net zero plans are ruled unlawful**

The High Court has ruled that the government's net zero strategy on carbon emissions is in breach of the law, as it does not explain how the targets will be met. The judgment said the strategy did not meet obligations under the Climate Change Act, which requires the government to reach net zero emissions by 2050, make proposals as to how it will meet that target, and place a report before parliament. The successful legal challenge was brought by Friends of the Earth, Client Earth, the Good Law Project, and campaigner Joanna Wheatley.

## Medical training

**New degree apprenticeship to be launched next year**

From September 2023, people wanting to become a doctor will be able to achieve their degree through an apprenticeship. The medical doctor degree apprenticeship aims to make the profession more accessible, diverse, and representative of local communities. Apprentices will complete all elements of medical education, academic and practical, including a medical degree and the medical licensing assessment. This will meet all GMC requirements, and apprentices will earn a wage while they study.

## Prison health

**Pregnant prisoners show risk of preterm labour**

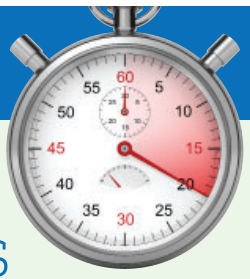
The Nuffield Trust said ill equipped prisons and barriers to accessing health and care services meant that pregnant women in prison experienced poor outcomes. Its *Inequality on the Inside* report found that pregnant prisoners were almost twice as likely as the general population to go into preterm labour. More than a fifth of midwifery appointments are missed by prisoners, mainly because of a lack of escort staff.

Cite this as: *BMJ* 2022;378:o1854

## NHS APP

More than 28 million people have signed up to use the NHS app, and the government has set a target for 75% of adults to be registered by March 2024

*[NHS Digital]*



# SIXTY SECONDS ON . . . **ULTRA-PROCESSED FOOD**

### HOW ARE WE DEFINING THAT?

It varies, but the term usually refers to food with ingredients we wouldn't use at home, such as colourings, flavours, emulsifiers, sweeteners, and preservatives. Things like industrially manufactured bread, processed meat, fast foods, pies, cakes, and soft drinks, which are often higher in fat, salt, and sugar and have an altered food structure that makes them more digestible.

### ARE THEY CAUSING A PROBLEM?

Children in the UK have the highest ultraprocessed food (UPF) intake in Europe, and an analysis of the UK's 2008-2017 National Diet and Nutrition Survey found that 64% of the calories in school meals came from UPFs. Intake was higher in secondary than in primary school children and higher in children from lower than in higher income backgrounds. But the study was unable to determine whether UPF intake was because of pupils' choices or the food being offered.

### WHY CAN'T PUPILS BRING LUNCHES?

In fact, 53% of children did, but the study showed that packed lunches contained even more calories from UPFs than school lunches.

### THIS LEAVES A NASTY TASTE

Well, no. UPFs are appealing and have some nutritional content. But high UPF consumption in adults is linked to obesity, diabetes, cancer, and heart disease—and early death.

### HAVE UPFs HAD THEIR CHIPS?

Funny you should ask. The study also classed chips and other fast foods such as pizzas and burgers as being ultraprocessed. Public health experts are calling for tougher regulation, but the government is pushing it to the side of the plate.

### WHAT PROCESS DO EXPERTS WANT?

The researchers argue that publicly funded school meals are vital for delivering healthy food to children, especially those from lower income families. They say this a a key opportunity to cap the amount of processed foods school lunches contain.

### IS THERE A SWEETENER FOR CHILDREN?

Sadly, a solution isn't coming fast and there is no sugar pill. School caterers have recently warned that rising costs could force them to serve lower quality meals next term.

Shaun Griffin, London

Cite this as: *BMJ* 2022;378:o1839

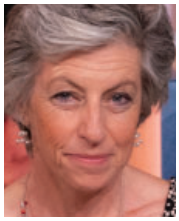
# “No convincing evidence” that depression is caused by low serotonin levels, says study

The authors of a large review said there was no support for the hypothesis that depression is caused by lowered serotonin activity or concentrations and have questioned the reasons behind high prescribing rates of antidepressants.

They said the chemical imbalance theory of depression was still wrongly being put forward by some professionals, and the public widely believes it. However, other clinicians said that, although the notion of depression being caused by a simple chemical imbalance was outmoded, antidepressants remained a useful option for patients alongside other approaches, such as talking therapies.

The systematic umbrella review, published in *Molecular Psychiatry*, looked at overviews of research on serotonin and depression, including systematic reviews and meta-analyses.

Joanna Moncrieff, professor of psychiatry at University College London, a consultant psychiatrist at North East London Trust, and the study’s lead author, said, “It is always difficult to prove a negative, but I think we can safely say that after a vast amount of research conducted over several decades there is no convincing evidence that depression is caused by serotonin abnormalities, particularly by lower levels or reduced activity of serotonin.”



**I think we can safely say there is no convincing evidence that depression is caused by serotonin abnormalities**
Joanna Moncrieff

The review found that research that compared levels of serotonin and its breakdown products in the blood or brain fluids did not find a difference between people with diagnosed depression and healthy controls.

Research on serotonin receptors and the serotonin transporter found weak and inconsistent evidence indicating higher levels of serotonin activity in people with depression. The authors said these findings were likely to be explained by the use of antidepressants among people with a diagnosis of depression.

The authors also looked at studies where people’s serotonin concentrations were artificially lowered by depriving their diets of the amino acid required to make serotonin. A meta-analysis conducted in 2007 and a sample of recent studies found that lowering serotonin in this way did not produce depression in hundreds of healthy volunteers. There was very weak evidence in a small subgroup of people with a family history of depression, but this involved only 75 participants, and more recent evidence was inconclusive.

The authors argued that the public overwhelmingly believes that depression is caused by low serotonin or other chemical abnormalities and this belief leads to a pessimistic outlook on the likelihood of recovery and the possibility of managing moods without medical help.

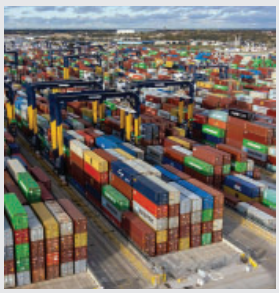
“In particular, the idea that antidepressants work in the same way as insulin for diabetes is completely misleading,” said Moncrieff. “We don’t understand what antidepressants are doing to the brain exactly, and giving people this sort of misinformation prevents them from making an informed decision about whether to take antidepressants or not.”

### Emphasis in psychiatry training

The authors said that psychiatric textbooks still gave extensive coverage of the lowered serotonin theory. Mark Horowitz, a training psychiatrist and clinical research fellow in psychiatry at University College London and an author of the study, said, “I had been taught that depression was caused by low serotonin in my psychiatry training and had even taught this to students in my own lectures.

“Being involved in this research was eye opening, and it feels like everything

# PPE contract disputes put £2.7bn of public money at risk, says watchdog



**The government has been left with 3.9 billion items of PPE that are unusable or unneeded**
Public Accounts Committee

Up to £2.7bn of taxpayers’ money is at risk in government disputes with contractors over the supply of personal protective equipment during the pandemic, the parliamentary spending watchdog has warned.

In its latest report the Commons Public Accounts Committee blasts the government for slowness in progressing the disputes, most of which relate to the quality of PPE provided.

It also accuses the Department of Health and Social Care (DHSC) of failure to act on fraud in the procurement process, “despite the department’s estimate that as much as 5% of PPE expenditure may have involved fraud.”

The committee said DHSC was in dispute with PPE suppliers on 176 contracts, with up to £2.7bn of taxpayers’ money at risk. The government has been left with 3.9 billion items of PPE that are unusable or unneeded, it said.

Some 83 of the 176 disputes are still in the first stage of the commercial resolution process, and a further 59 have entered formal commercial discussions. No cases have yet moved into the litigation stage of the commercial dispute process, and the department estimated that 35% of the disputes would not be resolved until 2023.

The committee said the department had estimated that total fraud from PPE contracts could be between 0.5% and 5% of expenditure but “was unable to give us any details on how it is progressing any fraud inquiries for these contracts under dispute.” On contracts signed by the department “this could mean fraud worth as much as £400m.”


I thought I knew has been flipped upside down."

A position statement from the Royal College of Psychiatrists published in 2019 stated, "The original idea that antidepressants 'correct a chemical imbalance in the brain' is an oversimplification, but they do have early physiological effects and effects on some aspects of psychological function."

The college said antidepressants can induce changes in the function of brain areas that are associated with improvement in depressive symptoms, and in animal studies the drugs have been shown to increase the number and function of brain cells and the connections between them. They also exert effects on the processing of emotional information within a few hours of drug administration.

**Recommended treatment**

A spokesperson for RCPsych said, "Antidepressants are an effective, NICE recommended treatment for depression that can also be prescribed for a range of physical and mental health conditions. Treatment options such as medication and talking therapy play an important role in helping many people with depression and can significantly improve people's lives. Antidepressants will vary in effectiveness for different people, and the reasons for this are complex, which is why it's important that patient care is based on each individual's needs and reviewed regularly.

"We would not recommend for anyone to stop taking their antidepressants based on this review and encourage anyone with concerns to contact their GP."

In June NICE published its first guideline in 12 years on managing depression in adults, and this recommended offering a range of evidence based treatment options to patients—from psychological therapies to antidepressants.

Commenting on the study, Allan Young, director of the centre for affective disorders at the Institute of Psychiatry, Psychology, and Neuroscience at King's College London, said most psychiatrists adhere to the biopsychosocial model, with very few people subscribing to a simple chemical imbalance theory. "The use of these drugs is based on clinical trial evidence which informs their use for patients. This review does not change that."

Jacqui Wise, Kent

Cite this as: *BMJ* 2022;378:o1808

## DHSC estimates total fraud could be up to 5% of expenditure

At the height of the pandemic the DHSC, in competition with the rest of the world, bypassed many of the usual checks on suppliers in the race to secure enough PPE. It set up a "VIP lane" through which suppliers introduced by civil servants, ministers, MPs, or members of the House of Lords could secure contracts more quickly.

A formalised eight stage due diligence process was established in May 2020, but 46 of 115 contracts awarded through the VIP lane predated this. "At no point was consideration given to the extent of the profit margin that potential suppliers would be taking on payments for PPE," said the committee. "Neither was [there] consideration of any potential conflicts between individuals making referrals through the VIP lane and the companies they were referring. We are therefore unsurprised to see the reports of excessive profits and conflicts of interest on PPE contracts."

A DHSC spokesperson said, "The department takes fraud extremely seriously and is exploring every available option, including working with law enforcement partners, to bring those who commit fraud to account and seek to recover losses."

Clare Dyer, *The BMJ*

Cite this as: *BMJ* 2022;378:o1817

# Recovery trial to lose funding as flu drug proposal is rejected

Funding for the UK's Randomised Evaluation of Covid-19 Therapy (Recovery) trial, which has been key to finding cheap and effective covid treatments, is to end in October, the trial's co-leads have said.

The team's funding proposal to study treatments for severe influenza within Recovery has also been rejected by the National Institute for Health Research (NIHR) and UK Research and Innovation (UKRI). The bodies said this was because "funding for a flu platform should be completed through a fair and open competition."

The Recovery team said the cost of studying flu drugs on top of covid treatments would be low and pointed out Roche had provided the antiviral drugs free of charge and the protocol had already been approved by the NIHR and the MHRA. They added that there was no relevant funding competition that they could apply for.

**THE TRIAL** has recruited nearly **50000** participants and has **199** sites around the world

Trial co-leads Martin Landray and Peter Horby told *The BMJ* that they were now going to request they be allowed to use the unspent funding from their current grant to continue for another year and complete the studies of current covid drugs. Meanwhile, they are looking for alternative funding sources to support the study of flu treatments.

The Recovery trial was launched early in the pandemic and by July 2020 had found the first lifesaving covid-19 treatment, dexamethasone. The cheap and widely available steroid was found to cut deaths by a third among covid patients admitted to hospital who needed ventilation and by a fifth among patients receiving oxygen only. Since then, it has found two more effective treatments, tocilizumab and baricitinib. The trial has recruited nearly 50 000 participants and has 199 sites around the world.

In a statement Horby, director of Oxford University's Pandemic Sciences Institute, and Landray, professor of medicine and epidemiology at Oxford, said, "The current grant is to end at the end of October and NIHR have requested the return of any unspent funding. The unspent funding would be sufficient to continue the Recovery study of covid-19 for at least a further year and would allow completion with a study of the current drugs."

They said they will soon be requesting a no cost extension. The NIHR and UKRI have said grantees can apply for "costed or no cost extensions" for existing work, in the case of delays.

Elisabeth Mahase, *The BMJ*

Cite this as: *BMJ* 2022;378:o1809

NEWS ANALYSIS

# What does the pay award offer, and is industrial action now "inevitable"?

RICHARD H SMITH

**What is this year's pay award?**
"Eligible" doctors in England, Scotland, and Wales will receive a 4.5% pay rise, backdated to April 2022, after the government accepted the DDRB's recommendations in full. Northern Ireland also accepted the recommendations but its health minister, Robin Swann, said he was unable to move forward with them without an agreed Stormont budget.

**Which doctors will receive the pay rise?**
All consultants, salaried GPs, and doctors employed by trusts and health boards on locally determined contracts will receive the 4.5% uplift. It will also apply to the GP trainers' grant and GP appraisers' grant.

For other doctors, it varies by country. In Scotland, Wales, and Northern Ireland the uplift will be paid only to independent contractor GPs and doctors in training. In Scotland all SAS doctors will also receive the uplift, but in England, Wales, and Northern Ireland only those not on reformed contracts will. In Wales, specialty and specialist doctors on the 2021 contract will receive a one-off £1400 payment and those on the highest band will receive a one-off payment equivalent to 4.5%.

**Who will not receive the pay rise?**
Doctors in England who work under agreed multiyear pay deals—independent contractor GPs and doctors in training—won't get the uplift. Nor will SAS doctors who are employed on the reformed specialty doctor and specialist contracts in England, Wales, and Northern Ireland.

**Why are some doctors excluded?**
The BMA asked the DDRB to make recommendations for all groups of doctors this year, but the BMA committees representing consultants and junior doctors in England told the DDRB they would not be participating because of a lack of confidence in the process. The BMA therefore did not submit evidence specifically covering these groups, and the DDRB said in its report that this "made it more challenging" to make recommendations for these groups.

The DDRB said the multiyear deals were agreed before recent inflation hikes but that, although its recommendations this year did not seek to match inflation, "they have been informed by it to some extent, and also by the increases to pay settlements in the wider economy that the inflation increases have precipitated."

**What is the deal for junior doctors?**
Junior doctors in England have been excluded from a pay uplift because they are covered by a multiyear pay deal agreed by the government and BMA in 2018. Now in its final year, this guaranteed an 8.2% rise in pay over four years, alongside £90m of additional investment, providing the most experienced junior doctors with higher pay, increased allowances for those working most often at weekends, and increased rates of pay for shifts finishing between midnight and 4 am.

But the BMA said that not giving juniors a rise after they had worked through a pandemic and at a time of rising inflation was a "disgrace," as they had experienced a sustained and continuing cut of more than a quarter to their salaries since 2008-09.

The BMA Junior Doctors committee co-chairs Sarah Hallett and Mike Kemp said, "To exclude our members from the 4.5% given to other NHS workers is nothing less than a betrayal of the profession.

"To make matters worse, the government has said nothing on full pay restoration. Refusal to commit to this by the end of the year leaves junior doctors in England no choice but to press ahead with preparations for a ballot for industrial action."

**What did the BMA ask for?**
In its evidence to the DDRB submitted in January 2022, the BMA asked for a pay award of the retail price index (RPI) plus 2% as an initial step towards closing the real terms pay erosion experienced by doctors over the past decade as a result of frozen pay or capped pay awards since 2010. The BMA said that most doctors surveyed believed there was a need to "address long term pay erosion arising from successive below-inflationary pay rises."

**Could this lead to strike action?**
Yes. Even ahead of the pay award announcement the BMA's new chair of council, Philip Banfield, warned that a strike by doctors was "inevitable," because there was "very, very serious discontent" over pay.

In June this year the BMA's annual representative meeting in Brighton passed a motion pointing out that doctors' pay had fallen against RPI by up to 30% since 2008 and calling on the BMA "to achieve pay restoration to 2007 value for its members within the next five years."

Emma Runswick, who proposed the motion on behalf of the BMA's North West Regional Council, said, " I'm not foolish. I know that it's likely that industrial action will be required to move the government on this issue."

Runswick, elected deputy chair of BMA council in July, also proposed a motion at the junior doctors' conference in June to ballot on industrial action in early 2023 over junior doctors' pay.

GPs may also be balloted on industrial action over changes that have been imposed to their contract. The June ARM meeting also passed a motion to instruct the BMA to organise the withdrawal of general practices from England's primary care networks by 2023 and to lobby for that funding to be moved into the core contract. The

**TO EXCLUDE** our members from the **4.5%** given to other NHS workers is nothing less than a betrayal of the profession Mike Kemp, Sarah Hallett

motion also called for the BMA's General Practitioners Committee for England to organise opposition to the changes to the 2022-23 contract being imposed by NHS England, including through "industrial action if necessary."

**What is the government's position?**
The government said it had accepted the DDRB's recommendations in full and that public sector staff were being offered the highest uplifts in nearly 20 years. It added that over the past five years consultants had received a cumulative pay rise of around 15%.

Ministers argue that this year's pay award has to strike a careful balance. England's health and social care secretary, Steve Barclay, said, "We want a fair deal for staff. Very high inflation-driven settlements would have a worse impact on pay packets in the long run than proportionate and balanced increases now, and it is welcome that the pay review bodies agree with this approach."

**Will the awards be funded in full?**
No. NHS England has promised to fund only two thirds of pay rises (3%). The rest will have to be come through efficiency savings.

England's health department said, "The government is committed to living within its means and delivering value for the taxpayer, and therefore we are reprioritising within existing departmental funding while minimising the impact on frontline services."

An NHS England spokesperson told the *HSJ*, "Given the requirement to fund this within existing Department of Health budgets, we will need to release money from existing programmes, regrettably impacting on planned rollout of tech and diagnostic capacity across the health service."

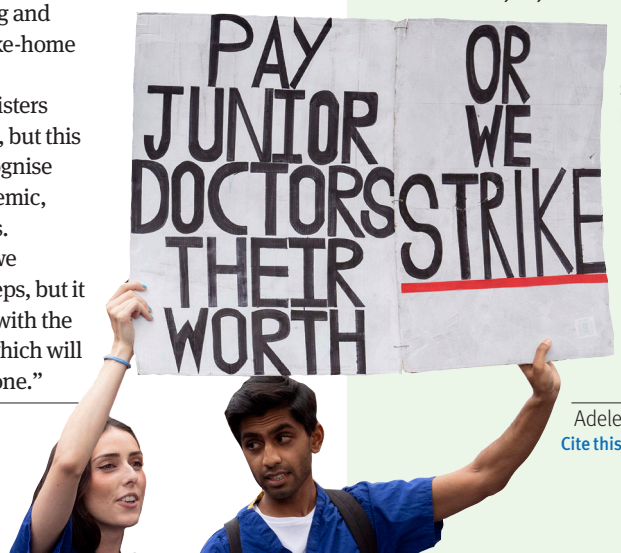
**What does the BMA say?**
The BMA called the pay award a "brutal pay cut." It added that for some doctors pay erosion had reached an "astonishing and unjustifiable 30% real decline in take-home pay since 2008-09."

Council chair Banfield said, "Ministers can paint whatever picture they like, but this represents a complete failure to recognise the sacrifices of doctors in the pandemic, through year-on-year real terms cuts.

"The different groups of doctors we represent will consider their next steps, but it is clear we are on a collision course with the government, the consequences of which will be the responsibility of ministers alone."

**A strike is inevitable because there is very, very serious discontent**
Philip Banfield

**Industrial action will be required to move the government on this issue**
Emma Runswick




Adele Waters, Ingrid Torjesen, *The BMJ*
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# "We are solid". . . Profession is united in appetite for action on pay

**SARAH HALLET, CO-CHAIR, BMA UK JUNIOR DOCTORS COMMITTEE**
"This was the government's opportunity to show that they value the work of junior doctors and to send a message. To be left on 2%, it's just an insult. Industrial action is not something that any junior doctor wants to take . . . but we feel that our hand is being forced. It is possible to avert this if the government was to meet with us and revisit the decision they've made this week."

**JENNIFER BARCLAY, BMA REPRESENTATIVE AND ORTHOPAEDIC TRAINEE, NORTHWEST ENGLAND**
"This is not an award, it's a pay cut. It's pathetic, it's a slap in the face. With inflation at 11.7% this year, junior doctors will be working a month for free. We know people are willing to take industrial action. We know people want pay restoration this time, not just a token gesture. I think that we're solid, both from a union perspective and across specialties [and] branches of practice. Consultants, staff grades, GPs . . . everyone's singing from the same hymn sheet."

**SHARON HOLLAND, ST7 IN DUAL GENERAL ADULT AND OLD AGE PSYCHIATRY, NORTHEAST ENGLAND**
"Everyone is spitting feathers over this pay award and is absolutely ready for industrial action. I'm about to become a senior colleague, but juniors have my full support, and I think the same is true of anyone who has become a consultant since 2016 or even the past 10 years. We need to be united as a profession, and the focus for industrial action has to be on improving the basics of pay and conditions to support and retain doctors and preserve the NHS."

**MIKE HENLEY, UROLOGIST AND MEMBER OF BMA COUNCIL**
"I've never known such a unified position of professionalism. There's no doubt at all that I think the vast, vast majority of consultants support juniors in their pay claim. We've already had a lot of contact with the Junior Doctors Committee, looking at how consultants will support juniors during any industrial action they might take, including plans to potentially cancel normal activity so that we can cover juniors' absences and ensure there is safety, which means at least the patients get safely looked after."

**IAIN KENNEDY, GP, SCOTLAND, AND MEMBER, BMA COUNCIL**
"It's in the interests of the whole profession, including GPs, to stand shoulder to shoulder with the juniors. What I'm sensing at UK level is that we absolutely support our junior doctor colleagues and their requests for the restoration. GP members in Scotland have been asked what actions they would be willing to take, [and] strike action was included, but it may well be that GPs have to consider other forms of actions other than strike action alone."

Adele Waters, *The BMJ*
Cite this as: *BMJ* 2022;378:o1868


BELOW INFLATION PAY KEEPS THE DOCTOR AWAY!!
AIR
AY
NH

THE BIG PICTURE

# Junior doctors protest at omission from pay award

Hundreds of junior doctors descended on the Department of Health and Social Care's London offices on Monday to protest over their pay and call for strike action.

Lena Hassan, an internal medicine trainee who had travelled from Dartford, Kent, told *The BMJ*, "It's getting ridiculous. I'm struggling to pay rent, I'm struggling to live a normal life. I think we are owed a pay rise, and this is the only way we are going to win it."

The protest came after junior doctors were excluded from the 4.5% pay rise announced by the government, because they are covered by a multiyear deal agreed in 2019. The BMA has calculated that pay awards for junior doctors in England since 2008 have delivered a real terms pay cut of 26.1%. The BMA's Junior Doctors Committee has said it will now go ahead with balloting for possible industrial action.

Speaking outside Downing Street, junior doctor Emma Runswick, deputy chair of BMA council, told the crowd, "This demonstration does not solve the problem we have. It is going to be solved in conversations with our colleagues, it's going to be solved in organising, it's going to be solved in voting in the strike ballot, it's going to be solved in striking."

Elisabeth Mahase, *The BMJ*

Cite this as: *BMJ* 2022;378:o1873


RICHARD H SMITH

EDITORIAL

# Air pollution is a public health emergency

The UK government must commit to (much) cleaner air by 2030

We have come a long way since London's great smog in 1952, but air pollution continues to be a major and growing public health challenge. Now, however, it is invisible to the eye. Air pollution today comes from traffic, farming, and wood burning including wood burning stoves. Fine particulate matter ($PM_{2.5}$) passes through the lungs into the circulation along with toxic gases such as $NO_2$, and together these initiate, accelerate, and exacerbate non-communicable diseases.[2 3]

In December 2020, air pollution exposure was listed as a cause of death for the first time in the UK after the inquest into the death of Ella Adoo-Kissi-Debrah.[6]

Greater efforts to reduce this key driver of adverse health are needed. $PM_{2.5}$ is undoubtedly an invisible killer, but its effects are clear to see: increased risk of asthma attacks on high pollution days[7] and more hospital admissions for heart and lung diseases.[8] Polluted air triggers strokes and heart attacks, exacerbates respiratory illnesses, such as chronic obstructive pulmonary disease, and can stunt children's lung growth.[9] The result is not just premature deaths, but more years spent in ill health, and more avoidable pressure on the health system. Air pollution, both outside and indoors, is a major driver of health inequalities, with the most deprived UK communities and those from ethnic minority backgrounds more likely to live in polluted areas.

The *Prevention of Future Deaths* report that followed the inquest into Adoo-Kissi-Debrah's death found that "the adverse effects of air pollution on health are not being sufficiently communicated to patients and their carers by medical and nursing professionals."[10] Conversations to help patients understand how pollution might worsen health or exacerbate their conditions are vital.

**Polluted air triggers strokes and heart attacks, exacerbates respiratory illnesses, and can stunt children's lung growth**

Stephen Holgate, professor and special adviser on air quality, Royal College of Physicians
S.Holgate@soton.ac.uk

There are key touch points—during asthma assessments and reviews, in cardiovascular and maternity checks—for these conversations to take place. But do healthcare professionals know enough about air pollution and its impacts?

## Education

More can be done to ensure that health professionals are confident to have these conversations. The environmental charity Global Action Plan has a suite of resources for healthcare professionals.[11] Then there is education. The Royal College of Physicians was one of three organisations (the others were the Royal College of General Practitioners and the Royal College of Paediatrics and Child Health) required to respond to the coroner's report after the death of Adoo-Kissi-Debrah in relation to its postgraduate curriculum.[10 12] The Royal College of Physicians was satisfied that pollution is currently covered, in its internal medicine curriculum, but promised to keep it under review to ensure that it has appropriate focus.[13]

Steps must also be taken to reach clinicians who are not in medical education and therefore not learning about air quality as part of the postgraduate curriculum, as well as allied professions such as nursing or occupational therapy that are not regulated by the GMC. All health professionals have an important role in understanding the serious adverse effects of air pollution and communicating them clearly and effectively to patients at risk. Equally importantly, they can be influential advocates for cleaner air and can push for government intervention to achieve that.

The government's consultation on air quality targets under the Environment Act 2021,[14] which closed on 27 June 2022, could be a turning point for the nation's health if the government is bold in its ambitions. But the target currently proposed to reduce $PM_{2.5}$ annual average concentration to reach $10\mu g/m^{-3}$ by 2040 falls way short of what is needed to turn the tide on toxic air.

The target date should be brought forward to 2030. Research from the Clean Air Fund and Imperial College London shows that many parts of the UK are already on course to achieve it and estimates that setting a 2030 deadline would lead to 3100 fewer cases of coronary heart disease and 388 000 fewer reported asthma symptom days in children each year.[15] The government's own analysis indicates that reaching $11\mu g/m^{-3}$ is likely to be achievable by 2030 across most modelled scenarios including the government's preferred "high" ambition option.[16]

Waiting until 2040 to reach $10\mu g/m^{-3}$—35 years after the recommendation was made by the World Health Organization[17]—is not good enough when the grave impact of air pollution on health and health inequalities is so clear.

Air pollution is one of the greatest environmental and public health threats of our time. The government must commit to reducing $PM_{2.5}$ to $10\mu g/m^3$ by 2030, with the ultimate objective of reducing annual mean concentration to $5\mu g/m^{-3}$ in line with the latest WHO health based air quality guideline values.[19] The nation's health depends on it.

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Find the full version with references at http://dx.doi.org/10.1136/bmj.o1664

EDITORIAL

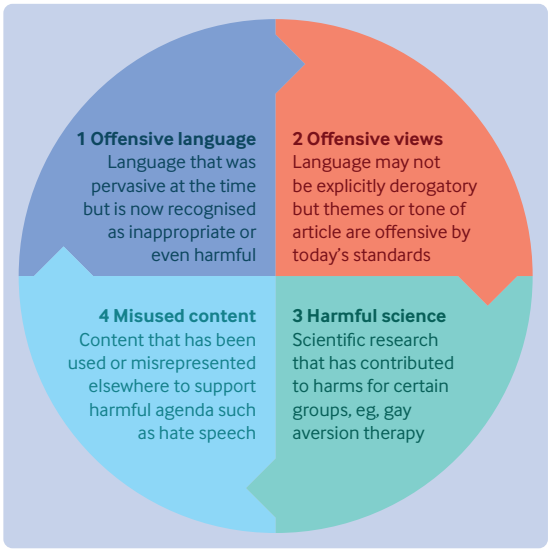
# Historically offensive content in BMJ's archive

We aim to acknowledge offence or harm while preserving the scientific record

How should we deal with published content that may be offensive or harmful? New or recently published articles attract the most attention from readers. They are also published in an era when peer reviewers and editors should be sensitised to potentially offensive content, whether, for example, on the basis of race, gender, sexual orientation, religion, geography, or culture.

Mistakes and offences can still occur, but they are more likely to be quickly identified and corrected given the immediacy and visibility of the internet and social media.

But what of content that was published many years ago, possibly at a time when the language may not have been considered offensive? Some of the challenges of dealing with historical content mirror those of dealing with historical figures, artefacts, and records that are a product of their time and society.




Categories of offensive language

**Disclaimer wording**

Please be aware that this article contains potentially harmful or offensive language or ideas. BMJ does not in anyway endorse or condone discrimination of any kind. While some of this content may not have been considered harmful at the time of publication, we now recognise that it may contribute to or perpetuate harms. We have decided to keep this content available as part of the scientific record for now. However, this decision may be reviewed.

## Preserving the scientific record

Removing offensive content seems an attractive way of righting wrongs and preventing harm. However, for a journal this is not as simple as it first appears. Scientific publishers have a responsibility to preserve the scientific record. Best practice in scholarly publishing is that even retracted content remains retrievable. Even when publications decide to correct or remove content, the original version will remain in print editions and in other locations online through third parties such as indexers and libraries.

Defining offensive content is challenging, as is determining to what extent it is harmful, because perspectives vary on whether offensive language or derogatory terminology are inherently a cause of harm. Context is important when judging offence and harm, and guidance created by those who have experienced abuse is particularly useful.[1] For example, censoring doctors who quoted racist language when describing their experiences of racial abuse feels unjust[2] and may delay or prevent harm from being addressed.

Exploratory work at BMJ suggests that harmful content falls into four broad categories (figure): offensive language (such as racial abuse); offensive views (language that may not be explicitly derogatory but the theme and tone of which would now be recognised as unacceptable); harmful science (research that harms certain groups); and misused content (language or an article that is not offensive but is used to support a harmful agenda) . This categorisation is a first attempt and may help others to categorise content, and to decide whether action such as correction or retraction is needed.

It isn't feasible for us to review everything ever published in *The BMJ* and other BMJ journals. But that doesn't mean that no action should be taken. We will review any articles referred to us by readers or when we are concerned about a particular author or field of research. We will label those that we consider potentially offensive or harmful content with a disclaimer (box). Our aim is to strike a balance between acknowledging potential offence or harm and preserving the published scientific record. We reserve the right to correct or retract historical content as our understanding grows and the public debate evolves.

**Best practice in scholarly publishing is that even retracted content remains retrievable**

## Developed with advice

There is no perfect solution. BMJ recognises that offensive, uncensored content may hurt individuals or groups. Our approach was developed with advice from the BMJ ethics committee,[3] individuals with lived experience, and external organisations representing marginalised groups. We continue to work closely with the Coalition for Diversity and Inclusion in Scholarly Communications (c4disc.org) on handling historically offensive content, and the Committee on Publication Ethics working group for best practice in scholarly publishing.

We invite readers to share their views on our approach and to alert us to any potentially offensive or harmful content in any BMJ journal. We will keep this policy under review.

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Kamran Abbasi, editor in chief, *The BMJ*, London

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ESSAY

# The historical rise of "overdiagnosis"

**Scott Podolsky** reflects on the increasing attention given to the concept in the 20th and 21st centuries—and what this means for clinicians who often invoke the term today

In April 1924 a Winnipeg physician, James Douglas Adamson, gave an address on *Over-Diagnosis of Pulmonary Tuberculosis* at a conference in Ottawa. "Phthisis is a disease which when incipient is hard to diagnose and easy to cure but when far advanced is easy to diagnose and hard to cure," he began, hearkening back to Hippocrates.

In the 20th century, noted Adamson, advances in treatment such as the sanatorium "have all in turn increased the demand for early diagnosis until now it is recognized as a *sine qua non* of adequate treatment." And yet, such demand had "an undesirable by-product which must be recognized and guarded against."

That by-product was overdiagnosis. Adamson said that it was "bad for the patient physically, financially, and psychically; bad for the physician mentally and morally; bad for the country economically."

Many of the themes that would characterise late 20th and early 21st centuries concerns about overdiagnosis are manifested in Adamson's paper: the desire for early detection and hence treatment and cure; the fear driving such a movement; and, of course, the stated potential for adverse consequences of such diagnoses. Yet there's a distinction between the broad, vernacular use of the term "overdiagnosis" over the past century and the more precise way it's been used since the 1970s, by people focused on the heterogeneity within existing disease categories (especially particular forms of cancer), as well as those focused on the definitional fuzziness at the outer boundaries of certain other disease categories such as hypertension and diabetes.

This essay examines the invocation of "overdiagnosis" in the context of both the broader history of detecting and defining disease (especially cancer) and a more recently specified use of the term—one that comes amid broader tensions between the medical enthusiasm and scepticism that have long characterised our profession, whether in therapeutics or diagnostics. And it may, I hope, help us as individual clinicians to examine and locate our own coordinates amid such enduring tensions.


BIOGRAPHY

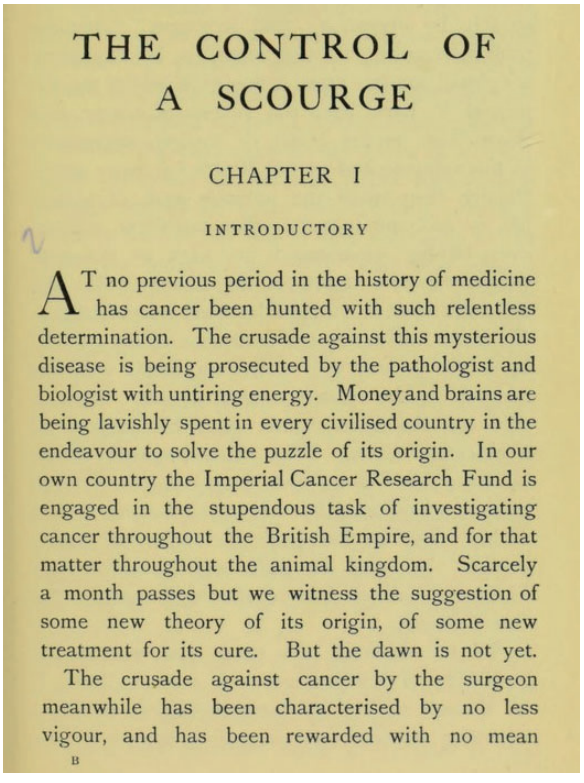
Scott Podolsky is professor of global health and social medicine at Harvard Medical School and a primary care physician at Massachusetts General Hospital. Since 2006 he has been director of the Center for the History of Medicine, based at the Countway Medical Library in Boston.


## Catching it early: cancer screening

Over the past three decades, over 60% of articles using the term "overdiagnosis" in the *New England Journal of Medicine* have related to cancer screening and detection. Such screening dates back to the late 19th and early 20th century rise of "preventive medicine."

In 1907, Britain's Charles Childe published *The Control of a Scourge, Or How Cancer is Curable*, in which he posited, "Cancer itself is not incurable . . . it is the delay that makes it so." By 1913, such a preventive ethos would be publicised in the US through the advent of the American Society for the Control of Cancer, dramatically expanding by the 1930s through the formation of its Women's Field Army and the militarisation of the seeming attack on cancer through early detection by physical exam.

There were mid-century sceptics. "Curing non-lethal lesions does not reduce mortality," said the University of Toronto physician Neil McKinnon, contrasting the extent of such prevention and subsequent surgical efforts with stable breast cancer mortality rates. Yet, just as such scepticism was being expressed about early detection by symptoms or physical exam, a wave of new screening modalities was emerging—namely, the cervical smear test in the 1940s and mammography in the 1950s.



THE CONTROL OF A SCOURGE

CHAPTER I

INTRODUCTORY

AT no previous period in the history of medicine has cancer been hunted with such relentless determination. The crusade against this mysterious disease is being prosecuted by the pathologist and biologist with untiring energy. Money and brains are being lavishly spent in every civilised country in the endeavour to solve the puzzle of its origin. In our own country the Imperial Cancer Research Fund is engaged in the stupendous task of investigating cancer throughout the British Empire, and for that matter throughout the animal kingdom. Scarcely a month passes but we witness the suggestion of some new theory of its origin, of some new treatment for its cure. But the dawn is not yet.

The crusade against cancer by the surgeon meanwhile has been characterised by no less vigour, and has been rewarded with no mean

B

## DEFINING OVERDIAGNOSIS

Following recent semantic and conceptual dissections, I refer to "overdiagnosis" as a historically situated term increasingly used to signify "correct" diagnoses that match existing established disease definitions but which don't in fact help the patient (and may cause harm).

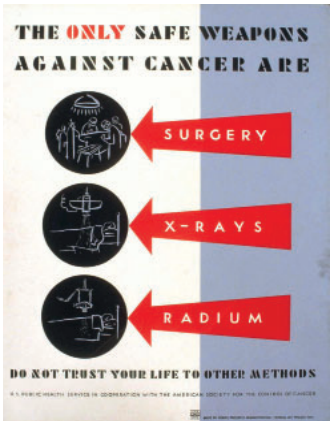
Overdiagnosis, in this framing, differs from "misdiagnosis"—inappropriately labelling someone with another defined disease entity—although this was the most common application of the term "overdiagnosis" before the 1990s. It differs from using "overdiagnosis" to refer to false or fake diagnoses—in which proposed disease categories themselves are challenged in their entirety—whether ascribable to quackery, seeming over-enthusiasm regarding emerging disease entities, or apparent pharmaceuticalisation.

Instead, the term, as used by leading advocates regarding the dangers of overdiagnosis, relates to two phenomena, both centred around the definition of established disease categories.

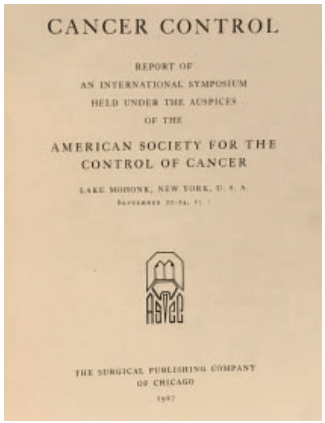
The first, especially as applied to cancer detection, entails the fuzziness within the boundary of a disease category, in which the general category belies the heterogeneity within it. As some cancers are destined to be aggressive and lethal, and others to be indolent, detecting such indolent lesions is ultimately considered worse for the patient than ignoring them, and it hence constitutes "overdiagnosis."

The second applies to the fuzziness at the boundaries of a disease definition, especially a quantifiable one such as hypertension or type 2 diabetes, in which we're forced to evaluate the benefits and costs of expanding such categories, as well as the relation between public health imperatives on the one hand and commercial or pharmaceutical imperatives on the other, in the ongoing construction of such definitions.

Detecting indolent lesions is ultimately considered worse for the patient than ignoring them






## Use of the term increasingly shifted to refer to non-progressing cancer or cancer that would never otherwise have bothered the patient

This enthusiasm would run into its own counterwave of scepticism, grounded in the rise of several linked phenomena: the randomised controlled trial as an increasingly visible arbiter of efficacy from the 1950s onward; the Cochrane Collaboration and what would come to be called "evidence based medicine"; and a more critical depiction of the "iatrogenic" harms of medicine, as portrayed in books such as Ivan Illich's 1975 treatise *Medical Nemesis*, as well as "insider" analyses such as John Bailar's 1976 account of the potential radiation harms from mammography.

Amid such attempts to consider the mixed benefits and harms of medical interventions more precisely, the methodological dissection of seemingly favourable mammography trials in particular helped to puncture enthusiasm regarding early detection. Sceptics pointed to particular forms of "bias": lead time bias, in which cancer is detected earlier without influencing the ultimate time of death, giving the appearance of a longer survival period; length time bias, in which slow growing tumours are around longer and are thus more susceptible to being detected by screening programmes; and, eventually, what would come to be known as an extreme form of length time bias—namely, "overdiagnosis."

By the 1980s, overdiagnosis was a term in flux. The 1980 *American Cancer Society Report on the Cancer-Related Health Check-up* devoted a section to it, referring to "a lesion that is not cancer and would never become cancer" (though acknowledging that "there is no sharp boundary between nonmalignant and malignant cells").

As the decade progressed, use of the term increasingly shifted to refer to non-progressing cancer or cancer that would never otherwise have bothered the patient. By 1982 and 1983 it was explicitly used for very slow growing breast cancers that would seemingly never become clinically significant. In 1985 Richard Love pointed to the possible "pseudo-cancers" that could be detected through prostate cancer screening by digital rectal exam.

By 1989 the definition of "overdiagnosis" relating to breast cancer was stabilised by Peeters and colleagues as "a histologically established diagnosis of invasive or intraductal breast cancer that would never have developed into a clinically manifest tumour during the patient's normal life expectancy if no screening examination had been carried out"—a definition that would soon (and increasingly) be applied in the context of a host of other cancer screening programmes.

## Overdefinition: expanding disease categories in common chronic disease

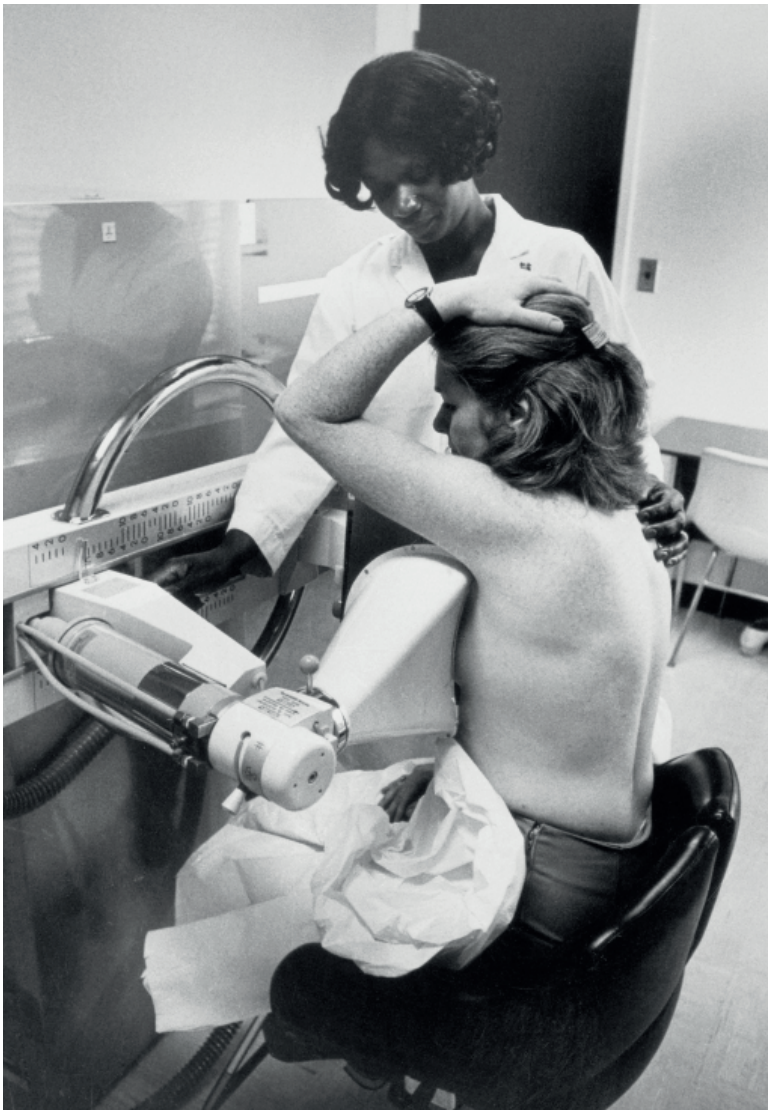
The dissection of seemingly heterogeneous (and especially oncological) disease categories and "overdetection" has been paralleled by increasing attention to what would eventually be termed "overdefinition"—regarding the expanding, fuzzy boundaries of conditions such as hypertension, diabetes, and osteoporosis. Both entail a consideration of patients treated and exposed to the risks of an intervention with no benefit. But there are differences too.

First, the definitional expansion of disease categories has generally entailed quantitative expansion—for example, in hypertension, expanding from systolic blood pressures above 140 mm Hg to those above 130 mm Hg. Second, expansion has often been associated with pharmaceuticals, in which the drugs may define or at least redefine the disease itself. This can be pernicious and bump up against the fake disease category, where we use terms such as "disease-mongering" to refer to categories seemingly created to generate a therapeutic market. But it can be more nuanced. When relatively safer, more effective, or more convenient drugs have been available, the threshold to treat someone for something (such as hypertension or diabetes) has historically been lowered. Therapeutic and commercial imperatives can, therefore, ideally be aligned.

Jeremy Greene, a clinician-historian at Johns Hopkins University in Baltimore, has most thoroughly examined this historical relation between drugs, the quantitative relation between the normal and the pathological, and the definition of disease. Since the second world war, the converging rise of the "risk factor" (for example, hypertension as a risk factor for heart disease) and of the US drug industry itself has meant that previously overtly symptomatic diseases such as malignant hypertension and diabetes have expanded to include silent disease. The severe hypertension of Franklin D Roosevelt's era could be treated only with aggressive surgeries or toxic medicines. The seemingly effective and safe thiazide drugs that emerged in the late 1950s, however, complemented by 60 years of additional drug classes, allowed the threshold to treat to be continually lowered, all the way through to the SPRINT trials of the past decade. Likewise, once sulfonylurea pills were introduced in the 1950s, the threshold for calling someone "diabetic"—and, from there, "pre-diabetic"—was also lowered from the era of insulin alone.

But such disease expansion has met resistance, perhaps most famously embodied by the University Group Diabetes Program trial of the late 1960s and early 1970s, which found that treating patients with what were then considered milder forms of diabetes with oral tolbutamide seemed to do more harm than good. The term "overdiagnosis" was first applied (if somewhat favourably, in that instance) in this definitional fashion regarding diabetes in 1970, and it would later underpin the first two chapters of Welch and colleagues' popular 2011 book *Over-Diagnosed*.

Clinicians and the public alike have thus been forced to consider the benefits and potential harms of such diagnostic (and consequent therapeutic) expansion, as well as the financial model of US medicine and the drug industry.



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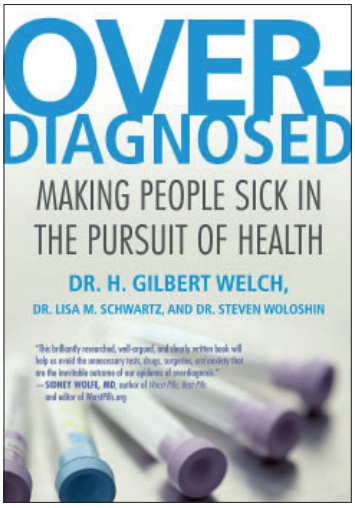
**Previously overtly symptomatic diseases such as malignant hypertension and diabetes have expanded to include silent disease**



**The dissection of seemingly favourable mammography trials helped puncture enthusiasm regarding early detection**

## Looking to the future

Today's definition of overdiagnosis, then, is an established diagnosis that doesn't help (and may harm) the patient at hand. This does a good deal of conceptual and potentially practical work. More fundamentally, it speaks to the enduring tension between enthusiasts and sceptics in medicine.

Concerns about overdiagnosis parallel those in the history of therapeutics, where, since at least the 1960s, distinctions have been rendered between therapeutic enthusiasts promoting novel pharmaceutical or surgical interventions and the sceptics who have attempted to rein them in, and where the randomised controlled trial (RCT) is often wielded by clinicians and regulatory bodies alike as a way to tame the therapeutic marketplace.

Two primary measures have been mooted as remedies for overdiagnosis. First is the hoped-for sub-specification of seemingly heterogeneous disease categories, such as prostate or breast cancer, into categories that should be treated and those that should be left alone. Second is the empirical application of the RCT. And whether RCTs should precede or follow the implementation of a screening programme or disease expansion serves as a litmus test for any of us as an enthusiast or sceptic, as it also does with therapeutic innovations and RCTs.

There is a caveat. The Harvard clinician-historian David Jones invokes the Red Queen in *Alice Through the Looking-Glass*: running as fast as possible to stay in the same place. He was referring to the history of RCTs for therapeutics such as coronary stents—for example, non-coated cardiac stents having been superseded by drug eluting stents. As soon as one modality is evaluated, often over a significant length of time and at great cost, the context and parameters of the intervention have changed. The same "Red Queen" process may apply to many evaluations of screening modalities, such as digital rectal exams complemented by prostate specific antigen testing and in turn complemented by magnetic resonance imaging.

The relative enthusiasm and scepticism of clinicians, with respect to emerging screening modalities and the potential expansion of disease (and pre-disease) categories, will thus continue to be tested. "Overdiagnosis" serves as an important conceptual tool as we consider the potential benefits and especially the potential harms of such efforts. At the very least, as we move forward, we should be self-reflective about our own leanings and be precise about what's at stake in the discussion.

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**FEATURE**

# Mindfulness training in schools does not improve children's mental health

Classroom culture is more important than universal intervention, finds the eight years long MYRIAD study. **Emma Wilkinson** reports

Teaching children mindfulness in schools seems like such a good idea. Surveys repeatedly show that mental health in children and young people is declining, so why not try to help build resilience at a crucial time in development, before problems arise? But an eight year study involving 28 000 children across 100 schools found that mindfulness had no effect on mental health and wellbeing across a range of measures.

Instead, say the researchers behind the Myriad (my resilience in adolescence) study, who assessed a standardised 10 week mindfulness programme in 11 to 14 years olds, what seems to be more important is the culture of the school. Their series of papers published on 12 July and in a special issue of *Evidence-Based Mental Health* (a BMJ journal) show that a "one size fits all" mindfulness programme in schools is not the right approach.

But the size of the study allowed the team to spot some interesting clues among the results, including some hints that older children might get some benefit. The next generation

**A "one size fits all" mindfulness programme in schools is not the right approach**

IAN WALLMAN/MYRIAD AT FUTURES INSTITUTE OXFORD UNIVERSITY


IAN WALLMAN/MYRIAD AT FUTURES INSTITUTE OXFORD UNIVERSITY

**Those students who had the most skilled teachers enjoyed the session and practised mindfulness more**
Mark Williams

of research needs to consider what works, for whom, and how, they concluded.

### Enthusiasm ahead of evidence

Mark Williams, founding director of the Oxford Mindfulness Centre and co-investigator of Myriad, says they found that many children who took part in the study were bored by the training and did not engage or practise mindfulness outside the sessions. "When we look closely at our data, we find that: those students who did engage did improve; [and] those who had the most skilled teachers enjoyed the session and practised mindfulness more and showed more benefit afterwards." They are looking at how they can improve this through co-production of programmes, peer support, and learning the same skills through activities such as sport, music, or art.

Care and caution are clearly needed. The "enthusiasm [for mindfulness training] is running ahead of the evidence," Williams adds. This can also be seen in the results of a systematic review and meta-analysis of 66 studies by the researchers, which found no consistent significant positive effects.

The Myriad study confirmed the state of mental health among UK children and teenagers in a paper published last year. It showed that as many as one in three children report significant depressive symptoms and social-emotional behavioural problems. Overall, 29% of children were "languishing" (without mental health problems but showing signs of not doing well) or had mental health difficulties. Girls, older teenagers, those living in urban areas, and those living in areas of greatest poverty and deprivation were most at risk.

### School climate

Willem Kuyken, professor of mindfulness and psychological science at the University of Oxford, says that a brief universal intervention is not the way to go. "Those children who've got more needs—more mental health or other needs, who live in deprivation, are on the free school meals programme—those children need something more and different. Schools and mental health services need to think about a coordinated approach so we can identify those kids with more mental health needs and offer them additional support."

Perhaps the answer is to design schools so that the whole culture supports children's mental health and wellbeing, the researchers noted at a briefing. They also pointed to the way that children are assessed in education as being a potential driver for stress. One of the strongest findings was around "school climate," adds co-author Tamsin Ford, professor of child and adolescent psychiatry at the University of Cambridge. The researchers did find that the mindfulness intervention reduced teacher burnout and improved some aspects of the school climate—it was about confidence in the leadership and respectful relationships between pupils and teachers, they said.

"Thinking about how we can support schools to generate a health giving and education promoting school climate would be the thing to really focus on from our results," says Ford.

### Rigorous and disappointing

Yet, they added, schools are just one part of the puzzle, and tackling aspects such as poverty, food insecurity, and inequality could have the greatest effects. Co-author Tim Dalgliesh, director of the Cambridge Centre for Affective Disorders, says: "For policy makers, it's not just about coming up with a great intervention to teach young people skills to deal with their stress. You also have to think about where that stress is coming from in the first place."

Commenters on the research praise Myriad for its scale and rigour, and for highlighting the importance of large, well designed studies before universal health interventions, but describe the results as disappointing. "There had been some hope for an easy solution, especially for those who might develop depression," says Til Wykes, head of the School of Mental Health and Psychological Sciences at the Institute of Psychiatry, Psychology, and Neuroscience, King's College London.

"There may be lots of reasons for developing depression, and these are probably not helped by mindfulness," she says. "We need more research on other potential factors that might be modified, and perhaps this would provide a more targeted solution to this problem."

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