



NEWS

Health Weekly: Producing medical isotopes in the back lot

By Wayne Kondro | Jan 9, 2015 11:59 am |

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Having demonstrated the feasibility of cyclotron-generated medical isotopes in 2012, TRIUMF now says it has refined the production method to the point where hospitals and health centres can self-generate enough technetium-99m to meet their daily needs.

Asserting that it has found “an effective solution” to potential future shortages of medical isotopes, Vancouver-based TRIUMF says it has “developed a production method for Tc-99m that can be used by the various brands of conventional cyclotrons already in use by hospitals and health centres across the country.”

Routine production of isotopes to satisfy daily demand for 500 patient scans can be achieved through the magic of electricity and magnets in conventional cyclotrons to accelerate ions and bombard them with non-radioactive materials, allowing Canada to shift away from isotopes produced by the troubled National Research Universal reactor in Chalk River, Ontario, TRIUMF announced.

“Next steps towards implementing this technology include performing clinical trials in early 2015, obtaining authorization from Health Canada, and partnering with provincial health authorities. Advanced Applied Physics Solutions Inc. – a TRIUMF-affiliated company – is licensing the technology for the global market.”

“As discussions with Health Canada continue, we are en route to full market approval for cyclotron produced Tc-99m in Canada,” said Dr. Paul Schaffer, TRIUMF’s Head of Nuclear Medicine. “We’ve proven the viability of Tc-99m production on various brands of cyclotrons so Canada has options. We’re ready to implement the solutions.”

- In what may prove to be the health discovery of the decade, microbiologists at Northeastern University in Boston say they may have resolved the problem of antimicrobial resistance by finding the pathway to development of antibiotics that are resistant to resistance. “We developed several methods to grow uncultured organisms by cultivation *in situ* or by using specific growth factors,” Kim Lewis and colleagues report in *Nature* (subscription required). “Here we report a new antibiotic that we term teixobactin, discovered in a screen of uncultured bacteria. Teixobactin inhibits cell wall synthesis by binding to a highly conserved motif of lipid II (precursor of peptidoglycan) and lipid III (precursor of cell wall teichoic acid). We did not obtain any mutants of *Staphylococcus aureus* or *Mycobacterium tuberculosis* resistant to teixobactin. The properties of this compound suggest a path towards developing antibiotics that are likely to avoid development of resistance.” Essentially, the microbiologists discovered a new means of producing bacterial colonies in soil in large enough quantities that they could be tested for compounds that kill pathogens. They found 25, including teixobactin, which broke down the cell walls of such bugs as Methicillin-resistant *Staphylococcus aureus* and vancomycin resistant enterococci.
- A scant 1.5 years after becoming deputy minister of Health, George Da Pont has been shuffled out of the marijuana-obsessed ministry and replaced by Simon Kennedy, former deputy minister for International Trade & G-20 Sherpa for Canada. Da Pont, who headed the Canada Food Inspection Agency before joining the health department in August, 2013, is seen by many as having mishandled several health files, particularly last summer’s brouhaha over Canadian Medical Association, College of Family Physicians of Canada and Royal College of Physicians and Surgeons of Canada participation in a marijuana awareness campaign that became a “political football” after it became clear that the governing Conservatives were motivated by a desire to discredit Liberal leader Justin Trudeau’s support for legalizing marijuana. Kennedy, a career bureaucrat since 1990, holds a Master of Science in communication management from Syracuse University and a Bachelor of Public Relations from Mount Saint Vincent University.
- Prime Minister Stephen Harper moved to contain the fallout from Julian Fantino’s bungling of the veteran’s affairs file by demoting the ex-police chief to associate minister

of national defence and replacing him with former Royal Canadian Air Force officer Erin O'Toole. The demotion followed on the heels of a release from Canadian Veterans Advocacy outlining 10 New Year's resolutions for Fantino, led by: "I will treat all veterans with dignity, courtesy and respect ("Veterans Bill of Rights"). I will not point my finger at veterans. I will not arrive late at scheduled meetings with veterans. I will not run away from the spouses of veterans. I will be courteous and respectful in my dealings and contact with all veterans and their families," and followed by "I will not avoid my responsibilities as a federal cabinet minister." Also sealing Fantino's fate was a damaging Ottawa Citizen story indicating that an internal Veteran Affairs report asserted that soldiers were exaggerating their injuries to avoid returning to work. "Research indicates respondents may inflate the incidence and severity of health problems and disability in order to rationalize labour force non-participation and/or receipt of disability benefits," stated the report.

- The Alzheimer's Society of Canada launched a national "The 72%" campaign to alert women to the warning signs of the disease. Noting "women represent 72 per cent of Canadians living with Alzheimer's disease," and "account for 70% of family caregivers," the society argued it's critical that they be educated about the disease. "With this campaign, we're making Alzheimer's disease a women's issue," says Mimi Lowi-Young, CEO, Alzheimer Society of Canada. "Women lead busy, hectic lives, often paying the price with their own health and well-being. We're asking them to invest time in understanding the warning signs."
- The highest paid 100 chief executive officers in Canada "now earn 195 times more than the average Canadian income," according to the Canadian Centre for Policy Alternatives annual review of executive compensation.

From the provinces:

The government of Alberta should consider the re-introduction of health care premiums and disdain health reforms such as family care clinics, Alberta Medical Association President Dr. Richard Johnston argued in his year-end letter to the province's doctors.

"I am not sure the public is aware of how much of the current problems are related to poor planning and how poor planning, at least partly, is related to unpredictable levels of funding," Johnson wrote. "This is true in every province, but especially Alberta where government is so dependent on resource revenues.

We require a public discourse on the nature of health, which requires a long-term vision and commitment in the building of infrastructure and the development of human skills. A sustainable, predictable source of revenue is required, whether that be a re-introduction of health care premiums or some other means.”

“I also want to mention one thing I think government has to stop doing. To be blunt, they need to get out of the delivery of care and play their part in depoliticizing the system as much as possible. In my own view, family care clinics were an example of this: ill-conceived out of political expediency, with failed implementation that lost focus. Governance matters: the public and providers should pay close attention to the report of the Alberta Health Services Official Administrator coming out early 2015.”

Health premiums were eliminated by the Alberta government in 2009. At the time, families paid \$1,056 annually and single Albertans half that amount.

- Canadian Blood Services (CBS) and the Ontario Public Services Employees Union (OPSEU) reached a tentative agreement after a nasty spat during contract negotiations saw the union publish advertisements in 14 Ontario newspapers asserting that CBS was fast-tracking Canada for a reprise of the 1980s tainted blood scandal. CBS shot back that the “union sponsored” campaign irresponsibly suggested the blood system isn’t safe. OPSEU President Warren Thomas said the “new agreement will play an important role in ensuring Canada’s blood supply remains safe, secure and reliable. Public safety is a huge responsibility, and this union will not allow it to be compromised by so-called austerity policies.
- Nova Scotia will offer \$120,000 in tuition relief to 25 young doctors from out-of-province if they agree to a five-year stint in an “underserved” community. “The program will be available to medical students in residency, or doctors within their first seven years of practice outside Nova Scotia. ... An additional \$30,000 payment is available to family doctors willing to practice in a community without a regional hospital and specialists who are willing to practice outside the current Capital District Health Authority.”

From abroad:

The British Medical Association (BMA) has assailed National Health Service (NHS)

England's plans to offer its entire range of services, including all accident & emergency care, urgent surgery, diagnostics and elective operations, on a 24/7 basis so as to improve weekend care, reduce weekend death rates and give patients more options to obtain care without disrupting their work lives.

As part of contract negotiations, the nation's doctors argued in a submission to the Doctors' and Dentists' Review Body for NHS consultants and junior doctors, that NHS England national medical director Sir Bruce Keogh's seven-day service model is financially wasteful and will compromise patient safety.

"Overall, contract negotiations stalled due to the lack of credible evidence available to underpin the changes being proposed. In the absence of robust data, we were being asked to make decisions that could have a huge impact on patient safety, doctors' welfare and the sustainability of the NHS. This would have been at best irresponsible and at worst dangerous," BMA argued in its broadside.

"In the absence of credible evidence to underpin proposed changes and for the sake of assuring the safety of both patients and doctors, we could not accept changes to either contract that removed key safeguards against working dangerously long hours. No patient wants to be seen, or should be seen, by a doctor who is too tired to function properly," contended BMA Council chairman Dr. Mark Porter.

BMA argued that it would be foolhardy to implement a seven-day service model "when neither the overall service nor individual trusts know what the end objective is, how much it is likely to cost, and what the impact will be on patients and staff."

BMA urged the development of an evidence-based "framework" that defines seven-day services and specifies the pathways and priorities for implementation. "Equally important is ensuring that service design does not undermine medical professionalism, by which we mean ensuring doctors have the time and space to pursue the research and educational activities which are crucial to delivering

high-quality patient care. Although we are willing to consider changes to the current pay progression system for consultants, we argue that any new system should be based primarily upon a fair assessment of merit, rather than the financial limits placed upon employers.”

In Australia, it's off to the Supreme Court of the Northern Territory for euthanasia advocate Dr. Philip Nitschke after a medical tribunal declined to overturn his suspension from practising medicine for supposed involvement in the importation of the euthanasia drug pentobarbital (Nembutal) and for ostensibly breaching duty of care to recommend psychiatric help for a man, Nigel Brayley, who subsequently committed suicide.

The Medical Board of Australia suspended Nitschke's license to practice last July on the grounds that he represented “a serious risk to public health and safety.” Nitschke appealed the suspension but the Northern Territory Health Professional Review Tribunal ruled that it was justified, saying “it is necessary to take immediate action to ensure that the interaction either through the media or in person is not accompanied by the serious risks associated with Dr Nitschke conducting those activities as a registered medical practitioner.”

Nitschke said the tribunal's decision was disappointing, as he did not have a doctor-patient relationship with Brayley and wasn't under any onus to provide the man care.

“As a consequence of the Tribunal's finding every Australian doctor is now obliged to treat every random stranger that the doctor meets in a social setting – including in a State in which that doctor is not lawfully permitted to practice medicine. A doctor who fails to do so is, in the view of the Tribunal, a danger to public health and safety whose right to practice medicine must be suspended immediately,” Nitschke added. “The decision, if left unturned, creates a very dangerous precedent which applies to every Australian medical practitioner.”

“Voluntary euthanasia and rational suicide are very challenging issues for the

medical profession. It is cases such as this which will hopefully encourage the medical profession to face the harsh reality that the belief held by many elderly people, and some who are not, that no doctor has the right to tell them when they can or can't exit this life – can be rational and not a product of depression or mental illness.”

“We might not like or agree with such decisions but they cannot be interpreted as meaning that person is depressed or mentally incompetent. Nothing could be further from the truth,” Nitschke said.

- An “audit of practice” will be undertaken for every general practitioner surgery in the United Kingdom by March 2015 as part of a bid to reduce the annual 31,000 death toll from sepsis, Health Secretary Jeremy Hunt announced. Each surgery will be assessed for compliance with National Institute for Health and Care Excellence clinical guidelines, which will be updated by 2016. The plans also include development of a “new tool for GPs to diagnose sepsis among children under 5. New diagnosis and incentivised treatment goals for hospitals are also designed to help raise standards.” Hunt estimated that sepsis, or whole body-inflammation caused by an immune response triggered by bacteria, fungi, viruses or parasites, costs the UK health system £2 billion per year.
- Moving to ease a ban that has been in place since 1983, United States Food and Drug Administration Commissioner Margaret Hamburg says it will recommend that gay men be allowed to donate blood after one year of sexual abstinence. “Over the past several years, in collaboration with other government agencies, the FDA has carefully examined and considered the available scientific evidence relevant to its blood donor deferral policy for men who have sex with men, including the results of several recently completed scientific studies and recent epidemiologic data,” Hamburg said in a statement. FDA will issue draft guidance on the policy early this year.
- The anti-abortion group Operation Rescue reported in its annual survey that 60 abortion clinics closed their doors in 2014. Over the past five years, the number surgical and medication-only abortion clinics in the United States has declined by roughly 75 per cent to 739. Meanwhile, a Guttmacher Institute report, **Laws Affecting Reproductive Health and Rights: 2014 State Policy Review, indicated** that states introduced 341 provisions to restrict abortion in 2014, of which some 26 were enacted. The Institute pegged 27 states as “hostile” to abortion and 18, primarily in the American south and Midwest, as “extremely hostile.”
- The average American worker has been asked to shoulder an ever greater share of health

insurance costs since President Barack Obama's introduced the Affordable Care Act, though premiums are now rising at a lower rate than in the past, according to a Commonwealth Fund study. "The annual cost of workers' contributions to premiums has nearly doubled nationally and is up as much as 175 percent. Per-person deductibles have more than doubled in all but six states and the District of Columbia over the decade."

- In a controversial breach of privacy, the ABC reality television show "NY Med" broadcast a Korean war veteran's death at the New York-Presbyterian Hospital/Weill Cornell Medical Center while being treated in an emergency room after being struck by a sanitation truck while crossing the street. The man's wife was watching the broadcast. "I saw my husband die before my eyes," Anita Chanko said in a ProPublica/New York Times co-publication. The broadcast violated the federal Health Insurance Portability and Accountability Act prohibition against disclosure of details related to a patient's "health status, provision of health care, or payment for health care." The Chanko family has sued the network but ABC asserted in court documents that because the show is produced by its news division, it is protected by the first amendment. "New York recognizes no common-law rights of privacy and the statutory claim for an invasion of privacy cannot be brought on behalf of a deceased person. Further, the statutory cause of action does not apply to news programs," the network argued.
- Big Pharma's biggest handouts to doctors in its efforts to affect prescribing patterns are in the area of "me too" drugs, according to an analysis of the Open Payments database undertaken by ProPublica. "What it shows is that the drugs most aggressively promoted to doctors typically aren't cures or even big medical breakthroughs. Some are top sellers, but most are not. Instead, they are newer drugs that manufacturers hope will gain a foothold, sometimes after failing to meet Wall Street's early expectations." ProPublica also posted a tool identifying outlays by company and drug over a five-month period in 2013. The largest handouts by firm were made by Pfizer (US\$30 million). The largest outlay by drug was for Novo Nordisk's Victoza (US\$9.07 million), which the non-profit consumer group Public Citizen has sought to have removed from the market because of the risks of thyroid cancer and pancreatitis.