> Doctors who receive information or advice from colleagues, especially senior colleagues, may be inclined to trust it more or to question it less

NO HOLDS BARRED Margaret McCartney

The importance of independence

Independence is so vital a quality, so cherished, that wars have been repeatedly fought over it. In medicine, independence is about ethics. Having independence reflects individual autonomy and is an inherent safety device. When we make up our minds independently we reduce bias, particularly "groupthink." We protect ourselves against acting in others' interests rather than those of the patient or person we should be focused on. We ensure that whistleblowers can act.

When independence has been threatened, we're right to be alarmed. Conflicts in medicine are everywhere, and we can't get rid of them all. Rather, we have to protect ourselves from undue, conflicting influence by remaining as independent as possible.

The Quality and Outcomes Framework created low value box ticking, for GPs in particular, rather than concentrating on what patients need. It's been castigated for de-professionalising doctors through political micromanagement.[1] It's created systemic problems: we look at the computer screen rather than at the patient, because ticking boxes pleases the contract and our wages, though not necessarily the patient. Paying GPs to diagnose more dementia was a dreadful, easily avoidable conflict.[2]

Healthcare professionals work for Atos, a company that has done fitness to work assessments for the government's Department for Work and Pensions. When one doctor was pressured to change a medical report unjustifiably, he resigned and blew the whistle—much respect to him.[3]

Doctors are trusted overwhelmingly more than politicians.[4] Doctors who receive information or advice from colleagues, especially senior colleagues, may be inclined to trust it more or to question it less. Jeremy Hunt, the health secretary, has written to junior doctors regarding his dispute with the BMA. Junior doctors know who is writing, and they made their own judgments about how to interpret it.

Bruce Keogh, medical director of NHS England, also wrote to junior doctors recently, but before his letter was sent it was changed, after communication with Department of Health employees. They wanted it to be more "hard edged" and to make reference to the need for emergency services in the event of a terrorist attack.[5] I'm sure that junior doctors, along with the rest of us, know our moral and ethical obligations if disaster does strike.

Of course, the Department of Health and NHS England need to be in close contact. But surely rigid lines should also be drawn so that we know who speaks for whom. Bizarrely, in its defence, the department has stated that "it was absolutely right that ministers insisted on Bruce Keogh giving his independent view."

Although Keogh's view may have just happened to coincide with the department's view, we need to be assured that these views were arrived at entirely independently.

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Cite this as: *BMJ* 2016;352:i141
Find this at: http://dx.doi.org/10.1136/bmj.i141

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BODY POLITIC Nigel Hawkes

Calm down everyone about Bruce Keogh

Of course he cleared his letter to junior doctors with officials

Bruce Keogh, medical director of the NHS in England, is in trouble. A thousand doctors have called for his resignation. Norman Lamb MP, who didn't become Liberal Democrat leader, wants a Cabinet Office inquiry, and Tim Farron MP, who did, wants to haul Keogh and the health secretary, Jeremy Hunt, before a parliamentary committee to answer for their actions.

Keogh is charged with writing to the BMA opposing the junior doctors' action in language that had been vetted in advance by the Department of Health.[1] The letter asked whether doctors would return to work in the event of a major incident such as a terrorist attack.

A fair question, to which the answer was yes. So why is Keogh facing the wrath of a third of the parliamentary Liberal Democrat Party? Because, under a literal reading of former health secretary Andrew Lansley's reorganisation, NHS England was supposed to be independent of the health department and to not have its arm twisted, if indeed this to and fro with an unnamed official constitutes twisting.

Joint drafting

Nobody is actually claiming that Keogh dissented from the contents of the letter. What is at issue is whether it should have been jointly drafted, given this supposed independence. "Imagine our dismay," said Lamb (a nice man whose name does not belie his nature), "in discovering that you engaged in covert crafting and recrafting of this letter with Whitehall officials."

I can with some effort imagine his dismay, but I cannot share it. Nobody, save possibly Lansley in a more than usually deluded moment, could have seriously believed in the separation of powers that his 2012 Health and Social Care Act mandated. Come the crunch, all that high falutin' malarkey goes out of the window. As a former health minister Lamb must have realised this.

Nor is this new. I can remember summoning up my full reserve of synthetic indignation back in the late 1990s when Liam Donaldson, then chief medical officer for England and nobody's poodle, conveniently identified a flu "epidemic" one winter to help the Labour government explain the difficulties the NHS was experiencing at the time. It wasn't an epidemic, falling well short of the threshold, and I gave him both barrels in the op-ed pages of the *Times*. Donaldson, who has broad shoulders and a forgiving disposition, never mentioned it in subsequent meetings. I'd like to think he never read it.

Speaking with same voice

When governments face acute difficulties—and the junior doctors' strike is such a case—then it is their job to make sure that all the spokespeople they can influence are speaking with the same voice. The slightest indecision galvanises the government's opponents, infuses them with fresh energy, supplies a

All's fair in love and war, and this is war

ETHICS MAN Daniel K Sokol

Cautionary tales about "do not resuscitate" orders

Doctors must consult patients and families even if they think resuscitation would be futile

Decisions about inappropriate DNACPR (do not attempt cardiopulmonary resuscitation) orders continue to make headlines.[1] Some will remember the case of Janet Tracey,[2 3] who was given a diagnosis of lung cancer in February 2011. A few weeks later she broke her neck and was admitted to hospital.

The Court of Appeal for England and Wales later found that the anaesthetist completed a DNACPR notice without discussing it with Tracey. This failure to involve the patient, the court held, breached article 8 of the European Convention on Human Rights.[4]

In a recent blog post the solicitor who had acted against the NHS in the Tracey case reported receiving four or five queries a month about DNACPR decisions.[5] She wrote, "Families leave me voicemails calling their loved one's doctor a murderer, such is the level of mistrust and suspicion aroused by finding a DNR [do not resuscitate] decision has been made without prior information and consultation." Her conclusion was that "unlawful DNR decisions remain widespread."

Just one aspect of care

As the US clinician and ethicist Joseph Fins observed, "a DNR order is simply a plan for the last fifteen minutes of a patient's life."[6] It should not affect other aspects of care.

The main conclusion of the Tracey case is this: there should be a presumption in favour of involving patients in discussions about resuscitation unless there are convincing reasons otherwise. A clinician's belief that involving the patient will result in harm can constitute a convincing reason. The fact that a doctor considers cardiopulmonary resuscitation to be "futile" is not.

"Unlawful DNR decisions remain widespread"

If the patient lacks capacity, clinicians should consult anyone engaged in caring for the person unless doing so is not "practicable or appropriate."

Carl Winspear was a 28 year old man who had had cerebral palsy, epilepsy, and other health problems.[7] He lacked capacity in the days before his death

TONY BUCKINGHAM/REX

helpful headline for supportive organs of the press, and discomfits those making what may be an uncomfortable case.

In the current instance the Conservatives made it plain before the election that a seven day NHS was a priority. It won that election, so it is entitled to act on that mandate. Now it is up to Hunt to deliver, and failure would end his political career. Naturally his staff are ensuring that all the ducks are in a row. At the weekend Donaldson's successor as chief medical officer, Sally Davies, weighed in by asking the BMA to suspend the strikes. Did she clear this call with officials? I imagine so, though it was hardly explosive stuff.

Equally, I would expect that the BMA is making every effort to discourage its members—and anybody else it can influence—from saying anything to undermine its position. If it isn't, then it's failing in its duty to make the best possible case for those it represents. If that involves arm twisting, so be it. All's fair in love and war, and this is war. Only the dewy eyed believe that politics works in any other way, and they don't win power or emerge triumphant from industrial disputes.

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Cite this as: *BMJ* 2016;352:i181
Find this at: http://dx.doi.org/10.1136/bmj.i181

on the evening of 3 January 2011. He had been admitted to hospital the previous afternoon. At 3 am on the day of his death the cardiology registrar placed a DNACPR notice on his clinical record. He did not consult the patient's mother. The note stated: "DNAR. Speak to family in the morning." In the morning the family contested the notice, and the DNACPR was revoked hours before his death.

Article 8 rights

The High Court held that a telephone call to Winspear's mother at 3 am, although inconvenient and undesirable, would have been practicable. The registrar's view that writing the DNACPR order was a clinical decision that did not require a discussion with the relatives reflected, in the court's view, a "misunderstanding as to the purpose of the consultation." The purpose, the judge wrote, was so that "important medical decisions about treatment are taken with relevant input into the decision making process, the principle of dignity and best interests is respected in the widest sense and the family can take on board and respond to the news." The court held that the hospital breached Mr Winspear's article 8 rights.

The names of Tracey and Winspear should echo in hospital corridors until all understand the ethical and legal imperative of involving patients and relatives in DNACPR decisions.

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Cite this as: *BMJ* 2016;352:i26
Find this at: http://dx.doi.org/10.1136/bmj.i26

ACUTE PERSPECTIVE

David Oliver

Grill politicians live on TV

The US television debates for the Republican presidential candidacy have been strangely compelling, with Donald Trump and Ben Carson's bizarre pronouncements and a long line-up of egos.

UK television election debates are blander, but the party leaders do face some glare. The mass media's scrutiny of UK party health spokespeople is less effective: specialist health correspondents may fact check grandiose promises or professed achievements, but general political correspondents or newsreaders run the show.

Our health ministers and their shadows are held to account non-stop by health policy think tanks, professional societies, and journals. We see occasional exposés of the reality behind official party lines on the BBC or in Sunday broadsheets. Still, most voters aren't health policy watchers who follow these niche sources.

Would Labour's 2015 manifesto, with its promise to recruit 8000 extra GPs, have survived expert scrutiny?

It's easy for the NHS commentariat to forget this.

I propose something more radical. Why not, on live television, have politicians quizzed by a panel of health policy experts and NHS leaders, with enough time for dogged fact checking, graphics on screen, and a studio audience of experienced healthcare staff and patients? If any MPs were brave enough to appear we might see a very different dialogue about historical claims or fantastical promises.

For instance, would Labour's 2015 manifesto, with its promise to recruit 8000 extra GPs, 20 000 more nurses, and 5000 home care workers,[1] have survived expert scrutiny? And all for an additional £2bn in the first two years, when NHS England has requested £8bn, ideally frontloaded, as a minimum.[2 3] Or how about the inevitable reorganisation and bypassing of the *Five Year Forward View* to deliver Labour's vision for integrated health and social care?

Imagine the Conservatives' health team being grilled on the disruption and cost of the 2012 Health and Social Care Act,[4] the barely credible £22bn savings target for the NHS,[5] the lack of credible workforce plans to support a seven day NHS, or the dissonance between their commitments to public health and spending.

Bloodbath, perhaps, but the fear might lead to the transparency that Jeremy Hunt says he wants.

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Cite this as: *BMJ* 2015;351:h6461
Find this at: http://dx.doi.org/10.1136/bmj.h6461

ANALYSIS

Metformin as firstline treatment for type 2 diabetes: are we sure?

Rémy Boussageon and colleagues ask whether metformin is bringing practical benefit to patients and question the focus on surrogate measures

Metformin is recommended as the first glucose lowering treatment for people with type 2 diabetes.[1] The recommendation is based on the supposedly conclusive results of the UK Prospective Diabetes Study (UKPDS 34) published in 1998.[2] The study found a reduction in 10 year mortality from any cause (relative risk 0.64, 95% confidence interval 0.45 to 0.91), and myocardial infarction (0.61, 95% CI 0.41 to 0.89). The number needed to treat to avoid one death was 14 and the absolute risk reduction was 0.07. However, these impressive results were obtained in a randomised subgroup of obese patients (342 patients in the metformin group and 411 in the conventional group) and have never been reproduced.[3] From a scientific point of view, the reproducibility of results is an essential validity criterion. Meta-analyses of randomised controlled trials evaluating the effectiveness of metformin in patients with type 2 diabetes found that metformin did not significantly modify clinically relevant outcomes (table 1).[4 5] The analysis of all types of trial shows no efficacy of metformin at all.

Risk of bias in UKPDS

Methodological shortcomings in UKPDS could have led to bias in the metformin result (table 2).[6 7] The diabetologist David Nathan noted in an editorial published to accompany the study that the "finding should be accepted cautiously."[7] Indeed, UKPDS 34 found a significant 60% higher death rate in patients given metformin plus sulfonylurea compared with those given sulfonylurea alone (1.60, 1.02 to 2.52). This surprising result was attributed to chance,[2] raising the question why positive results for metformin have been given credence and cited so copiously by the medical community while the increased risk of death observed for sulfonylurea plus metformin has been widely overlooked. It may be an example of the biased knowledge created by excessively citing a positive result.[8] Both our meta-analysis and that by Lamanna and colleagues found an additional risk when metformin was added to sulfonylureas (table 3).[4 9]

There are several reasons why bias might have occurred. The study was not double blinded, and no placebo was administered to the control group. This could result in problems such as differing approaches to treatment, concomitantly administered treatments, and divergent outcome assessments. It is known that studies without double blinding have a general tendency to overestimate the efficacy of study treatments.[10] This may have been exacerbated by the fact that concealment

We need rigorous assessment of all antidiabetic medications using patient relevant outcomes rather than surrogate markers

of allocation was not guaranteed. When a randomisation sequence does not remain secret, the results can be overestimated by as much as 40%.[11]

The concluding publication[12] indicates that a significance threshold of 1% was initially chosen (P<0.01). This was changed after the 1987 analysis to 5% (P<0.05) for the three main composite criteria. The positive results achieved with metformin for total mortality and myocardial infarction in UKPDS 34[2] are above the initial threshold (P=0.017 and P=0.011, respectively). Changing the significance values during the study increases the probability that the results are due to chance alone. Multiple analyses and alpha risk inflation are also a problem that was not taken into account at the outset of the study.[13] With UKPDS 33 and 34, there were more than 100 statistical analyses.[2 12] As chance alone will give a positive result in 5/100 tests at 5% significance and 1/100 at 1% significance, the possibility of the metformin result being down to chance cannot be ruled out.

Lastly, given the long follow-up, it would have been important to make sure that

Table 1 | Results of meta-analysis of randomised trials of metformin in type 2 diabetes[6]

	No in each group		
Outcome of interest	Metformin	Control	Relative risk (95% CI)
Total mortality	252/9338	211/3502	0.99 (0.75 to 1.31)
Cardiovascular mortality	163/9167	215/3268	1.05 (0.67 to 1.64)
Myocardial infarction	193/8701	176/2854	0.90 (0.74 to 1.09)
Stroke	57/8033	47/2379	0.76 (0.51 to 1.14)
Heart failure	74/8033	36/2379	1.03 (0.67 to 1.59)
Peripheral vascular disease	15/806	18/874	0.90 (0.46 to 1.78)
Leg amputation	10/806	11/874	1.04 (0.44 to 2.44)
Microvascular complications	54/806	71/873	0.83 (0.59 to 1.17)

Table 2 | Cochrane risk of bias assessment for UKPDS study

Bias	Risk
Random sequence generation (selection bias)	Low
Allocation concealment (selection bias)	Unclear
Blinding of participants and personnel (performance bias)	High
Blinding of outcome assessment (detection bias)	High
Incomplete outcome data (attrition bias)	Low
Selective reporting (reporting bias)	Unclear
Other bias	High

A BIG AND BEAUTIFUL TRIAL FOR GLUCOSE LOWERING DRUGS IN TYPE 2 DIABETES

Clinically relevant research questions—Is a drug strategy better than no drug at all, in addition to diet and exercise and appropriate cardiovascular risk management with angiotensin converting enzyme (ACE-1) inhibitors and statins; is one drug class better than the others as initial treatment

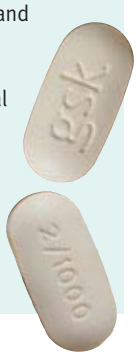
Adequate management of cardiovascular risk factors—Treatment with ACE-1 inhibitors and statins (high level of evidence)

Clinically relevant outcomes—A composite of cardiovascular death, myocardial infarction, stroke, heart failure, and symptoms affecting quality of life such as peripheral neuropathy requiring analgesics, significant vision alteration, renal death

Double blind design—With appropriate measures such as central biological follow-up to prevent follow-up and assessment biases

Adequate follow-up duration—The event rate in this population could be expected to be 10-15% after five years

Adequate statistical power—Between 5000 and 10 000 participants needed to show a 15% relative risk reduction for one comparison



KEY MESSAGES

- Metformin has been considered the best firstline drug for type 2 diabetes since 1998
- The UKPDS 34 study, on which the recommendation is based, had some methodological flaws
- No placebo controlled trial has unambiguously shown that metformin reduces microvascular and macrovascular complications
- Better clinical evidence is needed to guide use of metformin and other antidiabetic drugs

Table 3 | Risk ratio of treatment of type 2 diabetes with metformin and sulfonylureas versus sulfonylureas alone

Meta-analysis	No of included studies	No of participants (metformin + sulfonylurea *v* sulfonylurea)	Total mortality (95% CI)	Cardiovascular mortality (95% CI)
Boussageon et al	3	974 *v* 793	RR=1.53 (1.02 to 2.31)	RR=2.20 (1.20 to 4.03)
Lamanna et al	2	Not reported	MH OR=1.43 (1.07 to 1.92)	Not reported

RR=relative risk, MH OR=Mantel-Haenszel odds ratio

comparability between the two groups was maintained throughout the open label study. Identical management of cardiovascular factors, such as antihypertensive treatment and aspirin is especially important because there is evidence that these treatments reduce diabetic complications (such as myocardial infarction).[14] For example in UKPDS 33, at six year follow-up, the mean blood pressure in the chlorpropamide treated group was much higher than in other groups (143/82 mm Hg *v* 138/80 mm Hg, P<0.001).[12] The authors emphasised that 43% were getting antihypertensive treatment in the chlorpropamide group compared with 34%, 36%, and 38% in other groups (lifestyle and diet, glibenclamide, and insulin, respectively, P=0.022). Details on concomitant treatments received by the study participants in UKPDS have not been published despite the need for this information being highlighted.[15 16] We therefore cannot be sure that the results are not related to concomitant treatments rather than intensive glycaemic control.[14]

Is UKPDS 10 year follow-up report reliable?

Ten years after the main publication, a follow-up report of UKPDS patients was published.[17] This reported a significant beneficial effect in all groups (sulfonylureas, insulin, or metformin) for total mortality and cardiovascular mortality, leading to the medical community using the terms "glycaemic memory" or "legacy effect." Glycaemic memory refers to the putative long term effect of intensive early glucose control and highlights the need to prescribe suitable drugs as soon as type 2 diabetes is diagnosed. However, this report is subject to attrition bias (1525 (36%) of the 4209 randomly assigned patients were analysed[17]) in addition to the biases described above and should be interpreted with caution. The level of evidence is similar to that for an observational study, and the results need to be confirmed.

What are we to think of these data?

It is not possible to draw a definitive conclusion regarding the efficacy of metformin on clinically important outcomes because of the lack of adequately designed randomised clinical trials. An insufficient statistical power to identify a significant effect is one possible explanation, but inefficacy of metformin is another possibility deserving examination.

Metformin belongs to the biguanide class. The first molecule of this class, phenformin, was shown to increased cardiovascular risk in a double blind randomised controlled trial against placebo.[18] Pharmacologically, there are few differences between metformin and phenformin and they might therefore be expected to have similar cardiovascular effects.[19]

If the main aim of treating type 2 diabetes is glycaemic control, then metformin has probably the best benefit:risk ratio because of its favourable safety profile even in the presence of renal disease.[20-24] The frequency of lactic acidosis in patients taking metformin, for example, is very low, estimated at 2.3/100 000 patient years.[23] However, if metformin is ineffective in reducing clinically important outcomes these adverse effects should be taken into account because patients could be subject to unnecessary harm. We need rigorous assessment of all antidiabetic medications using patient relevant outcomes rather than the surrogate markers such as glycated haemoglobin concentrations. Simply showing non-inferiority compared with placebo, as observed in I-DPP4 evaluation,[25] is not sufficient or ethically acceptable, given the absence of proof of clinical efficacy of antidiabetic drugs.[26] The significant results for total mortality and cardiovascular mortality observed in the recent EMPAREG study,[27] which compared empagliflozin with placebo, open new perspectives. The box outlines a suggested trial that would provide better evidence on glucose lowering drugs. Although the safety profile of metformin is good, given its widespread use in type 2 diabetes, we should have unambiguous proof that it is more clinically effective than managing cardiovascular risk with angiotensin converting enzyme inhibitors and statins.

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Cite this as: *BMJ* 2016;352:h6748

Find this at: http://dx.doi.org/10.1136/bmj.h6748

William Paul Butt

Former consultant radiologist Leeds (b 1936; q Toronto 1959; MD, FRCPC, FRCR), d 10 September 2015.

William Paul Butt's training took him to London, Oxford, Edinburgh, and Gothenburg in the mid-1960s. Appointed to the staff of Montreal General Hospital, he developed particular expertise in skeletal radiology, publishing on discography and other spine related topics. He left hospital practice in 1975 to take up pig farming and worked part time at a private clinic in Vermont, commuting between Canada and the US. In 1979 he applied for a consultant post in Leeds and set about building the foundations for Leeds's musculoskeletal radiology team. After retiring he taught part time, joined in orthopaedic grand rounds, and did medicolegal work. He leaves his third wife, Jane, and eight children.

Philip J A Robinson

Cite this as: *BMJ* 2015;351:h5928
Find this at: http://dx.doi.org/10.1136/bmj.h5928

Beryl Jameson

Consultant medical microbiologist Royal Marsden Hospital (b 1934; q Sheffield 1956; FRCPath), d 22 August 2015.

Beryl Jameson trained in Sheffield and undertook junior hospital posts in pathology in London. She was appointed as consultant medical microbiologist for the Royal Marsden Hospital and worked there for many years, contributing to the understanding of infection associated with neutropenia and other immunosuppressive disorders. After retiring she kept in contact with her laboratory staff and colleagues from Sheffield University. Beryl had the unusual condition of synaesthesia and shared her experience of seeing words in colour with other people with this condition. She was a caring person and a dedicated Christian. She leaves her niece, her sister in law, her goddaughter, and her friends.

Elizabeth Price

Cite this as: *BMJ* 2015;351:h6103
Find this at: http://dx.doi.org/10.1136/bmj.h6103

Edward Somerset Short

General practitioner (b 1919; q Bristol University 1944), died from bronchopneumonia and dementia on 1 August 2015.

Edward Somerset Short's medical training was interrupted by pulmonary tuberculosis. After house officer posts, he worked at Winsley TB sanatorium and as a GP. In 1951 he and his wife, Mary, went to work at Bethesda Leprosy Hospital, Narsapur, in south India, where he became an innovative leprosy surgeon. The couple's time in India was marked by personal tragedy: they lost two children. Edward and Mary returned to the UK in 1976, and he joined a practice in Sandbach, Cheshire, from which he retired at the age of 70. Edward then became the minister of Castle Combe Congregational Church, finally retiring at 86 years of age. Predeceased by Mary, he leaves two children, five grandchildren, and three great grandchildren.

Michael E Jones

Cite this as: *BMJ* 2015;351:h5953
Find this at: http://dx.doi.org/10.1136/bmj.h5953

Ri Hornung

Former general practitioner and postgraduate dean for general practice (b 1934; q Guy's Hospital 1958; DObst RCOG, FRCGP), d 11 June 2015.

Ri Hornung lived in Vienna until he was 4 and then emigrated to England. He was a GP in Dorking, Surrey, until he retired in 1996. One of the first approved GP trainers in the country, he subsequently became a course organiser, associate director, and was appointed postgraduate dean of general practice for South Thames regional health authority in 1993, and later for Kent, Surrey, and Sussex. He was also professor of medical education at the University of Surrey, civilian medical adviser to the director of Army Medical Services, and visiting adviser in postgraduate medical education in Kosovo, Brunei, Cyprus, and Poland. He leaves his wife, Anne; four children; and six grandchildren.

Elizabeth Hornung

Cite this as: *BMJ* 2015;351:h5904
Find this at: http://dx.doi.org/10.1136/bmj.h5904

William Dampier Jeans

Former professor of radiology Sultan Qaboos University, Oman (b 1928; q St Thomas' Hospital, London, 1955; FRCR), died from a retroperitoneal sarcoma secondary to radiotherapy in 1967 on 2 November 2015.

William Dampier Jeans ("Bill") joined the radiology training programme in Bristol in 1968. He became involved with teaching as well as research and transferred from the NHS to the University of Bristol as a lecturer in 1973, eventually being appointed reader. He was involved in establishing computed tomography scanning and interventional vascular radiology at the Bristol Royal Infirmary. In 1990 he became the foundation professor of radiology at Sultan Qaboos University in Oman. After retiring in 2002 he joined his wife, Maggie, in developing her wholesale book importing business in Oman. He leaves Maggie and four children by his first wife.

Maggie Jeans

Cite this as: *BMJ* 2015;351:h5954
Find this at: http://dx.doi.org/10.1136/bmj.h5954

Arthur Carlisle Townsend

Consultant orthopaedic surgeon Kent and Sussex Hospital (b 1926; q Cambridge University/ Middlesex Hospital 1950; FRCS), d 6 August 2015.

Arthur Carlisle Townsend followed his father into the Royal Army Medical Corps for his national service during the Korean war. On returning to England he worked in Oswestry and Exeter before settling down in Tunbridge Wells. He retired near his childhood home on the south coast to pursue his love of sailing, which he shared with his children. Predeceased by his wife, Sheila, he leaves four children, six grandchildren, and three great grandchildren.

D Townsend

Cite this as: *BMJ* 2015;351:h5900
Find this at: http://dx.doi.org/10.1136/bmj.h5900

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Aubrey Sheiham

Epidemiologist, dentist, researcher, and teacher

Aubrey Sheiham (b 1936; q BDS, University of Witwatersrand, 1957; PhD, DHC), died from mesothelioma on 24 November 2015.

It takes courage or foolhardiness, or both, to challenge big business and the prevailing (and often lucrative) orthodoxies of one's own profession. Dental public health specialist and emeritus professor Aubrey Sheiham riled the dentistry profession as well as the food lobby—particularly the sugar industry—with the results of his decades of research.

Many of his 480-plus research papers and books challenged mainstream dental practice, highlighted the impact of social inequalities on dental health, and illustrated the public health benefits of measures to reduce sugar consumption.

Several colleagues and contemporaries point to his 1977 paper, which challenged the routine recall of patients for six monthly check-ups. Published in the *Lancet*, the paper argued that there was no scientific evidence supporting this approach and warned of the risk of overtreatment, including filling caries that might have healed naturally.

Richard Watt, professor and head of the Research Department of Epidemiology and Public Health at University College London (UCL), said that Sheiham's research was finally vindicated by a 2004 review from the National Institute for Health and Care Excellence (NICE), which produced guidelines that backed his research and conclusions. Watt calls the paper "the forerunner of evidence based medicine."

That was a far cry from the months after his paper was published—Sheiham was warned that some dentists were seeking to refer him to the General Dental Council for bringing the profession into disrepute, raising the threat of removal from the register and with it the loss of his job. Some dentists and leaders of the profession continued publicly to attack his stance for many years.

An ebullient and confident personality, Aubrey Sheiham didn't shy away from controversy, seeking to ignite the debates he thought could deliver change

Sheiham was a committed supporter of the Cochrane Collaboration and had a key role in establishing its oral health group.

Sheiham was co-author of a colourful paper in *The BMJ*'s 2015 Christmas issue (Austin Powers bites back: a cross sectional comparison of US and English national oral health surveys—doi:10.1136/bmj.h6543), comparing oral health and inequalities in America and England. It challenged the assumption that Americans have much better teeth than the typical Briton. He had first researched the subject in response to jokes by his American hosts during a short stint as assistant professor of dental public health at the University of Michigan in 1968-69.

Sheiham rose through the clinical research and teaching ranks at the Royal London Hospital and its medical school, becoming a consultant in the college's community dentistry unit in 1970, and reader and head of department of community dental health in 1982. He had abandoned his clinical work by the late 1960s in order to concentrate on dental public health research and teaching. In 1984 he took on similar roles at the University College London dental school, when the medical colleges merged.

Sheiham's sense of social justice was fostered by growing up in apartheid-era South Africa—which he left on completing his BDS in 1957. Sir Iain Chalmers, coordinator of the James Lind Institute, says that as well as being driven by a sense of social justice, Sheiham was iconoclastic. This went beyond challenging the mores of his own profession, such as the six month recall. While he had supported universal water fluoridation 30 years ago, Chalmers says, Sheiham moved his position as he recognised that similar ends could be achieved through, for example, fluoride in toothpaste and other public health measures.

Sheiham regularly took on consultancy work with the World Health Organization, UK quangos including the former Health Education Authority, and foreign governments. He wrote a paper on dental public health for Sir Donald Acheson's 1997-98 independent inquiry into inequalities in health.

It was during this period—the first years of the Blair government—that his influence on UK public health policy was perhaps at its peak, but his contribution to dentistry and oral public health went conspicuously unrecognised in the UK. There is a suspicion that this lack of recognition stems from his iconoclasm and a certain revelling in taking on vested interests—be they professional or in the shape of the food industry.

An ebullient and confident personality, Sheiham didn't shy away from controversy, seeking to ignite the debates he thought could deliver change. Some suspect he rather enjoyed the attendant controversy.

Watt says that beyond an ongoing influence on policy, Sheiham's greatest legacy may be the generation of PhD students and others who came into his academic sphere.

Aubrey Sheiham leaves his wife, Helena Cronin.

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Cite this as: *BMJ* 2015;351:h6785
Find this at: http://dx.doi.org/10.1136/bmj.h6758

LYME DISEASE

Current approach misses a large proportion of cases

Many physicians who care for patients with Lyme disease and who follow the long debate on appropriate diagnosis and treatment agree that a new approach is needed (Editorial, 12 December).

Numerous scientific papers have shown that the two tiered testing strategy for diagnosing *Borrelia burgdorferi* misses a large proportion of cases. This approach cannot diagnose new species, including *B miyamotoi* and *B burgdorferi* sensu lato, which also cause chronic illness. Persistence of borrelia has been recently reported by Johns Hopkins researchers, and mechanisms of persistence have included immune evasion and formation of biofilms.

The Centers for Disease Control and Prevention reported a 320% increase in the number of Lyme cases over the past two decades, so without a fundamental shift in the medical paradigm that we use to diagnose and treat Lyme disease the number of people chronically disabled from this illness will greatly increase.

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Cite this as: *BMJ* 2016;352:i113

SNAKE BITE

Problems with treating snake bite in India

Venkatesh and Srinivasan (Letters, 28 November) are wrong that India has a successful model for treating snake bite.

The two management protocols they cite were not universally taken up and different protocols with different dosing and indications for use of antivenom are used. The locally developed management protocol cited as proof of rational use of antivenom has been superseded by differing guidelines from the West Bengal government.

Since 2013, when price control was introduced, antivenom availability has decreased because manufacturers are less motivated to produce it. Centres across India face non-availability of antivenom. The Central Research Institute, a leading antivenom producer, has scaled down production greatly.

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Cite this as: *BMJ* 2016;352:i103

ALFRED PASIEKA/SPL

LETTER OF THE WEEK

CBT for depression is hard to access in the NHS

The original research by Amick and colleagues (12 December) confirms what many have thought for decades—that talking therapy is as good as or even better than antidepressants, without the side effects. Never mind that the research looks at cognitive behavioural therapy (CBT) only, which although helpful concentrates on the present, whereas depression is often rooted in the past. In my experience as patient and counsellor, any talking therapy helps, and many patients prefer it to taking drugs.

But, how to get it? This research was done in America, where there seems to be little difficulty accessing psychotherapy. In the UK many GPs find it easier in a seven minute appointment to prescribe an antidepressant than to refer to psychotherapy, which is usually CBT. Even CBT can be challenging to access on the NHS, with waiting lists often six months long. GPs often don't refer to, or are not aware of, psychotherapy and counselling services that are available in the community: some are free of charge or a donation is suggested. Even these may have waiting lists, but it is foolish to neglect any support for people desperate for help.

At least we now have the evidence that talking therapy is useful for a common disorder. But we need more resources and an information campaign among GPs to make sure that it can be offered to every patient.

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Cite this as: *BMJ* 2016;352:i119

PAY IN THE NHS

Charts on NHS pay did not provide a fair comparison

One chart in Appleby's article on NHS pay (This week, 28 November) broke down NHS jobs and compared them with other professions. But it seems odd that the chart compares the average earnings for large heterogeneous groups of professionals with those of subgroups of seniority within the NHS. It's like comparing apples and oranges—how can you compare consultant doctors' salaries (the most senior grade in one profession) with the average salary for a whole profession?

In addition, the selection from the original Office for National Statistics data of the professions to be included for comparison was interesting. Various highly paid groups, such as brokers, marketing and sales directors, information technology and telecommunications directors, were selected. I'm not sure that this dramatic looking chart provides a valid comparison.

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Cite this as: *BMJ* 2016;352:i115

Author's reply

St Leger questions the validity of occupation comparisons. The bubbles in the chart reflect the approximate workforce size in each group; several NHS groups are in fact much larger than non-NHS ones. But the scale is problematic; St Leger notes that consultants are a subset of doctors, which are a subset of healthcare workers. I tried to compare like with like by taking the Annual Survey of Hours and Earnings (ASHE) occupation categories and showing various occupations spanning the earnings range, but it's not perfect, although more like comparing types of apples, not apples and oranges.

I did not leave out some high paid jobs to make some NHS earnings look excessive. I used the four digit level of occupation from table 14.7a of ASHE; because samples are small, there are no pay data for brokers and the others mentioned. Their median earnings may exceed those of consultants, but the data aren't available through ASHE.

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Cite this as: *BMJ* 2016;352:i117