

Surveying the specialist silos

OVER THE PAST 50 YEARS, advances in biological and physical science have fuelled an unprecedented expansion of medical knowledge and change in medical practice.^{1,2}

We now have effective treatments for many conditions, including infectious diseases, cardiovascular disease, mental illness, peptic ulceration and diabetes. Advances in surgery and anaesthesia have made these disciplines not only safer, but also bolder. Imaging technology now exposes the most secret recesses of the human body and, with other diagnostic disciplines, threatens to make the art of clinical diagnosis redundant. Technology has revolutionised human reproduction and erased many of its uncertainties.

The organisation of the profession has also changed. The Commonwealth Jubilee issue of *The Medical Journal of Australia* in 1951 chronicled the advances in Australian medical disciplines in the first half of the 20th century. At that time, these disciplines numbered 16 — anaesthesia, child health, clinical pathology, dermatology, general practice, internal medicine, obstetrics and gynaecology, ophthalmology, orthopaedic surgery, otorhinolaryngology, physical medicine, psychiatry, public health, radiology, surgery and urology.³

The kaleidoscope of disciplines in modern medicine now exceeds 50 and this expansion shows no signs of remaining static, as new knowledge and technology further subdivide specialties. Sadly, this mitosis of medical specialties has not led to interconnecting, communicating cells. Instead, specialist and subspecialist “silos” have evolved which serve to contain and isolate. Each specialty has its own body of workers, is sustained by its own agenda, and drives its own research programs, the outcomes of which are discussed at specialist meetings and published in specialist journals. How much does one such silo know about the latest repository in another?

To redress the poor external communication of specialist silos, this issue of the Journal features Updates on advances in more than 40 of medicine’s current disciplines. We asked Australian doctors to share with us the more significant advances and changes in their disciplines, with three qualifiers:

- individual contributions were limited to one Journal page to enforce a focus on pertinent issues;
- contributors were to identify developments which were most likely to remain viable; and
- advances were to be explored from the perspectives of prevention, diagnosis and intervention.

What emerges is a collage of Updates in which the unifying themes are more distinct than the differences. These are:

- disease prevention is in the ascendancy;
- clinical medicine is increasingly embracing advances in molecular biology and the attendant implications for prevention and diagnosis;

- the tools of health informatics are revolutionising clinical decision making — with their capacity to store and analyse vast amounts of information, we can now process anything from nucleotide sequences to clinical evidence; and
- no discipline is an island, and input from several disciplines made many of these advances possible.

What is apparent too is that the doomsday predictions that medicine is on the wane may well be premature. In his epic analysis *The rise and fall of modern medicine*, James Le Fanu argues that the “golden age” of medicine ended in the 1980s, “when the main pillars of the post-war medical achievements — clinical science, medical chemistry and . . . technological innovation — were in trouble”.²

However, the depth and richness of developments outlined in this issue of the Journal support the view that human ingenuity repeatedly confounds

predictions that medicine has reached its limits.⁴

The Updates also highlight problems yet to be solved. The ethical and social implications arising from some uses of new technologies are challenges that face us. The divide between developed and developing countries is alluded to. Resource allocation that is driven by economic and political imperatives places boundaries on what can be achieved. There are pressures to allocate resources that sustain the use of complex technologies and new drugs rather than priorities such as disease prevention programs and population health.

That medicine is increasingly isolated into specialist silos is clearly visible in these Updates. Yet, it is equally clear that innovation is not dead unless these silos become even more airtight. On a broader landscape, we live in a world irrevocably changed by the dramatic events of September 11, 2001. The notion that collective values do matter, despite (or perhaps because of) the fact that we live in an unequal, insecure world, has been reiterated by many. We in the medical profession would do well to be driven by a similarly collective and collaborative vision for health. As John Martin, a British Heart Foundation professor of cardiovascular science, recently observed, “a multidisciplinary team is more likely to give rise to non-linear fantasy [or innovation] than a monovalent team”.⁵

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3. Commonwealth Jubilee Number. *Med J Aust* 1951; 1: 1-68.
4. Van Der Weyden MB. Has modern medicine hit a brick wall and is its future uncertain? [From the Editor's desk]. *Med J Aust* 2000; 172: 145.
5. Martin J. The idea is more important than the experiment. *Lancet* 2000; 356: 934-937. □