

Background

Medicines Australia commissioned Prof Deborah Schofield to investigate and propose a measure of productivity that captures the costs associated with interventions for osteoarthritis.

The report captures a literature review to identify measures used for estimating productivity losses OA in intervention and cost of illness studies. The results from this review were then used to inform the development of a framework for productivity measurement in intervention studies. This framework was based on a scaffolding approach to the creation of a measure of productivity using questions contained in existing survey based datasets.

Stage 1 comprised a targeted literature review to identify the measures used for estimating productivity losses of osteoarthritis (OA) in intervention and cost of illness studies, to identify:

- (a) The type of productivity measures used in the published studies, and how they have been used;
- (b) The scale of the productivity costs captured (based on the type of questions/instruments used);
- (c) Potential productivity measures not captured.

Stage 2 comprised the development of a productivity measurement for use in intervention studies. A framework was used that builds questions on paid employment, hours of work, ill-health factors on labour force participation, impact of OA and then considered how best to extract data that quantifies productivity loss (e.g. current annual salary, sources of income, sick leave days due to OA).

For **Stage 3**, the productive life gained (extra number of people in the labour force) was modelled as a result of pharmaceutical interventions to manage osteoarthritis. Since the targeted literature review (Stage 1) failed to identify a study that has a direct measure of the effect of the interventions on productivity life gained by those with osteoarthritis, the association between SF-36 bodily pain domain score and the labour force participation rate was analysed using Wave 10 data of the Household Income and Labour Dynamics in Australia (HILDA) Survey.

Findings

The impacts on economic measures such as personal incomes, welfare payment received and income tax paid associated with productive life gained were modelled for 2015. It was estimated that there would be an additional 1,177 persons in the labour force due to managing their OA with a pharmaceutical product. The estimated cumulative economic benefit of this increased labour participation is \$43million per year in annual incomes, an increase of \$11million in tax revenue for the Government and a reduction of \$15 million in welfare payments.