

Evidence based medicine matters

Sense About Science
Academy of Medical Royal Colleges

Medical Royal Colleges' commitment to evidence based medicine

Evidence based medicine is the key to the success of modern healthcare. It is the ongoing process of testing treatments and collecting evidence that moves medicine forward. It is the basis for the extraordinary improvements in life expectancy and quality of life we have seen in the last century. Modern medicine faces challenges every day in treating chronic diseases and from therapies that escape rigorous scrutiny but by continually striving towards a solid evidence base for treatments we give doctors and patients the best foundation on which to base decisions. We believe evidence based medicine must be our aspiration.

College of Emergency Medicine

Faculty of Dental Surgery

Faculty of Occupational Medicine

Faculty of Pharmaceutical Medicine

Faculty of Public Health

Royal College of Anaesthetists

Royal College of General Practitioners

Royal College of Obstetricians and Gynaecologists

Royal College of Ophthalmologists

Royal College of Paediatrics & Child Health

Royal College of Pathologists

Royal College of Physicians & Surgeons of Glasgow

Royal College of Physicians of London

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Royal College of Psychiatrists

Royal College of Radiologists

Royal College of Surgeons of Edinburgh

Royal College of Surgeons of England

Royal College of Surgeons of Ireland

Royal College Physicians of Ireland

Royal Pharmaceutical Society

Introduction

One in six cancer patients in the UK is taking part in a clinical trial. Millions of people have been involved in testing treatments and thousands of medical professionals in every field from GPs to surgeons play a role in clinical research. This is all part of evidence based medicine — the reason that minor infections don't usually kill us, that people can live with cancer and that we know that smoking is harmful. We rarely hear much about new breakthroughs beyond very occasional wonder drugs and some groups have caricatured doctors as not being open to change. We asked the medical Royal Colleges to explain the scope of evidence based medicine and collected 15 of the best stories here.

They told us about investigations that started 60 years ago that are still going on and about efforts to resolve uncertainties about treatments that were only identified two years ago. They showed that explorations of evidence go beyond drugs and treatments into places we would not expect such as surgeons' behaviour and the way that people take medicines. They showed that the incremental step that each new piece of research makes will eventually feed into developing medical practice. The stories illustrate how the self-critical nature of medicine continually tests and draws evidence back into the frame and how we constantly learn that just because a treatment is traditionally used it does not mean that there is nothing better.

There are challenges to evidence based medicine. Lack of funding, time and expertise means that every intervention for every possible circumstance and patient can never be fully investigated. It can be difficult to get new information quickly to every medical practitioner, and sometimes it takes a long

time for medical practice to change. But the stories show that there are efforts to overcome these problems.

Marginal groups have caricatured doctors as being blind to anything outside medical orthodoxies and said that evidence based medicine is incompatible with an holistic approach to patients. Medical Royal Colleges were founded to protect patient welfare. They are involved in the constant effort to do better in medicine so that professionals in every field can draw on decades of evidence to have the best foundation to work with patients on decisions about treatments. Work done by professionals from the 15 different fields represented in this booklet means that breech babies can be delivered in the safest way; breast cancer patients' quality of life can be improved; emergency medics know how to give the best treatment for severe allergic reactions; HIV infection, once fatal, is now a manageable chronic condition; eye cancer patients can avoid unnecessary screening; and non-surgical ways to save lives during surgery have been developed.

We hope that the stories the Colleges shared about the scope of evidence based medicine will challenge caricatures and inspire even greater commitment from those people who can improve medical practice.

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We asked the medical Royal Colleges for a case study to bring to life the scope of evidence based medicine. The research set out here is not necessarily a piece of work done by or for the particular College but was chosen by a member of that College to represent the research being done in their field.

Giving Bell's palsy patients the best chance of complete recovery

Bell's palsy is a common type of condition where a part of the face becomes paralysed due to damage to a facial nerve. It usually affects one side of the face, which over a few hours and for no apparent reason drops. Patients lose their expression and tears spill down the cheek because the lower eyelid sags away from its normal position. Bell's palsy affects 40 people in every 100,000 in the UK each year (mostly young adults), so we all have a 3–4% chance of developing it in our lifetime. Most patients gradually make a complete recovery over about six months; some take longer and 5% of patients may be left with some permanent facial weakness.

Until a few years ago it was not clear what the best treatment for Bell's palsy was. The options for a doctor seeing a patient with Bell's palsy included: doing nothing because patients can sometimes recover spontaneously; giving the patient steroids; or using steroids in combination with antiviral medicines (because it is thought that some cases of Bell's palsy are caused by the chickenpox virus).

In 2004 GPs in Scotland started a clinical trial to resolve this uncertainty about the best treatment. The trial investigated the question, "does early treatment with a steroid or an antiviral drug or both affect the recovery of facial function?"; the trial was randomised which means patients coming to a GP were allocated one of the treatments purely by chance; it was double-blinded (neither the participant nor the GP knew to which group the patient has been assigned until the trial was over); it was a well-powered study, which means that the number of patients treated was high enough to be confident that the results were reliable; and included a control group of patients who were given a placebo treatment.

The conclusions of the trial were clear. Early treatment with a steroid (prednisolone) at a dose of 25mg twice a day for 10 days significantly improved the chances of complete recovery at 3 and 9 months. There was no benefit from an antiviral drug given alone or in combination with the steroid. The study also looked at patients' quality of life, appearance, and pain and found that steroid treatment improved all of these and was cost effective.

This research was undertaken in primary care by GPs. It provided a clear, evidence based treatment strategy for patients who are liable to be stressed, worried and anxious about their recovery from this distressing condition. The research findings were published in a world class journal and the paper went on to win the 2008 RCGP Boots Research Paper of the Year and the 2009 BMJ Research Paper of the year.



Royal College of
General Practitioners

Sullivan F et al 2007 Early Treatment with Prednisolone or Acyclovir in Bell's Palsy. NEJM; 357; 1598-607

*Royal College of General Practitioners
www.rcgp.org.uk*

Patients with bowel conditions can avoid an unnecessary colonoscopy



When a GP sees a patient with vague and non-specific digestive symptoms it is often difficult to establish what these symptoms are caused by — diet, stress, irritable bowel syndrome, medication or there could be inflammation. Patients with these symptoms are often sent for a colonoscopy, where the doctor inspects the inside of bowel for inflammation using a long flexible camera. For many patients even when a non-inflammatory problem is suspected a colonoscopy is still used for full reassurance. Colonoscopy is unpleasant for the patient, expensive (around £600 per procedure) and carries a risk of complications and infection. At a district general hospital, about 1,700 colonoscopies are carried out every year and around half of them ultimately show the bowel is normal.

A test has been developed that allows doctors to distinguish a potentially inflamed bowel from a normal one without doing a colonoscopy. The test is not invasive — it is carried out on a small amount of stool which can be collected by the patient at home and posted to a laboratory — and cheap (£20- £30 per test).

The test has been evaluated and compared to colonoscopies in numerous studies. A meta-analysis of 13 of these studies showed that the test is reliable at identifying patients who are most likely to need a colonoscopy for suspected inflammatory bowel disease. Since it is only patients whose test gives a positive result that need investigating further all of the patients with a normal bowel can avoid being referred to hospitals, can avoid having a colonoscopy and can be reassured sooner. As lots of patients will no longer need colonoscopies the existing facilities can be used in a more targeted manner focusing on those with significant disorders such as Crohn's disease and colon cancer.

For patients who have been confirmed as having an inflammatory bowel disease, the test can be used to monitor their response to treatment and help doctors to intervene early to prevent a relapse.

Patrick F van Rheenen et al 2010 Faecal calprotectin for screening of patients with suspected inflammatory bowel disease: diagnostic meta-analysis. BMJ 341:c3369

Royal College of Pathologists
www.rcpath.org

Patients recover more quickly after surgery

Your body's vital organs need more oxygen than normal during major surgery. If the level of oxygen getting to your organs is low you are more likely to develop complications which could include infection, wound breakdown, and kidney or heart failure. Movement of oxygen from the lungs to the rest of the body depends on several factors including blood haemoglobin level, blood oxygen levels and the heart's output. It is the anaesthetist's job to monitor these factors to ensure that oxygen delivery is high enough during and after surgery, and to intervene if it drops. The devices used to monitor these factors include wide needles inserted into the major veins leading to the heart and are invasive. Using an invasive device slows down patients' recovery times after surgery and carries a risk of complications.

A less invasive device to monitor oxygen delivery during surgery was needed. The oesophageal Doppler probe is a disposable device that is inserted into the patient's gullet and measures blood flow using ultrasound. It was tested in the laboratory and in healthy people to check that it measures blood flow as accurately as established devices did. Then anaesthetists used it during surgery in randomised controlled trials over 20 years and it showed promising results. In 2007 the NHS Technology Adoption Centre started a large study in three different hospitals to assess its use on patients undergoing major or high risk surgery. The results of this study confirmed that when the Doppler probe was used patients had fewer complications and had to stay in hospital for 2 days less than patients who had surgery using an established device. Even though they left hospital sooner, patients who had the Doppler probe used during surgery did not have to be readmitted to hospital or undergo repeat surgery in any greater numbers than other patients. In March 2011 The National Institute for Health and Clinical Excellence (NICE) recommended that the Doppler probe should be used for people who are having major or high-risk surgery. Around 800,000 patients in the UK could benefit every year, saving the NHS £850 million.



The Royal College
of Anaesthetists

*NICE Guideline on CardioQ-ODM
(oesophageal Doppler monitor) www.nice.org.uk/MTG3*

*Royal College of Anaesthetists
www.rcoa.ac.uk*

More premature babies' lives are saved



In 1963 Jackie Kennedy gave birth to a son by emergency Caesarean section. Patrick Bouvier Kennedy was born at just over 34 week's gestation and weighed 2.11kg. He died two days later of respiratory distress syndrome. Patrick and thousands of babies like him died because when they were born, their lungs were not sufficiently developed to hold air spaces open. Doctors could do nothing to support the breathing of these babies; all they could do was monitor the infant's blood chemistry and try to keep it near normal.

A young scientist researching how steroids trigger premature labour in sheep noticed that steroids seemed to reduce the rate of respiratory problems in new born lambs. He worked with a paediatrician to design a randomised, double blinded, controlled clinical trial to test if an injection of steroids to women going into premature labour would reduce respiratory distress syndrome in their babies. The results, published in 1972, clearly showed that more premature babies survived and stayed healthy when their mothers were given steroids. Many more years of clinical trials involving thousands of babies continued to show that antenatal steroids save premature babies lives, halve risk of respiratory distress syndrome and improve the babies' long-term health.

But until someone gathered together and reviewed the evidence from these trials in a systematic review that showed the clear benefit of steroids in preterm labour most obstetricians did not realise that the treatment was so effective. In 1992 the Royal College of Obstetricians and Gynaecologists published clinical guidelines based on the systematic review and medical practice changed almost overnight.

Today antenatal steroids are used routinely for mothers in premature labour and their use is audited in the Royal College of Paediatrics & Child Health National Neonatal Audit Programme. As a result of this and other advances the survival rate today for babies born as early as baby Kennedy is close to 100% and is above 90% even for those more than 7 weeks early. One in a hundred babies is born extremely preterm and they will all benefit if their mother receives steroids before giving birth; this equates to about 8,000 babies born in the UK each year.

If hundreds of doctors had not offered their patients the opportunity to be enrolled into the randomised controlled trials that led to the evidence incorporated into the systematic review and clinical guidelines, and if thousands of mothers had not agreed to take part, many thousands more babies would have died.

Liggins and Howie 1972 A controlled trial of antenatal glucocorticoid treatment for prevention of the respiratory distress syndrome in premature infants.

Royal College of Paediatrics & Child Health www.rcpch.ac.uk

Emergency medics can use the best treatment for severe allergic reactions

Allergic reactions send people to hospital emergency departments every day and dozens of people die from them every year. Symptoms of an allergic reaction range from mild rash to life-threatening breathing problems and a drop in blood pressure called anaphylaxis. Until recently, there was no consensus on the optimal management of anaphylaxis in emergency departments.

In 2009 the College of Emergency Medicine launched a venture called GEMNet to identify uncertainties in treatment for medical emergencies encountered by frontline NHS staff. Severe allergic reaction was one of the first topics GEMNet experts looked at. They broke down the topic into 25 key questions and set up an expert panel to search the medical literature for studies answering these questions. For example, they found 952 research papers on the question of whether injection of adrenaline under the skin is better than injection into a muscle. The expert panel analysed these studies and combined the data from them into a systematic review. The answer that emerged in this case is that injection into muscle gives better results.

New guidelines for treating severe allergic reaction were published in December 2009 along with guidelines for topics including headache and poisoning. The guidelines are presented at national conferences of emergency medical practitioners and published online in the Emergency Medicine Journal so that they can be adopted into routine clinical practice across the UK. Guidelines are reviewed every three years so new evidence answering questions can be assessed and included.



The College of
Emergency
Medicine

Guideline for the management of acute allergic reaction, College of Emergency Medicine www.collemergencymed.ac.uk/Shop-Floor/Clinical%20Guidelines/Clinical%20Guidelines/default.asp, secure.collemergencymed.ac.uk/asp/document.asp?ID=5072

Breast cancer patients' quality of life has improved



Radiotherapy is the use of radiation to kill or control cancer cells. For cancer patients a specific dose of radiation is given in daily treatments and delivered over a number of weeks. In general, when the treatment is to relieve symptoms in a cancer patient a small number of doses, usually 1–5, is delivered over a short time and to a low total dose. For curative treatments the dose is higher and courses of treatment often take six weeks to complete, with patients attending a radiotherapy clinic every weekday. Over the past twenty years randomised trials have been performed to assess different radiotherapy schedules for different types of cancer but there is still uncertainty about the most effective radiotherapy schedule for many types of cancers.

In 2006 an expert group from The Royal College of Radiologists collected all the available evidence and produced guidelines on radiation treatment schedules for particular cancers in a report called “Radiotherapy Dose-Fractionation.” Where there were gaps in the evidence the experts ranked standard treatment options according to the level of evidence available. The report identified areas where further research is needed to generate a comprehensive evidence base.

The report is now five years old and is due to be reviewed to incorporate new data. One area in which there is excellent new data is on radiotherapy for breast cancer. A large trial completed in 2008 compared the international standard dose of radiotherapy (50 Gray delivered in 25 doses over 5 weeks) with alternative schedules based on fewer but higher daily doses given over three weeks. Results showed that the three week schedule had similar tumour control to the five week schedule, and that patients on the three week schedule had fewer side effects from the radiation. This study has had an enormous impact on breast cancer radiotherapy; a three week treatment schedule has now become the standard. For patients this means fewer hospital visits and side effects, and, as breast cancer is responsible for about a third of a radiotherapy department’s workload, incorporation of results from this clinical trial into guidelines has allowed hospitals to free up resources to treat more patients.

Radiotherapy Dose-Fractionation www.rcr.ac.uk/publications.aspx?PageID=149&PublicationID=229

The UK Standardisation of Breast Radiotherapy (START) 2008 Trial A of radiotherapy hypofractionation for treatment of early breast cancer: a randomised trial *The Lancet Oncology*, 9; 4, 331 – 341

Royal College of Radiologists
www.rcr.ac.uk

Breech babies can be delivered in the safest way

The position of the baby when it is ready to be born has an impact on the process of its birth. The head first position is the best way for the baby to travel through the birth canal and most babies turn into this position late in pregnancy. However, 3-4% of babies will remain in the breech (bottom or feet first) position, making birth more complicated. Studies have shown that breech position birth is associated with an increased risk of babies dying in the womb or soon after birth and is associated with poorer future health of the baby compared with head first birth.

Doctors debated for a long time about the best way to deliver breech babies — vaginal delivery or Caesarian section. There was no consensus so doctors chose a method based on their own experiences and personal preference. A study by obstetricians in St Mary's Hospital in London in 1992, aimed to put an end to the uncertainty. Thorpe-Beeston and colleagues collected records of 1 17,000 births. They identified 3,447 healthy full-term single breech babies which were born by elective Caesarean, emergency Caesarean in labour and vaginal birth and examined the outcome of those births. The results of the study suggested that the total risk of breech babies dying during birth, or soon after, was close to 1% for vaginal delivery whereas for Caesarean section it was 0.03%.

This research paper was widely debated at the time because it relied on looking back over medical records which may be incomplete or might not contain some important details about the baby and the birth. Since the paper was published lots more research has been done into the question of delivering breech babies, including a large clinical trial across many hospitals in 2000. The new evidence supported the results of the 1992 study and has resulted in the practice of delivering breech babies by Caesarean section becoming the standard in many countries. The Royal College of Obstetricians and Gynaecologists published guidelines in 1999 (updated in 2006) recommending this. These guidelines have been updated many times when new evidence has been produced and will continue to be reviewed to ensure the best treatments and procedures are available to women and their babies.



Royal College of
Obstetricians and Gynaecologists
Bringing to life the best in women's health care

Thorpe-Beeston G 1992 Outcome of breech delivery at term BMJ 305: 746-7

Royal College of Obstetricians and Gynaecologists www.rcog.org.uk

Public health policy on smoking saves lives



In 1948, UK Government statisticians noticed a huge recent increase in lung cancer deaths. The Medical Research Council Statistical Research Unit held a conference to investigate and to try to identify a cause. Researchers speculated that the most likely cause would be air pollution — partly from coal fires and partly because the expansion of the motor industry meant roads were being tarred and exhaust fumes were increasing.

In 1950, Sir Richard Doll and Sir Austin Bradford Hill published research on lung cancer patients in 20 London hospitals which showed the risk of developing lung cancer “may be 50 times as great among those who smoke 25 or more cigarettes a day as among non-smokers.” In those days, Doll said, smoking seemed a normal and harmless habit, 80% of men smoked, so the researchers designed a much larger study to test these findings. They sent a questionnaire asking about age, health and smoking habits, among other things, to all UK doctors and received answers from 40,701 of them. This was the first time what became known as a prospective cohort study was used. Results published in 1954 confirmed the original finding that smoking was associated with lung cancer and also linked it to heart disease.

The strength of the evidence was such that the Government issued guidance that smoking caused lung cancer, which was announced by the health minister, Iain MacLeod, who notoriously chain smoked during his speech. In 1962, the Royal College of Physicians — from which the Faculty of Public Health was formed — published a report linking smoking and death and the tide of public opinion started to turn.

The Faculty of Public Health spread the health message to the public and worked with medical professionals and policy makers to get changes to smoking legislation. Although smoking remains the single largest cause of avoidable deaths and is a major public health issue, it is also a success story, since the use of strong evidence, health promotion, and continuing revision of the evidence has seen a reduction in smoking related diseases and deaths.

Doll R and Bradford Hill A 1954 The mortality of doctors in relation to their smoking habits: a preliminary report. British Medical Journal ii;1451–5. www.ncbi.nlm.nih.gov/pmc/articles/PMC437141/?tool=pmcentrez

Faculty of Public Health www.fph.org.uk

HIV infection, once fatal, has been transformed into a chronic manageable condition

AIDS and the HIV virus were identified in 1983 and since then the number of HIV infections has increased rapidly, resulting in a global pandemic with approximately 34 million people living with HIV in 2011, and nearly 30 million deaths to date.

There has been concentrated research into the basic science of the HIV virus and surveillance of its spread since the 1980s. The first breakthrough in the development of anti-retroviral drugs (drugs for the treatment of infection by HIV) came when it was discovered that a drug being used as a cancer treatment decreased deaths among patients with AIDS. This was followed by demonstration that a combination three anti-retroviral drugs is better than one alone. Clinical trials were run in adults and children by both the pharmaceutical industry and academic groups on when to start treatment, what drug to start with, when to switch therapy, and how to manage virus resistance and side effects. It was through randomised controlled clinical trials that it was demonstrated that use of an antiretroviral drug can prevent an HIV-infected woman passing the virus to her baby. Results from these trials have fed into guidelines for the treatment of HIV.

Now, only 30 years after the discovery of HIV, 26 drugs and several combination treatments are available and significant progress has been made in controlling the spread of the disease. HIV infection has been transformed into a chronic manageable condition. This has come about through extraordinary collaboration between public health organisations, basic scientists, doctors, regulatory authorities and the pharmaceutical industry. The rapid dissemination of data, constant and rapid evaluation of new evidence and its incorporation into guidelines for prevention and treatment has resulted in massive benefits to individual patients and major public health rewards.



Fischl MA, Richman DD, Grieco MH, et al 1987 The efficacy of azidothymidine (AZT) in the treatment of patients with AIDS and AIDS-related complex. A double-blind, placebo-controlled trial. N Engl J Med. 317; 185

WHO 2010 Antiretroviral therapy for HIV infection in adults and adolescents –Recommendations for a public health approach, Geneva, World Health Organization. Available at whqlibdoc.who.int/publications/2010/9789241599764_eng.pdf

Panel on treatment of HIV-infected pregnant women and prevention of perinatal transmission, Department of Health and Human Services, 2010;1 Available at aidsinfo.nih.gov/ContentFiles/PerinatalGL.pdf.

WHO 2010 Antiretroviral drugs for treating pregnant women and preventing HIV infections in infants, Geneva, World Health Organization,. Available at whqlibdoc.who.int/publications/2010/9789241599818_eng.pdf

*Faculty of Pharmaceutical Medicine
www.fpm.org.uk*

Eye cancer patients can avoid unnecessary screening

The
Royal
College of
Ophthalmologists



There are about 500 new cases of intraocular melanoma, cancer that forms inside the eye, every year in the UK. In around half of intraocular melanoma patients the cancer will spread through the blood circulation to form tumours in the liver and other parts of the body and the patient will die of the disease. This spread can occur even when the tumour in the eye has been removed, and only becomes apparent months or years later. Patients with intraocular melanoma are screened regularly for liver tumours, usually by ultrasound or MRI scans. Constant screening like this is stressful for patients and can cause harm, for example, discovering lesions which on surgical removal prove to be harmless.

There is no agreement as to which patients should be screened, how often and for how many years. Traditionally, doctors used the size of the intraocular tumour and laboratory tests on the tumour cells to predict the likelihood the cancer will spread but this is unreliable. Many doctors choose the most cautious option and send every patient for screening every six months for at least ten years.

In 1996, laboratory researchers discovered that intraocular melanomas are fatal only if they show a particular genetic abnormality — the loss of part or all of a chromosome 3 — and in 1999, the Liverpool Ocular Oncology Service started offering genetic tumour testing to patients as a routine service. An online method which takes into account clinical stage of the tumour, its appearance under the microscope and genetic analysis was developed. This tool has been shown to be reliable at predicting whether a person has the fatal type of intraocular melanoma.

Doctors can now target screening at high-risk patients whose tumour shows chromosome 3 loss meaning they can detect any spreading of the cancer quickly so improving patients' chances of survival. Quality of life studies show that the wellbeing of patients is better when they know their prognosis, even if this is poor, and they find such knowledge easier to cope with than uncertainty. This research also makes it possible to reassure patients who have a very low risk of the tumour spreading, sparing these patients years of unnecessary screening and saving NHS resources.

*Damato B and Coupland SE2009
Translating uveal melanoma cytogenetics
into clinical care Arch Ophthalmol
127;423-29*

*Damato B, Eleuteri A, Taktak AF, Coupland
SE 2011 Estimating prognosis for survival
after treatment of choroidal melanoma.
Prog Retin Eye Res. 30;285-95*

Royal College of Ophthalmologists
www.rcophth.ac.uk

Evidence supports modern treatments for mental health problems

One in four of us will experience a significant mental health problem, such as anxiety or depression, at some stage in our lives. Treatments usually include drugs, talking therapies and self-help, often in combination. Cognitive behavioural therapy (CBT) is a talking therapy that encourages individuals to use new ways of thinking and behaving in everyday situations that will help them to feel better, and it teaches skills to stay well. It involves 'homework' outside therapy and can be delivered in different ways including group meetings, telephone, or through internet based computer programmes.

The effectiveness of the therapy for different mental health problems has been evaluated in clinical trials, which showed that CBT is effective in helping people to recover more quickly from their difficulties. For example, a meta-analysis of trials involving people with schizophrenia showed CBT reduces likelihood that people will have to return to hospital up to 18 months after treatment by 24% and reduced their stay in hospital by an average of 8 days.

NICE has gathered and reviewed the evidence for CBT and published guidance on its use. For anxiety, depression, obsessive-compulsive disorder and post-traumatic stress disorder, CBT is the talking treatment of choice to get well and remain well. NICE also recommends, for example, that for severe depression a combination of antidepressant medication and CBT is more effective, and more cost effective, than either treatment on its own. The Royal College of Psychiatrists is therefore working to ensure that CBT becomes more widely available to patients, and supports the NHS Improving Access to Psychological Therapies Programme.

NICE recommendations for mental health problems stress that treatment decisions should also take into account the needs of a patient as an individual. For example, for moderate depression they recommend that the choice of treatment should be based on the patient's preferences and previous experience with treatments as well as on the evidence of the effectiveness of treatments. This is 21st Century holistic medicine — blending the art of mental health care with the best scientific evidence.



NICE guidance on cognitive behavioural therapy for the management of common mental health problems
www.nice.org.uk/media/878/F7/CBTCommissioningGuide.pdf

Royal College of Psychiatrists www.rcpsych.ac.uk/default.aspx

Improving occupational health care for NHS staff



Faculty of Occupational Medicine
of the Royal College of Physicians

Occupational health doctors study the effect of people's health on their work and the effect of work on people's health. There are 1.4 million NHS staff and their pay bill takes 60% of the NHS budget. For sick or disabled staff work can promote recovery; minimise the harmful physical, mental and social effects of long term sickness absence; and reduce the risk of long-term incapacity. And NHS staff health affects patient care: poor staff health is associated with worse patient outcomes including hospital-acquired infections, mortality rates and patient satisfaction.

Forty per cent of NHS staff sick time is due to absences that last more than 4 weeks, and the most common reason for long-term sickness absence is psychological problems. NICE published evidence based guidance on managing long term sickness absence. When assessing staff on long-term sickness absence, Occupational Health professionals need to consider both physical and psychological barriers to work. Where appropriate they may refer to physiotherapy or psychological therapy, which may speed recovery and enable an earlier return to work. NICE has also published guidelines on managing depression — a common primary or secondary cause of long-term sickness.

The Health and Work Development Unit (HWDU) is a partnership between the Faculty of Occupational Medicine and the Royal College of Physicians. HWDU used national clinical audit methodology to measure the extent to which these guidelines are implemented by occupational health clinicians working with NHS staff. In 2008 HWDU asked each Occupational Health Unit to audit 40 consecutive case notes from NHS staff seen after 4 weeks of sickness absence.

After analysis and reporting, HWDU ran a series of workshops on the audit findings to support occupational health clinicians in developing action plans for improvement. In 2010 HWDU completed the audit cycle by repeat data collection. Results showed improvement in all areas measured, for example the proportion of staff off sick long term asked about alcohol, depression and suicidal thoughts; and the proportion of patients who received communication from their occupational health clinician.

Without evidence based guidance we would not know where to focus our improvement activities. The combination of NICE guidance and audit methodology has proved a powerful vehicle for change. HWDU will continue to collect data and implement activities to drive up performance of occupational health clinicians, and reduce unnecessary sickness absence amongst NHS staff.

Depression detection and management of staff on long-term sickness absence. Occupational health practice in the NHS in England www.rcplondon.ac.uk/resources/depression-detection-and-management-staff-long-term-sickness-audit

Faculty of Occupational Medicine publications and guidelines www.facocmed.ac.uk/pubspol/pubs.jsp

Non-surgical techniques save lives in surgery

Surgery is not perfect, sometimes things go wrong and often it is not the surgical technique that has gone wrong but some other non-surgical element. Surgery relies on surgeons being good at communicating with and listening to colleagues and patients and at making good decisions to ensure patients get the best quality care in the operating theatre. Surgeons are trained to be good at surgery but other cognitive and interpersonal skills are not explicitly included in their training.



The ROYAL COLLEGE of SURGEONS of EDINBURGH

The Royal College of Surgeons of Edinburgh and the University of Aberdeen put together a group of experts from different fields to identify a core set of non-technical skills a surgeon needs to have. They identified situation awareness, decision-making, communication and teamwork. The group then designed a way to evaluate these skills, training courses to raise surgeons' awareness of these non-technical skills and to teach the surgeons how to train and evaluate themselves and their trainees in the core skills.

The effectiveness of the programme was tested in trials where surgeons performed virtual or real operations with and without the training. Surgeons were also asked for feedback and those who had received the training said they found explicit review and discussion of non-surgical skills and behaviours helpful for self-reflection and said that it would stimulate changes to their behaviour during surgery. The evidence from the trials and feedback from surgeons led to the conclusion that this type of training enhances surgical quality and that it should be part of surgeons' training. NHS Education Scotland and The Royal College of Surgeons of Edinburgh are running a project to make evaluation of non-technical skills compulsory for surgical trainees. Surgery will never be perfect but surgeons are identifying ways it can be better.

Non-Technical Skills for Surgeons www.abdn.ac.uk/iprc/notss

*Royal College of Surgeons of Edinburgh
www.rcsed.ac.uk/site/0/default.aspx*

Surgeons are being trained in a new technique that cuts deaths from bowel cancer



Patients suffering from conditions including cancer and inflammatory bowel disease often need to have part of their large bowel removed. Historically this has been done by 'open surgery' meaning skin and tissues over the bowel are cut open so the surgeon has direct access to the bowel. Open surgery comes with a risk of infection, leaves the patient with a large wound and usually involves a long hospital stay to recover.

In the early 1990s, surgeons began developing laparoscopic 'keyhole' bowel surgery where tiny versions of surgical instruments are inserted into the body through small holes to precisely remove part of the bowel and to sew or staple the ends of the remaining bowel together. Patients who had keyhole surgery recovered more quickly than open surgery patients, have less pain and smaller scars. NICE recommended evaluation of the technique in clinical trials in 2000 and in 2006 recommended keyhole surgery for colorectal cancer in response to the results of a large comparison trial.

However, the technique was not widely adopted and NICE had to withdraw its recommendation because there were not enough surgeons in the UK trained in this technique. The National Training Programme for Laparoscopic Colorectal Surgery was set up in 2007 to address this. Programme staff estimated that the NHS caseload requires 460 surgeons trained in laparoscopic colorectal surgery. There are currently 200 consultant surgeons involved with the programme as trainers or trainees which builds on the 45 trained surgeons who performed laparoscopic colorectal surgery before 2006. Surgical training has had to be transformed in response to the accumulation of evidence.

Techniques to improve how people take their medicines have been developed

Heart disease remains the biggest cause of death in the developed world. Research into heart disease means there are well established treatments and well-recognised risk factors. But one area in which improvements could be made that would make a big difference to the impact of the disease is in how patients take their medicines.



About a quarter of patients who have had a heart attack stop taking their medicines within 1 week of leaving hospital. This reduces the effectiveness of treatment. Research has shown that patients with coronary artery disease who stop taking anti-blood clot medications are more likely to die from their disease. Patients collecting medicines from the pharmacy but not taking them is also a major financial problem for the NHS. An estimated £100 million is wasted each year in Britain because of unused prescribed medications.

The main reasons people stop taking their medicines include side effects of the treatment, thinking they do not need to take it, forgetting to take it, and loss of contact with their doctors. Evidence shows that patients with greater practical support are significantly more likely to stick to their treatment. The United Kingdom Clinical Pharmacy Association developed a card to give to coronary artery disease patients which explains the importance of anti-blood clot medication, the reason they have been put on it, their dose, and that it should be taken in combination with aspirin. It also explains how long they are going to be on the treatment and lists possible side effects. It encourages patients to show the card to any doctor they see to ensure the treatment is not stopped without good reason. The card has been welcomed with endorsements from the British Cardiovascular Society and British Cardiac Intervention Society.

*Jackevicius CA, Li P, Tu JV 2008
Prevalence, predictors and outcomes
of primary nonadherence after
acute myocardial infarction.
Circulation 117;1028-36*

*Molloy GJ et al 2008 J Psychosom Res
65;581-86*

*Royal Pharmaceutical Society
www.rpharms.com/home/home.asp*

The history and the future of clinical research

Medical Royal Colleges and Faculties have a long history of setting standards of clinical practice and supporting doctors in their specific specialities. The oldest Colleges date back to the time of Henry VIII whilst the newest, the College of Emergency Medicine, came into being in 2008. Colleges have traditionally been organised around a particular specialty – for example surgery, pathology, anaesthesia or general practice. However Colleges increasingly work with each other to respond better to patient needs. While the Colleges explain their mission and aims in differing ways, all are concerned with raising the standard of patient care by providing guidance and setting standards for clinical practice and supporting the training and development of doctors. For all these activities Colleges rely on the body of evidence that continues to develop from clinical research.

Clinical research flourished in the UK in the 1950s and 1960s but recently research funding has focused more on basic science research. In 2006, recognising the importance of research to the NHS, the Department of Health set up the National Institute for Health Research (NIHR). Its remit is to improve the research environment in the UK by reducing bureaucracy, helping to cover the costs of research and getting patients involved.

Organisations including the NIHR and the James Lind Alliance work with patients to set priorities and identify the research questions that need to be answered, especially those that are unlikely to be funded by anyone else. A recent example is an NIHR funded clinical trial to look at the effectiveness of breathing exercises as a form of physical therapy for asthma.

The NIHR set up Clinical Research Networks to help as many people as possible to get involved in clinical trials. These are topic-specific networks covering cancer; dementia and neurodegenerative diseases; diabetes; medicines for children; mental health; and stroke, as well as a comprehensive Clinical Research Network, which covers all other disease areas. The Cancer Clinical Research Network has made the UK the best place in the world to do cancer trials and is the reason 1 in 6 cancer patients is involved in a clinical trial right now.

Further information and useful reading

Sense About Science is a charity founded to equip people to make sense of science and evidence. www.senseaboutscience.org 020 7490 9590

The Academy of Medical Royal Colleges brings together the voices of its 20 member colleges and faculties. The purpose of the Academy is to promote, facilitate and where appropriate coordinate the work of its member Medical Royal Colleges and their Faculties (as defined in their respective charters) for the benefit of patients and healthcare. The Academy comprises the Medical Royal Colleges and Faculties whose presidents meet regularly to agree direction. www.aomrc.org.uk

Testing Treatments: Better Research for Better Healthcare Aimed at both patients and professionals, Testing Treatments builds a lively and thought provoking argument for better, more reliable, more relevant research, with unbiased or 'fair' trials, and explains how patients can work with doctors to achieve this vital goal. Download a copy here www.testingtreatments.org

The National Institute for Health Research is a large national organisation which aims to improve the health and wealth of the nation through research. www.nihr.ac.uk

The NIHR Clinical Research Network helps researchers to set up clinical studies quickly and effectively; provides health professionals with research training; and works with patients to ensure their needs are at the very centre of all research activity. www.crncc.nihr.ac.uk

NHS Health Technology Assessment Programme for independent research information about the effectiveness, costs and broader impact of healthcare treatments. www.hta.ac.uk

The James Lind Alliance is a non-profit making initiative established in 2004. It brings patients, carers and clinicians together to identify and prioritise the top 10 uncertainties, or 'unanswered questions', about the effects of treatments that they agree are most important. www.lindalliance.org

The James Lind Library has been created to help people understand fair tests of treatments in health care. www.jameslindlibrary.org

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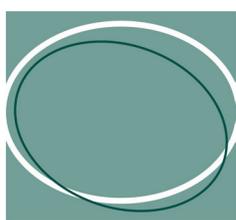
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