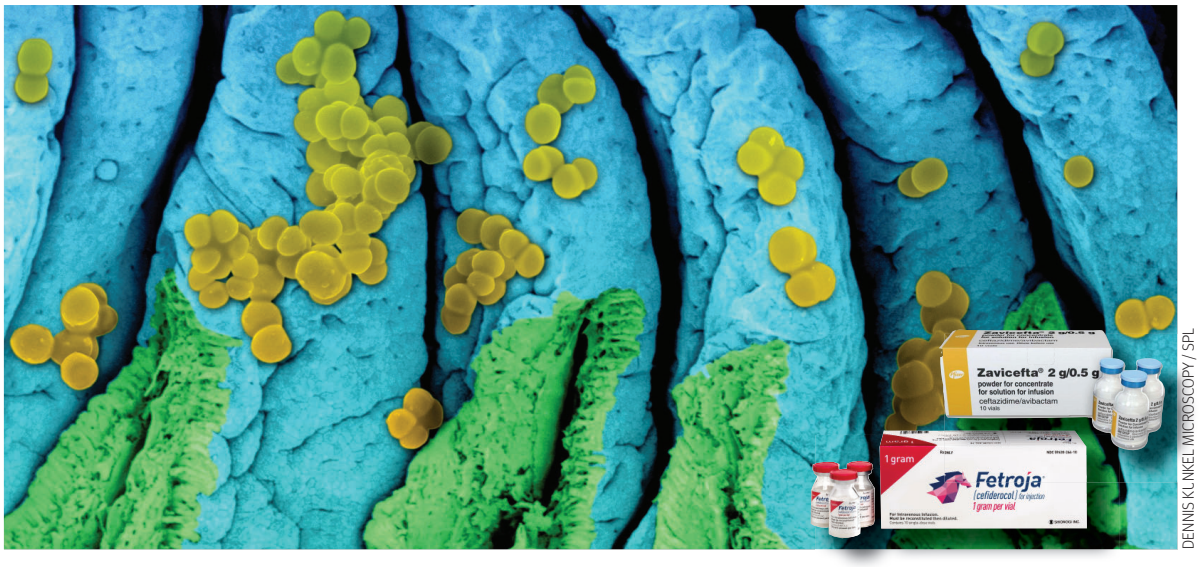
this week

NHS PRESSURE page 88 • **HIP HOP HEALTH** page 87 • **CONVERSION THERAPY** page 90



DENNIS KUNKEL MICROSCOPY / SPL

UK subscribes to antibiotics payment plan

Two new antimicrobial drugs, cefiderocol and the combination of ceftazidime with avibactam, are set to come on stream in the UK after NICE published draft guidance estimating their value to the NHS.

The drugs will be the first to be made available as part of the UK's subscription-style payment model, which will pay manufacturers a fixed annual fee regardless of how many prescriptions are issued. The UK is the first country to offer such a model, which aims to encourage companies to develop antibiotics to tackle the growing threat posed by antimicrobial resistance.

The drugs will be used to treat patients with severe drug resistant infections who would otherwise have limited or no other treatment options, NICE said.

Investment in new antimicrobials, especially those that target multidrug resistant pathogens, is not commercially attractive because they are subject to strict controls to restrict their use. NICE noted that in 2020 only 41 antimicrobials were being tested in clinical trials, which compared with about 1800 immuno-oncology drugs.

The draft guidelines on cefiderocol and ceftazidime-avibactam provide an estimate of their incremental net health benefit to the NHS in England measured in quality adjusted life years. They will be used to inform discussions between the NHS and the drug companies to agree payment levels.

Nick Crabb, programme director in NICE's Science, Evidence and Analytics Directorate, said the ultimate goal of the guidance was to "ensure the NHS has access to effective new antimicrobials to call on when needed and patients aren't left without treatment options in the face of growing antimicrobial resistance." He added, "But we cannot address the global threat of antimicrobial resistance alone, since the UK represents only about 3% of the global market for antimicrobials.

"We are sharing our learning from this project and encourage other countries to offer similar incentives in their markets."

David Jenkins, president of the British Society for Antimicrobial Chemotherapy, said, "Antimicrobial resistance already leads to at least 25 000 deaths every year in Europe, while carbapenem resistant Gram negative bacteria cause outbreaks in UK hospitals where, in many cases, ceftazidime-avibactam and cefiderocol are the only effective treatments. We, therefore, welcome the NHS delinkage scheme."

Gareth Iacobucci, *The BMJ*

Cite this as: *BMJ* 2022;377:o970

The new antibacterials will be used only for patients with severe drug resistant infections such as MRSA (above)

LATEST ONLINE

- Decision to suspend GP partner for 18 months over alleged sexual activity was flawed, says judge
- NHS has seen more ethnic minority very senior managers but otherwise little diversity progress
- Sri Lanka: Doctors scramble for basic medicines as economic crisis engulfs nation

SEVEN DAYS IN

Doctors were targets for bullying and racism at Midlands trust, review finds

JOHN KEATES / ALAMY

An NHS trust has been told it needs a "big, long term plan to 'rehumanise,'" after a review of its workplace culture. The investigation into the University Hospitals of North Midlands Trust found problems with bullying and harassment of doctors. It also found evidence of racism.

The findings include results of a survey that was completed by 3506 staff (31.2% response rate). It showed that at the end of 2021 18.7% of doctors were experiencing bullying or harassment and that almost a third (31%) had experienced such behaviour from a colleague in the previous 24 months. Almost half of doctors (49%) who had experienced bullying or harassment attributed it to their ethnic background.

The review identified hotspots of concern in anaesthetics, critical care, and theatres (with 36% of staff experiencing bullying), obstetrics and gynaecology (34%), and trauma (31%). It also found high levels of bullying and harassment by patients and visitors over the previous two years. Some 42% attributed this behaviour to their ethnicity.

The trust ordered the review last year after anecdotal accounts of inappropriate behaviour. It was conducted by the equality charity Brap and Roger Kline, a research fellow at Middlesex University Business School.

Adele Waters, *The BMJ* **Cite this as: *BMJ* 2022;377:o952**

Covid-19

NHS leaders "feel abandoned" by government

Health leaders urged the government to re-engage with tackling covid, as continued high infection rates and hospital admissions piled pressure on services. The NHS Confederation's chief executive, Matthew Taylor, said, "The brutal reality for staff and patients is that this Easter in the NHS is as bad as any winter. But instead of the understanding and support that NHS staff received during 2020 and 2021, we have a government that seems to want to wash its hands of responsibility for what is occurring in plain sight up and down the country."

Myopericarditis after covid vaccination is rare

The risk of myopericarditis after covid-19 vaccination is very low and similar to or lower than the risk after non-covid vaccines, a study published in the *Lancet Respiratory Medicine* concluded. The analysis included 11 studies covering 395 million covid vaccine doses and estimated the incidence of myopericarditis after covid vaccination to be 18 cases per million doses, compared with 56 cases per million doses after non-covid vaccinations, such as for flu. "These findings should bolster public confidence in the safety of covid-19 vaccinations," said Kollengode Ramanathan, cardiac intensivist at Singapore's National University Hospital and a corresponding author.

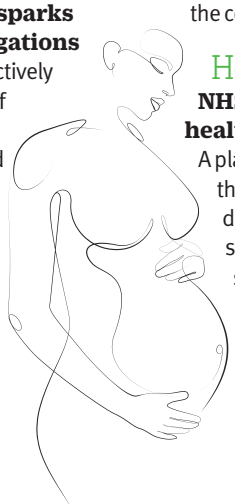
Almost 3000 deaths are added to fix data error

The UK Health Security Agency added an extra 2714 deaths to the UK's official cumulative number of people who have died within 28 days of testing positive for SARS-CoV-2, after a data error was discovered and corrected. The deaths all occurred in England in 2022 and were added to the coronavirus dashboard on 6 April. As of 8 April the total deaths recorded stood at 169 759.

Maternity care

Ockenden review sparks 701 police investigations

West Mercia Police is actively examining 701 cases of poor maternity care at Shrewsbury and Telford NHS Hospital Trust in its Operation Lincoln investigation, which is looking for any evidence to support a criminal case against the trust or any individuals involved. It identified 823 cases to examine dating back to the trust's formation in October 2003, but it found insufficient evidence to progress 122 of the cases.



Human rights

Protect global rights to improve health, says BMA

The BMA published a report charting the most serious threats to health related human rights in more than 70 countries and the potentially devastating implications for the health of the global population. The report, released as the Russia-Ukraine war intensified, covers subjects such as displaced populations, anti-migrant sentiment and populist politics, "fake news" stifling climate change action, and worsening levels of violence against women linked directly to the covid pandemic.

Health data

NHS plan "will drive health improvement"

A plan to revolutionise the use of NHS data by developing a coherent, secure, and streamlined system was presented to the UK government. The review was led by Ben Goldacre (above right), professor of evidence based medicine at the University of Oxford, who was asked to make recommendations on improving the use of health data in England. The government has already accepted one key recommendation by agreeing to invest as much

as £200m in developing a small number of trusted research environments to provide approved researchers with highly secure remote access to health data.

New medical school is planned for Carlisle

The University of Cumbria and Imperial College London are working together to launch a graduate entry medical school in Carlisle. The school, which aims to enrol its first students in autumn 2025, will train new doctors for Cumbria and North West England, an area identified as facing challenges with recruitment and retention. England's health secretary, Sajid Javid, has said that the initiative "will help level up opportunity and train more doctors in the north west."

MEDICINE

Abortion

Oklahoma votes for total ban and doctor penalties

The Oklahoma state legislature passed a bill banning abortion "except to save the life of a pregnant woman in a medical emergency" and proposing fines and jail time for healthcare staff who perform or attempt to perform an abortion. The bill will take effect this summer. The Republican state governor, Kevin Stitt, has promised to sign every bill limiting abortion. The Oklahoma bill is part of a movement by many Republican state legislatures to limit or eliminate abortion.

Abortions, except when the mother's life is in danger, will be banned in Oklahoma

Ukraine conflict

WHO confirms 100th attack on healthcare

More than 100 attacks on health facilities have been verified by WHO since the start of Russia's invasion of Ukraine on 24 February. Of the 103 attacks, 89 have affected buildings and 13 transport, including ambulances. Across Ukraine 1000 health sites are near conflict areas or in changed areas of control. Tedros Adhanom Ghebreyesus, WHO director general, said, "Attacks on healthcare are a violation of international humanitarian law."

UK trusts donate fleet of replacement ambulances

NHS trusts will donate around 20 ambulances to the Ukrainian government to help replace ambulances lost in Russian attacks. Four ambulances from the South Central Ambulance Service NHS Trust have left for Ukraine, and further donations of decommissioned vehicles from others will follow. The NHS's national ambulance service fleet strategy requires ambulances to be replaced every five years. Decommissioned vehicles are usually either kept back for resilience, given to approved charities, or sent to auction.

Hepatitis

UK investigations begin after rise in child cases

Public health officials are looking into the cause of unusually high rates of hepatitis detected in children. Public Health Scotland is investigating 11 cases in children aged 1 to 5 years who have been admitted to hospitals since March, and the UK Health Security Agency says around 60 cases are being investigated in children aged under 10 in England.

Appointments

BMJ columnist elected president of RCP

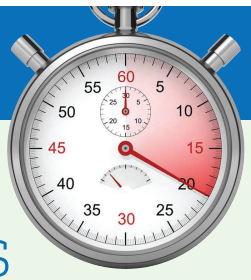
David Oliver, a *BMJ* columnist, has been elected the 122nd president of the Royal College of Physicians and will take over from Andrew Goddard on 13 September for a four year term. Oliver was RCP clinical vice president and a trustee from 2016 to 2019 and was on the RCP's council from 2014 to 2019. He is a consultant physician in geriatrics and general medicine at the Royal Berkshire Trust in Reading, a visiting fellow at the King's Fund, a visiting professor at City University, London, and a trustee of the Nuffield Trust.

Cite this as: *BMJ* 2022;377:o955

COVID-19

Infections in England reached their highest level on record last month, with a prevalence of **6.37%** in March. The previous high was **4.41%** in January during the peak of the first wave of omicron

[React (Real Time Assessment of Community Transmission) study]



SIXTY SECONDS ON . . . HIP HOP HEALTH

LET'S BREAK IT DOWN

Hip Hop Public Health is a non-profit body that, as the name suggests, communicates public health messages through hip hop. Started 15 years ago by neurology professor Olajide Williams, it has worked with big names such as former US first lady Michelle Obama and pop star Ariana Grande.

TIME TO GET JIGGY WITH IT?

Together they have delivered catchy songs covering everything from covid vaccines, symptoms, and mask wearing; mental health; and nutrition and exercise. This year the organisation has been given a grant by the US Centers for Disease Control and Prevention to build vaccine confidence.

HIP HOP, YOU DON'T STOP

The group's work is aimed at children, young adults, and families in "communities of colour with clear health equity disparities." It mainly works through school based and virtual programmes. "We are deeply rooted in achieving health equity in communities of colour by harnessing the transformative power of music, art, science, and culture to improve health literacy and inspire positive behaviour change," Williams, associate dean of community research and engagement at Columbia University, told *The BMJ*.

99 PROBLEMS AND SUGAR IS ONE

One of the current campaigns teaches children to spot sugars, especially in foods they might not expect. Lil Sugar, voiced by Run DMC's Darryl McDaniels, is a master of disguise sugar cube whose goal is to ensure no one recognises him until it's too late. As well as the song and video, the campaign includes a downloadable book, an interactive mobile app, and a nutrition literacy activity contest for teachers to create lesson plans.

IF YOU DON'T KNOW, NOW YOU KNOW

The group says hip hop is an effective learning tool because it incorporates multiple literary devices that enhance learning and memory, such as rhymes and spaced repetition. As the most popular music genre in the US it has mass appeal but can also be tailored to communities by using hip hop icons and celebrities.

Hip Hop Public Health can be found on Facebook, Twitter, and Instagram with the handle @hhphorg and on Tiktok and YouTube under @hiphoppublichealth

Elisabeth Mahase, *The BMJ*

Cite this as: *BMJ* 2022;377:o941

Adults are advised to keep waist size to less than half height

Doctors should encourage patients to measure their own waist to height ratio, new draft NICE guidelines recommend. The guidelines on identifying overweight and obesity say a waist measurement of more than half a person's height indicates increased fat in the abdomen and is associated with a greater risk of developing conditions such as type 2 diabetes and cardiovascular disease.

The updated draft guideline says adults with a BMI below 35, the threshold for class 2 obesity, should be encouraged to measure their waist to height ratio. However, waist circumference measurements may be inaccurate in people with a BMI over 35.

NICE made the change after evidence from studies showed that waist to height ratio, in conjunction with a person's BMI, can be used to assess and predict health risks such as type 2 diabetes, hypertension, and cardiovascular disease. One benefit of this ratio is that people can easily measure it themselves. Self-measurement may reduce stigma associated with a healthcare professional doing it.

The guideline says BMI is still a useful measure, particularly when it comes to defining overweight and obesity, but it should be interpreted with caution because it is not a direct measure of central adiposity. Caution is also needed when interpreting BMI in adults with high muscle mass and in older people, as it may be less accurate in these groups.

PROFESSIONALS SHOULD ENSURE THEY DISCUSS THE ISSUE IN A SENSITIVE AND POSITIVE MANNER

The committee added that people in some ethnic groups were prone to central adiposity and had an increased cardiometabolic health risk at lower BMI thresholds. It recommends using BMI thresholds of 23 for overweight and 27.5 for obesity for people from south Asian, Chinese, other Asian, Middle Eastern, black African, or African-Caribbean family backgrounds.

The guideline highlights the importance of healthcare professionals asking permission before any discussions with patients linked to overweight, obesity, or central adiposity and to ensure they do so in a sensitive and positive manner. They should give patients information about the severity of their obesity and central adiposity and how that affects their risk of developing long term conditions.

The guideline is out for consultation until 11 May.

Jacqui Wise, Kent

Cite this as: *BMJ* 2022;377:o933

MARK THOMAS

Hospital and ambulance services struggle as staff illness and demand rise

Hospitals and ambulance services in England are facing "extreme pressures" and a high volume of staff absences, forcing some to declare critical incidents and others to warn of 12 hour A&E waits.

Portsmouth's Queen Alexandra Hospital and South Central Ambulance Service both declared critical incidents on 6 April, with the hospital warning, "Our beds are full and our emergency department remains full with patients requiring admission . . . We are only able to treat patients with life threatening conditions and injuries." The ambulance service reported a "large volume of calls being received throughout the day and into the night and increased challenges in releasing some of our ambulances from busy acute hospitals."

The pressure is not just being felt in southern England. In the north, where covid cases are rising, hospital trusts across West Yorkshire and Harrogate

Trainee surgeon is struck off for dishonesty over research paper

A trainee surgeon has been struck off after she submitted unfinished research for publication, removing the names of colleagues who had worked on it, then falsely accused her supervisors of sexual harassment when they complained.

Zoe Sun, 37, who qualified at Hull York Medical School, admitted all the charges against her and that allegations against colleagues had been false. "I misinterpreted events and perceived a conspiracy of malice against me when there was none," she told the medical practitioners tribunal hearing. "I am devastated by my actions and the pain I have caused."

As part of her training in vascular surgery at Leeds Teaching Hospitals Trust, Sun went to Cambridge University in April 2017 to start a PhD research studentship partly supported by GlaxoSmithKline. She was tasked with collecting and analysing data from participants in the Opera study, then reporting it to the lead investigator.

I perceived a conspiracy of malice against me when there was none Zoe Sun

Instead Sun drafted a manuscript and submitted it to the *Journal of the American Society of Nephrology* without asking permission. She omitted the names of several contributors, including the lead investigator.

Formal complaint

Seven months after withdrawing the paper Sun resigned from Cambridge and lodged a formal complaint against the educational lead for the study. And on being notified she had been referred to the GMC, she took complaints to both Cambridgeshire and West Yorkshire Police, alleging harassment and assault against three doctors. Both investigations found no evidence.

The erasure will take effect after 28 days unless Sun appeals.

Clare Dyer, *The BMJ*

Cite this as: *BMJ* 2022;377:o923

have warned of waits of up to 12 hours in A&E. On 5 April the West Yorkshire Association of Acute Trusts, which covers six hospital trusts, reported a 14.2% higher number of attendances than in the same week in 2021.

With emergency departments inundated, ambulances have been increasingly delayed. In the week ending 3 April 26.9% of arrivals were delayed more than 30 minutes, the worst performance on record. The previous record was just over 18% in the week ending 6 January 2019.

In the week to 6 April an average of 71 088 staff in acute care trusts in England were absent each day because of sickness. Of these, 40% were related to covid, and this proportion was higher in the South West (52% in the week to 3 April).

On top of staff shortages, hospitals are struggling to discharge patients. The number of patients staying in acute care despite no longer meeting the criteria rose to just under 13 000 in the week to 3 April, the highest so far this winter.

The NHS Confederation's director of policy, Layla McCay, said, "This pandemic is not yet over, despite government rhetoric." She added, "The government must be honest with the public about the need for people to take steps to curb the spread of covid where it is possible for them to do so. The government must also be honest about what people can expect from the NHS during this period of incredible strain."

Have infections peaked?

The latest Office for National Statistics data show that in England the number of people testing positive for SARS-CoV-2 has remained high, with around one in 13 estimated to have had the virus during the week ending 2 April.

ONS found that although the percentage of people testing positive had fallen in the South East, increases were seen in the East Midlands, North East, North West, and Yorkshire and the Humber.

In Wales, infections have increased from one in 14 in the previous week (ending 26 March) to around one in 13. But Scotland saw a decrease from one in 12 to one in 13 over the same period, and in Northern Ireland there may also have been a decrease, from one in 15 to one in 16, although ONS noted this trend was uncertain.

Sarah Crofts, head of analytical outputs for the ONS's Covid-19 Infection Survey, said, "While infections remain high, there are early signs in our latest data that they may no longer be increasing in some parts of the UK. It is too early to say if infections have peaked in England and Scotland. We will continue to monitor the data closely."

Elisabeth Mahase, *The BMJ*

Cite this as: *BMJ* 2022;377:o950

It is too early to say if infections have peaked in England and Scotland
Sarah Crofts

IN THE WEEK ending 3 April **26.9%** of hospital arrivals were delayed more than 30 minutes, the worst performance on record

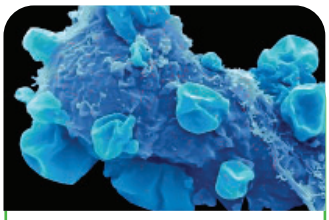
Omicron symptoms "milder and shorter than with delta"

Vaccinated people infected with the omicron variant of covid had symptoms for 6.87 days on average, compared with 8.89 days with the delta, data from the ZOE app have shown. Among those who had received two vaccine doses and a booster the duration of symptoms was shorter still, at 4.4 days with omicron and 7.7 days with delta.

This shorter presentation suggests a shorter period of infectiousness with omicron, which could affect workplace health policies and public health guidance, said the study authors, from King's College London. However, this will need to be confirmed by viral load studies.

The large community cohort study, published in the *Lancet*, also found that patients infected with omicron reported loss of smell less often and were more likely to have a sore throat than those infected with delta.

Researchers identified 63 002 people who had self-reported test results and symptoms using the ZOE app. They were aged 16 to 99, were based in the UK with a BMI of 15 to 55, had received at least two doses of any covid vaccine, were symptomatic, and had logged a positive PCR or lateral flow test. A matched sample of 4999 participants who were infected between 1 June to 27 November 2021 when delta was prevalent was then compared with 4999 participants infected when omicron was dominant (20 December 2021 to 17 January 2022).



Loss of smell was less common in people infected during the omicron wave than during the delta wave (16.7% *v* 52.7%; odds ratio 0.17 (95% confidence interval 0.16 to 0.19)). Sore throat was more common during omicron prevalence than delta (70.5% *v* 60.8%; 1.55 (1.30 to 1.69))

Comparisons

Patients infected with omicron were found to be 24% more likely to develop a hoarse voice than those with delta. And those infected during the omicron wave were around half as likely to display at least one of the three "classic" covid symptoms (fever, loss of smell, and persistent cough). The study also found that patients infected during the omicron wave were 25% less likely to be admitted to hospital. Patients infected during the omicron wave were also 2.5 times as likely to recover within one week as patients with delta.

Earlier this month the official UK list of covid symptoms was updated with nine extra symptoms, reflecting the report.

Tim Spector, a study author, told *The BMJ*, "The UK has now updated its list of symptoms but has not issued any proper guidance on how this should be used. Also, the order they're presented in is misleading, as it suggests the classic symptoms are still the most important, when in fact they are the minority and often only appear after several days of infection."

He added that shorter duration of symptoms with omicron versus delta confirmed that five days was about the right length of time for people with symptoms to isolate.

A limitation of the study was the inability to compare variants in unvaccinated people, as most participants were vaccinated.

Jacqui Wise, Kent

Cite this as: *BMJ* 2022;377:o922

Gender conversion therapy: why is banning it so divisive?

Fears that gender non-conforming lesbian and gay youths are being "converted" to a trans identity has led the government to pause what had seemed an uncontroversial piece of legislation. **Clare Dyer** reports

It's time for this unacceptable and harmful practice to end
Adrian James

The government's stance is profoundly troubling
Latifa Patel

A bill that was expected to be introduced in the UK parliament by June was set to ban conversion therapy in England and Wales for lesbians, gay men, and bisexuals, as well as for transgender people—those whose gender identity differs from the sex recorded at birth.

A consultation on the proposed law closed in February, but a document leaked at the end of March showed that the government had pulled its plans. After an outcry, including from Tory backbenchers, the government U turned but resolved to exclude transgender people from the law for now, while "separate work" goes ahead. The decision has divided opinion and sparked a row.

What is conversion therapy and how common is it in the UK?

Historically, conversion therapy was intended to change homosexual people's sexual orientation and turn them "straight." Harsh methods such as electric shock therapy and chemical castration were used.

More recently, talking therapies became the usual mode of delivery, mainly by religious groups, and it was also said to have been offered to people who were or thought they might be transgender. There is no evidence that it works.

In the National LGBT Survey in 2017, a self-report survey, 5% of respondents said they had been offered conversion therapy in a bid to "cure" them of being lesbian, gay, bisexual, or transgender, and 2% said they had undergone the therapy. Of transgender respondents, 8% said they had been offered conversion therapy and 2% had undergone it.

What steps are being taken to ban it?

Countries around the world have put restrictions or bans on its use or are in the process of doing so. Canada, France, and New Zealand have recently passed laws criminalising its use for gender identity as well as for sexual orientation. The UK government committed to banning it for LGBT people in England and Wales in 2018. Consultation opened last October and ended in February. The government linked the opening of the consultation to plans for a Safe to Be Me conference set for June 2022.

When did the plans change, and why is it such a divisive matter?

Some respondents to the consultation argued that a ban could have unintended consequences for clinicians who treat children and teenagers who question their gender identity.

Without careful drafting of the law, practitioners exploring whether there might be other reasons behind the young person's feelings could be caught by it, some people fear. The interim report of the independent review into gender identity services for children and young people, chaired by the senior paediatrician Hilary Cass, emphasised the importance of differential diagnosis and evidence based medicine when it reported in March, and some argue that the legislation should await the review's final report.

The Equality and Human Rights Commission, in its response to the consultation, warned that clinicians and therapists should not be "prohibited from providing appropriate care and support for individuals with gender dysphoria."

It suggested that legislation should initially focus on banning conversion therapy to change sexual orientation, to be followed by a ban on the therapy for gender identity matters "once more detailed and evidence based proposals are available which can be properly scrutinised."

Thoughtful Therapists, a group of psychotherapists and counsellors working in the area of gender, were concerned that the proposed bill "may criminalise or ban exploratory therapy in the context of gender dysphoria."

The government initially decided to drop plans for the ban altogether and explore existing law and non-legislative solutions. After pressure, including from its own MPs, it relented and promised legislation in the next Queen's speech but is excluding gender identity from the ban for the moment. As a result, more than 100 LGBT groups boycotted the June conference, and it was cancelled.

What support is there for the ban to cover gender identity as well as sexual orientation? Is it doctors versus groups supporting trans people?

Most LGBT groups strongly support an all inclusive ban, but also so do both the Royal College of Paediatrics and Child Health and the Royal College of Psychiatrists.

The RCPCH is "deeply concerned by the UK government's decision only to ban conversion therapy for gay and bisexual people but not those who are transgender."

Adrian James, president of the RCPsych, urged the government to extend the ban to cover transgender people. He said, "Clinicians can still help people fully explore their gender identity where appropriate, but it's time for this unacceptable and harmful practice to end."

Latifa Patel, acting chair of the BMA's representative body, said, "That

Hilary Cass's interim report emphasised the importance of differential diagnosis and evidence based medicine

HESTHER NG/SOPA IMAGES/SHUTTERSTOCK

Some gay men and women claim the behaviour of effeminate boys and tomboyish girls is being pathologised

the government can recognise a set of practices, methods, and activities as abhorrent, damaging, and cruel for one group but suggest that those same practices, methods, and activities can be acceptably perpetrated on another group is profoundly troubling."

Lesbians, gay men, bisexuals, and transgender people have made common cause for decades. There is, however, a growing minority of gay men and lesbians who oppose the stance of groups such as Stonewall on trans matters.

They have formed a group, LGB Alliance, which believes that behaviour that doesn't conform to gender expectations is natural for some children. Yet effeminate boys and tomboyish girls are increasingly finding their behaviour pathologised by adults as gender dysphoria, requiring medical treatment, rather than being left to grow up into adult lesbians and gay men.

They argue that this is itself a kind of conversion therapy—converting gay and lesbian youth to a transgender identity—and they cite the big rises in numbers of young trans people as evidence of this.

What do we know about children and teenagers who seek help with concerns about gender identity?

The numbers have greatly increased in recent years, and the picture of those seeking help has changed. Historically, patients were mostly a small number of birth registered boys who experienced gender incongruence from their early years. But in recent years there has been a sharp increase in birth registered girls in their early teens newly questioning their gender identity. They now form the main group seeking treatment at England's only service for gender dysphoria, the Gender Identity Development Service at London's Tavistock and Portman NHS Trust.

This trend has been described as rapid onset gender dysphoria. Many of the people referred have mental health conditions, and a third have autism or other types of neurodiversity. Views are polarised about GIDS's "affirmative approach" to treatment, taking a child's expressed gender identity as the starting point for treatment. The approach can leave little space for exploring other factors that may be in play, clinicians told the Cass review, and can set young people on a particular path prematurely.

Many of those expressing clinical concerns about the affirmative model have been labelled as transphobic, despite themselves being lesbian or gay and opposing conversion therapy for homosexuals.

How have other countries tried to avoid a chilling factor when banning conversion therapy?

Canada's federal law, which came into force in January, includes a statement that the definition of conversion therapy "does not include a practice, treatment, or service that relates to the exploration or development of an integrated personal identity—such as a practice, treatment, or service that relates to a person's gender transition—and that is not based on an assumption that a particular sexual orientation, gender identity, or gender expression is to be preferred over another."

Legislation in New Zealand, passed in February, includes wording that is intended to protect health practitioners who assist a person undergoing or considering undergoing a gender transition.

Clare Dyer, *The BMJ*

Cite this as: *BMJ* 2022;377:o943

In the 2017 LGBT SURVEY, a self-report survey, 5% of respondents said they had been offered conversion therapy in a bid to "cure" them, and 2% said they had undergone the therapy. Of transgender respondents, 8% said they had been offered conversion therapy and 2% had undergone it

MHRA consults public on its competing interests policy

The Medicines and Healthcare Products Regulatory Agency has invited stakeholders and the UK public to comment on how it manages the conflicts of interest of its independent experts and also on how it can involve patients more in its expert committee meetings.

The six week consultation, which opened on 12 April, outlines several key proposals to strengthen the current code of practice, including a publicly available register of interests and a panel process to deal with breaches of the policy and any disciplinary action.

Chief executive June Raine said, "We want to attract and retain the right expertise in those who give the regulator independent advice; but the public should also feel confident that those called on to give expert opinions do so in an impartial way. This consultation, which I encourage all to respond to, demonstrates how seriously we take independent and impartial advice on our regulatory decisions."

The move came in response to the Independent Medicines and Medical Devices Review, which looked at the negative outcomes of three medical interventions used across the NHS—Primodos, sodium valproate, and pelvic mesh—and raised serious concerns about conflicts of interest.

Elisabeth Mahase, *The BMJ*

Cite this as: *BMJ* 2022;377:o972

THE BIG PICTURE

The stark reality of climate crisis in Peru

Nemesio Santiago, a Wari elder in Llupa, Peru, throws lump salt into Llaca as an offering to the lake in the hope that it will send his people rain.

The image of Santiago carrying out the ritual was captured by photojournalist Florence Goupil, as part of a campaign to raise awareness of the effect of the climate crisis on the health of the world's communities.

The Wellcome Photography Prize commissioned Goupil to visit Llupa, where extreme droughts and unseasonal cold are damaging agricultural cycles. Malnutrition is increasing, and almost a third of the children in the region have anaemia.

"When there is no more rain, there will be no more potatoes. What will we come to? How will the children be?" asked Lidia Loli (above), sitting in front of her recent potato harvest, which is to provide the principal meals for her family of six for the year.

To view all the photos in the series visit wellcome.org/news/how-climate-change-risks-lives-indigenous-communities

Alison Shepherd, *The BMJ*

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FLORENCE GOUPIL/WELLCOME

EDITORIAL

Another shocking review of maternity services

The NHS and the government must ensure that this is the last

The newly released Ockenden report into maternity services at Shrewsbury and Telford NHS trust[1] is at least the fourth similar report in recent years, with two more in progress. Many messages are not new, and these are not isolated findings. Women and families accessing care throughout the UK continue to feel ignored.[2] Many families remain concerned they are not receiving full and frank investigations and explanations after the death or injury of a mother or baby.[3]

The Ockenden findings, and those of previous reports, must be framed within the context of enormous improvements in the safety of pregnancy over the 20th century because of advances in maternity care.[4] Here perhaps lies part of the problem. The fact that pregnancy is now considered so safe seems to have led those managing services to forget that improved outcomes were achieved only by deploying sufficient skilled staff, multidisciplinary care, and a laser focus on patient safety.

Pregnancy, labour, and birth are never predictable, and events can rapidly escalate into life threatening emergencies requiring a rapid and appropriate response. Add to the mix the changing characteristics of the pregnant population,[5] including women entering pregnancy with more complex physical, mental, and social problems,[6] and staff at the limits of their capacity and the accepted silo model of maternity and medical care becomes no longer fit for purpose.

It is perhaps unsurprising then that one of the main messages of the report concerns staffing. Listening to women's concerns and providing care that meets their individual needs while being able to respond rapidly when a major emergency develops requires staff time. Time to listen, time to build rapport, time to ensure women's complex needs are met, time to provide the prepregnancy and postpregnancy care essential to prevent adverse outcomes, and time to train as a multidisciplinary team to respond to emergencies.

JACOB KING/PA/ALAMY

Women and families accessing care throughout the UK continue to feel ignored

This will require many more midwives, obstetricians, anaesthetists, and obstetric physicians. Discussions on workforce tend to focus on recruitment rather than retention, but highly skilled staff are not readily available, and training them takes years. Meanwhile, experienced staff have left and continue to leave in the face of serious challenges, including changes to the NHS pension scheme, pandemic working, and adverse cultures in maternity services.[7]

The need to improve care has been emphasised repeatedly by the UK's National Confidential Enquiries into Maternal and Perinatal Deaths and Morbidity[9-11] and is the concern of all health professionals caring for women of reproductive age.

Improved investigations

This latest report describes many examples of babies' deaths and other serious incidents that were not investigated or were investigated inadequately.

National programmes have also identified a need to improve the quality of maternity investigations,[12] and the Perinatal Mortality Review Tool (PMRT) was introduced in 2018 in response.[3] Improvements occurred subsequently in some areas, including greater parent involvement.[13] However, evidence suggests that external national review processes such as the confidential enquiries result in more effective learning and action plans than local reviews.[15 16] Too often, recommendations place responsibility for change on frontline staff rather than calling for change to systems, informed by expertise in human factors.

The Ockenden report, along with others,[12 13] calls for adequate resourcing for local incident review teams and more external involvement. To this we would add better training of review teams and a move away from a blame culture. It is concerning that the Ockenden report was rewritten at a late stage to remove testimonies from staff who feared the consequences of being identified. Organisations must be committed to ensuring staff are able to raise concerns without fear of reprisal.

In the Ockenden report and its predecessors the clear common message is that if women's and families' concerns had been taken seriously and thoroughly investigated with actions implemented and their effect monitored, many women and babies would have benefited from safer maternity care and lives would have been saved. Investment is long overdue to ensure that this is the case: we need adequate numbers of appropriately skilled staff, trained and well resourced investigation teams, and thorough audit and evaluation of measures to improve safety. Neither of us wants to be writing this editorial again in another five years.

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EDITORIAL

The health and social care levy is no quick fix

Politicians should level with the public or face even deeper dissatisfaction

The health and social care levy has finally arrived, and this month employers and employees will see and feel the increase in national insurance contributions. What might they start to see improving in the NHS and social care as a result, and when might they expect to see it?

The levy is expected to raise £39bn for the UK over the next three years. The amount raised has changed because of recent improvements in economic forecasts and changes to the threshold at which people start paying national insurance. Crucially though, the spending commitments for the NHS and social care remain unchanged—showing that ringfencing the levy is more a political tool than a true hypothecation of the tax proceeds.[1]

In England, most of the funds, around £25bn over three years, will go to the NHS or to the Department for Health and Social Care for other spending related to healthcare, such as covid-19 vaccinations and personal protective equipment.[2] For the NHS, the funding will support more elective activity, more diagnostics tests, the expansion of operating theatres, and new community diagnostic centres. An activity whirlwind.

Adult social care is allocated £5.4bn over three years to support reform. Most (£3.6bn) will pay for funding reform—an extended means test, a cap on care costs, and a move towards the public sector paying social care providers a fair price for care.[3] At least £1.1bn is to support delivery of new commitments set out in the government's social care white paper.[4] Given the scale of the challenges the sector faces, these amounts are too small to make any substantial difference. For example, just £500m for workforce reform with nothing to improve pay is unlikely to make a dent in the 100 000 vacancies in the sector.

Workforce remains the biggest constraint on how quickly services can start to improve

With waiting lists for planned hospital operations in England topping six million, difficulties accessing primary care, and increasing waiting lists for social care assessments, it's hardly surprising that the public is starting to feel the effect of a health and care system under extreme pressure. In the most recent British Social Attitudes survey, analysed by the King's Fund and Nuffield Trust, overall satisfaction with the NHS fell to 36%—an unprecedented 17 percentage point decrease on 2020.[5] This is the lowest level of satisfaction recorded since 1997. In social care, satisfaction is just 15%.

High expectations

The introduction of the health and social care levy comes with high expectations from the public about the scale and pace of improvements. And politicians will want to see rapid progress to show the electorate that the tax rise has been worth it.

But the reality is that progress will be slow. Waiting lists will continue to go up before they start to come down. Access to primary care will continue to be a challenge with higher levels of demand. The backlog stretches beyond elective activity—right across the health and care system, including mental health, social care, and dentistry.

Why will progress be slow, even with an injection of cash from the levy? Workforce remains the biggest constraint on how quickly services can start to improve, and yet there still isn't a workforce plan for health and care. The ability to improve services through transformations such as digital change may hold promise, but these are unlikely to be quick fixes. And the current levels of covid-19, and requirements for infection prevention and control, put real constraints on productivity.

A tension will be created between political aspirations for the pace of change and the reality for the health and care system and the public. The drive to show rapid improvements comes at the same time as important changes to the healthcare landscape with formalisation of integrated care systems (ICSs).[6] ICSs should herald a move to a locally facing, partnership led way of working, where upwards accountability to national bodies is complemented by collective local accountability, with partners holding each other to account for delivery against shared priorities, agreed locally.[7] It is vital that these local priorities are not squeezed out by national imperatives.

There is a clear risk that a desire to see quick results from the levy drives a reversion to top–down command and control performance management in the NHS. This would squash the space to create effective and enduring local partnerships in ICSs, focused on the priorities of local communities.

We are right to expect that additional funding for health and care leads to demonstrable improvements for the public. But honesty is also required about the likely pace of improvement and the need to safeguard new ways of working collectively, locally, and with communities.

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BRIEFING

What is the evidence for the covid antiviral molnupiravir?

Merck's drug was originally claimed to halve hospital admissions and deaths in people with the virus, leading some governments to stockpile it as the pandemic continued. **Andy Extance** looks at the published evidence for its effectiveness

LAKSHMI PRASAD/ALAMY

What is molnupiravir?

Molnupiravir (marketed as Lagevrio) is an antiviral drug, slightly modified from a compound known as NHC that a team at Emory University in Atlanta, Georgia, first described in 2003. It is available as hard capsules that are swallowed and absorbed from the gut so is easy to take at home. That contrasts with some other covid-19 drugs such as the monoclonal antibody tocilizumab or the antiviral remdesivir, which must be administered by intravenous infusion in hospitals. Last October the UK government announced the procurement of 480 000 courses of molnupiravir (as well as 250 000 courses of the Pfizer antiviral Paxlovid (nirmatrelvir)).

Molnupiravir had been due to enter clinical trials against flu, but during the pandemic Emory struck a deal with the biotech company Ridgeback Biotherapeutics to test it as a treatment for covid-19. Ridgeback then partnered with the pharmaceutical giant Merck in May 2020 for clinical trials and scale-up.

Antiviral drugs for acute respiratory infections need to be used as early as possible after infection if they are to help prevent disease progression, hospital admissions, and deaths. This normally means within three days, but the drug may still be beneficial up to five days after onset of symptoms. The current advice is to give 800 mg of molnupiravir (four 200 mg tablets) every 12 hours for five days, within five days of symptom onset.

How does molnupiravir work?

Like many antivirals, its chemical structure resembles the nucleotide bases that link together to make the long RNA chains that are a virus's genetic material. After ingestion, molnupiravir breaks down to form NHC. NHC then targets an enzyme called RNA dependent RNA polymerase (RdRP) that SARS-CoV-2 uses to make more copies of its genetic instructions.

RdRP picks up and links NHC into the growing RNA chain instead of natural nucleotides, creating errors in the virus's genetic code. Eventually this builds up to an "error catastrophe" that stops the virus functioning. For comparison, remdesivir works by shutting down RdRP's function altogether.

A key challenge for these kinds of "nucleotide-mimic" drugs is that healthy cells might also integrate them into RNA, which could cause mutations and kill the cells. This happened with the hepatitis C antiviral candidate BMS-986094, for which clinical trials were abandoned quickly after a death and hospital admissions arising from heart and liver toxicity.

Reporting on 762 patients, the study found the number who needed to be admitted to hospital or who died was about halved among those taking molnupiravir when compared with placebo. This was later revised to 30%

What is the peer reviewed evidence for molnupiravir?

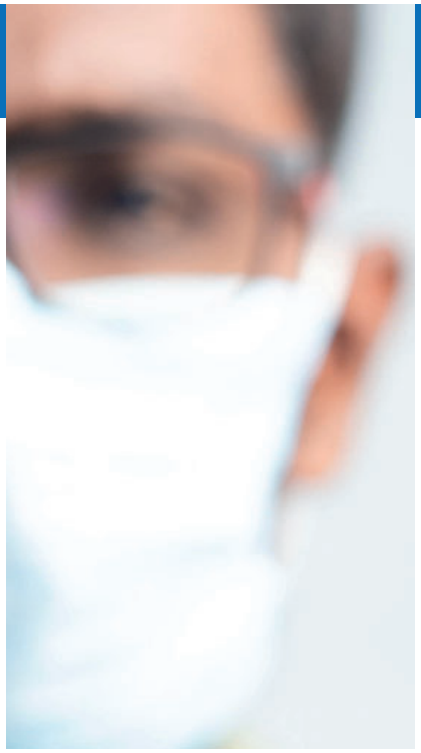
The most informative evidence comes from an international phase 2/3 clinical trial, called MOVe-OUT, involving people with mild or moderate covid-19. Merck published early results of the trial, which started in October 2020, in a press release last October. Reporting on 762 patients, the study found that the number who needed to be admitted to hospital or who died was about halved among those taking molnupiravir when compared with placebo.

But results for the full set of 1433 participants published in the *New England Journal of Medicine* in December showed that hospital admissions and deaths were only about 30% lower in the molnupiravir group. The proportion of patients experiencing adverse events were similar in the two groups.

What seems like a small drop in efficacy between October and December could be a serious concern. Some critics have said that this means that people taking molnupiravir were at greater risk of hospital admission or death during the October-December period than those given placebo.

With only a single pivotal trial, the supporting evidence is "still quite limited," Steve Pearson, president of the independent US non-profit Institute for Clinical and Economic Review, told the *BMJ*. "The relative risk reduction was modest," he added.

Furthermore, even before those trial results were released, concerns about molnupiravir's mutation causing potential had been raised. Last August a team noted in the *Journal of Infectious Diseases* that NHC caused mutations in experiments involving mouse cell cultures. Merck responded in a letter to the journal that the experiments were not relevant to what the drug did in living animals.



JENNIFER LORENZINI/REUTERS/ALAMY

WHO has said that molnupiravir should be provided only to those patients with non-severe covid-19 who had the highest risk of hospital admission

What does molnupiravir cost?

In the US a five day course costs around $700 (£540), which the Institute for Clinical and Economic Review estimates equates to $63 000 for each hospital admission averted in the country. "The value—both clinical and economic—of these treatments depends on how much risk patients are at for progressing to more serious covid-19," commented Pearson. "Given the current landscape, with omicron being the dominant variant, the risk of hospitalisation is high enough to justify the current pricing of these treatments. If hospitalisation rates drop further, the cost effectiveness of the drugs will worsen."

In parallel with its drug trials, Merck built a global supply chain for manufacturing partners and put together a deal with the Medicines Patent Pool for easier licensing with manufacturers of generic drugs. This enables tiered pricing for lower income countries, with a five day course as low as $10. WHO says that molnupiravir is not yet widely available but that steps like the licensing agreements should increase access. WHO's Access to Covid-19 Tools Accelerator initiative is also making a limited supply available where the drug is most needed.

Which countries are using molnupiravir —and which are not?

On 4 November 2021 the UK MHRA became the first agency to authorise molnupiravir through a conditional marketing authorisation. On 23 December the US FDA also granted molnupiravir early use authorisation (EUA). The EUA notice indicated the drug's use for the treatment of mild to moderate covid-19 in at-risk adults for whom alternative covid-19 treatment options are not accessible or clinically appropriate. The next day the Japanese health ministry's Pharmaceutical Evaluation and Control Division issued a "report on the deliberation results" and granted "special approval." However, these approvals have been criticised for a lack of transparency and scientific rigour. South Korea has also issued emergency approval of the drug, as well as of Pfizer's Paxlovid, after a steep rise in cases in March.

France had ordered 50 000 doses of molnupiravir in October but cancelled its order in December, citing efficacy concerns. The European Medicines Agency is yet to grant conditional marketing authorisation. The *Financial Times* reported that the EMA was now unlikely to do so. And on 13 January the Indian Council of Medical Research excluded molnupiravir from its covid treatment guidelines over toxicity concerns.

Last month WHO said that molnupiravir should be provided only to those patients with non-severe covid-19 who had the highest risk of hospital admission. This means older people, those who are unvaccinated, and those with immunodeficiencies or who have chronic disease. It said that children and pregnant and breastfeeding people should not be given molnupiravir and that those who take it should have a contraceptive plan.

Are further trials of molnupiravir planned?

Last December a government funded effectiveness study in the UK called Panoramic started studying molnupiravir's efficacy in a much larger group. Its aim was to see how the efficacy shown by the drug in initial trials translated to a largely vaccinated population in the real world, said the study lead, Chris Butler, professor of primary care at Oxford University.

Panoramic had planned to recruit 10 000 patients, assuming a 3% rate of hospital admission for standard care, reduced to 2% for patients taking molnupiravir. However, fewer people now need to be admitted to hospital, Butler underlined, requiring more participants to be able to show a difference.

At the time of writing Panoramic had recruited 22 744 patients. After follow-up after 28 days, then analysis of the trial's data, results will appear in late May at the earliest. Panoramic will then follow up patients at six months and could enable long term follow-up to assess mutagenicity concerns. Butler emphasised the importance of getting clear data as quickly as possible "so we have that evidence available for use within the pandemic but also for future generations."

Also, last month WHO launched a pharmacovigilance programme in low and middle income countries to gather international data on molnupiravir's safety.

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ESSAY

Healthcare as a target: a tragic war strategy humanity must disown

The bombing of hospitals during Russia's invasion of Ukraine has shocked the world. But such tactics have been used increasingly frequently over the past two decades. **Jonathan Kaplan** asks if this conflict will finally make the world stop turning a blind eye

It is difficult amid the horror of Russia's attack on Ukraine to identify any political process as it can usually be understood: a series of actions calculated to achieve a definable outcome. Carl von Clausewitz, an enduring authority on the subject of war, famously described it as "politics by other means," but Ukraine appears instead to be war in its most unmitigated form—von Clausewitz called this "total war"—with absolute conquest the goal and terror and destruction its key weapons.

In such a war, healthcare services acquire strategic significance. They may be targeted to prevent soldiers receiving treatment that could return them to the fight. Bombed hospitals destroy morale. The invading army may seize health facilities for its own use, or place weapons there so that the proximity of patients might dissuade counter-fire.

"He who uses force unsparingly, without reference to the bloodshed involved, must obtain a superiority if his adversary uses less vigour in its application," said von Clausewitz. "If our opponent is to be made to comply with our will, we must place him in a situation which is more oppressive to him than the sacrifices we demand. . . . Every change in this position which is produced by a continuation of the war should therefore be a change for the worse."

It is noticeable that each development in the Ukraine war has, for the invaders too, been a change for the worse, with Russian losses of personnel and weaponry forcing a media blackout at home. But the Russian army historically has paid scant regard to the welfare of its troops, most recently in Afghanistan and Chechnya. Medical care has often been abysmal. Soldiers treated callously by their high command become brutalised; brutalised men commit atrocities. Obligations to identify and safeguard civilians and health facilities are ignored.

Dead civilians highlight a government's impotence to protect its people

After the second world war the body of international humanitarian law (IHL) known as the "laws of war" became enshrined in the Geneva Conventions of 1949 and its 1977 Protocol, aimed at protecting the wounded and sick, non-combatants, and prisoners of war. A key principle of this law states: "The civilian population . . . shall not be the object of attack. Acts or threats of violence the primary purpose of which is to spread terror among the civilian population are prohibited."

Residents of cities and users of hospitals, theatres, schools, and care homes are targets in Ukraine because they constitute the soul of its people. Civic institutions providing healthcare and education, sustaining community, are the networks that make a nation's identity. Dead civilians highlight a government's impotence to protect its people. Destroy hospitals, collapse the social order, displace and deport the populace, render powerless the rule of law, and faith in the state is lost.

COLIN MCPHERSON/CORBIS/GETTY IMAGES

BIOGRAPHY

Jonathan Kaplan has experience as a war surgeon in northern Iraq during the Kurdish uprising at the end of the Gulf War, in Mozambique, in Myanmar's Shan State, in Eritrea, in a besieged town in Angola, and in Baghdad during the insurgency that followed the 2003 US invasion. He has worked in post-conflict environments in Nepal and Kosovo, assessed victims of mercury poisoning in Brazil and South Africa, and been an air ambulance doctor and ship's medical officer.

His teaching roles have included honorary lecturer and faculty of the Principles of War Surgery course of the Royal Centre for Defence Medicine, St George's University Medical School's intercalated BSc on Conflict and Catastrophe Medicine, and the Surgical Training for Austere Environments course at the Royal College of Surgeons. He was a contributing author to *Making Sense of Disaster Medicine: A Hands-on Guide for Medics* and has written *The Dressing Station* and *Contact Wounds*, about his experiences of conflict zone surgery and other less conventional areas of medicine.

ABDULNASSER SEDDEK/ANADOLU AGENCY/GETTY

MOHAMMED KARKAS/ANADOLU AGENCY/GETTY

Es-Sevre hospital in Taiz Yemen (above right) after a Houthi shelling in December 2015; a hospital hit by an Assad regime airstrike in Idlib, Syria in April 2017

On day 22 of the Russian invasion, World Health Organization's director general, Tedros Adhanom Ghebreyesus, reported to the UN Security Council that there had been 43 verified attacks in Ukraine on healthcare facilities, targeting staff, infrastructure, patients, and ambulances. There have been many more since. Russian weaponry permits accurate strikes on military installations in westernmost Ukraine from submarines six hundred miles away in the Black Sea. Their missile strikes on civilian hospitals and shelters show similar precision.

"In a conflict, attacks on healthcare are a violation of international humanitarian law," observed Tedros. Humanitarian and human rights law guarantees to all—wounded and sick combatants and civilians caught in armed conflict, regardless of their affiliation or beliefs—access to medical care, a bedrock principle of the Geneva Conventions. By what lapse does it now appear that humanitarian assets like health workers and medical facilities have become the enemy?

What is happening in Ukraine is what has failed to arouse the same degree of public revulsion in other conflicts whose victims are not so close to western empathies. In the same way that the horrors of the first world war brought to European eyes a manifestation of the raw brutality of colonial war and imperial subjugation by their governments—Belgian rapine of the Congo, Britain's wars in Africa and Asia, French conquests in Africa and Indochina, German genocide in south-west Africa—so the targeting of healthcare and atrocities against civilians in Ukraine are simply the tactics of those long running, under-protested wars in Afghanistan, Syria, Tigray, or Yemen, revealed to the horrified gaze of the West.

Atrocities in Ukraine are simply the tactics of long running wars revealed to the horrified gaze of the West

Turning point

Strangely, this fraying of moral sensibilities followed what seemed an enlightened concept: "humanitarian war."

The Bosnian war (1992-95) with its besieged cities and ethnic massacres brought NATO intervention, armed protection for humanitarian convoys, and airstrikes on Serbian forces. But then a 1993 US and UN deployment to end the civil war and famine in Somalia—the so-called "shoot to feed" mission—saw the bodies of US servicemen dragged through the streets of Mogadishu. This televised horror coloured western reluctance to intervene in the Rwandan genocide in 1994—until the attacks of 11 September 2001 again replaced humanitarian principles as the focus.

"Non-governmental organisations are such a force multiplier for us," declared US Secretary of State Colin Powell as America prepared to invade Afghanistan, "such an important part of our combat team." Signing up to the US-led global war on terror, the UN Security Council passed anti-terrorism resolutions binding all member states. Some could now define their enemies, internal and external, as terrorists.

Sweeping definitions of terrorism permitted governments to criminalise the act of providing medical care to "terrorists" or to deny humanitarian aid to regions considered to contain terrorist elements, making health services an apparently justifiable target.

Security forces in Bahrain, Egypt, Myanmar, and Turkey entered hospitals to arrest doctors for treating protesting citizens. Medical ethics demand the provision of impartial care to all patients—civilian or combatant, friend or enemy, even those labelled an insurgent or a terrorist—on clinical need alone. But human rights monitors have documented the targeting of ambulances, aid workers, and hospitals in Chechnya, Gaza, Tigray, Yemen, and, most notably, Syria, where some 600 facilities have been hit by bombs or missiles. Syrian hospitals in areas under government assault previously publicised their GPS coordinates as a "deconfliction" protocol to notify military forces of the location of civilian infrastructure that should be spared from attack, in order to reduce humanitarian suffering and conflict escalation. Many were then targeted, often by Russian airstrikes.

On 3 October 2015, the Médecins sans Frontières trauma hospital in Kunduz, northern Afghanistan, suffered a sustained attack by

A mother and child shelter from Russian air raids in a corridor of a maternity hospital in Mariupol, Ukraine, last month

EVGENIY MALOLETKA/AP/SHUTTERSTOCK

a US Airforce gunship. Fighting nearby was filling the hospital with casualties—civilians as well as wounded combatants from both Taliban and government forces. Despite the hospital's coordinates being known to the US Department of Defence and US Army headquarters in Kabul since 2011, with regular reminders (most recently six days before), the algorithms driving US strategy identified—on the basis of the traffic of people and vehicles—that this was a military target. The hospital was obliterated, killing 42 and injuring 37 patients and staff.

Condemnation of the attack prompted UN Security Council Resolution 2286 on 3 May 2016, demanding reform of international laws guiding military intervention, codes of conduct, and operational guidance. Governments were ordered that violations must be investigated and perpetrators called to account.

But 70 UN member states—including Iran, Israel, Russia, Saudi Arabia, Syria, Turkey, and the US—refuse to recognise the jurisdiction of the International Criminal Court in The Hague, the body charged with investigating and trying individuals charged with genocide, war crimes, crimes against humanity, and the crime of aggression.

Powerful states have continued to flout international humanitarian law with impunity. Motions to censure these violations have been vetoed in the Security Council. The Syrian conflict used tactics honed by the Russians in Chechnya: announcing humanitarian corridors through battle zones, then abruptly shutting them down or rendering them unsafe through shelling, followed by the claim that non-combatants had been given the chance to leave and whoever remained is a terrorist. Russia's bulldozer assault on Ukraine—pounding cities to rubble; besieging populations; targeting breadlines, hospitals, and humanitarian escape routes—follows explicitly the methods it has used since 2015 in Syria, where its military deployed to help President Assad wrest back the country from rebel control.

A global health problem

Leonard Rubenstein, author of *Perilous Medicine: The Struggle to Protect Health Care from the Violence of War* and chair of the Safeguarding Health in Conflict Coalition, observes that between 2016 and 2020 "there have been more than 4000 reported incidents of violence against healthcare in conflicts around the world... every other day a health facility is damaged or destroyed, and every third day a health worker is killed."[8] Apart from the wounds, disability, impoverishment, and death inflicted by these violations, Rubenstein identifies attacks on the provision of healthcare as a global health problem.

In Yemen, Saudi airstrikes on water treatment plants, sanitation services, and public health clinics (using weapons supplied by the US and UK) led directly to the world's worst ever cholera outbreak. By November 2021 there had been more than 2.5 million cases reported and over 4000 people died. Attacks on polio vaccination programmes in Afghanistan and Pakistan in defiance of humanitarian law cast a long shadow of suffering, with regional eradication of the disease set back 20 years.The International Committee of the Red Cross in Geneva describes a recent cyberattack against their computer servers as showing "a shocking disregard for lives and suffering and the vital mission of this humanitarian organisation." The attack, accessing sensitive personal data about family members separated by armed conflict, violence, or displacement, affected national Red Cross and Red Crescent societies in 60 countries.

70 UN members—including Iran, Israel, Russia, and the US—refuse to recognise the jurisdiction of the International Criminal Court

Bombed hospitals in Ukraine are reminding the world that a code of international humanitarian law exists against which nations and leaders will be judged. Forensic documentation of these violations is under way. The litigation of conflict, says international jurist Philippe Sands, "provides hope to people who are on the receiving end of horror... that they're not alone." It can only be hoped that this war may compel a renewed global consciousness—and collective action.

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