Flu vaccine refusers may be moved

Doctors and other hospital workers who have direct contact with patients may have to move department if they refuse the flu vaccine, NHS bosses have said.

In a letter to trusts, NHS England and NHS Improvement said, “In hospital departments where patients have a lower immunity and are most at risk of flu, it may be appropriate for healthcare workers who choose not to be vaccinated to be redeployed to other areas where this promotes patient safety.” These higher risk areas include haematology, oncology, bone marrow transplantation, neonatal intensive care, and special care baby units.

“Our ambition is for 100% of healthcare workers with direct patient contact to be vaccinated,” said the letter, which also reiterated that the reasons given by staff for not being vaccinated would be recorded.

The letter indicates a high level of concern about preparedness for the coming winter, after last year’s worst flu season in seven years. An estimated 4000 beds a day were taken up by flu patients, several times more than in previous flu seasons.

The most recent statistics show that 53% doctors were vaccinated in 2014-15, compared with 68.7% of all NHS staff last year. There is also wide variation among trusts, with some achieving 90% uptake and others only 20-30%.

Nicholas Hopkinson, a reader in respiratory medicine at Imperial College London, said, “A system of collecting reasons for vaccine hesitancy among healthcare workers will help trusts to address false beliefs and remove systematic barriers that make it difficult for certain staff members or staff groups to get vaccinated.”

Public Health England said all people aged over 65 would receive the new adjuvanted trivalent vaccine this winter, as figures show the quadrivalent vaccine used last season had an effectiveness of 10% in this age group. Across all ages, last year’s vaccine had an effectiveness of 15% and was most effective in children, at 26.9%.

The over 65s vaccine “could reduce GP consultations by 30,000, hospital admissions by more than 2000 and prevent more than 700 hospital deaths from flu in England,” said PHE. The child nasal spray vaccine programme is also to be extended to include year 5 pupils, to cover an extra 650,000 “super spreaders.”

The government is giving the NHS more than £145m to prepare for extra demand this winter.

Declan C Murphy, London

Cite this as: BMJ 2018;362:k3872
SEVEN DAYS IN

GP at Hand criticises plan to cut digital provider funds

EXCLUSIVE GP at Hand has opposed a proposal to cut funding for “digital first” GP service providers that register patients from outside their area, arguing it would “strongly discourage innovation.”

Its comments came in response to an NHS England consultation on how GP payments might need to change to “fairly support” the rollout of technology. The consultation, which closed on 31 August, suggested that GPs who registered patients from outside their catchment could receive less money per patient than those who offered a fuller service.

In a statement GP at Hand, launched by Ali Parsa (left) in 2017 out of a west London general practice, said that the proposed funding cuts would “directly contradict public commitments to driving technological advancement in the NHS.”

In its consultation NHS England acknowledged that the registration system “was not designed with digital first models in mind.” It noted concerns that such models could lead to “cream skimming” of patients, giving providers “an over-generous share of GP funding.”

In its consultation response, the BMA said the existing patient choice regulations should be scrapped and replaced with properly tested online access “to all practices on an equal basis, with appropriate resource and without delay.”

Declan C Murphy, The BMJ Cite this as: BMJ 2018;362:k3795

Radiology

Cost of outsourcing NHS scans rises by a third

The NHS spent £116m on outsourcing patient scans in 2017, up 32% from 2016, the Royal College of Radiologists reported. The college found this unsustainable and called for more funding for “home grown” radiologists. Its workforce census found that one in 10 UK radiologist jobs remained vacant in 2017, 69% of which were vacant for a year or more. Despite a 15% increase in full time radiologists in England in 2012-17, their scanning workload increased by 30%, leading to a rise in outsourcing patient scans.

Antibiotic resistance

Don’t shy away from recording resistance deaths

Sally Davies, England’s chief medical officer, told MPs on the health and social care committee that doctors should record when a patient dies because of antimicrobial resistance to an infection, to help acknowledge this growing problem. “One of the problems is that families often don’t know that their relative’s death was because of infection, and they’re rarely told that the infection was resistant to treatment because it looks as if the NHS is failing. We shy away from telling that last bit,” she said, adding that it costs the NHS around £180m a year to deal with resistant infections in patients.

Research news

Higher dairy intake may reduce heart risk

People who eat more than two servings of dairy products a day had lower rates of cardiovascular disease and mortality than those with lower intakes in a global observational study of over 136 000 people. Findings reported in the Lancet contradict current dietary guidelines, which advise restricting consumption of whole fat dairy products despite little evidence to support this. The researchers commented, “Our study suggests that consumption of dairy products should not be discouraged and perhaps should even be encouraged in low-income and middle-income countries where dairy consumption is low.”

Quarter of adults are not active enough

More than a quarter of the world’s adults—1.4 billion people—are at risk of disease from not doing enough physical activity, the Lancet Global Health reported. The highest rates of (self reported) insufficient activity in adults were in Kuwait (67%), Saudi Arabia (53%), and Iraq (52%). Around a third (36%) of UK adults were insufficiently active, putting them at greater risk of cardiovascular disease, type 2 diabetes, dementia, and some cancers. Insufficient activity was defined as less than 150 minutes of moderate intensity or 75 minutes of vigorous intensity physical activity a week.

Patient safety

Inquiry is ordered into A&E department

The Care Quality Commission (CQC) ordered an independent inquiry after concerns were raised over patient deaths in the emergency department at Russells Hall Hospital, Dudley (below), in the first half of 2018. An unannounced inspection in June found concerns about the triage, assessment, and tracking of patients in the emergency department, particularly those with suspected sepsis. Some staff also raised concerns about leadership at the hospital, citing a poor culture and working environment. Dudley Group NHS Trust, which runs the hospital, said that it had the region’s lowest mortality rate.

Urgent action is taken at trust already under review

The CQC took urgent enforcement action against Shrewsbury and Telford Hospital NHS Trust, after a one-off inspection identified problems with systems that deal with emergency patients presenting with sepsis and other deteriorating medical conditions. Concerns also arose over the environmental safety of the emergency department at the Princess Royal Hospital in Telford. The trust, which has 28 days to improve services or face restrictions, is already being investigated for a series of deaths in babies.
**Social prescribing**

Prescribe sports and other activities instead of drugs

Doctors should routinely consider issuing patients with a “social” prescription such as sports, gardening, or bingo, said the health secretary, Matt Hancock, at the NHS Expo in Manchester on 6 September. “There is a growing evidence base that social prescribing can be better for patients than medicine,” he said. “Of course, there will also be medicine prescribed, but I want to see the balance shifted in favour of social prescribing.”

**Regulation**

Anaesthetist is suspended after GMC appeals

A medical practitioners’ tribunal suspended anaesthetist Anoop Patel for four months after the GMC successfully appealed to the High Court against a tribunal decision in 2017 to take no action against him. Patel was found to have billed for three days’ locum cover at the private unit of Charing Cross Hospital, London, when he had been off sick on one day and was rostered to work for the NHS on the others. The court quashed the tribunal’s decision, finding that it had placed too much weight on his remediation and on the impact a punishment might have on his career.

**Anti-smacking bill**

Scotland moves ahead with legislation

Steve Turner (below), officer for Scotland at the Royal College of Paediatrics and Child Health, urged legislators in England and Northern Ireland to “catch up,” after the Children (Equal Protection from Assault) Scotland Bill was lodged on 6 September to prohibit the physical punishment of children. The Welsh government has committed to act similarly. Turner said, “Physical punishment can lead to a vicious cycle of physical violence, bred through generations. [It] is also linked to an increase in a child’s later risk for anxiety and depression.”

**Early Deaths**

The UK ranks 10th out of 28 EU states for premature deaths among men (lower than the EU average), but 18th for premature deaths among women (above the EU average). [Public Health England]
Mental health patients need more protection from abuse

“This report shows that sexual incidents are commonplace”
Paul Lelliot, CQC

New guidance is needed to improve the sexual safety of patients in mental health wards, the health regulator for England has said, after finding that sexual incidents are common.

The Care Quality Commission also wants a stronger reporting system and more staff training.

In its report the CQC said that people admitted to mental health wards included those who were vulnerable to sexual abuse and those who lacked the mental capacity to make informed decisions about sexual relationships. This, combined with overcrowding, old and unsuitable buildings, staff shortages, and a lack of basic training, increased the risk of harm.

**Not kept safe**
The report said that people who used mental health inpatient services did not always think that staff kept them safe from unwanted sexual behaviour. They may be afraid to report an incident because the perpetrator might be on the same ward. If they did speak up, staff may be slow in reporting the incident and may not take it seriously.

The CQC analysed nearly 60 000 reports from the 54 mental health trusts in England submitted through the NHS National Reporting and Learning System between April and June 2017. There were 1120 sexual incidents involving patients, staff, visitors, and others.

More than a third of the incidents were categorised as sexual assault or sexual harassment of patients or staff, and 29 allegations of rape were recorded. The CQC followed up each of the allegations with the trusts to ensure that they had dealt appropriately with the incidents. Other common types of sexual incident included nakedness or exposure, which may be triggered by disinhibition, and sexual verbal abuse.

In 95% of reports the incidents were carried out by patients, the rest by a member of staff.

Half of European clinical trials break reporting rules

Half of all clinical trials fail to report results within a year of completion as required under European Union rules.

Research published in *The BMJ* shows that pharmaceutical companies are far better at complying with the reporting rules than non-commercial sponsors such as universities.

In 2012, the European Medicines Agency (EMA) said that results of trials must be posted on the EU Clinical Trials Register within a year of the end of the trial and within six months of completion for trials involving children. The final deadline for compliance was 21 December 2016.

**Pharmaceutical companies**

Researchers from University of Oxford’s DataLab found that of 7274 trials where results were due only 49.5% had reported. The study shows that 68.1% of trials sponsored by pharmaceutical firms reported within a year but for those sponsored by universities, hospitals, government, and charities the figure was 11%.

Eleven major commercial sponsors achieved 100% compliance, as did some smaller non-commercial organisations, such as Cancer Research UK, which has three due trials and has reported results for all of them. The top performing major academic sponsor, the University of Dundee, is reporting 82% of its trials.

However, 32 major sponsors—responsible for at least 50 trials—have not published results for any of their due trials. These are all European hospitals, universities, and research institutes, and include big names such as the Karolinska Institute, Manchester University NHS Trust, the University of Amsterdam, and the European Institute of Oncology.

The authors said that non-commercial sponsors with particularly low reporting rates may lack clear lines of responsibility or staff may have moved jobs or retired. They called for policies to ensure compliance.

Ben Goldacre, director of DataLab and lead study author, said, “This problem strikes at the heart of evidence based medicine. We cannot make informed choices about treatments, as doctors and patients, unless all results are reported.”

**Regulation compliance**

He added that with the EU Clinical Trials Regulation coming into force next year there will be substantial financial penalties for sponsors who are in breach of reporting requirements. Goldacre said, “All trial sponsors—especially universities—must get their house in order now.”

The researchers added that, as far as they were aware, no one has ever been sanctioned by the EMA for breaking the rules.

[RESEARCH, p 311](https://doi.org/10.1136/bmj.k3863)

*Jacqui Wise, London*
Gilmore quits as alcohol tsar in opposition to industry deal

A senior adviser to the government on alcohol policy has quit after voicing concern at Public Health England’s relationship with the industry.

Ian Gilmore stepped down as chief external alcohol adviser after the PHE entered into a drinks industry partnership he argued would undermine efforts to protect public health.

In a letter to the Times, Gilmore and John Britton, who advises PHE on tobacco policy, criticised the partnership with Drinkaware, an alcohol education charity that receives industry funding, for a campaign urging middle aged people to have more alcohol free days.

They said that the campaign’s launch “demonstrates a failure at senior level in Public Health England to learn the lessons from the use by the tobacco and alcohol industries of voluntary agreements and other partnerships with health bodies to undermine, water down or otherwise neutralise policies to reduce consumption.”

Britton said that he would also resign unless PHE ended the partnership. In a separate statement issued in his capacity as chair of the Alcohol Health Alliance, Gilmore said he thought that PHE was making “a serious mistake”. “We strongly believe that the alcohol industry should not have a role in providing health information to the general public. The evidence tells us their campaigns are more likely to improve the reputation of global alcohol corporations than improve the health of the nation,” he said.

Understandable and pragmatic
But Duncan Selbie, chief executive of PHE, defended the decision. “We think our advice on drink free days is easily understandable, pragmatic, and sensible,” he said. “PHE is steadfast in its ambition to reduce the harms that drinking too much alcohol can cause and we will work together with any partner that speaks to the evidence and shares the same commitment.”

Martin Kelsall A paper free NHS is nearing a reality, says the man leading the transition to modern scanning facilities

“T here is increasing pressure to move from paper towards digitalisation in the NHS, both in primary and secondary care, to improve access to data and communication between services.

“The NHS Business Services Authority saw a clear opportunity to use our technology and resources to accelerate this transition as we are one of the biggest scanning services in Europe. We are already involved in scanning paper prescriptions. In 2017, we processed 500 million paper NHS prescriptions, which was equivalent to 1 billion prescription items. “Eighteen months ago we decided to transfer our resources and skills from paper prescription scanning to scan a range of NHS documents and ensure their secure storage in a cloud based archive. We provide an end-to-end document management service, which involves document collection, scanning, and safe destruction, and also the provision and processing of analytics and metadata.

“We’ve successfully trialled our services in two parts of the UK. In north Bristol we are processing 60 million patient documents at a rate of 2.2 million a month. This will soon allow one of the largest UK hospitals to become paper free. And we’re collecting and scanning all Lloyd George envelopes from 35 GP practices in the Newcastle and Gateshead CCG —more than 25 million documents. “We’ll be offering comprehensive scanning services to all primary and secondary care organisations in the NHS to transform their digitisation initiatives. Our priority is high throughput Lloyd George envelopes, as they are a great burden for GPs. The aim is that this will be the first step towards a national solution and we hope to set the standard for other digitising services. “If we work towards this vision, we’ll be able to create a national archive that allows GPs to instantly access patient records, improve patient care, and save the NHS money.”

Martin Kelsall is director of primary care services, NHS Business Services Authority
**NEWS ANALYSIS**

**Hancock’s digital revolution**

The new health secretary pledges to drag NHS IT out of the dark ages. **Gareth Iacobucci** reports

“It is an immediate priority of mine to sort out the technology of the NHS and social care systems. I really care about this.”

These were the words of England’s new secretary for health and social care, Matt Hancock, who set out his vision for transforming NHS IT at the NHS Expo in Manchester last week.

The former secretary for digital, culture, media, and sport is a self-confessed IT enthusiast. His family runs a software business and he was the first MP to launch his own app, and he intends to harness his passion in his new role. He said that the NHS presented “the world’s biggest opportunity for saving lives through modern technology” but was hamstrung by “clunky” and outdated systems that stop hospitals, GPs, social care providers, and others from talking to each other.

Hancock is determined to put in place a series of measures to help spearhead a technological “revolution” in the NHS. As well as investing £200m to help trusts get new IT systems off the ground, the government is piloting a new NHS app to allow patients to book appointments and access their GP record, and it is establishing a HealthTech Advisory Board, led by Bad Pharma author Ben Goldacre, to spread best practice.

Ministers will also develop a robust set of standards that IT suppliers must meet if they want to sell their product to the NHS and will publish a code of conduct setting out what they expect from suppliers of data driven technologies in health.

Hancock acknowledged that there had been a reluctance to engage in IT reform since the failure of the £10bn National Programme for IT in the 2000s to create joined-up systems across the NHS. “I can understand why leadership would shy away from grappling with technology, given the history, but we must get back to driving this transformation,” he said. “Please hear this one message very clearly: I am not looking for people to blame. I am looking for people to lead.”

He called on NHS leaders to back his plans, promising to support those who followed his agenda. But he also warned he would “come down hard” on those who refused to engage or tried to block advances that could improve the care and safety of patients.

No more “top-down”

Hancock said that technology had moved on considerably since the National Programme for IT was scrapped in 2010 and that the NHS was in a much better place in terms of innovation and security.

He cited the example of locally led “global digital exemplars” (GDEs), which are testing ways to join up data from health and social care while paying close attention to privacy.

Niall Dickson, chief executive of the NHS Confederation, which represents most trusts, admitted that the NHS had been “slow to grab the many advantages of the digital revolution.” He said, “That has to change. And we all have to accept that it will challenge working practices and those who constantly find reasons why we should not adopt new ways of delivering care.” Change will depend on investment but also on attitudes, Dickson acknowledged.

Hancock has also pledged to get tough on suppliers who don’t deliver, which earned him a round of applause at the expo. “I’ve heard some
Cochrane editors hit back at critics of HPV vaccine review

An article in a BMJ journal that criticised a Cochrane review on human papillomavirus vaccine made unwarranted allegations and gave an inaccurate report of the findings, say Cochrane’s two top editors.

David Tovey, editor in chief, and his deputy, Karla Soares-Weiser, have called on BMJ to review whether the quality assurance processes at BMJ Evidence-Based Medicine were appropriately fulfilled and whether the conclusions of the July article were “justified and proportionate.”

The sharp response follows an analysis of the claims that the Cochrane vaccine review had omitted relevant trials and was influenced by reporting bias and biased trial designs.

Tovey’s investigation concluded that the criticisms were largely unwarranted. His report said that the review had not, as claimed, missed half of the eligible trials: “A small number of studies were missed due to the primary focus on peer-reviewed reports in scientific journals, but addition of these data makes little or no difference to the findings of the review for the main outcomes.”

It also dismissed other criticisms, in particular that the review’s lead author, Mark Arbyn, had conflicts of interest as leader of a vaccine post-marketing surveillance programme. The critics said this programme was funded by the drug company Sanofi-Pasteur-MSD, which was not true, the Cochrane editors said.

In a statement Carl Heneghan, editor in chief of BMJ Evidence-Based Medicine, said, “I have asked David Tovey to clarify in what way he believes the peer review was inadequate. We have also invited the authors of the original article to respond. This article raises important questions about the nature of the evidence base. It is essential these issues be subject to open and unbiased debate.”

Nigel Hawkes, London
Cite this as: BMJ 2018;362:k3834

Primary care complaints rise by 4.5%

There was little change in the number of written complaints about primary care, hospitals, and community health services in 2017-18 in England, although dissatisfaction with general practice increased, figures from NHS Digital show.

Helen Stokes-Lampard, chair of the Royal College of General Practitioners, said: “95.6% of patients have trust in their GP despite the extreme pressures they work under. To maintain and improve the high levels of satisfaction, we need to see GP Forward View delivered in full, and £2.5bn extra a year for general practice as part of the long term plan for the NHS.”

All complaints rose by 0.1% in 2017-18 to 208 626, up from 208 415 in 2016-17. Most were about clinical treatment.

GPs There were 4058 more complaints about general practice last year than in 2016-17—a rise of 4.5% (from 90 579). Most complaints (18%) were related to clinical treatment, followed by communication (15%).

Staff GPs were the most complained about professionals, responsible for 44% (43 457) of complaints. Administrative staff followed at 25%.

Hospital and community services Complaints fell by 3.3%, from 117 836 to 113 989. There were 4.4% fewer complaints about clinical treatment in hospitals. Most were about inpatient services (33%), followed by outpatient services (22%). Medical professionals received most complaints (41%), then nurses (22.5%), both falls on 2016-17.

Health visitors and midwives Complaints about health visitors fell by 13.3% (to 392). But complaints about midwives rose by 11% last year (to 3785).
A member of India’s LGBTQ community in Bangalore celebrates a landmark judgment that decriminalised homosexuality last Thursday. The Supreme Court ruling could pave the way to healthcare reforms, but the process could be long and arduous, warn doctors.

The healthcare issue was raised by the five judges who decriminalised Section 377 of the penal code, finding it discriminatory and unconstitutional. Introduced under British colonial rule in 1861, Section 377 allowed for life imprisonment for “unnatural offences . . . carnal intercourse against the order of nature.”

“Unfortunately, even something as basic as access to healthcare is still very much contested as the stigma is quite phenomenal,” said Thelma Narayan, director for policy action at the Society for Community Health Awareness Research and Action, a charity based in Bangalore.

Prasad Raj Dandekar, a radiation oncologist from Mumbai, points to glaring inadequacies in the understanding of LGBTQ health issues. “People often have terrible experiences, such as being ridiculed or threatened or being offered cures, including electroconvulsive therapy, when they seek medical treatment,” he told *The BMJ*, adding that LGBTQ doctors face the same kind of insensitivity.

Earlier this year Dandekar founded Health Professionals for Queer Indians, which trains doctors and medical students in the health needs of LGBTQ people. His group is part of a ripple of change in the medical community. In June the Indian Psychiatric Society urged its 5500 members to stop treating homosexuality as an illness. It is hoped the judgment will provide a further impetus for change in a country where the HIV prevalence among gay men is an estimated 4.3% but 0.26% in the general population.

Jeetha D’Silva, Mumbai

Cite this as: *BMJ* 2018;362:k3885
Better together: Patient partnership in journals

The BMJ’s experience can be a springboard for others

Patient editors have been employed by The BMJ for more than 20 years, and they have brought a new dimension to our work and thinking. None more so than the peerless Rosamund Snow. But her predecessors left their mark too, including Peter Lapsley, who 10 years ago underlined that “patients have more to contribute to The BMJ than simply [recounting] their experience of illness and treatment.” He died before we launched our revolutionary patient partnership strategy, but he would have welcomed the changes it has brought to our editorial processes and the movement, supported by patients, now spreading to other journals.

Our strategy was co-produced with an international patient advisory panel and continues to be co-steered by it. The lively exchanges with and between panel members and The BMJ staff, moderated by patient editors, raises editorial awareness of patient led initiatives and informs commissioning decisions across the journal. Panel members are often among the first to comment on articles, and many patients follow and respond to our Twitter feeds and debates.

Patient review

The database we have built to embed patient review of submissions has grown steadily. We refer to people who help us in this way as “patient and public reviewers.” This acknowledges that although most reviewers have long term conditions, some are carers, parents, those who access services only intermittently, and members of charitable and voluntary organisations. Similarly, our patient panel includes health professionals and policy experts who champion patient empowerment and shared decision making. Accordingly, our strategy has been renamed a “patient and public partnership” strategy, a terminology now in common use among other organisations.

The requirement introduced four years ago that authors of research in The BMJ must report if and how they involved patients and the public supports growing advocacy to embed partnership in the global research enterprise. Other journals now requiring a “PPI” (patient and public involvement) statement include BMJ Open, BJOG, Research Involvement and Engagement, and several leading titles in BMJ’s portfolio of specialist journals. We recently pledged to advance debate on establishing new tenets to govern patients’ roles and rights in research.

Content written and co-written by patients—including BMJ Opinion, the What Your Patient is Thinking series, commentaries, and editorials—provides valuable insights, not least into the reality of care at the sharp end and ideas on improving it. Podcasts about organisations advancing partnership and the Partnership in Practice series aim to fulfil our pledge to illuminate the “science and art” of partnership in clinical practice, policy, and medical education.

We set internal co-production targets, but recognise it is the quality and timeliness of the input that matters. We have clarified guidance to support our educational content authors. Patients and carers provide a wider understanding of living with illness and its biopsychosocial impact, which is often poorly understood by health professionals. We are now spreading the principles of co-production across BMJ’s support resources.

Avoiding tokenism

The campaign to include patients in medical meetings, initiated by Lucien Engelen in 2013, has been a notable success. Organisers of conferences now regularly self accredit as #PatientsIncluded. The BMJ has made strides here, notably in the International Quality and Safety in Healthcare forums, and is committed to identifying best practice and avoiding tokenism. Having patients on organising committees is crucial.

Evaluation of a strategy that is as much about changing hearts and minds as practice and policy is not easy, but we are making progress. A comparison of PPI reported in research papers published in The BMJ before and one year after the introduction of our reporting policy showed a small increase. Peer review by patients and the public has been shown to be feasible, and editors think it adds value. A study of that “value” is planned. One concern from a survey of clinical trialists was the minimal effort and resources devoted to disseminating results to participants and related communities. We are committed to improving this important area.

Person centred care and shared decision making are embedded in the lexicons of western health systems. But all too often patients and carers observe a wide gap between aspiration and reality, as the recent Gosport scandal reminds us. Medical journals can play a part in helping narrow this gap by working with, not against, patients and the public. There is no single approach. Each journal must forge its own path. Several have begun the journey. We urge others to join them.

Cite this as: BMJ 2018;362:k3798
Find the full version with references at http://dx.doi.org/10.1136/bmj.k3798
Public health at 170

What’s needed now is a big birthday present

The Public Health Act 1848 for England and Wales celebrated its 170th anniversary on 31 August. A landmark piece of public health law, it marked the beginning of the Victorian sanitary revolution, recognising the need for the protection of all citizens from environmental and social threats.1

It would take 27 more years and two more catastrophic cholera outbreaks before the 1875 Public Health Act turned the enabling provisions of the 1848 act into the powers of local authorities.2 The BMJ’s readers voted sanitation and clean water the biggest medical advance since 1840.3

Health gains

Over those 170 years, life expectancy has increased greatly.4 Sanitary reform also provided the impetus for expanding local government services.5 Other major public health improvements included slum clearances and public sector housing provision,6 food rationing during two world wars,7 the restriction of public alcohol consumption,8 the identification of cigarette smoking as the cause of lung cancer,9 and major advances in immunisation.10

In marked contrast, post-2008 austerity Britain is experiencing an epidemic failure to support the most vulnerable members of our society; health inequalities are widening and improvements in life expectancy are levelling off.11 Poor public nutrition is manifest in obesity, food banks, and acute hunger.12 Violence and drug related harms require major policy redirection and public health approaches.13 Leaving the EU risks losing public health gains made over the past 40 years and puts European public health agencies at risk.14

Global Burden of Disease studies show that non-communicable disease accounts for over two thirds of deaths in the UK and across much of the globe. Human health is improving, but inequalities in and between countries are getting wider and require urgent attention by governments.15 Some 20% of all deaths from non-communicable diseases may be caused by poor diets, and 10 corporations control most of what we eat.14,15 The tobacco industry says it wants a smoke free world, while continuing to grow markets where regulation is weak.8 The need to regulate, tax, and control the availability of disease causing agents is more urgent than ever.16

Globally, human health has improved at the expense of planetary health: climate chaos; loss of pollinators, arable land, forests, and marine fish stocks; failures of ecosystems; and melting of ice caps are all observable aspects of human overproduction and consumption.17

The Public Health Board of 1848 was led by the “surveyor,” and the medical officer of health was part of the team.1 The multidisciplinary team was dependent on engineers, architects, surveyors, builders, and lawyers. Multidisciplinary public health in the 21st century needs to reconnect to these skills and build new partnerships. And we need a new global public health partnership with international lawyers, political scientists, theologians, ecologists, and climatologists.18 Governments must understand the health effects of all policies and should plan now for the health of future generations.19

Prioritising prevention

This summer, the NHS has received a “70th birthday present” of £20bn extra over five years, heralded by the prime minister’s speech in June.20 As part of the deal, the government expects a 10 year plan for the NHS to be developed and published by November. There has been much public debate about what the plan should include. Theresa May and her new secretary of state have publicly prioritised prevention, while indicating that public health and social care are not covered by the “present” and will have to take their chances in the chancellor’s comprehensive spending review. Many health bodies share the view that the new plan’s centrepiece should be a commitment to measurable improvements in population health and reducing health inequalities.20

Intelligent delivery

If the NHS is to succeed, it must do things differently—investing in prevention and intelligent service delivery. The UK Faculty of Public Health is working with partners to call for greater NHS commitment to prevention and for a better “dashboard” to measure outcomes. Public health skills relating to health service analysis were lost in the reorganisation of the Health and Social Care Act in 2012 and will have to be regained. A wider health workforce will also need to be trained to deliver preventive services. The undergraduate curriculum will need to expand its public health component to help us develop a national service for health in 10 years’ time.

The legacy of the 1848 act was one of enabling and encouraging partnership between national and local government in legislating, regulating, and creating the conditions necessary for longer, healthier lives.1 The need for partnerships has never been greater—between communities, individuals, businesses, public agencies, and countries. These partnerships will flourish only with substantial investment, through the NHS and through a UK government commitment to health in all policies.21

As Benjamin Disraeli said, in defence of his 1875 Public Health Act, “Sanitas sanitatum, omnia sanitas”—health above everything. So, here’s looking forward to that birthday present for the public’s health.

John Middleton, president, UK Faculty of Public Health president@fph.org.uk

Cite this as: BMJ 2018;362:k3653
Find the full version with references at http://dx.doi.org/10.1136/bmj.k3653
Alder Hey Children’s Hospital has a pioneering history; it was the first to test penicillin in 1914, for instance, and the first to establish a neonatal surgical unit. Now, managers are developing a wide-ranging artificial intelligence (AI) programme—and the focus differs greatly from the way this technology is generally being applied in the NHS.

When the new hospital was built in 2014-15, Alder Hey commissioned a children and young people’s design group to envisage an ideal hospital. The result—a three pronged, grass covered, gently sloping building in the heart of a Liverpool park—allows 70% of patients to have private rooms with windows overlooking acres of green space; it was named BBC Building of the Decade in May.

The next step has been to create a “cognitive hospital,” using AI to support every aspect of its work. “We tried to imagine what would be the most technologically advanced hospital you can think of,” explains Iain Hennessey, consultant paediatric and neonatal surgeon, and clinical director of Alder Hey Innovation Hub. “The idea was to think of the hospital as a living organism with a brain, a sensory system collecting data, and a way of caring for families.”

The project will eventually oversee logistics, supply chains, and diagnostics. This spring it formally launched its first step: an AI powered patient app called Alder Play, allowing patients to ask questions of a chatbot, see 360 photos of the hospital, and watch videos of children explaining procedures. Patients choose and name an avatar to help them understand their hospital visit before they arrive and calm them during their stay. The children can earn rewards for visiting various hospital locations—such as for a blood test—which allow them to access new entertainment content. The app also includes a chatbot for parents, Ask Oli, that answers questions about what may happen to their child.

Learning from others
It’s a complex collection of partnerships. Alder Hey is one of the 16 NHS global digital exemplars identified in 2016 by Keith McNeil, then chief clinical information officer for the NHS, and Robert Wachter, author of the review of health IT in England. The exemplars were judged as innovative and digitally mature enough to be given funding and international partnership opportunities.

Hennessey’s Hub is an innovations laboratory where the hospital holds regular hackathons—where doctors, coders, designers, and others collaborate to solve a particular problem in a specified time using technology—with local, national, and international partners. It has also been working with computing experts at the Science and Technology Facilities Council’s Hartree Centre and IBM’s AI (known as Watson) to develop the app.

Funding has been provided by Alder Hey Children’s Charity, Shop Direct, Liverpool John Lennon Airport, and NHS England. Shop Direct and the airport also advised on the app. As Hennessey says, “retail and travel are so far ahead of the NHS in terms of tailoring experiences, getting the user interface just right, and making things as easy as possible.”

The app gathers insights into patient anxieties and care issues and learns to predict and respond to users based on the nature of the questions asked. Although the app collects data to identify patterns in questions asked, such as food queries at certain times of day, it doesn’t hold personal data apart from email addresses.

“Eventually we will have this flagging up people who need more attention and people who are well informed, but at the moment if you start giving specific advice it becomes a medical device,” Hennessey explains.

“We want to develop the app in the electronic patient record direction, but complexity arises if we have identifiable patient data. For healthcare data you need to be able to say where the data are held. Distributed computing tends to spread data across the cloud so at the moment you can’t say where the data actually are. But that is the direction we want to travel.”

Playing to AI’s strengths
Alder Hey’s approach is in stark contrast to the way AI is rolling out across the NHS—from Google DeepMind’s work at London’s Royal Free NHS Foundation Trust, which hit the
headlines in 2017 over data privacy issues, to Babylon’s GP at Hand smartphone app, rolled out with a west Kensington general practice and criticised by GPs, including delegates at this year’s BMA’s GP conference.

“At the moment AI is getting applied in diagnostics and machine vision rather than the patient experience,” Hennessey explains. “Diagnosing is not a big part of most doctors’ time. In the average clinical appointment, the first few minutes is establishing trust, then basic information gathering, a moment of examination, and the next 5-10 minutes telling patient and parents what will happen and reassuring them.

“In that entire 15 minute slot there’s maybe a minute where I apply my medical training. Doctors like complex problem solving and don’t like explaining the same thing again and again—so automate those functions.

“We should be using AI for what it’s good for: repetitive, time consuming tasks.”

The UK government is focusing on diagnostics in its Artificial Intelligence and Data Grand Challenge, launched at the end of May by Theresa May. This targets the prevention, early diagnosis, and treatment of diseases such as cancer, diabetes, heart disease, and dementia.

Yet many machine learning academics agree with Hennessey. According to Mihaela van der Schaar, an Oxford University professor researching machine learning and decision making, designers need to reverse engineer from the needs of patients and clinicians. AI will have the biggest, fastest effect on the straightforward tasks rather than the complicated ones.

“AI can learn from tasks and data. It can be good at helping to diagnose or with post-diagnostics and it can identify patterns and efficiencies,” van der Schaar explains. “Emotional IQ—such as understanding what the patient is concerned about or reading between the lines or working out what the patient isn’t saying or comforting the patient—is important, and AIs can’t replicate that.

“The healthcare opportunities for AI are in logistic routines, gathering information for appointments, managing paperwork, or reminding patients to take their medicine.”

Chris Holmes, programme director for health at the Alan Turing Institute in London, also believes that “people talk about AI’s use in diagnosing people—but using AI in logistics and operational issues will offer faster uptake and have the most impact on a cradle to grave NHS.”

On the day that May launched the grand challenge, the Turing Institute announced a partnership with University College London Hospital to reduce waiting times in emergency departments and lower the numbers of patients not attending appointments. “We’re working out if and how you can identify people at risk of not attending and then optimise and individualise interventions like texts and phone calls to improve attendance rates,” Holmes explains.

“It’s a problem that’s ideal for AI—the problem is well captured, there are large amounts of high quality mature data, and a quantifiable objective.”

**Ask Alexa**

Like the NHS, healthcare in the US is mainly using AI as a diagnostic aid. The Mayo Clinic uses AI to analyse patients taking part in cancer studies, the Cleveland Clinic has a partnership with Microsoft to identify patients at high risk of cardiac arrest, and Massachusetts General Hospital has deployed a deep learning supercomputer to develop applications for the “detection, diagnosis, treatment, and management of diseases.”

However, Boston Children’s Hospital has been piloting Voice in Healthcare AI. This uses Alexa-style technology to talk parents through cleaning an intravenous catheter or allow physicians to document images from an endoscopy by speaking instructions.

The hospital recently launched a KidsMD app on Alexa enabled devices, which answers parents’ queries about symptoms and helps with weight or age specific dosing guidelines for over-the-counter drugs.

“Looking at Alexa and Google Home we need to ask, why don’t we have that in NHS hospitals?” argues Hennessey. “Why does NHS technology seem so far behind? We can’t let the consumer industry run away with this. In 10 years’ time, I hope the cognitive hospital organism will be well past the single cell state.”

Stephen Armstrong, freelance journalist, London

Cite this as: BMJ 2018;362:k3791
Doctors face difficult conversations with patients with metastatic cancer for whom NHS treatment has failed. A growing problem is how to advise patients who opt to pursue expensive, experimental treatments in the private sector, including orthodox therapies given in unproved combinations and doses but also alternative therapies with no evidence behind their use.

The BMJ today publishes figures that show how crowdfunding for alternative cancer therapies has soared in recent years. The figures, collected by the Good Thinking Society, a charity that promotes scientific thinking, show that since 2012 appeals on UK crowdfunding sites for cancer treatment with an alternative health element have raised £8m. Most of this was for treatment abroad.

JustGiving’s own figures show more than 2300 UK cancer related appeals were set up on its site in 2016, a sevenfold rise on the number for 2015.

The phenomenon has allowed less well-off patients to access expensive, experimental treatments that are not funded by the NHS but have some evidence of benefit. But many fear it has also opened up a new and lucrative revenue stream for cranks, charlatans, and conmen who prey on the vulnerable. The society’s project director, Michael Marshall, says: “We are concerned that so many UK patients are raising huge sums for treatments which are not evidence based and which in some cases may even do them harm.”

Hundreds of thousands of pounds have been crowdfunded for UK patients’ treatment at the controversial Burzynski clinic in Texas, which US authorities have pursued for years over its marketing of unproved treatment and research trial failings. The US Food and Drug Administration issued warning letters to the clinic in 2009 and 2013 listing numerous concerns about its research trials, including failure to report adverse events. In 2012 the clinic was criticised by the FDA over violations of regulations relating to claims on the clinic’s website, and in 2017 the clinic’s owner was sanctioned by the Texas Medical Board for misleading clients.

Other appeals included in the dataset were for Gerson therapy, which involves coffee enemas and frequent juice drinks and is not only unproved but can harm patients.

“Sites have a responsibility to ensure they do not facilitate the exploitation of vulnerable people”

Michael Marshall

“Better protection

Good Thinking wants the crowdfunding sites to vet cancer appeals and “reject outright proposals that refer to specific drugs that have been discredited, extreme dietary regimes, intravenous vitamin C, alkaline therapy and other alternative treatments.” Marshall says: “If a fundraiser is for treatment for a serious or life threatening condition, it ought to be reviewed before it is sent live, especially if it contains terminology that raises red flags for quackery.”

Edzard Ernst, professor of complementary medicine at Exeter University, supports the move, pointing out that crowdfunding organisations already reject appeals involving violence or illegal activity. “Crowdfunding for a terror attack

<table>
<thead>
<tr>
<th>Country</th>
<th>GoFundMe (£)</th>
<th>JustGiving (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>NA</td>
<td>2050</td>
</tr>
<tr>
<td>Ecuador</td>
<td>NA</td>
<td>850</td>
</tr>
<tr>
<td>France</td>
<td>706</td>
<td>NA</td>
</tr>
<tr>
<td>Germany</td>
<td>3 627 418</td>
<td>3 350 115</td>
</tr>
<tr>
<td>Hungary</td>
<td>37 561</td>
<td>1280</td>
</tr>
<tr>
<td>India</td>
<td>97 034</td>
<td>1355</td>
</tr>
<tr>
<td>Latvia</td>
<td>13 593</td>
<td>4072</td>
</tr>
<tr>
<td>Mexico</td>
<td>328 707</td>
<td>164 714</td>
</tr>
<tr>
<td>Netherlands</td>
<td>9436</td>
<td>NA</td>
</tr>
<tr>
<td>Poland</td>
<td>18 383</td>
<td>75</td>
</tr>
<tr>
<td>Portugal</td>
<td>51 260</td>
<td>NA</td>
</tr>
<tr>
<td>Spain</td>
<td>8998</td>
<td>3296</td>
</tr>
<tr>
<td>Turkey</td>
<td>18 427</td>
<td>109 007</td>
</tr>
<tr>
<td>UK</td>
<td>541039</td>
<td>218 728</td>
</tr>
<tr>
<td>USA</td>
<td>179 643</td>
<td>347 104</td>
</tr>
<tr>
<td>South America</td>
<td>1230</td>
<td>NA</td>
</tr>
<tr>
<td>Unknown</td>
<td>179 474</td>
<td>148 550</td>
</tr>
<tr>
<td>Total</td>
<td>5 112 909</td>
<td>2 351 196</td>
</tr>
</tbody>
</table>
is out of the question,” he said. “Crowdfunding for cancer quackery is not any better and must be stopped."

GoFundMe, the platform that features most prominently in Good Thinking’s dataset, said it is already “taking proactive steps” in the US to make sure users are better informed and will be doing the same globally over the coming months.

“Ultimately, we’ll be monitoring content of this kind more closely to provide tailored advice,” a spokesman said. But JustGiving told The BMJ, “We don’t believe we have the expertise to make a judgment on this.”

Value of hope
Any moves to limit fundraising for alternative therapies will attract the ire of people like Sarah Thorp. She set up a GoFundMe account to pay for her sister Andrea Kelly’s treatment at the Integrative Whole Health Clinic in Tijuana, Mexico. The clinic offers a range of alternative therapies, including coffee and flax seed enemas, vitamin and mineral infusions, and an “Alpha-2010 Spa System” alongside whole body hyperthermia, hyperbaric oxygen, and “extracorporeal photopheresis.”

Its lead clinician, Jose Henrique, claims a “75% success rate” since 2000 in patients with stage 4 cancers like Kelly. She spent three weeks at the clinic at a cost of $21 000 (£16 000) and died just over a year after she returned. Although the sisters became “disillusioned” with the clinic and ended the treatment a week early, Thorp remains convinced the trip extended her sister’s life, “It gave her hope at a point when we had none.”

Kelly’s faith in the NHS was damaged after she felt her concerns that the cancer had returned were repeatedly dismissed by her doctors. When the disease was finally detected Thorp claims her sister’s oncologist was unsympathetic. She believes Kelly was helped as much by the feeling of being in control as by the treatments she received. “That empowerment was so useful,” she says. “That was not false hope.” The very process of searching for alternative therapies had a positive effect, Thorp believes. “She was always looking into new things; it kept her going. Doctors shouldn’t disregard or be pessimistic about people exploring these options.”

Working out how best to protect patients and donors—while supporting informed choices—will not be simple for crowdfunding platforms, as David Gorski, a US surgical oncologist who campaigns for evidence based science, explains. “I support the concept of not allowing crowdfunding for treatment at quack clinics but I struggle to see how it would work in practice,” he said. “How would they deal with clinics that offer conventional treatments alongside quackery?”

Alternative centres do not usually publish data on treatment efficacy but instead provide testimonials, in which patients often describe being given a short time to live before starting the treatment that “saved” them. “Patients often don’t understand that not enough time has passed to say with any confidence that they are survivors,” Gorski explains.

Hallwang clinic
The largest sums by far in Good Thinking’s dataset, accounting for £6.7 million of the £8 million identified, were ostensibly raised for trips to the Hallwang Private Oncology Clinic in southern Germany. In a statement to The BMJ a spokesman for the clinic said that some people had used its name to raise money but had not then proceeded to treatment and, in some instances, had done so without ever contacting the clinic.

The Hallwang carries out diagnostic tests on patients’ tumours and treats them with a combination of experimental immunotherapy, peptide vaccines said to train the immune system to attack cancerous cells, and unproved therapies such as vitamin infusions. Drugs offered include bevacizumab, which inhibits growth of tumours’ blood vessels, and pembrolizumab and ipilimumab, two members of a new class of biological therapy known as checkpoint inhibitors. All three drugs have proved benefits for certain types of tumour.

Costs are high: a patient was recently quoted more than €100 000 for an initial 10 day visit. However, the clinic states in its statement that it offers intensive treatment monitoring, with a nurse to patient ratio of 1:2, in a highly private setting and in extremely challenging situations. It’s adds that many of its patients arrive with serious complications such as sepsis, tumour associated bleeding, or bowel obstruction, which it treats and manages. It also says its innovative treatments are purchased at a high price, and because the costs are not met by any third parties such as insurers or charities, they have to be paid by patients. It insists patients only pay for and are given treatments after thorough discussion and with the patients’ explicit consent.

Christian Ottensmeier, professor in experimental cancer treatment at the University of Southampton,
THE MAJORS’ STORY

Sally Major had stage 4 bowel cancer diagnosed when she was 32, after she says her concerns had been dismissed by the NHS. The youngest of her four children was just 2 years old. Sally and her husband, Liam, sought the advice of former oncology nurse Patricia Peat, who now runs Cancer Options, a Nottingham based consultancy that claims to help patients navigate alternative approaches to the disease. Peat recommended the Majors go to the Hallwang Private Oncology Clinic in Germany.

There was a catch though—it was extraordinarily expensive. Peat advised it could cost around £80 000. Over the course of the next year, the family spent more than four times that: £350 000. Liam tells TheBMJ. They re-mortgaged their home, took out loans, and set up an appeal on the YouCaring site. As the year went by Liam’s pleas on the site and in the media, who covered the fundraising effort extensively, became increasingly desperate. “This week has cost us £260 000. Our money has finally run out,” he told the Mirror in March 2017. “Sally can barely stand … we’re not able to get her home. Equally we can’t afford to stay here. I am literally begging.”

A few weeks later Sally died while still at the Hallwang. Less than a year had passed since her first visit, in July 2016. At the time Liam was taken aback by the Hallwang’s charges. “We spent around £100 000 a day on top of the treatment costs,” he says. But the clinic told him its staff had experience of his wife’s particular cancer and that they hoped to put her into remission, so he wasn’t going to argue over money, he says.

“They told us positive stories and never mentioned anyone who had died,” he says. “I did ask for figures on survival rates but was told patients did not want to share their data. If I wasn’t in a desperate situation I might have asked more questions.” He was also asked not to show his invoices to anyone else, which he thought was “not right.”

The peptide vaccine treatments were the single biggest cost, at £11 000 each, he says. These were not administered by clinical staff but by clinic manager Maike Luz. The Majors were not told exactly what was in them.

The experience of another crowdfunded patient, Claire Cunningham, dispelled his doubts. Claire arrived at Hallwang with advanced breast cancer in November 2016 has been approached by and treated former Hallwang patients. He uses some of the same immunotherapy drugs prescribed at the Hallwang in his standard clinical practice but in different doses and combinations.

“In my experience 20-25% of the Hallwang’s patients with advanced cancer could see some benefit from taking them,” he says. The Hallwang also uses the drugs for diseases in which they have not yet been tested. “I don’t have a problem with that,” says Ottensmeier. “But it needs a careful conversation with the patient about the chances, the risk, and the costs.”

The Hallwang says in its statement that when referring to treatment outcomes, it is important to distinguish between partial and complete remission, and that in cases where life expectancy is only a few weeks or months, a gain in quality of life or being given a few extra months to live is considered a success and something that patients are happy with. The clinic does not publish survival rates.

Ottensmeier does not think Hallwang patients should be banned from crowdfunding pages but says that patients and their donors must be much better informed. The fundraising sites suggest that some Hallwang patients have had exaggerated notions of their prospects of long term survival. Anastasia Leslie’s Buy Another Day GoFundMe page said she was told by the Hallwang that “all of the ovarian cancer patients (approx 20 to 25 a year in the past 15 years) … are still alive, doing well and in remission.” Despite apparently spending £100 000 in just one week at the clinic she died within months of her first trip to Germany. And Rekha Banerji’s appeal for her daughter Rebecca, who had stage 4 breast cancer, said: “Although in the UK, this is a hopeless case, the German doctors are extremely confident Rebecca will gain full remission.” Her daughter died within months of starting treatment.

The Hallwang says it never gives guarantees and always provides thorough information to patients on its alternative treatments, which it claims are state of the art. Ottensmeier also questions Hallwang’s prices. “For a much smaller sum you can buy the same immunotherapy drugs and have them administered in the UK,” he says.

Patricia Peat, a former oncology nurse who has advised people to go to the Hallwang after visiting the clinic herself, says she has now stopped recommending it to her clients. “The lack of transparency and communication about costs and how long they may offer treatment for at the outset is confusing and misleading,” she tells TheBMJ.

Families who embark on treatment and are then subject to increasing costs without a clear idea of the likely outcomes are put in a “massively difficult and emotive position,” she says. “The Hallwang is the worst example of this I’ve come across.”

Peat also supports the Good Thinking’s call for crowdfunding vetting. “Something has to be done,” she says. “The pressure on families to achieve a target is enormous. It’s morally unacceptable.”

Melanie Newman, journalist, London

Cite this as: BMJ 2018;362:k3829

“If I wasn’t in a desperate situation I might have asked more questions” Liam Major

unable to walk or talk and having been offered end-of-life care by the NHS. She recovered sufficiently to return to work and her testimony features on the clinic’s website. She was one of a group of 14 patients, including Sally, who bonded through their shared experience. Today, Claire appears to be the only one of that group still alive. The BMJ was unable to speak to her but it was reported earlier this year that tumours had returned to her lungs and spine.

“There’s one man who spent £1.5m. His wife got an extra two or three months,” Liam says.

He believes Sally’s treatment bought her “four or five months” and dismisses the suggestion that the extra time Hallwang patients seem to have bought may simply reflect the challenges of making an accurate prognosis. When he first took his wife to the clinic “she was about to die,” he says. “I could see that. And she did improve.”

The Major family was left with a £70 000 debt after Sally’s death, forcing Liam to set up a new appeal. He now thinks the crowdfunding sites should carry warnings or provisos about alternative treatment centres like the Hallwang. “Having that support from someone who had been involved in a number of cases would have made me think twice. And I’d have been asking questions at the Hallwang rather than just handing over money.”

“The lack of transparency about costs and how long they may offer treatment is confusing and misleading” Patricia Peat

15 September 2018 | the bmj