

# Are physiotherapy screening clinics cost effective in addressing unmet demand in Orthopaedic outpatients?

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## Background

Advanced musculoskeletal physiotherapy led assessment and treatment services have been increasingly adopted to reduce lengthy waits in Orthopaedic Outpatient settings, but evaluation of cost effectiveness has been uncommon. The aim of this study was to evaluate the most cost effective method to improve orthopaedic outpatient services in a typical Queensland hospital where demand exceeds service capacity.

## Methods

A discrete event simulation was developed in Simul8<sup>®</sup> to model the expected costs, outcomes, queues and waiting times for orthopaedic outpatient services. Data to inform the model was derived from a prospective case-control study of two facilities (one in which an advanced musculoskeletal service was operational and one in which it was not) and from an earlier retrospective review, audit, and waiting list data. The model compared options to address unmet demand on orthopaedic services over a five year timeframe and included an increase in any/ all of: (1) the advanced musculoskeletal physiotherapy led service, (2) traditional orthopaedic outpatient clinics, (3) orthopaedic surgery throughput. The primary outcome was the incremental cost-effectiveness ratio (ICER: cost per additional quality-adjusted life-year-gained). Throughput (patients treated over five years) and waiting times were also evaluated.

## Results:

Cost-effectiveness ratios ranged from \$8301 to \$36 218 indicating that increases to any of the service components tested may be considered cost-effective in an Australian context.

Doubling (ICER \$8301) or tripling (ICER \$8140) the scale of the advanced musculoskeletal physiotherapy led service was the most cost-effective option, resulting in the least cost per additional health unit gained.

**Discussion:** Although increasing traditionally delivered orthopaedic clinics and/or surgical throughput may address unmet demands on orthopaedic outpatient services, it is more cost effective to increase the capacity of an advanced musculoskeletal physiotherapy led assessment and treatment service. These findings can inform health service managers in decision making about resource allocation in orthopaedic settings.