Investing in Impactful Arthritis Research

Arthritis is one of most common and costly chronic conditions in Australia, and a leading cause of disability, chronic pain and early retirement due to ill-health.

Australia has many of the world's top researchers in the field of arthritis, yet arthritis research has been chronically underfunded.

For every person living with arthritis or a musculoskeletal condition, the government spent less than $6 on research through the NHMRC in 2021. This compares to $147 per person living with dementia, and $85 per person with a cardiovascular condition.

A recent analysis found that the current trend of MRFF distribution suggests targeted, disease-based funding provided through the MRFF tends to go to disease groups with a high death burden and does not target disability burden[1].

Consumers are calling for funding of arthritis research that responds to their needs and priorities. They want to be more involved in arthritis research – over 90% of our survey respondents said they would be willing to assist in research and its design[2]. But currently there is no national program to train and support consumers and consumer organisations, and their input is expected to be free, with no grant budget line item required. Arthritis researchers would benefit from a national approach to arthritis consumer involvement in research.

As the only arthritis advocacy group to represent all forms of arthritis, Arthritis Australia intends to build on its convening role by bringing partnerships together to invest in research driven by consumer priorities and with meaningful consumer co-design at every stage. 72% of researchers surveyed by Research Australia had, at one point, received funding for their research through Arthritis Australia's National Research Program[3].

Cost, burden and research funding for the four leading causes of disease burden by disease group, plus dementia.

Impact	Cancer	CVD	Arthritis & MSK	Mental health	Dementia
Burden of disease (2018)	18%	13%	13%	13%	2.9%
Health system cost (2018-19) $bn	$11.7	$11.8	$13.9	$9.6	$5.4*
NHMRC funding (2021) $m	$153.7	$102.5	$41.7	$102.3	$55.3
Medical Research Future Fund Missions $m	$135 (brain cancer)	$220	Nil	$125	$185

NHMRC funding statistics/website accessed 10 November 2022.
**NATSEM 2017 Economic cost of dementia in Australia 2016-2056. Includes costs for residential aged care.*

The investment needed

- A major and sustained funding boost from the MRFF or other government sources to bring investment in arthritis and musculoskeletal research up to the level of other chronic conditions with a similar burden of disease and impact on the health system and economy. This could include:
    - The establishment of an MRFF Arthritis and Musculoskeletal Mission as recommended in the National Strategic Action Plan for Arthritis, to increase strategic investment in research and research capacity, building the evidence base to support high-value care.
    - Explicit prioritisation of arthritis and musculoskeletal conditions and additional investment of $25 million in 2023 and per year until the disparity has been addressed, under relevant MRFF initiatives, including Emerging Priorities and Consumer-Driven Research, Preventive and Public Health Research and Primary Health Care Research initiatives, Clinical Trials Activity, Clinician Researchers, and Early to Mid-Career Researchers initiative.
    - Targeted calls for research in the identified consumer priority areas below from the MRFF and the NHMRC.

- Funding for Arthritis Australia to develop and pilot a national model for consumer engagement in arthritis research, to support and connect consumers and researchers

The cost of under funding in arthritis research

Ongoing low levels of research funding have severely undermined research capacity for arthritis and musculoskeletal conditions, with serious implications for future research and for sustaining clinical excellence. It also undermines our ability to identify and implement better treatment and management strategies to reduce the personal, social, and economic burden of these conditions.

Investing in research into the most effective and affordable strategies to deal with these conditions has the potential to save the health system many hundreds of millions of dollars a year. Some areas of expenditure where research could achieve substantial cost savings include:

- More than $1.4 billion a year is spent on knee replacements for osteoarthritis[4]. At least $200 million of this cost could be avoided by delivering better management and lifestyle modifications for people at risk of knee replacement[5].

- $540 million a year spent on biological drugs for rheumatoid and other inflammatory forms of arthritis, which could be spent more effectively with research to improve drug targeting (personalised medicine).

- $220 million a year on imaging for low back pain[6], which may be mostly unnecessary[7] and which could be addressed by a modest investment in research into better models of care.

A new consumer agenda for arthritis research

Research Australia, as the national peak body for health and medical research, was commissioned to undertake a detailed review of Australia's arthritis research landscape. Priority areas were identified through dialogues and input with over 100 consumers living with osteoarthritis, rheumatoid arthritis, and juvenile idiopathic arthritis, as well as a research gap analysis.

Consumer driven priority areas for research investment:

- **Better Care:** coordinated and bundled care with a focus on allied health. Research to support the delivery of better arthritis care is a strong area of need, and over half (58%) of survey respondents supported research into better managing their care. Current research into models of care covers a variety of topics but there is no overarching, systematic approach to this field of research and how it can best meet consumer need. This is an attractive area for co-investment given the potential health system cost savings.

- **Basic Research:** causes of arthritis, identification of symptoms, prevention. People with arthritis want to know the aetiology and pathology of arthritis – what is the nature and cause of arthritis, and why did they get diagnosed with this disease? Pure basic research and strategic basic research have a key role to play in meeting these areas of unmet need. Research into primary prevention was also identified in the gap analysis of current arthritis research activity and raised by people with arthritis as an area of unmet need. Consumers have also highlighted that they would like to be able to take preventative measures and that if research were able to assist them they would be willing to participate. There is an opportunity to ensure that future basic research underpinned by strong consumer codesign.

- **Priority Populations:** The National Action Plan states that there should be more arthritis research on populations that have been identified as high priority by both patient groups and clinicians caring for them. There is an identified lack of research into the experiences of children with arthritis, Aboriginal and Torres Strait Islander Peoples, people living in rural and remote areas, and people with disabilities in managing arthritis. There is an opportunity to coordinate investment from condition or population specific arthritis charities.

- **Cross Cutting Research:** research activity whose outputs are potentially applicable across multiple types of arthritis or musculoskeletal conditions . The research priorities identified through analysis of the National Action Plan are all potentially cross-cutting and could be applicable across multiple types of arthritis or musculoskeletal conditions and/or applicable to neglected arthritis diseases. This could include innovative approaches in the management of all types of arthritis such as self-management programmes, physiotherapy, podiatry, pharmacological interventions, and complementary medicine. Arthritis Australia could coordinate funding between organisations focused on arthritis specifically and musculoskeletal disease more generally. This would be an effective use of funding and a national example of championing collaborative research, reducing duplication across the health and medical research pipeline.

References

1. Gilbert S, Buchbinder R, Harris IA, Maher CM. A comparison of the distribution of Medical Research Future Fund grants with disease burden in Australia. Med J Aust 2021;214(3):111-3
2. Research Australia (2021), What Consumers Want: Identifying the Unmet Needs of Australians Living with Arthritis, https://arthritisaustralia.com.au/programs-research/research-australia/report-2/
3. Research Australia (2021), Understanding the arthritis research landscape, https://arthritisaustralia.com.au/programs-research/research-australia/report-1/
4. The Australian Commission on Safety and Quality in Health Care. Prioritised list clinical domains for clinical quality registry development: Final report. Sydney: ACSQHC; 2016
5. Ackerman IN et al 2016. Counting the Cost: The current and future burden of arthritis. Part 1 Healthcare costs.
6. NSW Agency for Clinical Innovation. Management of people with acute low back pain: model of care. Chatswood; NSW Health; 2016. 39 p
7. Downie Aron, Williams Christopher M, Henschke Nicholas, Hancock Mark J, Ostelo Raymond W J G, de Vet Henrica C W et al. Red flags to screen for malignancy and fracture in patients with low back pain: systematic review BMJ 2013; 347 :f7095

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