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BACKGROUND

The life-time risk of cancer up to the average age of death for NSW males is now one-in-two and is one-in-three for females. In NSW cancer death rates have declined by about 14% between 1986 and 2004.¹ However, cancer still causes more premature deaths and greater overall disease burden than cardiovascular disease in the community.

AIMS

This study aimed to estimate the future burden of cancer on the population of NSW using past cancer and population trends.²

METHODOLOGY

The economic burden of cancer in NSW was projected for the next 10, 20 and 30 years using health state simulation methodologies based on international models.^{3,4} The mortality and prevalence trajectory for each chronic disease was translated into economic factors.

RESULTS

The total number of cancer cases is estimated to increase correlating to ageing population in the next 30 years (Figure 1). However, deaths will represent a declining proportion of the incidence of cancer cases each year with continuing improvement in five year survivals (Figure 2).

Figure 1: Total cancer cases in NSW

New South Wales
 Total Population, Male and Female, All Age Groups
 Total Cancer Cases in Health System per Year (1990 to 2036)

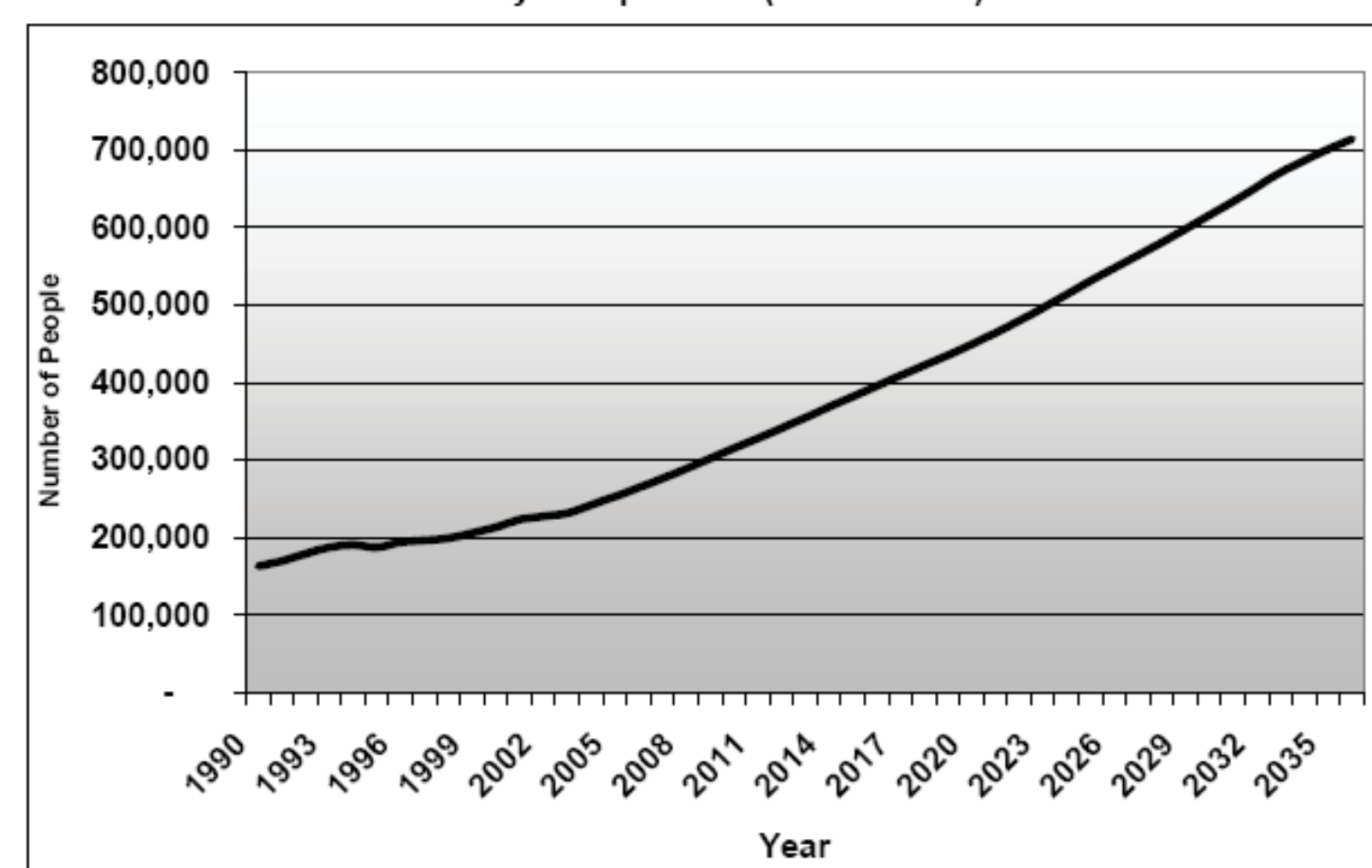


Figure 2: Projection of cancer cases and deaths (1972-2036)

Total Cancer Cases and Deaths per Year (1972 to 2036)

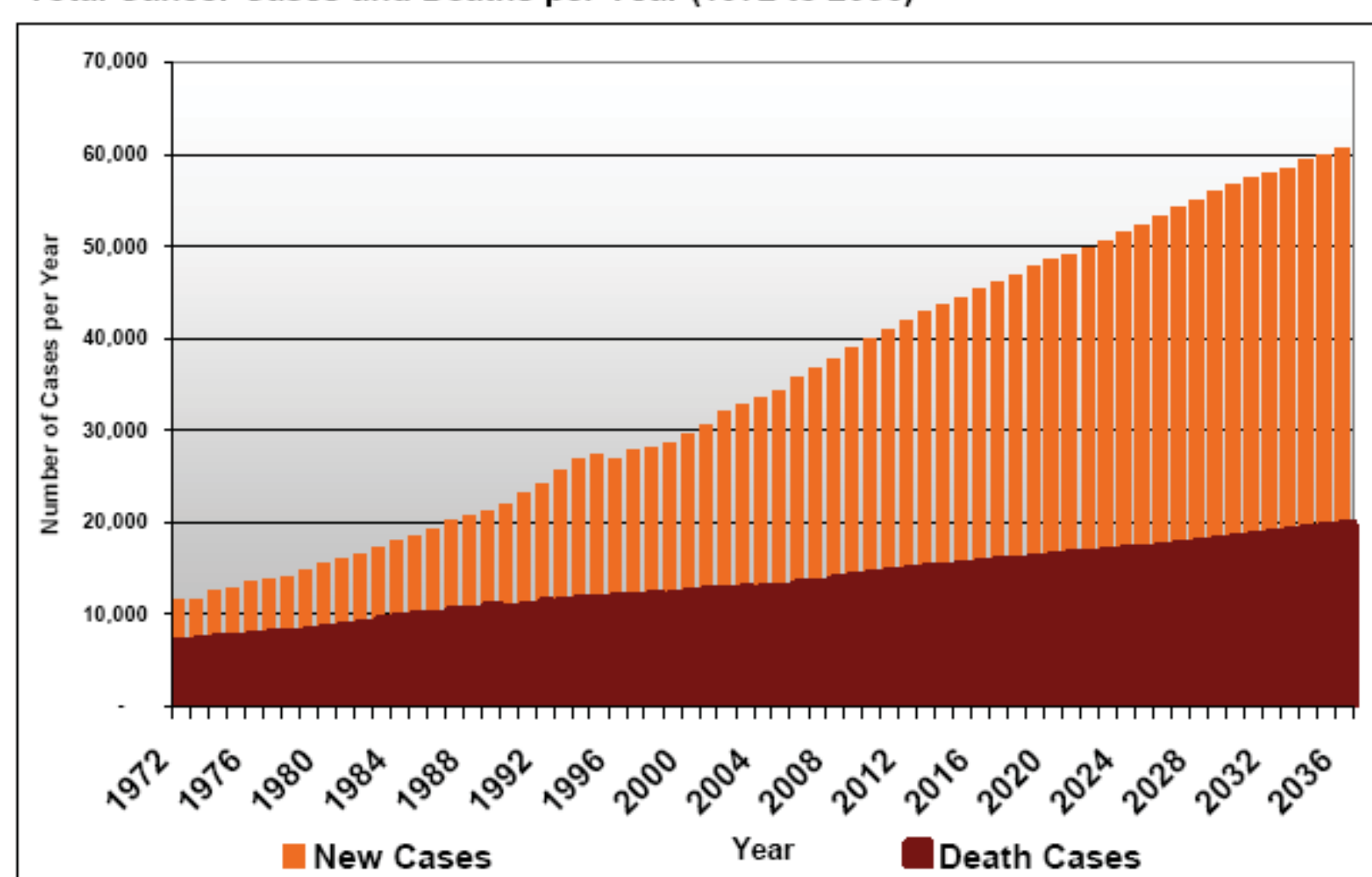
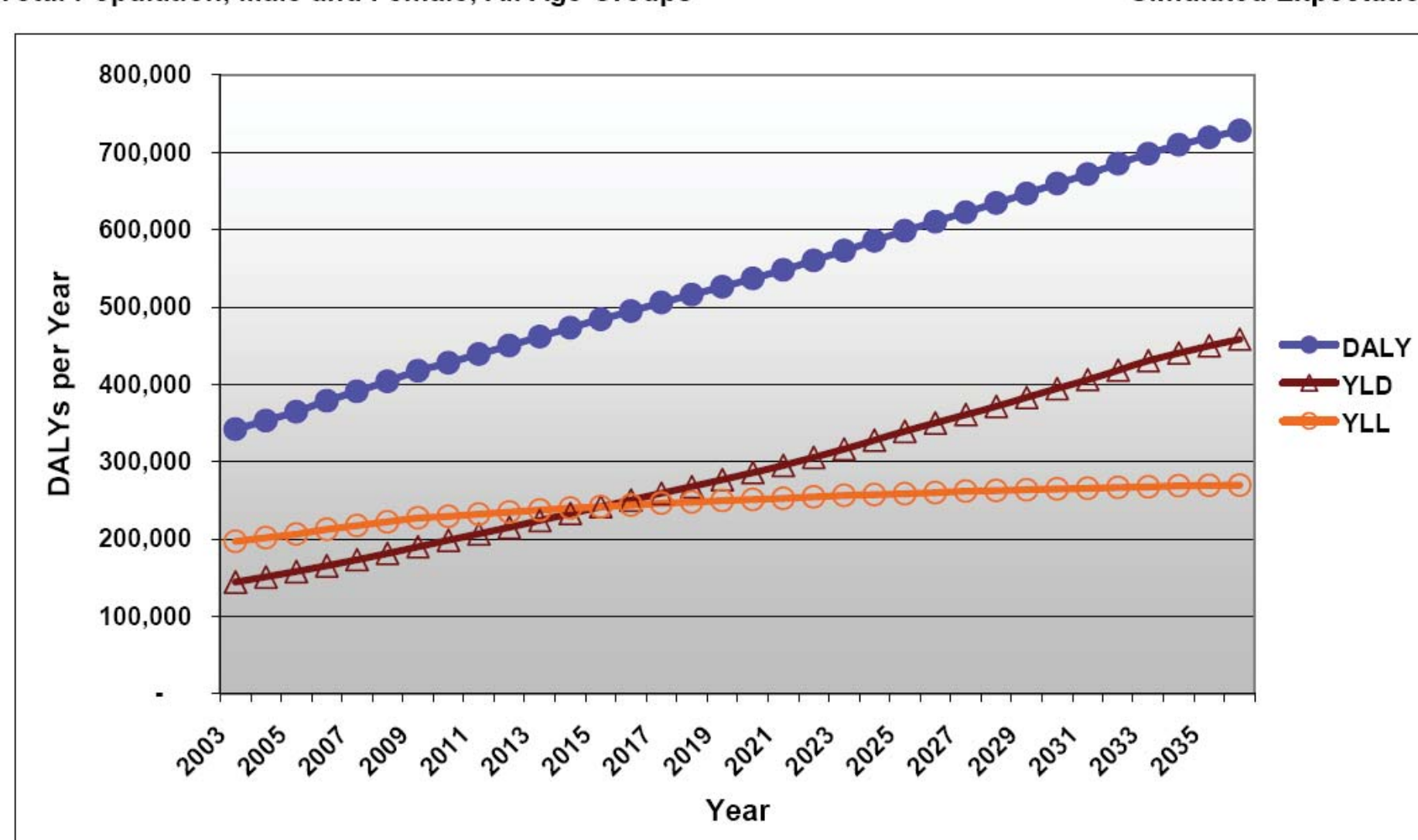


Figure 3: Cancer related burden of disease.

New South Wales
 ALL CANCERS
 Total Population, Male and Female, All Age Groups

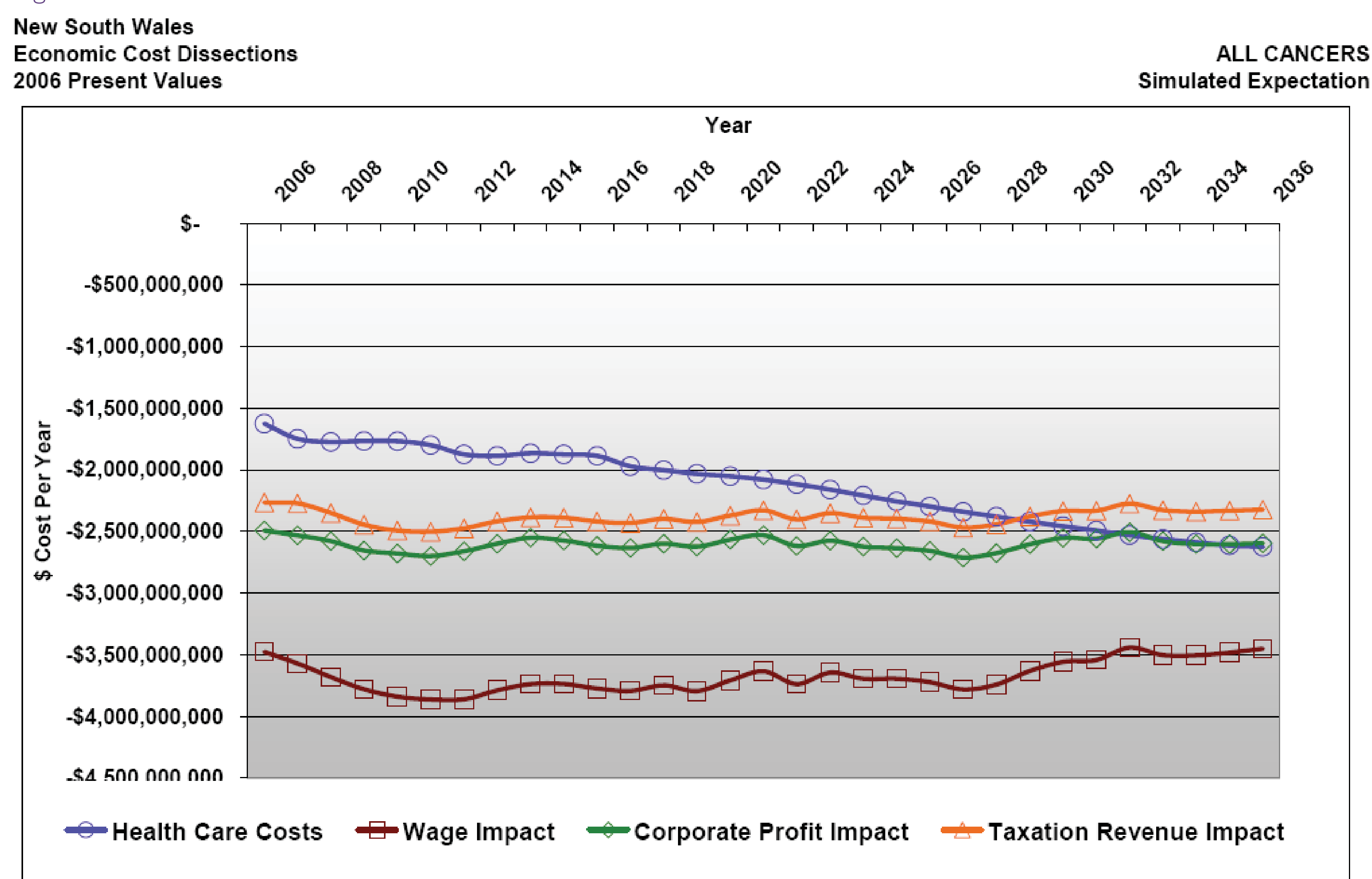
DALY
 Simulated Expectation



Cancer-related disability adjusted life years (DALYs) for both genders were estimated to be 378,535 in 2006, 494,573 in 2016 and 728,276 in 2036. Cancer-related years lost to disability (YLD) for both genders were estimated to be 165,724 in 2006, 250,623 in 2016 and 458,514 in 2036 (Figure 3).

Figure 4 illustrates the direct and indirect components of cost of cancer in NSW in present values between 2006 and 2036.

Figure 4: Economic costs of cancer in NSW



- Total health care costs of cancer in NSW were estimated to be \$1.627 billion in 2006, \$1.887 billion in 2016 and \$2.625 billion in 2036.
- Total impact of cancer on wages in NSW was estimated to be \$3.477 billion in 2006, \$3.776 billion in 2016 and \$3.450 billion in 2036.
- Total impact of cancer on corporate profits in NSW was estimated to be \$2.494 billion in 2006, \$2.616 billion in 2016 and \$2.597 billion in 2036.

DISCUSSION

Most of the increase in incidence and mortality by 2016 may be explained by changes in the age structure with the aging of the population. The projection of cancer cases and costs to 2036 must be interpreted with caution recognising that past cancer trends and predictable changes in population demographics may not always predict future behaviour over a 30-year period, which may be changed by effective prevention and early intervention.

It is predicted that NSW will experience a growing cancer *double dipping* impact, which is representative of the ability of cancer to not only increase the costs of health care, but to also erode an economy's ability to pay for such health care. This *double dipping* impact is expected to place significant pressure upon the NSW health care system in the future.

The cost estimation in this study does not include intangible cost of pain and suffering and cost to care-givers, which sometimes include family members.

References

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