

# 1: Key Facts and Figures about Cancer



## IN SHORT – WORKSHOP HANDOUT WHO 1

### What is cancer? What causes cancer? What are the most common cancers?

Cancer is a disease of the body's building blocks called cells. Each cell has a set of genes that tell it to do the right thing at the right time. Cancer happens when genes become damaged and the cells begin to grow abnormally and out of control. Abnormal cells may grow into a lump called a tumour, which can be benign (non-cancerous) or malignant (cancerous).

- Benign tumours do not spread to other parts of the body. Malignant tumours, if not treated, may spread into surrounding tissues. Sometimes cancer cells are carried, by the bloodstream or tissue fluid, away from the original site (primary) of the cancer and invade other organs. When these cells reach a new site, they may continue to grow and form another tumour at that site. This is called secondary cancer or metastasis.
- Cancer is not one disease but the range of diseases in which abnormal cells multiply and spread out of control. Cancer can affect most types of cells in various parts of the body. In some cancers (leukaemia, myeloma and lymphoma) it is the body's blood cells that multiply abnormally.
- Some cancers are related to lifestyle choices, such as smoking or having an unhealthy diet, and some are inherited.
- Some cancers occur as a direct result of infectious agents or exposure to environmental carcinogens, such as asbestos or tobacco smoke, but for many cancers the causes are still unknown.
- Treatment for cancer is often successful if the cancer is found early; it may involve surgery, chemotherapy or radiation therapy (and in some cases hormone therapy).
- Colorectal (colon and rectum) or bowel cancer is the most common cancer in Australia, after common skin cancers.
- The four most common cancers in males are prostate, bowel, lung and melanoma. They account for 60% of cancers in males.
- The four most common cancers in females are breast, bowel, melanoma and lung cancer. They account for 60% of cancers in females.
- The most common causes of cancer deaths in males are lung, prostate and bowel cancer.
- The most common causes of cancer death in females are breast, lung and bowel cancer.
- Lung cancer is the cause of the most premature death from cancer. In 2001, 44,978 person-years of life were lost to lung cancer.
- Bowel cancer is the second most common cause of premature death from cancer (29,768 person-years of life lost) and breast cancer third most common (28,733 person-years of life lost).

See Appendix 3 for more statistics and graphs.

## What is cancer?<sup>1</sup>

Cancer describes a range of diseases in which abnormal cells proliferate and spread out of control. Other terms for cancer are tumours and neoplasms, although these terms can also be used for non-cancerous growths.

Normally, cells grow and multiply in an orderly way to form organs that have a specific function in the body. Occasionally, however, cells multiply in an uncontrolled way after being affected by a carcinogen, or after developing from a random genetic mutation, and form a mass which is called a tumour or neoplasm. Tumours can be benign (not cancerous) or malignant (cancerous).

Benign tumours do not invade other tissues or spread to other parts of the body, although they can expand to interfere with healthy structures. In 2001 in Australia, there were 126 registered deaths from benign tumours.

Leukaemia is a cancer of the blood or bone marrow. Lymphoma is a general term for a cancer that begins in the lymphatic system. There are two main types of lymphoma: non-Hodgkin lymphoma and Hodgkin lymphoma.

The main features of a malignant tumour (cancer) are its ability to grow in an uncontrolled way and to invade and spread to other parts of the body (metastasise). Invasion occurs when cancer cells push between and break through other surrounding cells and structures. Cancer spreads to other parts of the body when some cancer cells are carried by the bloodstream or the lymphatic system and lodge some distance away. They can then start a new tumour (a secondary cancer) and begin invading again. Apart from the cancer's natural behaviour, its effects can also depend on how much room it has before it damages nearby structures, and whether it starts in a vital organ or is close to other vital organs.

## What causes cancer? – Behaviour, environment, genetics and some unknown factors

Although a number of cancers share risk factors, most cancers have a unique set of risk factors that are responsible for their onset. Some cancers occur as a direct result of smoking, dietary influences, infectious agents or exposure to radiation (eg ultraviolet radiation from the sun), while others may be a result of inherited genetic faults. For many cancers the causes are still unknown.

Each year in Australia, an estimated 5000 invasive cancers and 34,000 non-melanoma skin cancers are caused by occupational exposures and around 1.5 million workers are exposed to known carcinogens. Previous estimates of occupational cancer risks were considerably lower, and while the latest estimates should be interpreted with caution, the importance of occupational health and safety measures to reduce the risk of cancer cannot be underplayed.

While some cancers can be prevented or delayed through lifestyle changes, some risk factors are inherited and cannot be avoided through personal action. Individuals who are at high risk of certain cancers can be monitored so that cancers can be detected and treated early in their development, to reduce their risk of dying from cancer.

Many cancers can be serious and fatal but medical treatment is often successful if the cancer is detected early. Treatment aims to destroy the cancer cells and stop them from returning. This can be done by surgery to remove the growth or by other methods such as cancer destroying drugs (chemotherapy) or ray treatment (radiation therapy). The growth of some cancers can also be controlled through hormone therapy. Treatment often combines a number of these methods and uses them in stages. The first line of treatment aims to remove as many cancer cells as possible; the second line, which may go on for a long time, aims to ensure the cancer does not come back.

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<sup>1</sup> Source: Australian Institute of Health and Welfare (AIHW) and Australasian Association of Cancer Registries (AACR) 2004. Cancer in Australia 2001. AIHW cat. no. CAN 23. Canberra: AIHW (Cancer Series no. 28) <http://www.aihw.gov.au/publications/can/ca01/ca01.pdf>

## IN SHORT – WORKSHOP HANDOUT WHO 2

# How many cancers are diagnosed in Australia?

### How common is cancer in Australia?

One in three Australian men and one in four women will be diagnosed with cancer by the age of 75.

Each year around 88,000 Australians are diagnosed with cancer.

The most common cancers in males and approximate number of new cases diagnosed annually:

- Prostate cancer 11,000
- Bowel cancer 6000
- Melanoma 4000
- Lung cancer 3000

The most common cancers in females and approximate number of new cases diagnosed annually:

- Breast cancer 12,000
- Bowel cancer 6000
- Melanoma 4000
- Lung cancer 3000

Around 37,000 Australians die from cancer each year, including more than 7000 deaths due to lung cancer and around 5000 deaths from bowel cancer.

### Future Numbers

The Australian population is ageing and cancer rates are highest in the older age groups. This means that the actual number of Australians being diagnosed with cancer is going to increase despite the rates being stable.

For women, the number of new cases of cancer is projected to increase by 29% from 40,578 in 2001 to 52,356 in 2011.

For men, the number of new cases of cancer is projected to increase by 32% from 47,820 in 2001 to 63,087 in 2011.

Projections for 2001 show the most common cancers in women to be breast cancer (28% of all new cases), bowel cancer (15%), melanoma (9%) and lung cancer (8%). For men the most common cancers will be prostate cancer (24% of new cases), bowel cancer (15%), melanoma (11%) and lung cancer (10%).