CANCER

Cancer is a disease of the cells, which are the body’s basic building blocks. Cancer occurs when abnormal cells grow in an uncontrolled way. These abnormal cells can damage or invade the surrounding tissues, or spread to other parts of the body, causing further damage.

In 2017, it is estimated that there will be 134,174 newly diagnosed cases of cancer in Australia. Of this total, 82,648 are expected to be one of the five most common cancers (prostate, bowel, melanoma of the skin, breast, lung). These common cancer types account for almost two thirds of all cancers diagnosed in Australia.

More than 47,000 deaths from cancer are estimated in 2017.

The latest Australian Institute of Health and Welfare report on cancer burden, which measures the combined impact of dying prematurely, as well as living with disease, shows that cancer was the greatest cause of health burden in Australia. Cancer accounted for around one-fifth (19%) of the total disease burden. Most of the burden from cancer was due to dying prematurely, with only a small proportion due to living with a cancer diagnosis.

Improved survival rates highlight the progress the Australian Government has made in cancer control.

This progress has been achieved through sustained investment in research, the introduction of cancer prevention and early detection programs as well as access to high quality health care.

In addition to the funding provided for preventive health measures, the Australian Government invested $7.2 billion for cancer control activities over three years from 2013-14.

Figure 1: Australian Government investment in cancer control (by financial year).

Outcomes for Australians with cancer have improved significantly in the past 30 years. The current overall relative five-year survival rate is 68 per cent for all types of cancers combined – equivalent to the best in the world.

Cancer is not a single disease
There are around 90 disease classifications that are considered to be a type of cancer. These diseases present different symptoms, require different treatments and have different outcomes.

This investment includes funding for cancer research, and provides Australians with access to treatments such as radiotherapy, and medicines that treat cancer, cancer screening for targeted age groups and cancer support programs such as specialist cancer nurses.
Cancer drugs
There are approximately 110 cancer treating medicines currently available on the Pharmaceutical Benefits Scheme (PBS), costing the Government around $1.9 billion in 2015-16 – around one in every six dollars of PBS expenditure. The Government has approved over 55 new cancer medicines (or amended listings) since October 2013.

Cancer research
The Australian Government is the biggest single investor in cancer research in Australia. The majority of the Government’s targeted research funding for cancer is provided through the National Health and Medical Research Council (NHMRC), Cancer Australia and the Department of Health.

Since 2013, the Government has provided almost $725 million in funding through NHMRC to support cancer research.

NHMRC
Since 2013, $792 million has been provided for cancer research through Cancer Australia’s Priority-driven Collaborative Cancer Research Scheme (PdCCRS). Of this funding, the Government has provided $30 million and funding partners provided $22 million.

Medical Research Future Fund
In 2014, the Government announced the establishment of the $20 billion Medical Research Future Fund (MRFF) to provide a sustainable source of funding for vital medical research over the medium to longer term. Through the MRFF, the Government is delivering a major additional injection of funds into the health and medical research sector, including targeted cancer initiatives.

Clinical trials
The Government also recognises the importance of, and invests in cancer clinical trials. Clinical trials are research investigations that evaluate whether a medical strategy, treatment, drug or device is safe and effective for humans. Clinical trials provide the evidence to inform best practice while providing participants with legitimate alternative therapy options and the opportunity to benefit from the latest medical research.

2017-18 Budget Measures
The Australian Government has continued to build on its commitment to cancer control as demonstrated by investments announced in the 2017-18 Budget.

Infrastructure
$68 million to support Australia’s first proton beam therapy centre to be operational by 2020, offering an alternative to conventional radiotherapy for certain cancer types and as a useful research tool for Australian scientists.
Research

$5.8 million for a number of measures aimed at improving outcomes for children with cancer including an increase in research funding, and fast tracking international collaborations of paediatric brain cancer in Australia.

First disbursements from the MRFF were also announced in the 2017-18 Budget totalling $65.9 million. These investments include:

- $13 million to stimulate trial activity to improve patient outcomes, health system efficiency and drive innovation
- $5 million for clinical trial activity for adolescents and young adults with cancer.

Screening

The Government will continue to invest in the bowel, breast and cervical screening programs and has made further investments in this most recent Budget. This includes:

- $64.3 million over the next four years to enable BreastScreen Australia to continue to actively invite women aged 70 to 74 to screen for the early detection of breast cancer. This follows funding of $55.7 million from 2013-14 to 2016-17 to target this age group.
- $41.6 million over four years for the Victorian Cytology Services to continue providing high quality cytology services to support the National Cervical Screening Program.

Support

- $5.9 million to expand the current Prostate Cancer Nurse (PCN) program to bring the total number of Commonwealth funded PCNs from 14 up to 28. This is in addition to funding announced earlier in the year to continue Commonwealth support for McGrath Breast Care Nurses and Prostate Cancer Specialist nurses across rural and regional Australia.

These measures build on the Government’s 2016 election commitment of $20 million for the ground breaking Zero Childhood Cancer Initiative. The Government also provides support for CanTeen’ Youth Cancer Services Program, ($14.5 million over three years) and their Online Support Platform ($1.3 million over two years).

Success stories – Examples of how Australian Government funding is improving cancer outcomes for Australians.

Cancer research breakthrough reduces pancreatic tumour growth

Recently, Australian cancer scientists established a highly hopeful nanomedicine that could improve treatment for Australia’s deadliest cancer—pancreatic cancer. Most often diagnosed at an advanced stage, this type of cancer has one of the lowest survival rates.

When tested in mice, the nanomedicine decreased growth of tumours by 50 per cent, reducing the spread of pancreatic cancer.

This breakthrough was made possible with research funding provided in part by the Australian Government through NHMRC.

Human papillomavirus (HPV) vaccine

In 2007, Australia was the first country to implement a fully funded National HPV Vaccination Program. Australia now has among the highest HPV immunisation coverage rates in the world.

Since the commencement of the vaccination program to the end of 2015, there has been a more than 90% reduction in genital warts among Australian-born women and heterosexual men aged 21 years or younger attending sexual health clinics. In 2015, the
The proportion of people diagnosed with genital warts in both these groups was less than 1%.

High grade cervical abnormalities have also declined between 2006 and 2014, with detection rates declining by 62% in women aged 20 years or younger and 35% in women aged 20-24 years.

The result highlights how investment in preventive health through research and vaccination programs can be effective in controlling or eliminating preventable diseases.

**Mechanisms to fund cancer research**

The Australian Government provides opportunities for researchers to apply for funding through NHMRC, Cancer Australia and the Medical Research Future Fund (MRFF).

**NHMRC**

*Investigator-driven research grants*

NHMRC will accept grant applications in any research discipline and applicants are provided with an opportunity within their application to explain how their research will lead to improved outcomes in health. Further information on the grant schemes is available on the NHMRC website.

NHMRC’s range of funding schemes offers flexibility and responsiveness for targeting research and capacity building in key areas of need in the health system.

*Targeted research grants*

NHMRC also sets aside funding each year to address identified priorities, such as through its Targeted Calls for Research (TCR) funding program, which invites grant applications to address a specific health issue.

NHMRC has created an online pathway for community and professional groups to propose ideas for health research topics, which NHMRC may develop into a TCR. The TCR portal can be accessed through the NHMRC website.

**Cancer Australia**

Cancer Australia’s PdCCRS draws on non-government sector research funding to boost investment in priority areas, and is a successful model of how priorities and gaps in cancer research can be identified and collaboratively funded using a merit-based and competitive selection process. More information about the PdCCRS can be accessed through the Cancer Australia website.

**Medical Research Future Fund**

The Government’s MRFF has begun expanding the pool of research funds available into the future.

- MRFF investments will be strategic and priority-driven consistent with the advice provided by the Australian Medical Research and Innovation Strategy 2016-2021 and related Priorities 2016-2018 established by the Australian Medical Research Advisory Board.
- Over the next five years $1.4 billion will be available from the MRFF.
- Details regarding MRFF disbursements and any grant rounds can be accessed through the Department of Health website.

**For more information and support:**

**NHMRC**

w: [www.nhmrc.gov.au](http://www.nhmrc.gov.au)
p: 1800 500 983
e: help@nhmrc.gov.au

**Cancer Australia**

w: [www.canceraustralia.gov.au](http://www.canceraustralia.gov.au/)
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**Department of Health (MRFF)**

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