

comment

When organisations promote non-evidence based interventions they may actively harm citizens. When charities do this the potential harm is even greater

NO HOLDS BARRED Margaret McCartney

Alternative advice: respect evidence

Being well off and well connected is no barrier to a belief in nonsense. In fact, the more money you have, the easier it seems for healthcare professionals to liberate you from it.

Justin Trudeau, Canada's premier, created a new science post at cabinet level and is willing to explain quantum computing to a press pack. But even he undergoes cupping, an evidence-free complementary therapy used by self styled lifestyle gurus such as Gwyneth Paltrow. Reading systematic reviews, I despair at the lack of adequate evidence for this intervention.

A recent supplement in the *Financial Times* reported on the Lanserhof medical spa in Austria, where a week's stay costs over €3000 (£2660) for one person in the "basic" programme. The spa was described as a feast of "detoxing" with intravenous drips "to help me 'de-acidify,' which alongside bowel work is the big game play here."

Clients have abdominal ultrasound and undergo "bioenergetic diagnosis," which helps to "localise dissonances in your energy field and resolve them through bioenergetic intervention and regulation." Other interventions include being wrapped in goat butter.

We could argue that allowing people to fritter their money away helps redress health inequalities if the tax they pay on such treatment funds healthcare for others. But it also exposes them to risk of harm, profits people selling quackery, and allows a societal acceptance that this sort of thing is somehow aspirational and OK.

What about believing in statements and advice from health charities?



"Charity" is a word associated with goodness, selflessness, and altruism. But it should also be evidence based, because otherwise we risk needless harms.

When organisations promote non-evidence based interventions they may end up actively harming citizens. When charities do this the potential harm is even greater: "charity" evokes trustworthiness, not

scepticism. The Homeopathy Action Trust and Yes to Life promote complementary medicine. So do many more.

Charities—which benefit from Gift Aid and get tax breaks—are meant to act "for the public benefit": the Charities Commission says that this can include "complementary, alternative, or holistic methods" and refers to a House of Lords report from 2000, but this report can't be expected to provide a definitive guide to evidence based medicine.

The commission recently consulted on its approach to deciding whether an organisation that uses or promotes complementary therapies is a charity. Currently, the commission says that publication of a peer reviewed study is suitable evidence; but, given the problems with the reliability of peer review and of cherry picking evidence, this isn't enough to protect the public or to deserve our trust.

Let's hope that charities are made to respect the evidence—and that leaders such as Trudeau follow shortly.

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PERSONAL VIEW Stephen Bradley

Junior doctors can use the new contract to take back some control

The trainee agreement poses many challenges, but it is possible to use its terms to achieve a safer and fairer NHS

Last year, like many junior doctors, I participated in strike action over changes to the contract in England. A few months later, after achieving my certificate of completion of training, I was appointed as the guardian of safe working hours—a new role that was born out of the contract negotiations.

After seven months in this post, I've come to recognise that the contract poses many opportunities and challenges, but that it's possible to use its terms to achieve a safer and fairer NHS.

During last summer's negotiations it became apparent that the grievances of juniors ran deep. However, the extraordinary unity of purpose raised expectations that, in the end, could not be met. Consequently, concessions made by the BMA—like the loss of pay scale on

changing specialties and extended plain time—have been difficult to swallow. For many, the “flattened” pay structure—with less wage differentiation between junior and senior trainees—feels wrong.

By imposing the contract, England's health secretary, Jeremy Hunt, managed to appear steadfast. However, I suspect that posterity will deem the outcome to have been a victory for the doctors. Hunt was forced to accept a contract that achieved few, if any, of his stated aims and which introduced new protections and rights for trainees.

In the guardian of safe working hours, juniors now have an advocate with clout in every trust, who is answerable to them through the junior doctors' forum. Juniors also have an agreement about the training they should receive in their work schedule and the ability to

seek redress for missed training or overtime through exception reports. These are powerful tools, but they rely on engaged trainees who are prepared to speak up.

Frightening situations

This is more difficult when morale is low. Working conditions in acute trusts are often barely tolerable and staff shortages frequently place junior doctors in frightening situations. A culture that is reluctant to allow trainees to plan a personal life—for example, to be able to book leave to get married—remains widespread.

One criticism made of the new contract was that any protections would simply be flouted. Enforcing the rights established by any contract requires employees to challenge breaches. In their guardian, trainees should find a committed and influential friend who has the power



ACUTE PERSPECTIVE David Oliver

When “resilience” becomes a dirty word



Absorbing “negative conditions” can shift the blame from over-politicised, underfunded systems onto individuals

We need to talk about “resilience.” One dictionary definition is “the capacity to recover quickly from difficulties; toughness.” Health Education England describes it as “the ability to bounce back—a capacity to absorb negative conditions, integrate them in meaningful ways, and move forward.” The General Medical Council announced in recent years that doctors under investigation and all medical students would receive “emotional resilience” training.

Practising medicine has never been straightforward, and it has always required such attributes. Doctors carry responsibility, risk, uncertainty, and self doubt. We make difficult

decisions and witness harrowing scenarios weekly—that's the nature of being a doctor. And, being human, it can get to us. Support to adapt and learn from these inherent challenges, and to develop coping skills, would be welcome in any health system.

But “absorbing” any unacceptably and avoidably “negative conditions” makes resilience a dirty word. It shifts the blame and responsibility for doctors' struggles away from what are often over-politicised, understaffed, underfunded, badly organised systems and onto individuals.

Physician burnout is well reported in the UK and internationally. A recent survey of 3695 doctors who

had graduated from UK medical schools in 1974 and 1979 found that 44% reported adverse effects of the job on their health and wellbeing. As the Royal College of Physicians' recent report *Being a Junior Doctor* showed, younger doctors will find the factors cited in the survey eerily familiar: long hours, excessive workload, poor work-life balance, compassion burnout, and managerial and regulatory changes are all there. As is the impact of doctors' own ageing and the failure of their roles and work patterns to adapt.

There's nothing wrong with helping doctors build “resilience,” if



MARK THOMAS/REX SHUTTERSTOCK

In their guardian, trainees should find a committed and influential friend who has the power to weigh in on their behalf

to weigh in on their behalf and call foul when protections are breached. But junior doctors must speak up to allow guardians to champion their interests.

Another criticism of the new contract is that—by encouraging trainees to clock out on time—it is a threat to professionalism. The NHS currently relies on unpaid overtime and too often training is sacrificed to service need. Yet a system that banks on the willingness or ability of fatigued staff to donate extra hours, every day, is not good for patients.

Despite frequent rota gaps, in most cases the dedication of staff has been enough, so far, to protect patients. But we should not be complicit in

we must use the word. Mentorship, access to good occupational health, and counselling—such as the new GP health service—all have potential. So does support in developing the necessary skills in time management finance or leadership to be an effective doctor-manager. Initiatives such as the Point of Care Foundation’s Schwartz Rounds, designed to help doctors reflect on difficult clinical situations, are welcome, as are sabbaticals or protected time for development activity.

Right now, doctors in the NHS face workforce gaps, inexorably rising demand, and struggling community care services. They’re working in a system on the edge, compounded

allowing this “making do” to mask a precarious situation. Exception reporting is a way to systematically demonstrate gaps and the threats to patient safety that these represent.

Supporting roles

While increased numbers of doctors and nurses are a long way off, there is a great deal of scope for improved supporting roles. As a junior doctor, a frustratingly small proportion of my time was spent performing tasks relevant to medical training. It’s not hard to see how high quality workforce information, derived from exception reports, could be used to build business cases for expanding other roles.

The contract has not, at a stroke, remedied the problems faced by junior doctors. But its terms provide tools to fight for a safer health system with appropriate levels of staffing and more tolerable working conditions. My advice to juniors is to join your junior doctors’ forum, get to know your guardian, and exception report. Use the contract to take control.

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by top-down target pressures and serial, politicised reorganisations. In the recent industrial relations dispute with junior doctors the health secretary deployed the combative language of blame and shame, and some sections of the mainstream media added to the mood music.

It’s an understandable impulse to give reassuring platitudes and shift responsibility for wellbeing onto individual practitioners. But a resilient system is what we need: one that adequately recruits, retains, values, and supports its employees.

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BMJ OPINION Billy Boland

Historic working practices are no use to us today

The NHS is in the middle of a recruitment crisis—so we need to think about what attracts people to medicine and why people want to stay. Having a conversation about the future and what sustains us is a necessary part of planning for that future.

Not that long ago I would have been considered “mid-career” in the world of psychiatry, at the ripe old age of 40. Mental health officer status was bestowed on those working in mental health pre-1995 and allowed them to retire at the age of 55. This was “to compensate members caring for patients suffering from mental health disorders. It was a continuation of arrangements which existed prior to the formation of the NHS in 1948, when treatment for mental health patients was different to today.” In other words, as senior colleagues have explained to me, it was in recognition of the demanding nature of the work.

Now, don’t get me wrong. I understand those days are gone, and I’m not sure I want to see a return to them either. It feels odd to think about retiring so young. Although I’ve been a consultant for eight years, I feel like I’m still just getting started. I don’t think I’ve reached my potential, I’ve got a lot more to learn, and much more to give.

My burning ambition to get on is now tempered with a deeper recognition of experience

It’s also unsettling to watch 55 year old colleagues choosing to leave. Not all do, but some want to move on to different things, want a break, or just want to retire. The reasons are various, of course, and people are free to choose, but I’ve heard from many that the work has changed, expectations are different, pressures around productivity and performance management have grown, and autonomy has been eroded. In other words, the work is getting harder, perhaps less satisfying, and so people are voting with their feet.

So if the rest of us are going to keep delivering the health service in these more demanding times we need to get the balance right. My burning ambition to get on a few years ago is now tempered with a deeper recognition of experience and its value, and a need to maintain fitness and resilience for the long term.

We can no longer use the strategies of those that have gone before us: throwing in hours of energy and incurring personal cost. Ultimately, that personal cost becomes a cost to the health service too, if people bow out as soon as they can.

Billy Boland is a consultant psychiatrist and associate medical director for quality and safety at Hertfordshire Partnership University NHS Foundation Trust



ANALYSIS

The antibiotic course has had its day

With little evidence that failing to complete a prescription contributes to resistance, it's time for policy makers, educators, and doctors to drop this message, argue

Martin Llewelyn and colleagues

Antibiotics are vital to modern medicine and antibiotic resistance is a global, urgent threat to human health.

The relation between antibiotic exposure and antibiotic resistance is unambiguous both at the population level¹ and in individual patients.² Reducing unnecessary antibiotic use is therefore essential to mitigate antibiotic resistance.

Avoiding overuse requires healthcare professionals and the public to be well informed about treatment, as set out in the first objective of the World Health Organization Global Action Plan.³ Public communication about antibiotics often emphasises that failure to complete prescribed courses puts patients and others at risk of antibiotic resistance. For example, in materials supporting Antibiotic Awareness Week 2016 WHO advised patients to “always complete the full prescription, even if you feel better, because stopping treatment early promotes the growth of drug-resistant bacteria.”⁴ Similar advice appears in national campaigns in Australia,⁵ Canada,⁶ the US,⁷ and Europe.⁸ And in the UK it is included as fact in the secondary school curriculum.⁹

However, the idea that stopping treatment early encourages antibiotic resistance is not supported by evidence, while taking antibiotics for longer than necessary increases the risk of resistance. Without explicitly contradicting previous advice, current public information materials from the US Centers for Disease Control and Prevention (CDC) and Public Health England have replaced

“complete the course” with messages advocating taking antibiotics “exactly as prescribed.”^{10 11}

We explore the evidence for antibiotic duration, clinical effectiveness, and resistance, and encourage policy makers, educators, and doctors to stop advocating “complete the course” when communicating with the public. Further, they should publicly and actively state that this was not evidence-based and is incorrect.

Origins of the idea

Concern that giving too little antibiotic treatment could select for resistance can be traced back to the dawn of the antibiotic era. When Howard Florey's team treated Albert Alexander's staphylococcal sepsis with penicillin in 1941 they eked out all the penicillin they had (around 4 g, less than one day's worth with modern dosing) over four days by repeatedly recovering the drug from his urine. When the drug ran out, the clinical improvement they had noted reversed and he succumbed to his infection.¹² There was no evidence that this was because of resistance, but the experience may have planted



Most of the bacterial species now posing the greatest problems do not develop resistance through target selection

the idea that prolonged therapy was needed to avoid treatment failure.

Fleming's early work showed that sensitive bacteria could be “acclimatised” to penicillin in the laboratory.¹³ In his 1945 Nobel prize acceptance speech, Fleming painted a vignette in which an imagined patient with a streptococcal throat infection who takes insufficient penicillin, transmits the infection—now in resistant form—to his wife, leading to her death.¹⁴ Fleming advised, “If you use penicillin, use enough!”

Ironically, *Streptococcus pyogenes* has never developed resistance to penicillin, and we now know that for most forms of antibiotic resistance that currently threaten patients, selection of resistance in the bacteria being treated is of limited importance.

Treatment drives resistance

Fleming's scenario was of target selected resistance (see box right). Infections typically begin when a small population of microorganisms gain access to the host and replicate. Genetic mutations conferring resistance may arise spontaneously during replication and be selected for during treatment. Target selected resistance can occur with inadequate antimicrobial dosing or with monotherapy for infections for which spontaneous resistant mutations arise on treatment, such as tuberculosis, gonorrhoea, and HIV.

Early trials of tuberculosis treatment showed resistance emerging during monotherapy¹⁵ and underpin the need for combination therapy. Transmission of such pathogens during or after inadequate treatment may allow resistant strains to spread from person

KEY MESSAGES

- Patients are put at unnecessary risk from antibiotic resistance when treatment is given for longer than necessary, not when it is stopped early
- For common bacterial infections no evidence exists that stopping antibiotic treatment early increases a patient's risk of resistant infection
- Antibiotics are a finite natural resource which should be conserved by tailoring treatment duration
- Clinical trials are required to determine the most effective strategies for optimising duration of antibiotic treatment



ANDREW BROOKS/LAMY

to person. However, most of the bacterial species posing the greatest problems do not develop resistance through target selection. The threat comes mainly from species such as *Escherichia coli* and the “Eskape” organisms (*Enterococcus faecium*, *Staphylococcus aureus*, *Klebsiella pneumoniae*, *Acinetobacter* spp, *Pseudomonas* spp, *Enterobacter* spp), which are all found harmlessly in us, on us, or in our environment. They can also act as “opportunistic” pathogens.

When a patient takes antibiotics for any reason, antibiotic sensitive species and strains present among commensal flora on their skin or gut or in the environment are replaced by resistant species and strains ready to cause infection in the future.¹⁶ This collateral selection is the predominant driver of the important forms of antibiotic resistance affecting patients today. The longer the antibiotic exposure these opportunist bacteria are subjected to, the greater the pressure to select for resistance.²¹⁷

Importantly for these opportunistic pathogens, resistant strains are transmitted between asymptomatic carriers rather than people with disease. Furthermore, many resistance conferring genes can pass easily between bacterial strains or species. Thus antibiotic selection may drive outbreaks of resistant infections independently of transmission of a specific strain or species.¹⁸

Fear of harm from overtreatment

Traditionally, antibiotics are prescribed for recommended durations or courses. Fundamental to this concept is the notion that shorter treatment will be inferior. There is, however,

little evidence that recommended durations are minimums, below which patients will be at increased risk of treatment failure.

Historically, antibiotic courses were set by precedent, driven by fear of undertreatment, with less concern about overuse. For many indications, recommended durations have decreased as evidence of similar clinical outcomes with shorter courses has been generated (table, overleaf). However, the picture is patchy and complicated by comparisons of new and established agents that may have different pharmacological properties.

For most indications, studies to identify the minimum effective treatment duration have not been performed.²⁸ For example, pyelonephritis is generally treated for two weeks. Trials have shown that shorter courses of quinolones are effective (seven days for ciprofloxacin²³ and five days for levofloxacin²⁴), but no such data exist for β -lactams, which are the main antibiotic class used. Current international guidelines recommend 10-14 days’ treatment with β -lactams, based purely on absence of data for shorter courses.²⁹

Shorter duration of treatment has been shown to reduce clinical efficacy in a few cases. A notable example is otitis media, where five days’ treatment is associated with a lower clinical cure rate (66%) than 10 days (84%) in children under 2 years.¹⁹ Even in this situation though, differences relate to prolongation of symptoms not treatment failure, disease recurrence, or selection for resistant pathogens.

For opportunist pathogens for which antimicrobial resistance poses the greatest threat, no clinical trials have

Selection of antibiotic resistance

Target selection—For certain “professional” pathogens, such as *Mycobacterium tuberculosis*, spontaneous resistance conferring mutants may be selected during treatment, can be transmitted before cure is achieved, or can re-emerge after treatment failure. Other professional pathogens where this may apply include HIV, malaria, gonorrhoea, and *Salmonella typhi*.

Collateral selection—Many bacterial species that live harmlessly in the gut, on our skin and mucous membranes, or in the environment can also cause disease as opportunist pathogens. For such organisms, resistance selection occurs predominantly during antibiotic treatment of other infections. Resistance in opportunists may be passed easily to other strains of the same species of bacteria or to different species. Key examples include methicillin resistance in *Staphylococcus aureus*, extended spectrum β -lactamase producing Enterobacteriaceae and carbapenem resistance in *Klebsiella pneumoniae*.

shown increased risk of resistance for patients on shorter treatments.

The key argument for changing how we discuss antibiotics with patients is that shorter treatment is clearly better for individuals. Not only does a patient’s risk of resistant infection depend on their previous antibiotic exposure²¹⁷ but reducing that exposure is associated with reduced risk of resistant infection and better clinical outcome. In hospital acquired pneumonia, for example, randomised controlled trial data indicate that short treatments have equivalent clinical outcomes to longer courses and are associated with lower rates of infection recurrence and resistance.²⁵²⁶

Is the concept still valid?

The concept of an antibiotic course ignores that patients may respond differently to the same antibiotic. Currently, we make indication specific recommendations for

Indications for which duration of antibiotic treatment has been evaluated by randomised controlled trial

Indication	No of days treatment		Main evidence	Evidence on resistance
	Standard	Evaluated		
Otitis media ¹⁹	10	5	Clinical failure higher with 5 days than 10 days treatment (1 trial)	Similar short term selection of resistance in nasopharyngeal organisms
Streptococcal pharyngitis ²⁰	10	3-6	Comparable effect of 3-6 days oral antibiotics to 10 days penicillin in children with streptococcal throat infection (Cochrane review of 20 studies)	Not assessed
Community acquired pneumonia ²¹	7-10	5	Non-inferiority of 5 day course once afebrile and clinical stability improving compared with physician guided therapy (median 10 days) for clinical success (1 trial)	Not assessed. β -lactam treatment >5 days associated with greater carriage of resistant <i>S pneumoniae</i>
Cellulitis ²²	7-14	5	Non-inferiority of 5 day course compared with 10 days for clinical resolution (1 trial)	Not assessed
Pyelonephritis ^{23,24}	14	5-7	Non-inferiority of 7 v 14 days ciprofloxacin for cure ¹² and 5 days levofloxacin v 10 days ciprofloxacin for eradication of infection and clinical cure ¹³	Not assessed
Nosocomial pneumonia ^{25,26}	10-15	7-8	Non-inferiority of short course treatment of suspected pneumonia among critical care patients on ICU mortality and infection recurrence (multiple trials)	Lower risk of further or resistant infection in patients receiving shorter duration therapy
Intra-abdominal sepsis ²⁷	7-14	4	Non-inferiority of fixed 4 day course compared with physician guided therapy (median 8 days) for surgical site infection, recurrent intra-abdominal infection, or death (1 trial)	Non-significantly lower rates of extra-abdominal resistant infection in short course group

duration based on poor evidence. This situation is changing in hospital practice, where biomarkers of treatment response such as procalcitonin can guide when to stop antibiotic treatment.³⁰

Outside hospital, where repeated testing may not be feasible, patients might be best advised to stop treatment when they feel better, in direct contradiction of WHO advice.⁴ Of note, a recent clinical trial found that using fever resolution to guide stopping antibiotics in community acquired pneumonia halved the average duration of treatment without affecting clinical success.²¹ Further studies are needed.

Barrier to antibiotic conservation

This fallacious belief is likely to be an important barrier to reducing unnecessary antibiotic use and to developing evidence to guide optimal use. The idea is deeply embedded, and both doctors and patients regard failure to complete a course of antibiotics as irresponsible.^{31,32}

In primary care, strategies have been developed to avoid unnecessary antibiotic courses being started—for example, through enhanced communication training, point-of-care tests, and use of delayed prescriptions.³³⁻³⁵ However in secondary care, strategies to reduce overuse aim to change, or ideally stop, antibiotics 48-72 hours after they are started, but these are challenging to implement.³⁶ Reasons for this include diagnostic uncertainty and team behaviour, but patients' and healthcare professionals' concerns about the risks of incomplete

treatment are likely to contribute. Designing trials of antibiotic sparing treatment is notoriously difficult,³⁷ particularly if participants are invited to consent to receiving shortened antibiotic treatment on the basis that this could reduce their risk of antibiotic resistance, when they have been taught from school that it increases this risk.

What should we advise patients?

The "complete the course" message has persisted despite not being supported by evidence and previous arguments that it should be replaced.^{18,38} One reason it may be so resilient is that it is simple and unambiguous, and the behaviour it advocates is clearly defined and easy to carry out. Nevertheless, there is evidence that, in many situations, stopping antibiotics sooner is a safe and effective way to reduce antibiotic overuse. Daily review of the continued need for antibiotics is a cornerstone of antibiotic stewardship in hospitals,³⁹ but in primary care, where 85% of antibiotic prescriptions are written, no such ongoing assessment is attempted.

There are reasons to be optimistic that the public will accept that completing the course to prevent resistance is wrong if the medical profession openly acknowledges that this is so, rather than simply substituting subtle alternatives such as "exactly as prescribed."

Completing the course goes against one of the most fundamental and widespread medication beliefs people have, which is that we should take as little medication as necessary.⁴⁰ Concerted and consistent efforts have

Outside hospital patients might be best advised to stop treatment when they feel better

successfully educated the public that antibiotics do not treat viral infections, for example. Research is needed to determine the most appropriate simple alternative messages, such as stop when you feel better. Until then, public education should highlight that antibiotic resistance is primarily the result of antibiotic overuse and is not prevented by completing a course.

The public should be encouraged to recognise that antibiotics are a precious and finite natural resource that should be conserved. This will allow patient centred decision making about antibiotic treatment, where patients and doctors can balance confidence that a complete and lasting cure will be achieved against a desire to minimise antibiotic exposure unimpeded by the spurious concern that shorter treatment will cause antibiotic resistance.

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DOCTORS' DUTY TO RESEARCH

Choosing treatments when alternatives are uncertain

Flawed ethics analysis prompts Weijer et al's narrow view of how people can choose to help others when treatment effects are uncertain (Head to Head, 17 June). Certain principles guide choices in publicly funded health services.

When uncertainties exist about alternative treatments already in use, patients should be made aware of them and declare any preferences or their desire to participate in randomised trials to reduce the uncertainties.

When uncertainties relate to the relative merits of new treatments and those already in use, patients should be offered existing treatments or participation in randomised trials of the new treatments to help to generate evidence of relative efficacy, at acceptable cost.

In patients with chronic disease, reducing uncertainties should improve the evidence base for future health choices.

Flawed ethics analyses have caused avoidable suffering for many people, most of whom have not been the research participants considered by Weijer et al.

Iain Chalmers, coordinator, James Lind Initiative, Oxford

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Investigators must foster pragmatic trials...

Campbell and Weijer et al debate the duty to take part in pragmatic randomised trials. RCTs in surgery are frequently pragmatic because of unique challenges in complex interventions. UK surgical research has advanced significantly with dedicated trials units, integrated academic-clinical career pathways, and trainee led collaboratives. In established networks, we agree that all patients should be able to engage in pragmatic, randomised trials.



MARK THOMAS

LETTER OF THE WEEK

A civilised society should let people end life

Oliver asks: how can we plan for old age if we won't discuss it honestly? (Acute Perspective, 17 June.) A desperate distancing from the fact of our own ageing and mortality feeds a failure to plan for future housing and care, potential loss of mental or physical capacity, or difficult decisions towards the end of life. But, like politicians of all persuasions, Oliver evades the crucial issue: "The only way to avoid getting older is to stop living."

We all extol the merits of living well and preserving many if not all of our faculties, independence, and freedoms. But, when they decline and survival brings serious impairments to quality of life, the time has come to confront how to end life. Voluntary and assisted euthanasia require the utmost care and caution. Yet we do little to deal with dreadful pain, disabilities, and failure of contact with family and friends, in a way that we'd deem cruel if applied to our dogs or other beloved pets.

The age is a meaningless number. The decision whether continued existence is worth while must always be individual, preferably made after candid but honest discussion with family and friends.

In the end, however, a civilised society should make due and carefully planned legal and medical provisions that enable people, with or without assistance, to terminate their life.

John Pearce, emeritus consultant neurologist, Anlaby

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But research waste is increasingly recognised. In surgery, one in five RCTs is discontinued early, and one in three completed trials is unpublished. Failure to disseminate findings can lead to hidden data, unrealised knowledge, and unnecessary duplication. The AllTrials campaign aims to tackle this through mandatory registration and dissemination.

Investigators must encourage pragmatic trial participation—to eliminate waste by ensuring timely and full dissemination and facilitating open, patient level meta-analysis. In surgery, this is important to ensure that

greater research activity brings increased outputs.

Stephen J Chapman, NIHR academic clinical fellow, Leeds
James C D Glasbey, NIHR academic clinical fellow, Birmingham

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...as must health services

In the debate between Campbell and Weijer et al, the authors agree on the benefits of doctors participating in pragmatic research.

We need to encourage doctors and patients to participate in pragmatic research, particularly comparative effectiveness research. When multiple treatments are shown to benefit a condition, everyone benefits

if the profession can determine whether one is superior in a specific context. Patients benefit from optimal treatments, and health services benefit if these go to the correct patients.

But multicentre pragmatic randomised controlled trials face many obstacles. EpiNet aims to promote observational studies and pragmatic trials to determine optimal epilepsy treatment. We're repeatedly surprised by how difficult it is to get studies under way: regulatory and ethical approvals, payment for services, apathy from doctors, and patients' suspicion.

A better question is, "How can the various health services encourage pragmatic randomised trials?"

Peter Bergin, chair, EpiNet Study Group, Auckland

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LISTENING TO PATIENTS

Ask the right questions

Sokol tells a poignant tale (Ethics Man, 24 June), but the message from this case is precisely the opposite of its title. Listening is key: ask someone why they sought advice from healthcare providers, and listen to the answer. Learning sets of questions and firing them at patients risks not asking the right question and not listening to the answer, as the clinician focuses on asking and not listening.

Listening for clues is more important than learning a set of questions." The important aspect is not which questions are asked but how answers are elicited. The skill lies not in learning a list of questions but in asking the right kinds of questions.

The article's message would have been better phrased, "Asking focused questions is not enough, and if you're listening you may find out why."

Andrew N Papanikitas, academic general practitioner, Oxford

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OBITUARIES

John Moorhouse Heaton

Psychotherapist, philosopher, and honorary psychiatrist (b 1925; q Cambridge 1951; MRCPsych (Hon)); died from prostatic cancer on 3 May 2017



John Moorhouse Heaton started his professional life as an ophthalmologist. He spent two years in the Royal Air Force as a medical officer and became acting squadron leader. He introduced an innovative psychological treatment for pilots with stress induced eye strain. His first book was *The Eye* (1968), on the phenomenology of vision. After 10 years in ophthalmology, John trained in psychotherapy at the Langham Clinic, a major career shift largely decided by his interest in the philosophical and psychological aspects of vision. For the past 50 or so years, he worked and taught as a psychotherapist in London and published many papers and several books. John leaves his second wife of 46 years, Barbara, and their sons. From his first marriage, he leaves three children and nine grandchildren.

Miles Clapham

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Michael Hobsley

Emeritus professor of surgery University College London (b 1929; q Cambridge 1951; PhD, MChir, DSc, FRCS), died after a stroke on 19 November 2016



Michael Hobsley became professor in surgical studies at the Middlesex Hospital Medical School in 1975 and head of the department of surgery at the Middlesex and University College London in 1988. In teaching he pioneered the development of an algorithmic approach to surgery, and introduced new computer and video assisted techniques for distance learning for students. He was the author of more than 100 scientific papers and several medical textbooks. In 1999 Michael published evidence that *Helicobacter pylori* is unlikely to be the primary cause of duodenal ulceration. In his last years Alzheimer's syndrome destroyed his health, but despite the cruel advances of the disease he remained quick to laugh, sing, and play the piano. He leaves his wife, Jane; four children; and six grandchildren.

Clare Hobsley

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Maurice Frederick Levy

General practitioner (b 1925; q Durham 1947), d 21 March 2017



Maurice Frederick Levy ("Fred") completed house jobs at the North Riding Infirmary in Middlesbrough, before joining the Royal Army Medical Corps and being posted to Egypt for two years. After returning to the UK he undertook an assistantship before taking on a practice in Edge Hill, Liverpool, where he worked singlehandedly for 30 years. He was the perfect example of an old fashioned GP; he knew most of his patients personally, and he regarded them as his friends. His outstanding qualities were his conscientiousness, meticulous methods, and attention to detail. He enjoyed 30 years of retirement with varied interests including art, music, rambling, gardening, and natural and local history. He was still delivering meals on wheels in his 90s. He was known for his kindness, generosity, and calm demeanour. He leaves his wife, Joy; two children; and five grandchildren.

Max Levy

Cite this as: [BMJ 2017;358:j3308](#)

Patrick Millar Littlejohn

General practitioner and anaesthesiologist (b 1925; q Edinburgh 1947), d 25 January 2017



Patrick Millar Littlejohn started his medical career as a GP in Eastbourne. He joined the Australian Navy as a medical officer in 1950. At the end of his military tour, he emigrated with his wife, Patricia (Clayton), to St. Catherines, Ontario, Canada, in 1955. In 1962 they moved to Euclid, Ohio, where he specialised in anaesthesiology at Huron Road Hospital in Cleveland. Once he had completed his training, Littlejohn, his wife, and four children settled in Kalamazoo, Michigan. With three other physicians he founded Kalamazoo Anesthesiology PC, one of the first medical corporations in Michigan and still in existence today. He retired from medicine in 1998 and moved to Betws Garmon in Wales. He died in Keinton Mandeville, Somerton, England, where a celebration of his life was held at St Mary Magdalene Church on 25 April 2017.

Elizabeth Krystyniak

Cite this as: [BMJ 2017;358:j3304](#)

Ian R D Proctor

General practitioner (b 1922; q Cambridge/Barts 1947; MRCPGP), died from bronchopneumonia on 28 February 2017



In 1947 Ian R D Proctor married a Barts nurse, Marjorie Yuill, and was posted to RAF Leeming in Yorkshire as medical officer. Subsequently he went into general practice and was a partner at Clay Cross surgery in Derbyshire until he retired in 1982. His paper on the incidence of the common cold in relation to certain meteorological parameters was published in the *British Journal of Meteorology* in 1971. His research showed it was "the change in temperature," and not just a drop in temperature, that led patients to be more susceptible to the common cold. In retirement in Devon, Ian enjoyed his garden with its own meteorology station and sent readings to Bracknell weather office every day. Predeceased by Marjorie in 2012 he leaves two sons, six grandchildren, and 10 great grandchildren.

Stuart Yuill Proctor, Martyn C D Proctor

Cite this as: [BMJ 2017;358:j3343](#)

John Crispin Townsend

General practitioner Wellingborough (b 1949; q Sheffield 1980; MRCPPath, MRCPGP), died from bowel cancer on 6 June 2017



John Crispin Townsend ("Cris") started work as a laboratory technician but realised his future lay in medicine. After qualifying from Sheffield University Medical School as a mature student, he trained as a chemical pathologist. He worked as a senior registrar in UK and New Zealand and as a consultant in Canberra, Australia. On returning to the UK in 1990, he retrained as a general practitioner and subsequently became a partner in Gravesend and then Wellingborough. He continued to train GP registrars even after his diagnosis, fitting in the training between chemotherapy sessions. Cris had a goonish sense of humour, and—typical of him—chose the words on his gravestone: "Here lies Dr John Crispin Townsend, survived by some of his patients." He leaves many friends and family, who loved him dearly.

Elaine Carter, Mary Macintosh

Cite this as: [BMJ 2017;358:j3526](#)

Stefania Jablonska

Co-discovered human papillomavirus type 5 in skin cancer

Stefania Jablonska (b 1920, q Kyrgyz State Medical Academy, Kyrgyzstan, 1942), d 8 May 2017

In 1950 Stefania Jablonska was faced with a big decision. She was 30 years old and had returned to the Medical University of Warsaw after a year's training with renowned dermatologist Donald M Pillsbury at the University of Pennsylvania Hospital in Philadelphia. Jablonska had been offered two attractive opportunities to further her fledgling career in dermatology.

Career dilemma

One of the offers came from Pillsbury's team in Philadelphia. They had liked her work and offered her a clinical research position. The other offer came from Warsaw University's Dermatology Clinic, which was mired in turmoil after the politically motivated arrest of the clinic director and head of the dermatology department, Marian Grzybowski.

After Grzybowski's death in prison, older dermatologists at the university were reluctant to fill the leadership vacuum. Jablonska had only recently received her doctorate and would not be awarded habilitation until the next year. Nonetheless, she was offered the chance to head the clinic and the department.

She accepted the offer and would stay as the head of dermatology for the next 40 years. She started the process of transforming the clinic into a global leader.

Jablonska, who also spoke English, German, French, and Russian, opened channels of communication with the international medical research community, despite the fact that Poland was a communist state behind the so called Iron Curtain. Over the years she became an honorary member of nearly three dozen national dermatology societies around the world.

In 1955 she published the first of her many papers in French and

German dermatology journals. She would go on to be the author of nearly 1000 papers.

Papillomavirus and skin cancer

In the early 1970s Jablonska suggested a link between human papillomaviruses and skin cancer in epidermodysplasia verruciformis. She began collaborating with virologist Gérard Orth of the Pasteur Institute in Paris.

By the late 1970s the two researchers were producing a steady stream of research papers linking the human papillomavirus type 5 with skin cancer, including a key paper in 1978 in the *Proceedings of the National Academy of Sciences of the USA*. Later that year they published a paper in *Nature*, describing viral sequences related to a human skin papillomavirus in genital warts. In 1985 Jablonska and Orth received the Robert Koch Award in recognition of their groundbreaking work.

Formative years

Jablonska was born with the name Szela Ginzburg on 7 September 1920 in Warsaw. She started studying medicine at the University of Warsaw in 1937. After Germany invaded Poland in 1939, the university was closed. Jablonska moved to Ukraine, at the time part of the Soviet Union, to continue studies at Lviv University, which was home to dozens of Polish professors.

In July 1941, after Germany invaded the Soviet Union, German forces executed more than two dozen Polish professors. Jablonska had to flee again, this time to Kyrgyzstan, also at the time part of the Soviet Union. She continued medical studies at the University of Frunze, now called the Kyrgyz State Medical Academy.

After graduating in 1942, she was required to serve with the Soviet Army in the war against Germany. Her military service ended in the summer of 1943, when she was injured in the Battle of Kursk. During



POLISH DERMATOLOGICAL SOCIETY

Jablonska opened channels of communication with the international medical research community

rehabilitation Jablonska “luckily” met “the famous professor Olga Podwysocka” and started studying pathology and then dermatology and venereology. She spent a year at the dermatology department at the Soviet Academy of Sciences in Leningrad in 1945.

Return to Warsaw

On her return to Warsaw in 1946 she began her long affiliation with the Warsaw Dermatology Clinic. After retiring from the clinic in 1990 as professor emerita, she remained active in research until she was well into her 80s. She served two long stints as president of the Polish Society of Dermatology—from 1962 to 1982 and from 1987 to 1995.

In 1999 her friend and colleague, the French dermatologist Jean Thivolet, wrote a tribute, affectionately describing Jablonska as “the iron lady of Warsaw,” adding: “Despite all the difficulties which her country has known, she has been able to work, train many students, travel the whole world over, and survive all the crises.”

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Cite this as: *BMJ* 2017;357:j2891

DIGITAL HIGHLIGHTS

Beware of burnout

The editorial on burnout among doctors in this week's issue (p 183) has been one of the most read and shared articles on bmj.com. Here are some responses on Twitter:

Yasmin @fay_yasmin
I see it at all stages. The ethos of doctors to keep going and colleagues' fear of losing more workforce is a lethal combination #GPHealth

Richmond Stace @painphysio
We all need to learn the skills of being well so that when the pressure is on, we can still perform

Prem Rashid FRACS @premrashid
We must all continue to support efforts to highlight this issue

Aideen O'Halloran @aideence
#Burnout is not happening in a vacuum. Healthcare systems must own responsibility for #wellbeing of all staff, measure it, and address systemic causes



MOST READ ONLINE

Burnout among doctors

• (BMJ 2017;358:j3360)

Retained contact lenses

• (BMJ 2017;358:j2783)

UK doctors re-examine case for mandatory vaccination

• (BMJ 2017;358:j3414)

New diagnostic tests: more harm than good

• (BMJ 2017;358:j3314)

Shortage of general practitioners in the NHS

• (BMJ 2017;358:j3191)

BMJ Podcast: Hacking healthcare data



In a new podcast James Kinross and Chris Hankin from Imperial College London talk about cybersecurity in the NHS. Below they discuss what is to be gained from hacking healthcare data.

Chris: Healthcare data are generally more valuable than more transient data, like banking details and so on. You can't change your health record overnight, but you can change your bank account details—so on the dark web healthcare data are much more valuable than other sorts of data.

James: I also think it's worth exploring the idea that some of

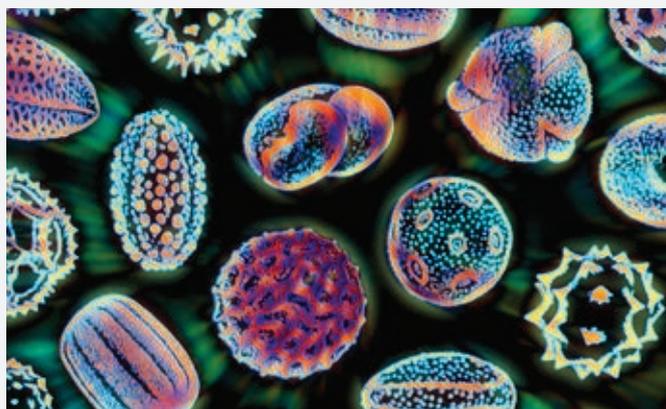
these attacks on hospitals are to compromise the integrity of health data and to hold them to ransom in a much more frightening way. If you imagine you're a hospital and suddenly all your chemical pathology is corrupted, you can't treat people safely. So I think these data have value on the dark web directly as raw data. But equally by compromising the integrity of data or an institution's access to data, you create a way to generate revenue by blackmailing or ransom.

• Listen to the podcast at <http://bmj.co/cybersecurity>

FROM THE ARCHIVE

Dodging the enemy of hay fever

As July ends, many readers and their patients are likely anticipating the end of hay fever season, with the Royal College of General Practitioners reporting that 37 568 patients saw their GP for hay fever symptoms in June. The allergy and its treatment have been debated in *The BMJ* for over 150 years. One physician who was particularly troubled by its annual appearance was an ATH Waters, who in 1872 (*Br Med J* 1872;1:4) complained that "Some people are apt to smile when you tell them that you have suffered severely from the malady; they seem to imagine that it can be nothing more than an ordinary cold, for which little



ALFRED PASIEKAN/SPL

sympathy is needed. But it is not an ordinary cold; it is a specific affection, brought on and kept up by peculiar causes, only affecting a certain number of people, always or nearly always

affecting them in the same way, and at very nearly the same period every, or almost, every year."

He describes his own experiences of hay fever

and the "attacks" he's had throughout the years, observing that it is often "sufficient to incapacitate the sufferer for all the enjoyments of life, and to render work, either of mind or of body, very irksome. The appetite sometimes fails; food is not relished; the nights are often very disturbed; and the result is that, after the disease has lasted a few weeks, the sufferer from it has lost flesh, looks haggard, sallow, and anaemic."

"No wonder," he says, "that we hear of people attempting to dodge their enemy—i.e., changing their residence, so as to avoid the hay season."