PHYSIOTHERAPIST REFERRAL TO SPECIALIST MEDICAL PRACTITIONERS

Final Report
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AUTHORS

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**ABOUT THE CAHE**
The Centre for Applied Health Economics (CAHE) is a research centre located within the School of Medicine, Griffith University. The Centre is led by Professor Paul Scuffham and currently employs a team of health economists. In addition, associated with the Centre are Post-doctoral Fellows, PhD students, and an Associate Professor in Biostatistics.

Research and key skill areas:
- High quality health research relating to improved quality of life for Australian and international populations
- Contract research for government and industry to have a direct impact on health policy in Australia and internationally
- Education and training, including higher degree research students and the workshops in health economics
- Methods of economic evaluation relating to health care interventions (pharmaceuticals, medical devices, health care programs)
- Health care financing including preferences and priority setting in health care
- Evaluation of health services and health policy

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Established in late 2011, the Deeble Institute for Health Policy Research supports the development of evidence-informed health policy and practice through partnerships with health policymakers, practitioners and researchers. The Deeble Institute is a collaboration between the Australian Healthcare and Hospitals Association and seven Founding Partner universities:
- The Australian National University
- Griffith University
- La Trobe University
- Queensland University of Technology
- University of Canberra
- University of Western Australia
- University of Wollongong

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EXECUTIVE SUMMARY

PURPOSE
The purpose of this report is to identify and examine the likely impact on referrals to specialist medical practitioners, the Medicare benefits schedule and on patient costs in three scenarios:

1. If patients directly referred to specialist medical practitioners by all physiotherapists could receive Medicare rebates
2. If patients directly referred to specialist medical practitioners by only titled and specialist physiotherapists could receive Medicare rebates
3. If patients directly referred to specialist medical practitioners by only specialist physiotherapists could receive Medicare rebates

Note that current policy does not allow patients to receive Medicare rebates if they are directly referred to specialist medical practitioners by physiotherapists.

RESULTS
Our findings indicate the introduction of Medicare rebates payable to patients referred to medical specialists from physiotherapists is likely to save Medicare more than $13.6 million per year and patients more than $2.1 million per year in out-of-pocket costs.

FINDINGS AND DISCUSSION
This report has modelled a comprehensive range of possible outcomes from allowing direct referral and Medicare rebate by three groups of physiotherapist practitioners to specialist medical practitioners.

Key findings from our analysis indicate the following net annual savings to both Medicare and patients in the following three scenarios:

Scenario 1: If patients directly referred to specialist medical practitioners by all physiotherapists could receive Medicare rebates:
- Savings to Medicare: $13,641,362
- Savings to patients: $2,175,407
- Total savings: $15,816,769

Scenario 2: If patients directly referred to specialist medical practitioners by only titled and specialist physiotherapists could receive Medicare rebates:
- Savings to Medicare: $1,883,574
- Savings to patients: $300,376
- Total savings: $2,183,950

Scenario 3: If patients directly referred to specialist medical practitioners by only specialist physiotherapists could receive Medicare rebates:
- Savings to Medicare: $147,172
- Savings to patients: $23,470
- Total savings: $170,642

Currently in Australia, if a physiotherapist refers a patient to a specialist medical practitioner, the patient is not eligible to receive a Medicare rebate and must pay in full for the treatment service. As a result, almost all physiotherapists choose to refer their patients to a general practitioner (GP), so the GP will write the specialist referral and the patient can receive a Medicare rebate. Patients incur
a cost when visiting a GP to obtain a referral to a specialist medical practitioner because the additional visit adds to the overall cost of treatment.

A change in current policy to allow patients to receive a Medicare rebate in instances of direct referral by physiotherapists to specialist medical practitioners would have many benefits. Direct referral to relevant specialists would save treatment costs for the patient and the Australian health system and avoid the double-handling of having to engage a GP in the treatment process simply to write a referral. This would also save time for patients by not waiting for a referral to be processed by a GP. Access to direct specialist treatment may well provide for early recovery and better treatment outcomes overall. The diversity, skills and knowledge of physiotherapists are not being fully utilised and recognised by current policy, which is costing governments, Medicare and patients more than needs be. Individual physiotherapy practitioners recognise their professional limitations and know when and who a patient should be referred to, but patients should not be financially penalised when referred by physiotherapists who have expertise in a relevant field and are operating within their scope of practice.

**Conclusion**

Health policymakers face ever increasing costs throughout the Australian health system, and an ageing population will exacerbate the situation. In the interests of both ensuring the financial sustainability of the health system and providing optimal patient care, policymakers are strongly encouraged to revisit the issue of direct physiotherapist referral to specialist medical practitioners and work with clinicians to use an evidence-based approach in reformulating this policy.
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PHYSIOTHERAPIST REFERRAL TO SPECIALIST MEDICAL PRACTITIONERS

PURPOSE
The purpose of this report is to identify and examine the likely impact on referrals to specialist medical practitioners, the Medicare benefits schedule and on patient costs in three scenarios:

1. If patients directly referred to specialist medical practitioners by all physiotherapists could receive Medicare rebates
2. If patients directly referred to specialist medical practitioners by only titled and specialist physiotherapists could receive Medicare rebates
3. If patients directly referred to specialist medical practitioners by only specialist physiotherapists could receive a Medicare rebate

BACKGROUND
In Australia, physiotherapists are the fifth largest group of registered primary health care professionals. Physiotherapists assess, diagnose, treat and work to prevent disease and disability through physical means with their patients. Physiotherapists are educated through bachelor, masters or professional doctorate programs, and they are required by law to be registered nationally.

Currently, if a physiotherapist refers a patient to a specialist medical practitioner, the patient cannot receive a Medicare rebate and must pay in full for the treatment service. Due to these out-of-pocket expenses for the patient, almost all physiotherapists choose to refer their patients to a general practitioner (GP), so the GP can write the specialist referral and the patient can receive a Medicare rebate. Patients incur a cost when visiting a GP to obtain a referral to a medical specialist as the additional GP visit adds to the overall cost of treatment. Arguments in support and against the current policy requiring GP referral to access a specialist medical practitioner involve patient care and costs on the healthcare provider and patients.

In March 2013 the Griffith University Centre for Health Economics and the Deeble Institute were engaged to provide an analysis of the economic impact of physiotherapy referral to medical specialists.

AIMS
The aims of this report are to:

1. Analyse and review how many patients are referred to GPs for the purpose of obtaining a specialist consultation by three groups of physiotherapy practitioners: all physiotherapists, titled and specialist and specialist physiotherapists only
2. Identify and examine the impact on the health care funder (the Australian Government’s Medicare program) of a change in to direct referral by these three groups of practitioners
3. Identify and examine the impact on physiotherapy patients of a change to direct referral by these three groups of physiotherapy practitioners
**METHODS**

**FRAMEWORK FOR THE ECONOMIC EVALUATION**

**Model**
A model was constructed in Microsoft excel 2010® with @risk add-in. The analysis models the current financial impact of referral patterns of physiotherapy and a revised financial impact if physiotherapy patients were able to access Medicare rebates from direct referral.

**Perspective**
This analysis takes the primary perspective of the Australia Government as the health care funder of Medicare in Australia. This is reasonable as Medicare will be financially affected by changes in referral pathways to specialist medical practitioners. Costs to patients and to the total system (health care and patients) are also estimated in a secondary analysis.

**Time horizon**
Final analysis findings are reported in the time measurement of one year.

**Model alternative referral arms**
Figure 1 demonstrates the alternative referral arms used in the model.

**Figure 1 - Alternative referral arms**
Table 1 outlines the steps taken in the model.

**Table 1 - Steps in the model**

<table>
<thead>
<tr>
<th>Steps in the model</th>
<th>Current Practice</th>
<th>New Practice</th>
<th>Net Benefit / Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current Practice</strong></td>
<td>Step 1. Number of referrals per four weeks from physiotherapists</td>
<td>Step 1. Net increase in referrals from physiotherapist</td>
<td>Step 1. New practice cost of GP / specialist medical practitioner visit minus current practice cost GP / specialist medical practitioner visits</td>
</tr>
<tr>
<td></td>
<td>Step 2. Proportion of referrals made ‘via GP’ and proportion of direct referrals</td>
<td>Step 2. Decrease in referrals made ‘via GP’</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Step 3. Patient referral attendance rates</td>
<td>Step 3. Number of GP / specialist medical practitioner visits</td>
<td></td>
</tr>
<tr>
<td><strong>New Practice</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Step 1.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Step 2.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Step 3.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Step 4.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Inputs to the model**

A number of data items and inputs were required to inform the model, which are outlined in table 2 below. Data on the number of physiotherapists were obtained from national registration data. Cost information was derived from Medicare and Pharmaceutical benefits schedules. To obtain the rates of referral and changes in practice if direct referral was available, a survey was designed in Qualtrics®. The confidence interval of the survey is 95 per cent. A copy of the full survey is given in Appendix A.

**Table 2 - Data and sources used in the model**

<table>
<thead>
<tr>
<th>Data Item</th>
<th>Value: Mean or percentage</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of physiotherapy patients referred to GP for specialist consultation per four weeks</td>
<td>6.04 (5.63, 6.45)</td>
<td>APA Member survey Q5 and 6</td>
</tr>
<tr>
<td>Proportion of referrals made ‘via GP’</td>
<td>68.6%</td>
<td>APA Member survey Q7</td>
</tr>
<tr>
<td>Referred patient attendance rates (GP)</td>
<td>91.0%</td>
<td>APA Member survey Q10</td>
</tr>
<tr>
<td>Referred patient attendance rates (specialist)</td>
<td>84.9%</td>
<td>APA Member survey Q11</td>
</tr>
<tr>
<td>Cost to the health system of indirect referrals through GPs to specialist medical practitioners</td>
<td>Refer to Costs</td>
<td>Medicare schedule items 23 and 104</td>
</tr>
<tr>
<td>Cost to individual patients of indirect referrals through GPs to specialist medical practitioners (out-of-pocket expenses)</td>
<td>Refer to Costs</td>
<td>Medical Services Advisory Committee minutes [1]</td>
</tr>
<tr>
<td>Net increase in referrals from physiotherapy</td>
<td>5%</td>
<td>APA Member survey Q12, 13</td>
</tr>
<tr>
<td>Decrease in referrals made ‘via GP’</td>
<td>86.3%</td>
<td>APA Member survey Q14</td>
</tr>
<tr>
<td>Number of privately employed physiotherapists in Australia</td>
<td>11,957</td>
<td>AHPRA board report and AIHW workforce report [2, 3]</td>
</tr>
<tr>
<td>Number of titled and specialist APA members</td>
<td>Table 4</td>
<td>APA internal data</td>
</tr>
<tr>
<td>Medical specialties that GPs refer physiotherapy patients to</td>
<td>Figure 3</td>
<td>APA Member survey Q8</td>
</tr>
</tbody>
</table>
Physiotherapy population

Table 3 contains the numbers of physiotherapists registered in Australia on 30 June 2012 and the number of medical practitioners for comparison from the Australian Health Professional Regulation Agency National Report 2011-12 [2]. Physiotherapists comprise the fifth largest registered health professional grouping. The majority of these registrants are general as specialist registration is currently only recognised for medical specialists, dental specialists and podiatric surgeons. The largest group of medical practitioners with a speciality was in the field of general practice.

Table 3 - Health professional registrations in Australia June 2012

<table>
<thead>
<tr>
<th>Profession</th>
<th>Total registered</th>
<th>Specialist registration</th>
<th>General</th>
<th>General and specialised</th>
<th>Other*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physiotherapist</td>
<td>23,501</td>
<td>0 (0%)</td>
<td>22,612 (96%)</td>
<td>0 (0%)</td>
<td>889 (4%)</td>
</tr>
<tr>
<td>Medical practitioner</td>
<td>91,648</td>
<td>6,188 (7%)</td>
<td>26,483 (29%)</td>
<td>46,409 (51%)</td>
<td>12,568 (14%)</td>
</tr>
</tbody>
</table>

Note: *includes those with limited, provisional and non-practising registrations

The population used for this analysis excludes non clinical physiotherapists and those working in the public sector as they will be highly unlikely to refer to private medical specialist care. The proportions of non-clinical and public sector physiotherapists are 7.6 and 42 per cent respectively[3]. This leaves a population of 11,957 privately employed physiotherapists who would be likely to use direct referral to medical specialists.

Specialisation and titling is available through the national groups of the Australian Physiotherapy Association, and these numbers were obtained directly from internal Australian Physiotherapy Association data. This, however, is not the same as specialist registration under the Australian Health Professional Regulation Agency. Current numbers and groups represented are presented in Table 4 below.

Table 4 - Current titled and specialist member numbers

<table>
<thead>
<tr>
<th>National group</th>
<th>Current titled members</th>
<th>Current specialist members</th>
<th>Total titled and specialist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiorespiratory</td>
<td>21 (1%)</td>
<td>7 (5%)</td>
<td>28 (2%)</td>
</tr>
<tr>
<td>Continence &amp; women's health</td>
<td>54 (4%)</td>
<td>9 (7%)</td>
<td>63 (4%)</td>
</tr>
<tr>
<td>Gerontology</td>
<td>13 (1%)</td>
<td>1 (1%)</td>
<td>14 (1%)</td>
</tr>
<tr>
<td>Musculoskeletal</td>
<td>778 (51%)</td>
<td>55 (43%)</td>
<td>833 (50%)</td>
</tr>
<tr>
<td>Neurology</td>
<td>64 (4%)</td>
<td>7 (5%)</td>
<td>71 (4%)</td>
</tr>
<tr>
<td>Occupational health</td>
<td>16 (1%)</td>
<td>9 (7%)</td>
<td>25 (2%)</td>
</tr>
<tr>
<td>Paediatric</td>
<td>24 (2%)</td>
<td>4 (3%)</td>
<td>28 (2%)</td>
</tr>
<tr>
<td>Sport</td>
<td>552 (36%)</td>
<td>37 (29%)</td>
<td>589 (36%)</td>
</tr>
<tr>
<td>Total</td>
<td>1,522</td>
<td>129</td>
<td>1,651</td>
</tr>
</tbody>
</table>

Source: Australian Physiotherapy Association internal data

Analysis of the impact of direct referral uses the specialist numbers of 129 and titled and specialist numbers of 1,651 to estimate the economic impact.

Assumptions made in the model.

- The average referrals per month to specialists from the Australian Physiotherapy Association member survey is representative of the Australian physiotherapy population
- Of the patients asked to directly see a consultant by their physiotherapist 20 per cent will not access a GP appointment prior to the specialist. This is a conservative assessment and
effectively means the government currently pays nothing for some patients who elect to attend specialists directly on the recommendation of a physiotherapist.

- Allowing direct referral will increase the amount of referrals made by physiotherapists by a net amount of 5 per cent.

Costs

Cost of medical services to the government was based on the July 2013 Australian Government Department of Health and Ageing Medicare Benefits Schedule Book, Category 1.

The cost of a GP consultation was based on Item 23, Professional attendance at consulting rooms, with a scheduled Fee of $36.30 and with a 100 per cent benefit payable of $36.30. The cost of a specialist consultation was based on item 104, Professional attendance at consulting rooms or hospital by a specialist in the practice of his or her specialty where the patient is referred to him or her, with a scheduled fee of $85.55 and using an 85 per cent rebate payable for a cost to the government of $72.75.

Costs to patients and overall costs were based on the out-of-pocket expenses of $42.57 for specialist consultation and $5.04 for GP attendance from the Medical Services Advisory Committee minutes 57th Meeting [1] giving a total cost of service of $115.32 and $41.34 for specialist and GP respectively.

Conduct of the study

This study was given ethics approval from the Griffith University Human Research Ethics Committee (MED/13/13/HREC).

Results of the member survey

The survey was opened on 3 June 2013 and closed on the 15 June 2013. The survey was distributed to 4,607 members of the Australian Physiotherapy Association (APA) via email invitation. Table 5 outlines the response and completion rate of the survey.

Table 5 - Survey statistics

<table>
<thead>
<tr>
<th></th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total contacted</td>
<td>4,607</td>
</tr>
<tr>
<td>Responders</td>
<td>777 (17%)</td>
</tr>
<tr>
<td>Total questions</td>
<td>19</td>
</tr>
<tr>
<td>Average questions answered</td>
<td>15.5</td>
</tr>
<tr>
<td>Average per cent completed</td>
<td>81.4%</td>
</tr>
<tr>
<td>Answered 100 per cent</td>
<td>72.7%</td>
</tr>
</tbody>
</table>

Table 6 list some basic demographic characteristics of the sample as compared to the Australian population of physiotherapists.

Table 6 - Basic characteristics of physiotherapists practising in Australia

<table>
<thead>
<tr>
<th></th>
<th>Number</th>
<th>Age (range)</th>
<th>Gender (Female)</th>
<th>Years of experience mean(sd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample</td>
<td>777</td>
<td>44 (22-74)</td>
<td>53%</td>
<td>21 (10.3)</td>
</tr>
<tr>
<td>All physiotherapists*</td>
<td>23,501</td>
<td>39 (20-80)</td>
<td>70%</td>
<td>NR</td>
</tr>
</tbody>
</table>

Note: *Data drawn from AHPRA 2011-12 national report; NR= not reported
The respondents in the survey were on average slightly older and had an even gender distribution as opposed to the total physiotherapy population which has more females. This may reflect the place of practice of most participants. The majority of respondents worked in a self-owned private practice (64 per cent) and a further 29 per cent worked in private practices owned by others. The remaining respondents worked in public hospitals (3 per cent), residential care facilities (1 per cent) or other settings.

**Type of physiotherapist**

The majority of respondents 440 (63 per cent) nominated as a general physiotherapist. A further 233 (33 per cent) respondents were titled physiotherapists and a small number 25 (4 per cent) had the title of specialist. The majority of respondents (54.6 per cent) had higher qualifications above Bachelor degree level.

Figure 2 demonstrates areas of practice identified in the survey by the titled and specialist members of the cohort.

**Figure 2**

![Bar chart showing areas of practice](chart.png)

The respondents are similar to the total physiotherapy cohort of titled and specialist members with the majority of practice in musculoskeletal and sports.
**Medical specialties**

Figure 3 displays the fields of medical specialties that physiotherapists reported referring to.

**Figure 3**

![Medical specialties requested](image)

The majority of consultations requested by physiotherapists were in the fields of sports medicine and orthopaedics. These specialties comprise 80 per cent of all medical specialist referrals recommended by physiotherapists. These results are consistent with the profile of titled and specialist physiotherapy fields which are dominated by these two areas of practice and also include smaller fields in neurology, paediatric and continence and women’s health.
RESULTS OF THE ECONOMIC ANALYSIS

A number of steps were used to derive the total numbers of referrals and costs used in the economic model. Table 7 presents the steps used to derive the number of consultations requested by physiotherapists and extrapolation to total physiotherapy population for use in the economic analysis.

Table 7 - Stepped economic model

<table>
<thead>
<tr>
<th>Analysis steps</th>
<th>Method</th>
<th>Calculation</th>
<th>Estimates used in model</th>
</tr>
</thead>
<tbody>
<tr>
<td>CURRENT PRACTICE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Total referrals per four weeks</td>
<td>Total physiotherapists in Australia x referrals per physiotherapist in a four week period from survey</td>
<td>11,957 x 6.04 = 72,220</td>
</tr>
<tr>
<td>GP visits</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Physiotherapists to GP</td>
<td>% of referrals to GP x total referrals x attendance rate</td>
<td>68.6% x 72,220 x 91.0% = 45,092</td>
</tr>
<tr>
<td>3</td>
<td>Patient initiated GP</td>
<td>% of referrals to specialists x total referrals x assumption of patient initiating GP visit</td>
<td>32.2% x 72,220 x 80% = 18,136</td>
</tr>
<tr>
<td>4</td>
<td>Total GP visits</td>
<td>(Physiotherapist to GP visits + patient initiated GP visits) x 52/4</td>
<td>63,228 x 52/4 = 821,961</td>
</tr>
<tr>
<td>Specialist visits</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Indirect</td>
<td>GP visits x attendance rate</td>
<td>63,228 x 84.9% = 53,703</td>
</tr>
<tr>
<td>6</td>
<td>Direct</td>
<td>% of referrals to specialists x total referrals x assumption of patients not initiating GP visit x attendance rate</td>
<td>32.2% x 72,220 x 20% x 90.4% = 4,097</td>
</tr>
<tr>
<td>7</td>
<td>Total specialist visits</td>
<td>(Direct + indirect) x 52/4</td>
<td>57,800 x 52/4 = 751,396</td>
</tr>
<tr>
<td>8</td>
<td>Cost of GP visits</td>
<td>Total GP visits (Step 4) x GP cost</td>
<td>821,931 x $36.30 = $29,837,177</td>
</tr>
<tr>
<td>9</td>
<td>Cost of specialist visits</td>
<td>Total specialist visits (Step 7) x specialist cost</td>
<td>698,137 x $72.75 + 53,259 x $0 = $50,789,455</td>
</tr>
<tr>
<td>POLICY CHANGE – DIRECT REFERRAL WITH REBATE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Increase in total referrals</td>
<td>Total referrals with 5% assumed increase in referral practices</td>
<td>72,220 x (1+5%) = 75,831</td>
</tr>
<tr>
<td>GP visits</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Physiotherapist to GP</td>
<td>% of referrals to GP x decrease in GP referrals x total referrals x attendance rate</td>
<td>68.6% x (1-86.3%) x 75,831 x 91.0% = 6,495</td>
</tr>
<tr>
<td>12</td>
<td>Total GP visits</td>
<td>Physiotherapist to GP visits x 52/4</td>
<td>6,495 x 52/4 = 84,433</td>
</tr>
<tr>
<td>13</td>
<td>Specialist visits indirect</td>
<td>GP visits x attendance rate</td>
<td>6,495 x 84.9% = 5,516</td>
</tr>
<tr>
<td>Specialist visits</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Direct</td>
<td>Total referrals – GP referrals x attendance rate</td>
<td>75,831 - 7137 x 90.4% = 62,071</td>
</tr>
<tr>
<td>15</td>
<td>Total specialist visits</td>
<td>(Direct + indirect) x 52/4</td>
<td>67,587 x 52/4 = 878,630</td>
</tr>
<tr>
<td>16</td>
<td>Cost of GP visits</td>
<td>Total GP visits x GP cost</td>
<td>84,433 x $36.30 = $3,064,909</td>
</tr>
<tr>
<td>17</td>
<td>Cost of specialist visits</td>
<td>Total specialist visits x specialist cost</td>
<td>71,713 x $72.75 + 806,917 x $72.75 = $63,920,361</td>
</tr>
</tbody>
</table>

Note: In this table specialist refers to medical practitioner specialist
Scenario analysis

Our first scenario (scenario 1) assumes all registered physiotherapists are eligible to directly refer patients to specialist medical practitioners with Medicare rebates payable. In scenario 1, our base case analyses Medicare’s net savings or cost in allowing this policy change against current practice. The base case economic analysis presents the current practice as estimated from the model and the estimated change due to the change to a direct referral with rebate pathway. The results of the base case analysis are presented in Table 8.

Table 8 - Results of the base case (scenario 1) economic analysis

<table>
<thead>
<tr>
<th>Referral by registered physiotherapists to...</th>
<th>Current Practice</th>
<th>Proposed Change – Direct referral with rebate</th>
<th>Net savings or cost against current practice</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of consults</td>
<td>Cost</td>
<td>Number of consults</td>
</tr>
<tr>
<td>GP</td>
<td>821,961</td>
<td>$29,837,177</td>
<td>84,433</td>
</tr>
<tr>
<td>Medical specialist (post GP)</td>
<td>698,137</td>
<td>$50,789,455</td>
<td>71,713</td>
</tr>
<tr>
<td>Medical specialist (direct by physiotherapist)</td>
<td>53,259</td>
<td>$0</td>
<td>806,917</td>
</tr>
<tr>
<td>Total</td>
<td>1,573,357</td>
<td>$80,626,632</td>
<td>963,063</td>
</tr>
</tbody>
</table>

Key findings from our analysis indicate:

- an estimated net saving to the Medicare Benefits Scheme of more than $13.6 million per year
- a reduction in the number of GP visits by around 737,000 per year due to the ability of physiotherapists to directly refer patients to specialist medical practitioners and allow for Medicare rebates
- an increase in specialist medical practitioner consultations by 55,521 due to:
  - increased referrals overall by physiotherapists (5 per cent)
  - increased likelihood of patients attending specialist medical practitioner appointments as no additional GP visit are required

In addition to the base case we analysed the net savings of out-of-pocket cost to patients. Out-of-pocket costs were calculated using a $5.04 for a GP consultation and a $42.57 for a specialist consultation. We also analysed the net savings or cost to Medicare and to patients in two additional scenarios. Scenario 2 assumes only titled and specialist physiotherapists are eligible to directly refer patients to specialist medical practitioners with Medicare rebates payable. Scenario 3 assumes only specialist physiotherapists are eligible to directly refer patients to specialist medical practitioners with Medicare rebates payable. These three scenarios are presented in Table 9.

The introduction of direct referral with rebate results in a savings to the patient of direct referral with rebate of a little more than $2.1 million dollars. The total net benefit (to Medicare and patients) of implementing scenario 1 results in more than $15.8 million worth of savings. Restricting the strategy of direct referral with rebate to titled and specialist Australian Physiotherapy members (scenarios 2 and 3) would result in much fewer direct referrals due to the low numbers of physiotherapists with these qualifications and consequently less net savings to the health care funder.
Table 9 - Results of scenario analysis

<table>
<thead>
<tr>
<th>Scenarios</th>
<th>Current practice costs</th>
<th>Proposed change costs*</th>
<th>Net savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medicare</td>
<td>$80,626,632</td>
<td>$66,985,270</td>
<td>$13,641,362</td>
</tr>
<tr>
<td>Out-of-pocket to patients</td>
<td>$40,004,244</td>
<td>$37,828,837</td>
<td>$2,175,407</td>
</tr>
<tr>
<td>Total healthcare savings (Medicare &amp; patients)</td>
<td>$120,630,875</td>
<td>$104,814,107</td>
<td>$15,816,769</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medicare</td>
<td>$11,132,773</td>
<td>$9,249,200</td>
<td>$1,883,574</td>
</tr>
<tr>
<td>Out-of-pocket to patients</td>
<td>$5,523,710</td>
<td>$5,223,334</td>
<td>$300,376</td>
</tr>
<tr>
<td>Total healthcare savings (Medicare &amp; patients)</td>
<td>$16,656,484</td>
<td>$14,472,534</td>
<td>$2,183,950</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medicare</td>
<td>$869,853</td>
<td>$722,681</td>
<td>$147,172</td>
</tr>
<tr>
<td>Out-of-pocket to patients</td>
<td>$431,592</td>
<td>$408,122</td>
<td>$23,470</td>
</tr>
<tr>
<td>Total healthcare savings (Medicare &amp; patients)</td>
<td>$1,301,445</td>
<td>$1,130,804</td>
<td>$170,642</td>
</tr>
</tbody>
</table>

Note: *Direct referral with rebate payable

Sensitivity Analysis

One-way sensitivity analyses

In order to test the robustness of the modelled results with respect to the parameter estimates a number of analyses were conducted varying the parameter estimates to identify the impact on the estimated result presented in Table 10.

Table 10 - One-way sensitivity analyses

<table>
<thead>
<tr>
<th>State</th>
<th>Net benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Base Case</td>
<td>$13,641,362</td>
</tr>
<tr>
<td>Increase in overall referrals (Base = 5%)</td>
<td></td>
</tr>
<tr>
<td>- worst case</td>
<td>10.0%</td>
</tr>
<tr>
<td>- breakeven</td>
<td>26.4%</td>
</tr>
<tr>
<td>2 Referrals per physiotherapist (Base = 6.04 / 4 week)</td>
<td>$10,451,587</td>
</tr>
<tr>
<td>- best case</td>
<td>9.0</td>
</tr>
<tr>
<td>- worst case</td>
<td>3.0</td>
</tr>
<tr>
<td>3 Patient initiated GP visits (Base = 80%)</td>
<td>$6,775,577</td>
</tr>
<tr>
<td>- best case</td>
<td>100%</td>
</tr>
<tr>
<td>- worst case</td>
<td>50.0%</td>
</tr>
<tr>
<td>4 Decrease in GP visits (Base = 86.3%)</td>
<td>$4,968,826</td>
</tr>
<tr>
<td>- best case</td>
<td>100%</td>
</tr>
<tr>
<td>- worst case</td>
<td>50.0%</td>
</tr>
</tbody>
</table>

State 1 presents changing the expected increase in physiotherapy referrals overall as a result of direct referral from the base case of five to 10 per cent. The breakeven analysis presents the point at which the strategy is cost neutral to government. This indicates that referrals by physiotherapists would have to increase by 26.4 per cent to eliminate cost savings from implementing direct referral strategy.

State 2 presents a comparison by likely referral patterns. The survey estimated six referrals per four weeks by physiotherapists to medical specialists and the comparison is made with 9.0 and 3.0 referrals.

State 3 presents differences in patient initiated GP visits. Currently some physiotherapists refer directly to specialists however patients are expected to self-refer to GP to obtain a referral for Medicare rebate. The base case assumes 80 per cent of patients will attend a GP prior to a specialist in order to obtain the Medicare rebate. The sensitivity analysis assumes firstly that 100 per cent of patients attend GP prior to specialist or that only 50 per cent of patients attend GP.
State 4 presents variation in the decrease in GP visits expected from a direct referral pathway. Base case presents that 86.3 per cent of patients will bypass GP and go straight to the Medical Specialist based on survey results. This is altered to 100 per cent and 50 per cent in the sensitivity analysis.

**Probabilistic sensitivity analysis**

As opposed to modelling the sensitivity of the models result to changes in one of the model parameters, probabilistic sensitivity analysis allows us to test the sensitivity to multiple parameters simultaneously. In addition, instead of modelling ad hoc shocks to parameter estimates, it models changes in model parameters based upon their probable (or statistical) distribution.

A statistical distribution based on the survey responses were fitted around the point estimates included in the model. Montecarlo simulation was then used to run the model 1,000 times selecting a value for each model parameter within that parameters distribution of estimates. The distributions and point estimates for each model parameter included in the probabilistic sensitivity analysis and the overall result is provided in Table 11 below.

**Table 11 - Probabilistic sensitivity analysis**

<table>
<thead>
<tr>
<th>Parameter Name</th>
<th>Mean</th>
<th>Lower 5%</th>
<th>Upper 95%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decrease in GP visits %</td>
<td>86%</td>
<td>73%</td>
<td>98%</td>
</tr>
<tr>
<td>GP / Attendance rates</td>
<td>90%</td>
<td>80%</td>
<td>99%</td>
</tr>
<tr>
<td>Non patient initiated GP visit / Referrals / 4 week</td>
<td>20%</td>
<td>5%</td>
<td>35%</td>
</tr>
<tr>
<td>Referrals Per Physio / Referrals / 4 week</td>
<td>6.06</td>
<td>1.57</td>
<td>13.13</td>
</tr>
<tr>
<td>Specialists - Direct / Attendance rates</td>
<td>90%</td>
<td>81%</td>
<td>99%</td>
</tr>
<tr>
<td>Specialists - Post GP / Attendance rates</td>
<td>85%</td>
<td>72%</td>
<td>98%</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net benefit</td>
<td>$13,138,820</td>
<td>$562,007</td>
<td>$35,000,830</td>
</tr>
</tbody>
</table>

The probabilistic sensitivity analysis gives a similar mean net saving to the base case analysis of a little over $13 million. The 90 per cent credible interval presents the values obtained from the 50th value and 950th value when all 1,000 iterations performed of the model are presented from lowest to highest. This value ranges from a saving of around $500,000 to a saving of $35 million. The credible interval represents the likely range of values that the true net benefit is likely to fall within, indicating that in the worst case scenario, the new referral pathway would be at least cost neutral to government and in a best case could save up to $35 million per year to the health system.

Figure 4 probabilistic sensitivity analysis presents a visual display of the values obtained from the probabilistic sensitivity analysis with the 90 per cent credible interval.

**Figure 4 - Probabilistic sensitivity analysis**
**DISCUSSION**

In Australia, current policy does not allow a patient to receive a Medicare rebate if they are directly referred to a specialist medical practitioner by a physiotherapist. As a result, almost all physiotherapists choose to refer their patients to a GP, so the GP will write the specialist referral and the patient receives a Medicare rebate. Some argue changing current policy to allow for direct referrals with Medicare rebate payable would improve patient care and remove unnecessary costs to both healthcare funders and patients. The two main objections used by opponents to a policy change also cite patient care and an increase in cost to the health system.

**Patient Care**

Opponents argue a change in current policy allowing for direct referral of patient to specialist medical practitioners by physiotherapists may not be as safe as current care. Opponents argue that using a GP to make the final call on whether a patient requires specialist medical practitioner care guarantees patient safety and avoids unnecessary treatment. However, physiotherapists are highly trained and respected health professionals able to assess, diagnose and treat disease and disability. They are often first contact health practitioners for a range of health conditions, and their high level of education and skills allows for appropriate assessment and referral to specialist medical practitioners related to their clinical fields, such as sports physicians, orthopaedic surgeons, urologists, neurologists and paediatricians. Physiotherapists are educated through bachelor, masters or professional doctorate programs, and they are required by law to be registered nationally. Physiotherapists have the required clinical reasoning skills, knowledge of anatomy and biomechanical understanding of injury and disease to determine when a specialist referral is required to achieve best health outcomes for the patient. Allowing direct referral with rebate would allow physiotherapists to appropriately use their education and training in clinical skills and reasoning.

As stated previously, physiotherapists overwhelmingly refer patients to a GP, so the GP will write the specialist referral and the patient can receive a Medicare rebate. Not only do patients incur often out-of-pocket costs at each step in the overall treatment process, patients also experiences a delay in care and treatment, which can have an overall negative health effect on patients. Furthermore, some patients do not have enough funds to cover multiple out-of-pocket costs and either delay or do not follow through in their continuum of treatment and care, which can also have an overall negative health effect. By changing current policy to allow physiotherapists to directly refer patients to specialist medical practitioners with Medicare rebate, health policymakers will streamline patient care allowing for faster diagnosis by a specialist medical practitioner. This, in turn, will lead to improved patient outcomes, which could impact on work productivity and therefore flow to employers in a wider societal benefit.

For physiotherapists, the opportunity to have direct referral with rebate rights would allow a closer working relationship and enhanced communication with specialists relevant to their field of practice, ultimately leading to better patient outcomes.

**Cost impact on the healthcare funder**

An argument in support of the current policy requiring GP referral to access specialist medical practitioners is that it deters unnecessary specialist referrals and curbs Medicare costs. The counterargument is physiotherapists have the required clinical reasoning skills, knowledge of anatomy and biomechanical understanding of injury and disease to determine when a specialist referral is required to achieve best health outcomes for the patient. Furthermore, patients may incur out-of-pocket costs and Medicare incurs costs when visiting a GP to obtain a referral to a specialist medical practitioner – the additional visit adds to the overall cost of treatment during the continuum of care.
Our economic analysis clearly demonstrates there is a net saving to both and to patients from implementing direct referral with rebate by all three groups of physiotherapist practitioners. The analysis estimates a net saving to the Medicare Benefits Scheme of more than $13.1 million per year and a net saving to patients’ out-of-pocket costs of more than $2.1 million per year. Our analysis indicates there is a small net increase in specialist visits per year, but this would allow more patients to access appropriate care in a timely manner.

When we look at the likely impact on cost to both the Medicare benefits schedule and patients in the three scenarios we see a net savings in all three:

Scenario 1:  
*If patients directly referred to specialist medical practitioners by all physiotherapists could receive Medicare rebates:*

- Savings to Medicare: $13,641,362
- Savings to patients: $2,175,407
- Total savings: $15,816,769

Scenario 2:  
*If patients directly referred to specialist medical practitioners by only titled and specialist physiotherapists could receive Medicare rebates:*

- Savings to Medicare: $1,883,574
- Savings to patients: $300,376
- Total savings: $2,183,950

Scenario 3:  
*If patients directly referred to specialist medical practitioners by only specialist physiotherapists could receive Medicare rebates:*

- Savings to Medicare: $147,172
- Savings to patients: $23,470
- Total savings: $170,642

**CONCLUSIONS**

Current policy does not allow Medicare rebates for patients who are directly referred by their physiotherapist to a specialist medical practitioner. As a result, physiotherapists almost always refer patients to a general practitioner (GP) because the GP can then refer the patient to the specialist medical practitioner, resulting in a Medicare rebate. Proponents of this policy cite patient care and potential negative cost implications on the healthcare funder should current policy change. However, the clinical skills, knowledge and experience of physiotherapists counter the first argument, and the analysis conducted for this report counters the second. All three scenarios analysed result in a net cost savings to both Medicare and patients with maximum benefit accrued when all registered physiotherapists are able to directly refer patients to medical specialist practitioners. Health policymakers face ever increasing costs throughout the Australian health system, and an ageing population will exacerbate the situation. In the interests of both ensuring the financial sustainability of the health system and providing optimal patient care, policymakers are strongly encouraged to revisit the issue of direct physiotherapist referral to specialist medical practitioners and work with clinicians to use an evidence-based approach in reformulating this policy.
REFERENCES

Appendix One

APA member survey (Qualtrics®)

We would like to invite you to take part in a survey of physiotherapists as part of the Direct Referral Project being conducted by the Deeble Institute in conjunction with Griffith University. This project is evaluating the impact of Medicare subsidisation of direct referral from physiotherapists to specialist medical practitioners on the health care funder (Australian Government) and on the patient. The survey will ask you questions regarding the number of patients you see, the frequency of referral to GPs and specialists and how this might change if a subsidy to your patients was payable for direct referral. No information will be collected that could identify you individually and your participation in the study is completely voluntary.

Background

The Australian Physiotherapy Association (APA) unsuccessfully campaigned for the removal of barriers to physiotherapists directly referring to sport and exercise medicine specialists (SEM) when they were granted specialist status. The work in this area was based on the precedent of select professions being able to refer to medical specialists who have direct synergies with their field of practice and receive Medicare rebates, such as optometrists being able to refer to ophthalmologists.

At present, if a physiotherapist refers a patient to a specialist medical practitioner, the patient cannot receive a Medicare rebate and must pay in full for the treatment service. Due to these out-of-pocket expenses for the patient, almost all physiotherapists choose to refer their patients to a GP, so the GP can write the specialist referral and the patient can receive a Medicare rebate. Patients incur a cost when visiting a GP to obtain a referral to a medical specialist as the additional GP visit adds to the overall cost of treatment.

The ethical conduct of this research

Griffith University conducts research in accordance with the National Statement on Ethical Conduct in Human Research. If you have any concerns or complaints about the ethical conduct of this research project you should contact the Manager, Research Ethics, Griffith University on 373 54375 or email: research-ethics@griffith.edu.au.

Funding

This research is funded by the Australian Physiotherapy Association

Risks

It is not anticipated that there are any risks involved in completing this survey.

Benefits

While there are no benefits to you personally, this research will inform policy that could have an impact on physiotherapy practice in Australia.

If you wish to obtain further information or feedback about the study please contact:
Tracy Comans - Phone (07) 338 21152 ; Email: t.comans@griffith.edu.au

Expressing Consent

If you complete the online survey you will be deemed to have consented to participate in this research. Please print this page for your later reference.
Q1 Please select your category. If you hold a Title or Specialist title from the APA please provide the name of the specialty in the box provided

- Titled Physiotherapist (1) ____________________
- Specialist Physiotherapist (2) ____________________
- General Physiotherapist (3) ____________________

Q2 Approximately how many hours a week do you spend in direct clinical care?

Q3 On average, how many patients would you see in a week?

Q4 Of the $\{q://QID2/ChoiceTextEntryValue\}$ patients that you would see in an average week, what would you say was the proportion of new patients compared to ongoing patients ______ Percentage of new referrals (1)

Q5 Over the past four weeks, have you had any patients that in your opinion required consultation by a medical specialist

- Yes (1)
- No (2)

Q6 Approximately how many referrals to seek a specialist opinion did you provide over that four week period?

Q7 Did you provide referrals to a GP or directly to the specialist

- All GP (1)
- All direct to consultant (2)
- A mix of GP and consultant (3)

Q8 Which of the following specialists did you think were required?(Please select all that were applicable)

- Sports Physician (1)
- Orthopaedic (2)
- Rheumatology (3)
- Obstetrics / Gynaecology (4)
- Paediatrics (5)
- Pain Medicine (6)
- Neurology (7)
- Other - Please specify (8) ____________________
Q9 Over the last four weeks, what number of the \$\{q://QID6/ChoiceTextEntryValue\} referrals did you make to each of the following

<table>
<thead>
<tr>
<th>General Practitioner (1)</th>
<th>Number of referrals (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sports Physician (x1)</td>
<td></td>
</tr>
<tr>
<td>Orthopaedic (x2)</td>
<td></td>
</tr>
<tr>
<td>Rheumatology (x3)</td>
<td></td>
</tr>
<tr>
<td>Obstetrics / Gynaecology (x4)</td>
<td></td>
</tr>
<tr>
<td>Paediatrics (x5)</td>
<td></td>
</tr>
<tr>
<td>Pain Medicine (x6)</td>
<td></td>
</tr>
<tr>
<td>Neurology (x7)</td>
<td></td>
</tr>
<tr>
<td>Other - Please specify (x8)</td>
<td></td>
</tr>
</tbody>
</table>

Q10 What proportion of those who you provided referrals do you think attended their referral appointment

______ From you to GP (1)
______ From you direct to specialist (2)

Q11 What proportion of those who you referred to the GP in order to obtain a referral to a specialist attended their referral to the specialist

______ From GP to specialist (1)

Q12 Currently if the patient is to receive a reimbursement from a specialist they are required to have a referral from a GP. Does this influence the proportion of those patients who you refer to a GP instead of directly to the specialist?
- Yes (1)
- No (2)

Q13 If you were able to directly refer to medical specialists would you refer more patients?
- No - about the same (1)
- Yes - a little more (2)
- Yes - a lot more (3)
Q14 You previously stated that you made $\{q://QID6/ChoiceTextEntryValue\}$ referrals over the past 4 weeks and $\{q://QID7/ChoiceNumericEntryValue/1/1\}$ referrals to a GP. Of those referrals to GPs what proportion would you refer directly to a specialist if it had no impact on a patients eligibility to receive a rebate from Medicare?

_____ Click to write Choice 1 (1)

The next questions ask you about yourself and your practice.

Q15 What is your age?

Q16 What is your gender?
- Male (1)
- Female (2)

Q17 What year did you become registered as a physiotherapist?

Q18 Have you completed any additional education or qualifications? Tick all that apply
- Post Grad Cert (1)
- Post Grad Diploma (2)
- Coursework Masters (3)
- Research Masters (4)
- Ph.D. (5)
- Fellowship of the Australian College of Physiotherapists (6)
- Other - please specify (7) ____________________

Q19 What type of practice do you predominately work in?
- Private practice owned by self (1)
- Private practice owned by others (2)
- Public Hospital (3)
- Private Hospital (4)
- Community Service (e.g. Bluecare, Spiritus) (5)
- Residential Care Facility (6)
- Other - please specify (7) ____________________

Thank you for completing this survey.
COPY OF ETHICS APPROVAL

GRiffith University Human Research Ethics Committee

18-Jun-2013

Dear Dr. Comans,

I write further to the additional information provided in relation to the conditional approval granted to your application for ethical clearance for your project "NR: Physiotherapy referral to medical specialists in Australia." (GU Ref No: MED/13/13/HREC).

This is to confirm receipt of the remaining required information, assurances or amendments to this protocol.

Consequently, I reconfirm my earlier advice that you are authorised to immediately commence this research on this basis.

The standard conditions of approval attached to our previous correspondence about this protocol continue to apply.

Regards

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Policy Officer
Office for Research
Bray Centre, Nathan Campus
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email: k.westerlaken@griffith.edu.au

Researchers are reminded that the Griffith University Code for the Responsible Conduct of Research provides guidance to researchers in areas such as conflict of interest, authorship, storage of data, & the training of research students.

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