A new year in medicine

The change of year provides an opportunity for Janus-like reflection on the matters that dominated health care in 2010 and challenges ahead for 2011. But how much really changes? To provide perspective, one might consider how 100 years ago, *The Lancet*, under the editorship of Squire Sprigge, welcomed the new decade in an editorial titled, "The promise of 1911".

The editorial would be familiar in tone and content to *Lancet* readers today. It cited progress against rabies, diphtheria, and the plague, and praised advances in surgery that would have seemed miraculous to a previous generation. Sprigge anticipated that history would regard the previous decade's achievements of "wireless telegraphy,...the mechanically-propelled vehicle, and... aviation [as] among the most prominent feats of human ingenuity". He lamented that advances in medicine moved more slowly, and that the "demon of tuberculosis" had not been exorcised in 1910, although he hoped that better understanding would one day result in mastery of the disease. There had been two general elections in the UK in 1910, so concern was expressed about the effect of political uncertainty on social issues, such as the health of disadvantaged people, the maintenance of charitable hospitals in a depressed economy, occupational health, and workers' compensation for industrial accidents. In addressing the profession, legislation was urged against the "grasping charlatan and dangerous quack" (echoing a letter about homoeopathy in the correspondence section). He argued that the public would be best protected by better-educated doctors, referring to the issue's lead Article, which attacked the contemporary curriculum in medical schools and absence of leadership for progress in education.

While the eloquent prose and emphasis on syphilis of the Jan 7, 1911 issue seems dated, there is more of relevance to practice in 2011 than one might comfortably admit. Case reports from regional medical associations in the UK would be familiar today, as would reports "from our own correspondent", which describe cocaine addiction in Montreal, Canada, and identified tuberculosis, measles, diarrhoea, and respiratory infection as leading causes of death in South Africa. The behaviour of expert medical witnesses and the reporting of medicine by the lay press also came under discussion, as did jurisprudence and anaesthesia, and even medical tourism. There was also complaint about philanthropists whose charity is excessive, poorly coordinated, and indiscriminate.

In addition to medical education, which was the focus of *The Lancet* on Dec 4, 2010, three other topics are particularly timely. A discussion about the origin of cancer is a reminder of how much remains to be understood about this disease. How welcome, therefore, is the study by Peter Rothwell and colleagues in today's issue of the potential protective benefit of aspirin against some cancers. A review of an 800-page textbook of paediatric surgery suggests a level of competency in 1911 that sits uncomfortably with the recent announcement by the Royal College of Surgeons that half of NHS district hospitals in England lack the facilities or staff to undertake emergency surgery on children. The correspondent from New York reported a crackdown on trade in rotten eggs. Food safety continues to threaten health, yet new food legislation in the USA seems uncertain because of cost.

When Thomas Wakley founded *The Lancet* in 1823, he set out to inform, reform, and entertain. Sprigge's *Lancet* was certainly an entertaining read that covered more than health. Writing a book review seems to have been a blood sport in 1911. In addition to medical books, the reviews included a book on Eastern religions and philosophies, diaries, medical journals, and literary and art magazines. Another section was devoted to *The Lancet* laboratory, in which new products were described. Peripheral articles included archaeology in Egypt, and the science of tea—in which the chemistry of Chateau Lafite is mentioned by way of comparison.

History renders some content poignant. The review of *A handbook for medical officers in the field* foreshadowed the world war that would soon destroy the world that readers knew in 1911. A provincial UK hospital announced plans to acquire an x-ray machine, citing among other reasons that it could be used to treat ringworm; years later those treated would have higher risks of cancer. From Vienna came news about superior health among the city's 180 000 Jewish people, whom a generation later would face lethal persecution.

Between 1911 and 2011 there is much for medicine to be proud of—and also to be humble about. New years bring new promise and new opportunities, but some old demons remain. ■ *The Lancet*


THE LANCET.

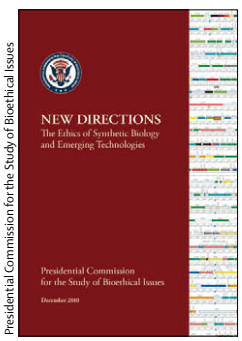
The Promise of 1911.

See **Articles** page 31

For previous issues of *The Lancet* see http://www.sciencedirect.com/

For **Health professionals for a new century: transforming education to strengthen health systems in an interdependent world** see **The Lancet Commissions** 2010; **376:** 1923–58

On synthetic biology



Presidential Commission for the Study of Bioethical Issues

For **The President's Bioethics Commission** see http://bioethics.gov/

For the **Commission's report on synthetic biology** see http://bioethics.gov/documents/synthetic-biology/PCSBI-Synthetic-Biology-Report-12.16.10.pdf

For **Creation of the first synthetic cell** see http://www.sciencemag.org/content/329/5987/52.full?sid=db4dfc35-f47d-4dcf-b1cb-53b130242cf7

On Dec 16, the 13-member US Presidential Commission for the Study of Bioethical Issues published a 188-page document entitled *New Directions: The Ethics of Synthetic Biology and Emerging Technologies*. President Barack Obama asked the Commission last May to assess the status of synthetic biology on the same day that the J Craig Venter Institute announced the creation of the first synthetic living cell.

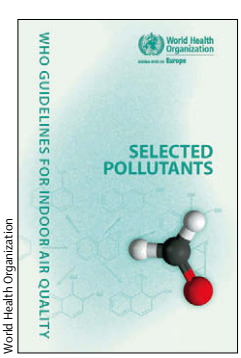
The Commission rightly concludes that a new life form was not created by Venter's team, which inserted a synthetic (man-made) genome of a naturally existing bacterium into a related bacterial cell. The process, the group stated, only represents an alteration of an already existing life form.

The report's 18 recommendations were unanimously endorsed by the Commission. On the one hand, the group encourages the expansion of research within the emerging specialty of synthetic biology. On the other, the group emphasises that the field of synthetic biology is in its infancy and does not yet pose any immediate bio-terror (deliberate) or bio-error (inadvertent) threats in creating new organisms that might warrant formation of new federal oversight bodies. Instead, cross-governmental coordination, oversight, and monitoring of the specialty's scientific progress are recommended. To aid transparency, the report advises that a biology equivalent of the political factcheck.org site is created, as a resource and forum for discussion.

Artificially altered organisms tailored to deliver customised drugs or targeted vaccines are already being made. Early in 2012, more efficient full-scale production of the antimalarial drug (artemisinin) from engineered *Escherichia coli* is to begin. Production of influenza vaccine is another key area of research.

The global market for synthetic biology is projected to exceed US$4·5 billion by 2015. Most of the relevant research is currently being pioneered in the USA. The rest of the world should reorganise its existing synthetic biology brain power and technological potential. What is also lacking within the promising emerging field of synthetic biology is international guidance and prioritisation. Synthetic biology must be a global endeavour. ■ *The Lancet*

A breath of fresh indoor air



World Health Organization

For **WHO's guidelines** see http://www.euro.who.int/__data/assets/pdf_file/0009/128169/e94535.pdf

Since they were first published in 1987, WHO's guidelines for air quality have been fundamental for providing information to regulatory authorities in air pollution. On Dec 15, WHO, together with a multidisciplinary panel of experts, released new guidelines for indoor-air quality, this time focusing on chemical indoor-air pollutants including carbon monoxide, formaldehyde, and nitrogen dioxide.

Poor quality indoor air is a major cause of morbidity and mortality worldwide, accounting for 2·7% of the global disease burden and contributing to about 1·6 million deaths every year (mostly due to acute infections of the lower respiratory tract in children younger than 5 years in low-income countries). This effect on health is substantial and the burden of disease is much greater than that caused by outdoor-air pollutants; however, indoor-air pollution remains lower on public-health agendas than does outdoor-air pollution. The new guidelines emphasise the threat of harmful indoor chemicals and combustion products that are released from solid fuels, for example, which are still used by more than 3 billion people worldwide for cooking and heating.

Because implementation of such measures is beyond the capacity of the individual building user, the guidelines are directed not only at public-health officials, but also at specialists and authorities who have the power to implement the relevant regulatory measures to ensure access to clean indoor air. The guidelines do not instruct on how to take action; rather, they provide scientific bases and uniform recommendations that countries can adopt and develop into legal standards. However, WHO will support its member states in compiling evidence and developing and applying the relevant policies. Whether this assistance will be sufficient is uncertain—WHO should make a call to action to set the ball rolling.

The importance of interventions to reduce exposure to indoor-air pollution is reflected in Millennium Development Goals 1, 3, 4, and 7. As 2011 looms, governments worldwide need to ensure that they provide access to clean indoor air for all. ■ *The Lancet*

Will an aspirin a day help keep fatal cancer away?

Observational studies and randomised trials indicate that long-term aspirin use can reduce incidence and mortality from colorectal cancer;[1,2] however, evidence from randomised trials about other cancers is limited. Peter Rothwell and colleagues, in *The Lancet*,[3] provide important new evidence that long-term daily aspirin lowers mortality from several cancers other than colorectal cancer, and could have a meaningful effect on overall cancer mortality. In a pooled analysis, including the intervention periods of eight randomised trials that lasted up to 9 years, cancer mortality was 21% lower in the aspirin group than in the control group, driven mainly by a 34% reduction in cancer mortality after the first 5 years of follow-up. In a longer-term analysis, including 20 years of follow-up from the intervention and post-intervention periods of three of the eight trials, cancer mortality was 22% lower in participants randomised to receive aspirin for 5–9 years than in those not randomised to aspirin.

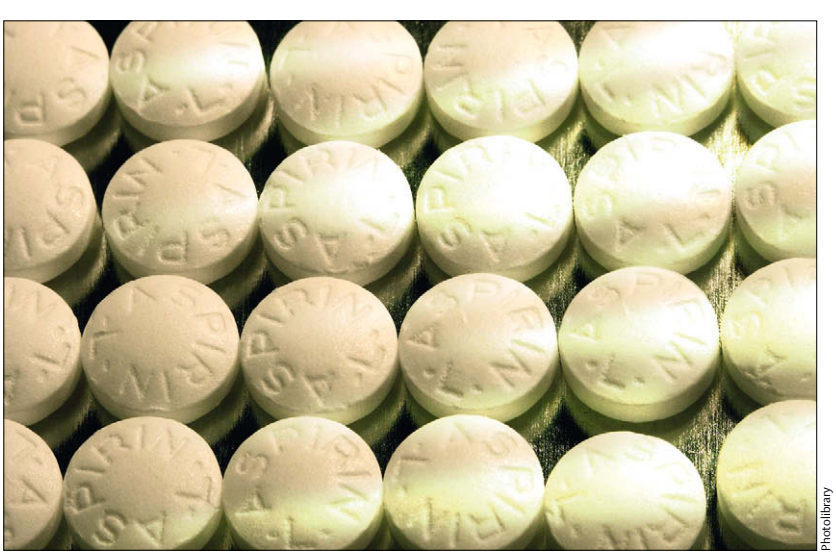
Rothwell and colleagues' analyses are informative about the dose and duration of aspirin use that might be necessary to reduce cancer mortality. 75–100 mg per day seems to have been as effective as 300–1200 mg at reducing cancer mortality. However, even low doses of aspirin cannot be used without substantial risk of serious side-effects. Doses of 75–100 mg per day increase the risk of serious gastrointestinal bleeding, possibly as much as do doses of 300–325 mg.[4,5] For duration of use, in the long-term analysis no reduction in cancer mortality was noted in participants who were randomised to receive aspirin for less than 5 years, indicating that daily use for at least 5 years will probably be needed to reduce cancer mortality significantly.

Results from Rothwell and colleagues' analysis, which included only trials of daily use, contrast with the null results for overall cancer mortality in the Women's Health Study,[6] a large 10-year randomised trial of 100 mg aspirin taken every other day. These different results suggest that aspirin might need to be used daily to reduce cancer mortality significantly; however, differences in study populations and chance could also have contributed to the contrast in results. Delayed effects of aspirin use could possibly be detected in the future during long-term post-intervention follow-up of the Women's Health Study.

See **Articles** page 31

Which fatal cancers, in addition to colorectal cancer, could aspirin help to prevent? On the basis of results from the current analysis and from previous studies, effects on oesophageal, stomach, and lung cancer mortality seem likely. The reduction in oesophageal and stomach cancer mortality is supported by consistent reductions in observational studies.[7,8] Although results from observational studies of lung cancer have been varied,[7,9,10] lung cancer mortality was significantly reduced in both Rothwell and colleagues' analysis and in the Women's Health Study.[6] Results for prostate and pancreatic cancer mortality are suggestive, but should be interpreted more cautiously. The reduction in prostate cancer mortality was not statistically significant and, although slightly lower incidences of prostate cancer have been noted in some observational studies,[11] few have examined prostate cancer mortality. Pancreatic cancer mortality was significantly lower (p=0·04) after the first 5 years in the intervention period analysis, but observational studies do not support an effect.[12] Further research focusing on long-term daily use is needed to clarify whether aspirin can reduce mortality from prostate and pancreatic cancer.

Can we assume that after 5 years on a regimen of daily aspirin, an individual will experience a 34% reduction in risk of fatal cancer, as suggested by the intervention period analysis? Assumptions about the exact magnitude of effects on cancer mortality should be made with caution because the confidence interval indicates the reduction in risk could plausibly be as low



Photolibrary

as 13%, and results for overall cancer mortality might not be completely generalisable to populations in which the proportion of deaths from specific types of cancer is different. In the long-term analysis, which provides the most precise results about specific cancers, about 39% of participants were current smokers and lung cancer was one of the major contributors to the overall reduction in cancer mortality. Most of the additional reduction in overall cancer mortality was due to fewer deaths from colorectal, oesophageal, and prostate cancer. In view of this pattern of results, the generalisability of results for overall cancer mortality to specific groups of patients should be considered. For example, whether a similar-sized reduction in cancer mortality could be expected for a woman who has never smoked and has recently had a negative screening colonoscopy is unclear.

Clinical guidelines for aspirin use from the US Preventive Services Task Force recommend not using aspirin specifically for colorectal cancer prevention,[13] and do not consider cancer when balancing the risk of serious gastrointestinal bleeding against the benefit from prevention of cardiovascular disease.[14] Future guideline committees should consider whether effects on cancer mortality might contribute to the overall balance of risks and benefits of daily aspirin use.

Eric J Jacobs
Epidemiology Research Program, American Cancer Society, Atlanta, GA 30303, USA
eric.jacobs@cancer.org

I declare that I have no conflicts of interest.

1 Flossman E, Rothwell PM, for the British Doctors Aspirin Trial and the UK-TIA Aspirin Trial. Effect of aspirin on long-term risk of colorectal cancer: consistent evidence from randomised and observational studies. *Lancet* 2007; **369:** 1603–13.
2 Rothwell PM, Wilson M, Elwin CE, et al. Long-term effect of aspirin on colorectal cancer incidence and mortality: 20-year follow-up of five randomised trials. *Lancet* 2010; **376:** 1741–50.
3 Rothwell PM, Fowkes FGR, Belch JFF, Ogawa H, Warlow CP, Meade TW. Effect of daily aspirin on long-term risk of death due to cancer: analysis of individual patient data from randomised trials. *Lancet* 2010; published online Dec 7. DOI:10.1016/S0140-6736(10)62110-1.
4 Derry S, Loke YK. Risk of gastrointestinal haemorrhage with long term use of aspirin: meta-analysis. *BMJ* 2000; **321:** 1183–87.
5 Laine L. Review article: gastrointestinal bleeding with low-dose aspirin—what's the risk? *Aliment Pharmacol Ther* 2006; **24:** 897–908.
6 Cook NR, Lee IM, Gaziano JM, et al. Low-dose aspirin in the primary prevention of cancer: the Women's Health Study: a randomized controlled trial. *JAMA* 2005; **294:** 47–55.
7 Bosetti C, Gallus S, La Vecchia C. Aspirin and cancer risk: an updated quantitative review to 2005. *Cancer Causes Control* 2006; **17:** 871–88.
8 Abnet CC, Freedman ND, Kamangar F, Leitzmann MF, Hollenbeck AR, Schatzkin A. Non-steroidal anti-inflammatory drugs and risk of gastric and oesophageal adenocarcinomas: results from a cohort study and a meta-analysis. *Br J Cancer* 2009; **100:** 551–57.
9 Hernández-Díaz S, García Rodríguez LA. Nonsteroidal anti-inflammatory drugs and risk of lung cancer. *Int J Cancer* 2007; **120:** 1565–72.
10 Feskanich D, Bain C, Chan AT, Pandeya N, Speizer FE, Colditz GA. Aspirin and lung cancer risk in a cohort study of women: dosage, duration and latency. *Br J Cancer* 2007; **97:** 1295–99.
11 Mahmud SM, Franco EL, Aprikian AG. Use of nonsteroidal anti-inflammatory drugs and prostate cancer risk: a meta-analysis. *Int J Cancer* 2010; **127:** 1680–91.
12 Larsson SC, Giovannucci E, Bergkvist L, Wolk A. Aspirin and nonsteroidal anti-inflammatory drug use and risk of pancreatic cancer: a meta-analysis. *Cancer Epidemiol Biomarkers Prev* 2006; **15:** 2561–64.
13 US Preventive Services Task Force. Routine aspirin or nonsteroidal anti-inflammatory drugs for the primary prevention of colorectal cancer: US Preventive Services Task Force recommendation statement. *Ann Intern Med* 2007; **146:** 361–64.
14 US Preventive Services Task Force. Aspirin for the prevention of cardiovascular disease: US Preventive Services Task Force recommendation statement. *Ann Intern Med* 2009; **150:** 396–404.

Rituximab maintenance in follicular lymphoma: PRIMA

Published Online December 21, 2010 DOI:10.1016/S0140-6736(10)62272-6
See Articles page 42

Follicular non-Hodgkin lymphoma is the most common indolent lymphoma in Europe and the USA. This disease was thought to be incurable with standard therapeutic modalities, with major causes of death being disease progression, transformation to more aggressive lymphoma histology, and complications of therapy. Rituximab—an anti-B-cell monoclonal antibody, which targets the CD20 antigen—has had a profound impact on the treatment and outcome of follicular lymphoma in the past decade. Several cohorts of patients from network-based and population-based clinical trials have had improved survival since rituximab use became routine practice.[1,2] Indeed, for patients with follicular lymphoma, prospective trials have shown better benefits in overall survival with rituximab plus chemotherapy than with chemotherapy alone.[3,4] The optimum dose and schedule of rituximab is still unknown.[5] Extended schedules or maintenance approaches have been assessed in patients with follicular lymphoma after initial treatment with single-agent rituximab and after chemotherapy alone. These studies showed a substantial impact of rituximab on progression-free survival, with suggestions of benefit in overall survival.[6,7] Additionally, no major safety concern arose; despite B-cell depletion being prolonged when extended schedules were used, numbers of infections were increased only slightly.

查看完整版

付费下载

↓↓↓

【百万古籍库】

https://www.fozhu920.com/list/

【易】【医】【道】【武】【文】【奇】【画】【书】

1000000+高清古书籍

打包下载

【风水】风水命理资料合集_9500 本

阴宅阳宅、风水堪舆、八字命理、手相面相、符咒卦象、奇门遁甲、紫微斗数.....

【中医】中华传统医学资料大全_15000 本

针灸、擒拿、正骨术、汉医、苗医、民间秘方偏方、药洒药方、祖传医术、珍本...

【道术】道家法术\茅山术\符咒术\气术_3000 套

修真秘籍、丹道、道家秘术、胎息功、内丹术、茅山法术、道家符咒、巫术、...

【武术】传统武术与现代搏击术_6200 册

少林、武当、太极拳、形意拳、八极拳、咏春拳、气功、散打、格斗、拳击、...

【集藏】经史子集库_13300 卷

【经史子集】楚辞、汉赋、诗集、词集、宝卷、正史、编年、别史、纪事本末、地理志...

【国画】传世名画 _ 6100 卷

唐、金、辽、宋、元、明、清 800 多位画家近 6000 多幅传世...

【县志】方志\地方县志\乡志\地理志_8100 册

府志、区志、乡志、地理志..... 此合集为全国范围地方县志\府志古籍影印电子版，...

【国学】中华古籍库—32 万册古籍书

32 万册《中华古籍库》 【32 万册影印古籍 + 20 多亿字，带检索器和阅读工具】 包括各地方志、日本内...

【更多】>> https://www.fozhu920.com/list/