

# Media Coverage

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## Opinion: Biotechnology and the future of health

Biotechnology promises untold benefits to humanity, but our mindsets are still stuck in the 20th century. Anna Lavelle stresses the need for change.

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We've come a long way from the notion of healthcare as palliative care, from the birth and development of modern medicine with incredible breakthroughs such as antibiotics to the position we find ourselves in today. The promise of biotechnologies that are now within our reach to enhance and extend our lives is astounding. But our systems of delivery, our business models and even our mindset are somewhat antiquated and stalling access to personalised, predictive and preventative medicine. Juan Enriquez, writing for McKinsey's What Matters, says biotechnology and its discoveries have provided us with the global dawn of the 'organic age', where "biology is likely to become the greatest single driver of the global economy." Enriquez says now that we have unlocked the genome of living things, "the life code is a lever and perhaps the most powerful instrument human beings have ever used. It will make the Industrial Revolution seem simple, even quaint. It will become the world's dominant language, and all of us will have to be literate to thrive."

Regardless of the area of biotech, but particularly in health, we are seeing the emergence of a 'sweet spot' as a result of the convergence of technologies. Terms such as bio markers, bio banks, bioinformatics, biologics and genomics are becoming commonplace and entering everyday discourse.

Australia's medical discoveries have improved the quality of health for millions of people across the world. These include penicillin, the Cochlear hearing implant, the cervical cancer vaccine, Gardasil, and sleep apnea devices by ResMed and targeted therapies like Bronchitol from Pharmaxis. More recently, the development of the anti-viral treatment, Relenza, has come to the fore when it was confirmed that it is one of only two medicines available that were effective in treating those affected by the swine flu outbreak. On the horizon is the vaccine for skin cancer, treatments for many significant illnesses including Alzheimer's and a diagnostic tool for breast cancer from a scanned hair.

Meanwhile governments are grappling with funding models while patient advocacy groups lobby for affordable access to new medicines. The little bit of systemic reform that's occurring is forced and 'painful'. Battles between the health professions over conflicting agendas and turf protection are occurring. The debate about change and access to new medicines, devices and diagnostics so far often centres on the cost of health care from a purchaser point of view but can fail to take account of the system costs which would justify the treatment.

In 2006 the Federal Government targeted the then \$6 billion Pharmaceutical Benefits Scheme for cost cutting, despite the relatively modest portion of the total healthcare budget that it makes up. Staffing is the big ticket item in healthcare. Figures from the US show that in 2007, only 10.3 per cent of the national healthcare expenditure was on prescription medicines.

Globally, the issues, the need for reform and better provisions are emerging in sync. The UK House of Lords Science and Technology Committee recently released a report that articulates a model for discussion in the UK and elsewhere and outlines the need for two unique sources of information to be merged on a secure platform – clinical health records and genomic sequence information – to promote research, improve diagnostics and treatment. However it provides no recommendations for protection of the data, such as legislation, and raises concerns for the possible misuse of genetic data by insurance companies or employers.

On a global level, research by Deloitte points to a fundamental shift in the life-sciences business model and several areas, where companies will need to transform, including talent management, regulatory affairs, sales and marketing and R&D. Of the survey respondents, 76 per cent felt that major changes would be needed in some or all parts of the organisation in order to face future risks.

If we want access to the advances, innovations and discoveries that biotechnology can bring, the time for change is with us. Biotechnology will have an increasing impact on our lives, and policy makers, clinicians and the community need new tools that are not provided in the current system. Global harmonisation is vital and a new business model is needed. Thought leadership now will be essential to future generations to bring biotechnologies to the community. So as not to repeat the mistakes of the past, this is an opportune time to look at sensible decision-making processes that support community access and safety as well as optimising industry contribution.

Dr Anna Lavelle is Chief Executive Officer of AusBiotech, which is holding its annual conference in Melbourne this week. Dr Lavelle holds a Doctor of Philosophy in Genetics from the University of Melbourne.