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Embargoed: 10.15am, Thursday 9 October 2003

HEALTH R&D IN AUSTRALIA – THE HARD FACTS

SOURCE*: "EXCEPTIONAL RETURNS: THE VALUE OF INVESTING IN HEALTH R&D IN AUSTRALIA"* REPORT

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PREPARED FOR: THE AUSTRALIAN SOCIETY FOR MEDICAL RESEARCH

* Australia spent $1.7bn on health R&D in 2000-01, just 0.25% of GDP.
* Cancer was the leading area of research ($160m or 9% of the total), followed by pharmaceutical treatments (over $140m or 8%), cardiovascular disease (7%), the nervous system (6%) and infectious diseases (5%). The immune system, endocrine R&D and mental health were each around 3% of the total.
* Universities performed 45%, businesses 25%, PNP (private, not-for-profit or semi-public) organisations 15%, and government institutions 15%.
* Nearly half was funded by the Commonwealth (47%), 9% by State, Territory and local governments, 25% by businesses and 13% by other Australian sources, while 7% was from overseas.
* Over half was clinical R&D, nearly one fifth for public health, 13% for pharmaceuticals and 11% for health and support services.
* The public sector share of R&D activity fell from 69% to 60% over the period 1992/93 to 2000/01.
* The private sector grew strongly, activity by 12.2% in real terms and finance by 11.1%.
* As a nation, Australia invested 0.255% of GDP in health R&D in 2000-01, compared to 0.179% in 1992-93. Our per capita spending has more than doubled from $43 to $88 per Australian. However, Australia ranks at the lower end of the OECD spectrum for health R&D spending.

International perspectives:

* Australia has benefited substantially from global investments in health R&D.
* Life expectancy at birth increased by 8 years during the period 1960 to 1999 – from 74 to 82 years for females and from 68 to 76 years for males, giving us the fourth highest lifespan in the world – equal with Canada and behind Sweden, Switzerland and Japan.
* These gains have derived largely from reduced death rates from cardiovascular diseases, together with almost complete eradication of deaths from infectious diseases such as polio, tetanus, smallpox, measles, mumps and rubella, as well as reductions in morbidity and mortality from respiratory diseases, cancer and other causes.

* Australia has contributed significantly to these medical advances, including through breakthroughs:

    - in treatments for stomach ulcers (saving $250m p.a. in Australian health costs),
    - development of vaccines against cervical cancer (now through Phase III/IV trials),
    - reductions in SIDS deaths to one fifth of former levels,
    - 8-fold reductions in the incidence of HIV,
    - discovery of lithium for the treatment of bipolar disorder, and
    - development of cochlear implants restoring hearing to over 50,000 people worldwide.

* Health technologies can generate direct savings to the health system (such as fewer and shorter hospitalisations) as well as indirect savings through wellness – improved labour productivity, reduced absenteeism, more years of employment, lower welfare payments and reduced burden on carers.

* Direct health expenditures in Australia totalled $60.8bn in 2000-01, with 30% of these in the private sector and 70% in the public sector.

Economic benefit of increased spend on health R&D:

Improved healthspan over 1960-99 was valued at $5.4 trillion – 46% of Australian consumption.

* $2.9 trillion of the gain was from longer life and $2.5 trillion from greater wellness.
* Healthspan gains were worth $142bn p.a. by 1999.
* Cardiovascular improvements accounted for one third of the gains – $1.7 trillion.
* Injury prevention was worth $680bn, improvements in treatments for chronic respiratory conditions were worth $463bn and improved screening and treatments for cancer were worth $373bn.
* Declines were notable for mental illnesses, with a net human cost of $30bn (excluding suicidality), musculoskeletal disorders and undiagnosed symptoms.

Rates of return to health R&D in Australia are exceptional:

* Annual rates of return lie between 1 and 5 times R&D expenditures and up to 8 times in some areas
* Public sector returns were 72% for longevity and 62% for wellness, while private sector returns were 208% for longevity and 179% for wellness.
* Cardiovascular disease showed returns nearly 8 times annual R&D investment in this area. Returns to investment in respiratory system R&D were second highest at nearly 6 times R&D investment, while returns to R&D relating to digestive disorders were third at over 500%.

Future R&D – stunning potential impacts:

* Reducing intentional and unintentional injuries by 30% would save over $370bn, greater than Australia's total net foreign debt.
* R&D that reduced deaths from cancer by one fifth would be worth $184bn to Australians, more than total forecast Commonwealth spending in the current fiscal year.
* Reducing cardiovascular events by 15% would be worth $34bn – exceeding our total federal health budget.

Key issues to address:

* State, Territory and local governments need to match and stay in line with the Commonwealth effort.
* Care needs to be taken that the erosion of basic research and of capital investment that accompanied the public sector decline of the 1990s is adequately reversed also.
* Continued boosts to investment in health R&D relative to GDP are still warranted given Australia's poor relative ranking relative to other OECD countries.
* Moreover, Australia appears to have comparative advantage in health R&D given our levels of discovery, publications, citations and other evaluative criteria relative to our size in the global market. In addition to the 'good international citizen' arguments, there are therefore weighty economic reasons for enhancing our health R&D investment i.e. balance of payments and employment multiplier arguments.

Conclusion:

Health R&D must be seen as an investment in wellness with exceptional returns. The corollary is that public finance should be strategically targeted to cost-effective high priority R&D areas.

The ageing of the baby boomer population, who begin turning 60 from 2005, will place unprecedented demands on the Australian health system in particular in relation to chronic conditions of ageing such as Alzheimer's disease, arthritis, cardiovascular disease and cancer. With dependency ratios (those over 65 years relative to the whole population) set to rise from 12% to 25% and health spending set to rise from 9% to 17% of GDP over the next 40 years, the projected cost and impact of chronic illness is forecast to present a challenging burden whose greatest hope is new R&D breakthroughs.

This report has shown that every dollar invested in this challenge in Australia has been recouped as highly valued healthspan, and in most cases, many times over. Our conclusion for the future must be that Australian health R&D represents an exceptional investment, with exceptional returns.

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