



# **The economic cost of arthritis in New Zealand in 2018 – Executive Summary**

Arthritis New Zealand

August 2018

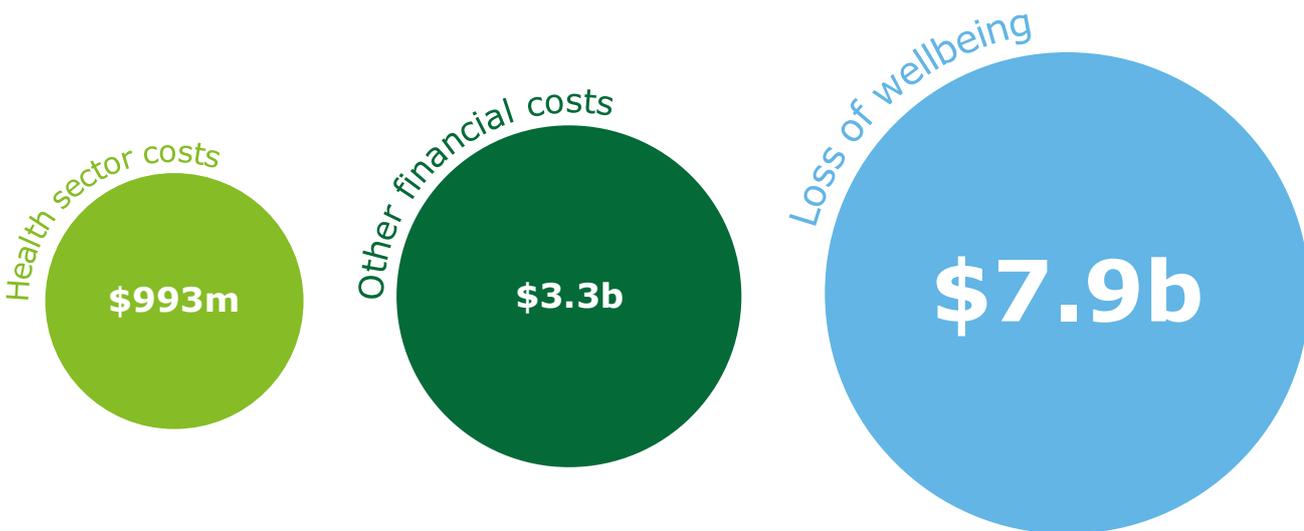
# Executive summary

Arthritis is a long-term condition which can have a substantial impact on quality of life. It is an umbrella term used to describe a range of conditions affecting joints.

## Costs associated with arthritis

The total cost of arthritis in New Zealand is estimated to be \$12.2 billion in 2018. The costs of arthritis comprise both financial costs, which include health sector costs, productivity losses and the cost of caring for people with arthritis, as well as loss of wellbeing for people with arthritis (Table iChart iFigure i).

Figure i The cost of arthritis in New Zealand in 2018, by major cost components



Source: Deloitte Access Economics analysis.

As shown in Chart i, of the \$12.2 billion total cost, the loss of wellbeing makes up the largest proportion (65%), followed by the carer costs (13%) and productivity costs (10%).

- Loss of wellbeing costs are estimated to be \$7.9 billion.
- Informal and formal carer costs are estimated to be \$1.6 billion.
- Productivity costs are estimated to be \$1.2 billion.
- Health system costs are estimated to be \$992.5 million.
- Efficiency losses associated with lost tax revenues and government payments are estimated to be \$390.7 million.
- Other financial costs are estimated to be \$41.9 million.

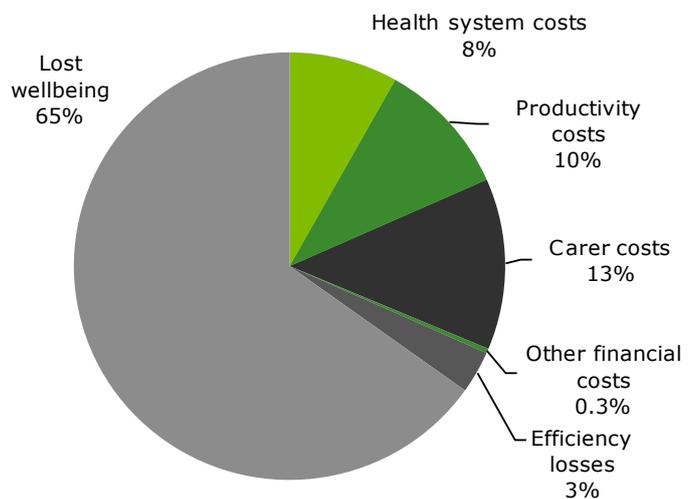


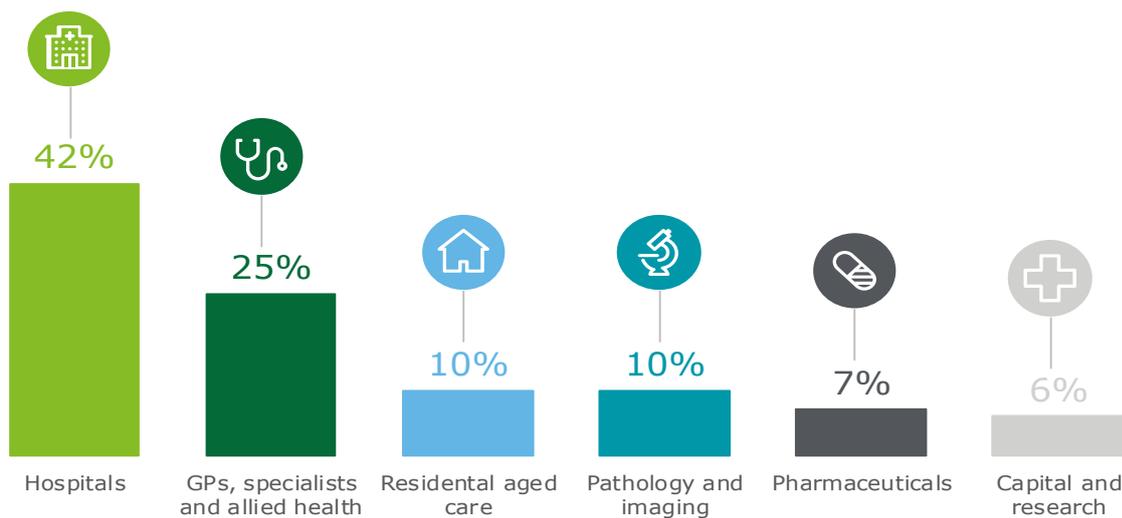
Chart ii Breakdown of 2018 costs of arthritis

## Health sector costs

Health sector costs of arthritis are estimated to be \$992.5 million in 2018, 23% of total financial costs. The relative share of each type of cost is shown in Figure ii.

- Hospital inpatient costs represent around one third of health sector costs (\$321.0 million). Public inpatient costs are \$244.0 million, and private inpatient costs are significantly lower at \$77.0 million. Both public and private inpatient costs are dominated by osteoarthritic knee and hip surgeries.
- Hospital outpatient costs are estimated to be 10% of the total health sector costs (\$102.7 million).
- The cost of general practitioner (GP) visits in 2018 is 4% of the total (\$34.9 million). This share is higher than in 2010, where it was only 3%, with the difference being that in 2018 both the patient co-payment and the government’s contribution were able to be included.
- Medical specialists and allied health services are estimated to be \$210.0 million (21% of total health cost). The analysis was based on the data from the most recent Health Survey, and these data did not differentiate whether a consultation was with a medical specialist as an outpatient in a hospital or at their private rooms or clinic.
- Pathology and imaging together are estimated to be 10% of health sector costs (\$96.4 million).
- The pharmaceutical cost share is 7% (\$69.5 million).
- In 2018, the estimated cost for aged care is \$97.9 million (10% of costs). This share is lower than in 2010 (12%), due to refinements in the approach used in 2018 which used New Zealand specific data.
- Research is estimated as 1% of health sector costs (\$6.6 million).
- In addition, there is estimated capital expenditure of \$53.5 million (5% of health sector costs) in 2018 for arthritis.

Figure ii Health sector costs of arthritis, by type, in New Zealand, 2018 (% of total)



Source: Deloitte Access Economics analysis.

## Other financial costs

The productivity loss for individuals with arthritis is estimated at \$1.2 billion in 2018, or \$1,858 per person with arthritis. The costs are borne by individuals (\$410.2 million); employers (\$451.6 million) and government (\$382.3 million). The productivity cost is due to arthritis causing reduced employment (\$648.9 million); time off work (\$262.6 million); and presenteeism<sup>1</sup> (\$332.6 million).

<sup>1</sup> Presenteeism refers to the average number of hours per day that an employee loses to reduced performance or impaired function as the result of their condition.

Arthritis also impacts on families and other people who provide care to people with arthritis. The productivity loss due to informal care as a result of carers having lower employment levels is estimated at \$1.5 billion in 2018, or \$2,311 per person with arthritis.<sup>2</sup> Each informal carer is estimated to provide, on average, 11.7 hours of care per week to people with arthritis. In addition, it is estimated that \$29.4 million is spent on formal care services.

The remainder of the other financial costs in 2018 consists of:

- expenditure on aids, equipment and modifications of \$40.3 million;
- services and programs provided by Arthritis New Zealand of \$1.6 million; and
- efficiency losses associated with transfer payments and taxation, estimated to be \$390.7 million.

### Loss of wellbeing

Arthritis substantially reduces the amount of healthy years of life lived. The loss of wellbeing is estimated to cost an additional 44,930 disability adjusted life years (DALYs).<sup>3</sup> The loss of wellbeing costs account for around 65% of the total costs associated with arthritis in New Zealand in 2018. The net value of the lost wellbeing is estimated to be \$7.9 billion. Due to the higher disability weight associated with rheumatoid arthritis relative to osteoarthritis and gout arthritis, rheumatoid arthritis contributes to a greater proportion of the loss of wellbeing.

### Prevalence of arthritis in New Zealand

In 2018, approximately 670,000 New Zealanders aged 15 or over are living with at least one type of arthritis. This equates to 17.0% of the population aged 15 or over, or 1 in 6 people.

Chart iii Prevalence of arthritis by age and gender

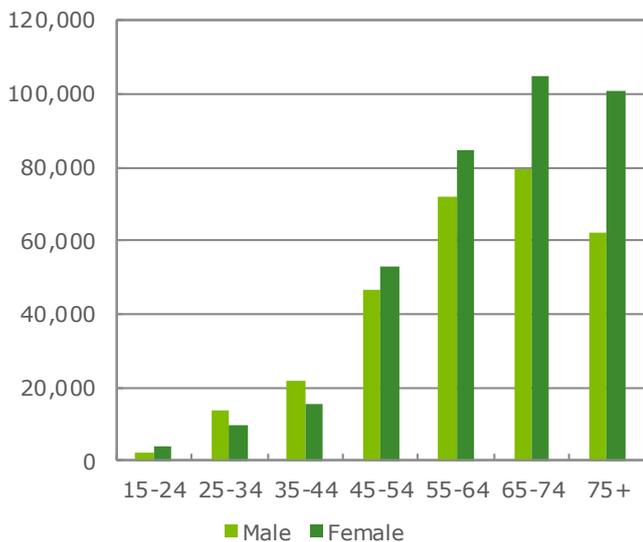
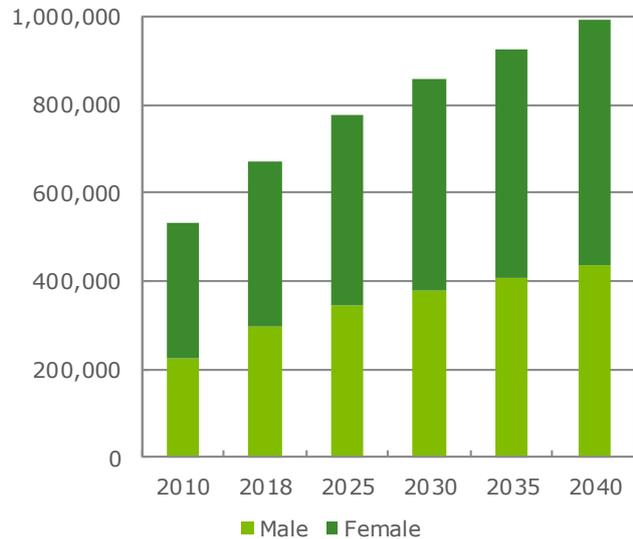


Chart iv Prevalence of arthritis 2010 to 2040



Source: Ministry of Health, 2017a and Deloitte Access Economics analysis.

Osteoarthritis is the most prevalent form of arthritis in New Zealand, followed by gout arthritis and rheumatoid arthritis (Chart v). Gout arthritis is relatively more prevalent in the Māori and Pacific populations (Chart vi). The prevalence of gout in the young Māori population is higher than for the non-Māori population, suggesting that gout arthritis is a significant health issue for the Māori population. This has implications for how services for this group are planned and delivered.

<sup>2</sup> As the age profile of carers was assumed to be the same as for the population with arthritis, this implicitly excludes informal carer costs of care provided to children.

<sup>3</sup> DALY terminology is globally adopted and understood, so is used in this report while acknowledging that some stakeholders would prefer different semantics.

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Chart v Prevalence of arthritis by type

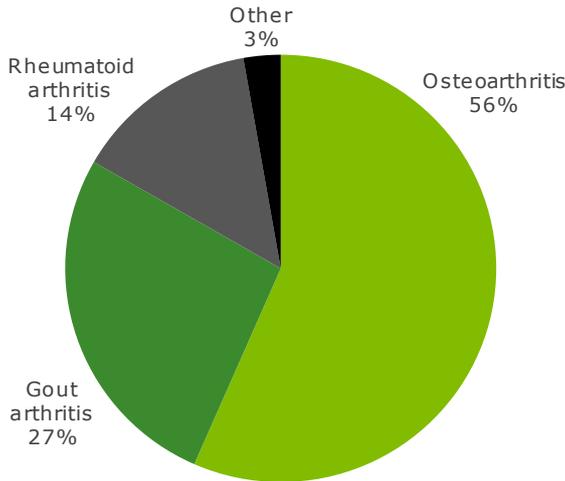
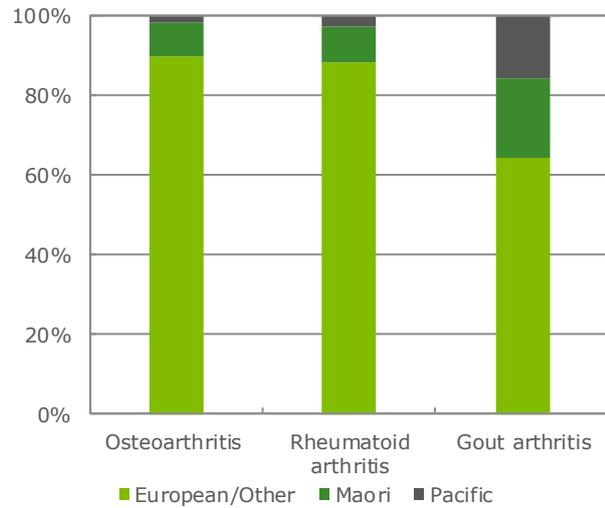


Chart vi Proportion of different types of arthritis by ethnicity



Source: Ministry of Health (2017a) and Deloitte Access Economics analysis.

Arthritis can also affect children aged under 15 years of age. However, New Zealand specific data on the number of children with juvenile arthritis is not collected by the Ministry of Health and a detailed understanding of the prevalence is not currently available. The reported prevalence from international studies is between 0.07 and 4.01 per 1,000 children. Given differences in culture, ethnicity and background between New Zealand and other countries, it is inappropriate to apply these rates to the New Zealand population. As such, this report is limited to arthritis in the population aged 15 years or over.

## Conclusion and recommendations

Arthritis is a highly prevalent condition that affects at least 17% of people in New Zealand aged over 15 years. Prevalence increases with age and, for people aged over 65 years, more than 45% have some form of arthritis. With an ageing population, by 2040 there are projected to be 1 million cases of arthritis in New Zealand. Arthritis is a large cost to the New Zealand economy. The total economic and wellbeing costs are estimated to be \$12.2 billion in 2018, of which over \$1.2 billion are production losses that directly impact New Zealand’s gross domestic product, and a further \$1 billion is spent on healthcare. Almost \$8 billion is lost through reduced quality of life from disability and premature mortality.

Given the prevalence and cost of arthritis, a focus on cost-effective interventions for arthritis such as those targeted at reducing obesity, continued investment in research and development, and self-management education, are important to minimise costs. The recently funded Mobility Action Programme will fund evidence-based, consumer-focused programs, which improve access, health outcomes and consumer experience for people with musculoskeletal health conditions with a priority on providing services to Māori and other population groups that experience disparities in access to health services. However, policy support is needed to scale up successful programs and deliver best practice osteoarthritis management nationwide. This would entail recognition of arthritis as a national priority area for intervention.

In undertaking this analysis, we have found that there is a need for better data to be reported on arthritis by the New Zealand Government. In particular, we could not locate any publicly available data on the prevalence of juvenile arthritis and on elements of health expenditure, notably diagnostic imaging and medical services provided outside of hospitals. This makes it difficult to understand the full cost of arthritis to the economy and to assess whether people with arthritis are receiving appropriate services, or to identify the best targets for preventative health expenditure and track progress over time.

**Deloitte Access Economics**