The opportunity: more efficient use of health dollars and growth containment for one of the most expensive items in the health budget

- Current health system funding models drive low value care (expensive, ineffective and sometimes harmful care), particularly in arthritis and musculoskeletal conditions, which affect over 7 million Australians and are one of the most expensive ($15b per year in 2021-22 per AIHW) and top burden of disease groups at 13% (AIHW 2023).
- Lost labour force participation: Arthritis is the second most common cause of early retirement due to ill-health in Australia. In 2015, 52,000 people aged 15-64 years were out of the labour force due to their arthritis and this is projected to increase to 59,000 by 2030. In addition there were 19,000 primary carers (aged 15-64 years) of people with arthritis who were out of the workforce due to their caring responsibilities in 2015. This number is expected to increase to 22,000 by 2030.
- The impact on personal savings and assets is substantial. By 2030, each person who has to leave the labour force due to their arthritis is expected to have $432,000 less in total savings and assets than full-time workers without arthritis.
- In 2015, a loss of $7.2 billion in GDP was estimated to be due to arthritis-related early retirement. By 2030, this loss of GDP will reach $9.4 billion.
- By 2030, the estimated aggregate economic benefit of this increased labour force participation would be $33.5 million in increased personal income, and $18.3 million in reduced welfare payments, and increased taxation revenue[1].
- Osteoarthritis is a leading cause of disability, chronic pain and early retirement. In 2025, it is estimated that OA will affect 2.35 million Australians. This is expected to increase nationally by 762,515 to 3.11 million in the year 2040, representing 32% growth from 2025, of which 1.17m will be of working age. The projected prevalence of osteoarthritis for women is almost 80% higher than for men[2]. Most consumers currently don't receive appropriate clinical care, and face high out of pocket costs. Reforms in osteoarthritis care could serve as an exemplar of health system reforms to provide cheaper and more effective care.
- Management of osteoarthritis costs the health system $4.3 billion in 2020–21 or 2.9% of total health system expenditure, with approximately 75% of this cost due to surgery[3]. This compares with $3.4 billion spent on diabetes[4] and $2.5 billion on coronary heart disease.[5] Without intervention, the figure for osteoarthritis is projected to escalate, potentially surpassing $9.8 billion by 2040.[6]

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[1] Schofield DJ, Shrestha RN, Cunich M 2016. Counting the cost: the current and future burden of arthritis. Part 2 Economic Costs. Arthritis Australia 2016

[2] *Ackerman I et. al., (2019). The projected burden of primary total knee and hip replacement for osteoarthritis in Australia to the year 2030. Accessed 13 August 2024*

[3] Australian Institute of Health and Welfare (2024) *Osteoarthritis*, AIHW, Australian Government, accessed 28 October 2024.

[4] *Australian Institute of Health and Welfare, 'Diabetes: Australian facts', Dec 2023. Accessed Feb 2024*

[5] *Australian Institute of Health and Welfare, 'Heart, stroke and vascular disease: Australian facts', Dec 2023. Accessed Feb 2024.*

[6] *Ackerman IN et al. The projected burden of arthritis among adults and children in Australia to the year 2040: A population-level forecasting study. Lancet Rheumatology 2024 (in press)*

- Australian has a 'surgery first' approach, compared with Scandinavian countries who are closing unused hospitals. A recent study has projected alarming growth in total knee replacements and total hip replacements by 276% and 208% by 2030, at a cost of $AUD5.32 billion[7].According to the Australian Commission on Safety and Quality in Healthcare, the majority of these surgeries are avoidable with proper first line care[8]. Exercise for hip/knee OA may reduce the need for joint replacement by 44-68%[9]. A recent high-quality budget impact analysis has estimated that national delivery of a first-line osteoarthritis management program including education and support for symptom management, physical activity, weight loss would translate to health system savings of over $1 billion a year by 2029 through avoidance of knee replacement surgeries[10].

The proposal: targeted implementation of better osteoarthritis care to avoid unnecessary joint replacement surgeries

- Fund a program based on existing proven models of care to be phased in by initially targeting 10,000 people at highest risk of being placed on a surgical waiting list, and by targeting geographic areas with high rates of clinical variation suggesting inappropriate or overuse of arthroscopy or MRI. The program could be delivered remotely using telehealth to ensure equitable access for people living in rural or regional areas and at lower cost. Participants could be identified in primary care settings using existing stratification tools.

- We have provisionally costed the targeted model of care rollout at $11.5 million, including program design and evaluation. Costs have been estimated based on existing programs[11], with costs of $1000 per participant for a telehealth delivered program, including training, patient assessment and delivery. A staged rollout targeting 10,000 people likely to need a knee replacement would cost $10 million over a year to cover the cost of the program per participant. Assessment of areas to target through evaluation of variation in arthroscopy, MRI usage etc which would build on work undertaken by the ACSQHC Atlas of Healthcare Variation. Program design could involve a stepped wedge or cluster rollout (ie participants would have a staggered start to the program)

- Assuming a program price of $1,000 per recipient and an average saving of $12,331 per person likely to require a knee replacement, if we conservatively estimate that the program implementation results in 50% of participants avoiding a knee replacement, this would equate to approximately $60 million in savings within the 12 month period.

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[7] *Ackerman, I.N., Bohensky, M.A., Zomer, E. et al.The projected burden of primary total knee and hip replacement for osteoarthritis in Australia to the year 2030. BMC Musculoskelet Disord 20, 90 (2019). https://doi.org/10.1186/s12891-019-2411-9*

[8] https://www.safetyandquality.gov.au/newsroom/latest-news/expert-advice-sidestep-surgery-knee-osteoarthritis

[9] https://pubmed.ncbi.nlm.nih.gov/24255546/
https://www.oarsijournal.com/article/S1063-4584(18)31221-4/fulltext

[10] *Ackerman IN, Skou ST, Roos EM, Barton CJ, Kemp JL, Crossley KM, Liew D, Ademi Z. Implementing a national first-line management program for moderate-severe knee osteoarthritis in Australia: A budget impact analysis focusing on knee replacement avoidance. Osteoarthr Cartil Open. 2020 May 6;2(3):100070. doi: 10.1016/j.ocarto.2020.100070. PMID: 36474677; PMCID: PMC9718332*

[11] Harris A, Hinman RS, Lawford BJ, Egerton T, Keating C, Brown C, Metcalf B, Spiers L, Sumithran P, Quicke JG, Bennell KL. Cost-Effectiveness of Telehealth-Delivered Exercise and Dietary Weight Loss Programs for Knee Osteoarthritis Within a Twelve-Month Randomized Trial. Arthritis Care Res (Hoboken). 2023 Jun;75(6):1311-1319. doi: 10.1002/acr.25022. Epub 2023 Jan 20. PMID: 36106928; PMCID: PMC10953202.
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