Physiotherapy-led triage clinic for low back pain

Meagan S Blackburn, Sallie M Cowan, Belinda Cary and Cathy Nall

Abstract

The aims of this study were to evaluate a physiotherapy-led triage clinic (PLTC) and investigate general practitioner satisfaction with the PLTC. A retrospective cohort study was undertaken from January to December 2005 at a Melbourne tertiary teaching hospital. Outcomes assessed included waiting times to first appointment, patient attendance and surgery conversion rates. Outcomes were compared with the hospital 2002 benchmark data. GP satisfaction was evaluated by a survey.

One-hundred and five new patients attended the PLTC clinic during the evaluation period. Patients waited 9 weeks for a PLTC appointment compared with 26 weeks for the general orthopaedic clinic and 23 weeks for the spinal orthopaedic clinic. Sixty-seven percent of the patients triaged in the PLTC were discharged from the orthopaedic outpatient department without requiring an orthopaedic surgeon consultation. Referring GPs were at least as satisfied with the management of their patients through the PLTC as with usual management in the general orthopaedic clinic.

A PLTC can significantly reduce waiting times for orthopaedic outpatient appointments in a public hospital. Many patients can be managed by these experienced physiotherapists and their GPs, without the need for face-to-face contact with an orthopaedic surgeon. Pilot results indicated that GPs whose patients are managed in this PLTC were satisfied with this model for their patients with low back conditions.

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What is known about the topic?

Waiting times for an initial appointment in orthopaedic and neurosurgical outpatient clinics are a considerable problem for many Victorian public hospitals. Physiotherapy-led triage clinics (PLTCs) have been established in public hospitals to screen and manage selected musculoskeletal patients, with evidence of success in the United Kingdom.

What does this paper add?

This paper evaluates a PLTC in Melbourne, Australia and demonstrates a reduction in waiting times for general orthopaedic and spinal clinics. PLTC may also lead to increased spinal surgery conversion rates for orthopaedic surgery consultations.

What are the implications for practitioners?

Experienced physiotherapists with postgraduate qualifications have the skill and experience to run a PLTC for low back conditions. This leads to reduced waiting time for patients, prompt access to management (physiotherapy, injections, radiological imaging), appropriate fast-track referral to surgeons, and surgeons' time being used more efficiently.

AS AUSTRALIA'S POPULATION ages, it is vital that associated increased demands for health services addressing chronic conditions, such as low back pain (LBP), are met. LBP is the principal cause of disability and absenteeism in every industrialised society.[1] Patients who develop chronic LBP (pain and disability persisting for more than 3 months) use more than 80% of all health care provided for back conditions.[1] Indeed, it is one of the most commonly reported long-term conditions seen by general practitioners.[2] These chronic patients are often referred to public hospital outpatient clinics for specialist opinion.[3]

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Waiting times for orthopaedic and neurosurgical outpatient clinics are a considerable problem for Victorian public hospitals. Patients referred by their GP wait from 6 months to 2 years for consultation with an orthopaedic surgeon.[4] Many patients suffer pain and disability while waiting for an appointment. It has been shown that people on the waiting list have severely compromised quality of life and higher levels of psychological distress, compared with the general population.[5] This impacts on the individual, their families and the broader community socially, emotionally and financially. Many orthopaedic patients' conditions degenerate further while waiting for intervention, resulting in poorer short- and long-term outcomes. Therefore it is essential that individuals with low back pain have access to timely and appropriate management to minimise the potential for chronic pain and disability.[6]

Frustratingly, many patients who have waited for orthopaedic review do not actually require surgery. The conversion to surgery rate is a measure of the patients referred to a clinic who eventually undergo surgery for the referred problem. For patients with low back pain, conversion rates to surgery, and other interventions such as facet joint injections and epidurals, are low.

Long waiting lists have secondary negative implications. Some GPs will refer their patients to multiple orthopaedic clinics to maximise their chance of receiving an earlier appointment. This distorts the true demand in the community and makes planning of services difficult. The failure to attend initial appointments rate is also high in outpatient clinics. This can also be attributed to long waiting times.

New role in orthopaedic clinics: primary contact physiotherapist

Physiotherapists have had first-contact practitioner status in Australia since 1975 although, until now, this has largely been confined to the private sector.[7] In the public sector, primary contact by physiotherapists has the potential to generate efficiencies in patient management. This can be achieved through better utilisation of the skills of physiotherapists with advanced training. Such skills include assessment, screening for sinister pathology, clinical diagnosis and formulating management plans. While these skills are traditionally outside the recognised scope of hospital physiotherapy practice, they are well within the legislative framework and skill set of Australian physiotherapists.

Advanced practice (called extended scope practice [ESP] in the United Kingdom) was pioneered in the public sector in the UK to manage extensive waiting lists in the National Health Service (NHS). A number of clear benefits have been reported. These include: reduced waiting time for treatment; prevention of chronicity with the avoidance of surgery; cost reductions; and a high level of patient satisfaction.[8-11] This model has made a substantial impact on overall patient care in the UK. Physiotherapy-led screening clinics have been effective in reducing demand on musculoskeletal outpatient clinics by an average of 60 percent, freeing-up surgeons' time for other tasks.[12]

In addition, there is potential for significant cost savings with this model of care. In one health service, direct hospital cost savings of £242 per patient were demonstrated when patients were seen by a physiotherapist rather than a junior doctor.[8] These results signify that physiotherapy-led triage clinics are efficacious models of care, which can contribute extensively to improving patient care in a cost-effective manner. This model has been implemented without compromising patient safety. A PLTC can achieve better patient outcomes by improving patient access to services in a timely manner.[8,10,11,13]

Similar clinics run in Australia have replicated the UK experience and demonstrated that experienced physiotherapists have the ability to diagnose and manage musculoskeletal conditions. A recent study conducted in another Victorian public hospital demonstrated a high consensus between physiotherapists and orthopaedic surgeons in the management of selected orthopaedic patients. The same study found that patients and medical practitioners supported PLTCs as an

alternative to the traditional orthopaedic outpatient model.[14]

Establishing PLTC clinic for low back pain

The PLTC was established at Austin Health in September 2002. Selection for the PLTC is based on written referral to the orthopaedic clinic, by which the patient is triaged by an orthopaedic surgeon according to a defined protocol. This protocol aims to select patients who are most likely to have the best outcome from conservative rather than surgical management. Patients are informed in writing that they will be seen by the physiotherapist when they receive notification of their appointment. The physiotherapists involved in the PLTC roles had extensive musculoskeletal experience (at least 12 years in this subspecialty) and a high level of skill in the conservative management of musculoskeletal pathology, underpinned by a (minimum) qualification of a clinical masters-level degree in musculoskeletal physiotherapy.

At the initial appointment, patients are assessed by the physiotherapist according to a protocol developed by physiotherapy and orthopaedic staff (Box 1). Physiotherapy assessment is completed according to standard medical procedure[15-17] and includes history of presenting condition, review of imaging and other investigations, past treatment for this problem, general medical history and investigation of red[18] and yellow flags[19] as a potential trigger for referral or further investigation. A comprehensive physical assessment is undertaken as appropriate. At this point, the orthopaedic surgeon will be consulted if required, as per protocol. The physiotherapist then formulates a management plan and the patient is reviewed as appropriate.

Aims

The aims of this study were to evaluate the PLTC (audit waiting times to first appointment, audit activity including non-attendance, establish a clinical profile of the patients attending the clinic, quantify clinical outcomes from initial physiotherapy visits and conversion to surgery rates) and to investigate general practitioner satisfaction with the PLTC.

Methods

The evaluation of the PLTC occurred from January to December 2005. One-hundred and five histories were audited, accounting for 92% of the new patients seen in the PLTC. The remaining 8% were patients presenting with other conditions. Data were extracted from the hospital's patient and costing databases (2002) to compare with benchmark data of waiting times before the PLTC was implemented. This enabled us to examine the impact of the PLTC on a general orthopaedic clinic and a predominantly spinal orthopaedic clinic.

Two separate surveys were mailed out to GPs to evaluate their satisfaction with the service. The first survey was sent to the 30 GPs who most frequently refer patients to the general orthopaedic clinic. This survey aimed to evaluate the GPs' overall satisfaction with the orthopaedic outpatient service. In particular, the survey examined GP opinion regarding: (1) waiting time for an appointment; (2) quality and timeliness of feedback; and (3) overall management of patients in the general orthopaedic clinic. Items 1 to 3 were measured on a 4-point Likert-type scale; 1 = very satisfied; 2 = satisfied; 3 = dissatisfied; 4 = very dissatisfied. This scale was then dichotomised as 1 = very satisfied and satisfied, versus 2 = very dissatisfied and dissatisfied.

Three months later, a similar survey was sent to GPs whose patients had been seen in the PLTC clinic. This survey aimed to determine GP opinion regarding the PLTC, in particular: (1) waiting time for an appointment; (2) quality and timeliness of feedback; (3) appropriateness of management; and (4) support for continuation of the PLTC. Items 1 to 4 were measured on a 5-point Likert-type scale: 1 = strongly disagree; 2 = disagree; 3 = agree; 4 = strongly agree; and 5 = uncertain. This scale was then changed to three categories: 1 = strongly disagree and disagree, versus 2 = agree and strongly agree and 3 = uncertain.

1 Sample protocol for physiotherapy-led triage clinic

Neurosurgery

Patient selection

Any new patients referred with acute or chronic spinal conditions which could potentially be managed by non-surgical interventions. These referrals are selected by a member of the neurosurgery team.

Exclusion criteria

Patients with:

1. Suspected tumour — any mass or swelling
2. Suspected infection — red skin, fever, systemically unwell
3. Suspected inflammatory disease
4. Acute *cauda equina* signs
5. Significant loss of strength
6. Spinal trauma

Patients who are:

7. Referred by a neurosurgeon for the attention of another neurosurgeon

The physiotherapist in the neurosurgery outpatient clinic is to be available between 8.30am and 12.00pm each Monday and Friday. A maximum of eight patients may be booked at 30-minute intervals.

Requirements for medical history by physiotherapist

Physiotherapist completes standard physiotherapy assessment including:

- history of condition and previous imaging and interventions
- body chart
- aggravating/easing factors
- 24-hour behaviour
- specific screening questions appropriate to patient

Requirements for physical examination

Physiotherapist assesses:

- active movements of the spine as indicated by region of the symptoms
- neurological examination as indicated by the region of the symptoms, including:

1. dermatomal sensation
2. myotome strength
3. reflexes

- Specific tests, as appropriate, including straight leg raise test, prone knee bend, slump test, Babinski, clonus, Hoffmans test, spinal palpation, strength testing

Criteria for ordering investigations

X-rays may be ordered by the physiotherapist. The consultant will order any other investigations if deemed appropriate after discussion with the physiotherapist.

Criteria for consultation with consultant

The physiotherapist will discuss a patient's case on the day of appointment with a consultant and before instituting management in the following circumstances:

1. Patient requires investigation other than x-ray
2. Marked changes on x-ray, computed tomography scan or magnetic resonance imaging scan
3. For discussion of blood test results
4. Concerns regarding patient answers to screening questions
5. Severe or worsening neurological signs
6. Need for pharmacological review including history of significant use of pain medication
7. Need to consider intervention beyond the scope of physiotherapy — eg, corticosteroid injection, surgical opinion

In any of these cases, the physiotherapist and consultant will decide in collaboration the appropriate plan for patient management.

Options for ongoing management

1. Referral to physiotherapy
2. Referral for further investigations
3. Review in neurosurgery clinic by physiotherapist
4. Review in neurosurgery clinic by consultant, either on the same day or at a future appointment

Letter to referrer

The physiotherapist will dictate a letter to the referrer which should be mailed out within 2 weeks of the patient's appointment.

Results

During the evaluation period there were 47 sessions of the PLTC. This included 204 episodes of care, with 113 new patients seen and 91 review visits. Over the 12-month evaluation period an additional 74 appointments (27%) were missed by patients. New patients were less likely to miss a new appointment (23%) compared with patients attending for review (32%).

Waiting times

The average waiting time (SD) for an initial PLTC appointment was 9 (3.5) weeks. This compares

favourably with waiting times for the same period in the general orthopaedic clinic (26 weeks) and spinal orthopaedic clinic (23 weeks).

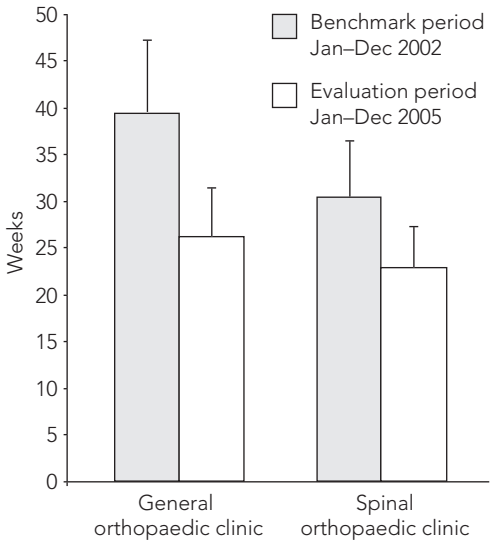
Waiting times in both spinal and general orthopaedic clinics decreased after the PLTC was introduced (Box 2.). In the general orthopaedic clinic the mean waiting time decreased by 11%, and in the spinal orthopaedic clinic by 25%.

Clinical outcomes

The medical records of the 105 new patients who were seen in the PLTC for LBP were audited. Patients were classified by the physiotherapist into the following subcategories: discogenic (40%); degenerative disease (24%); spinal canal stenosis (22%); spondylolisthesis (3%); and other (11%). Seventy of the patients (67%) had not had any physiotherapy before being sent to the orthopaedic surgery clinic.

Eighty-three patients (79%) were referred for physiotherapy management after assessment in the PLTC. Five of these patients were discharged after their initial appointment, their condition having either fully resolved, or had minor issues that could be dealt with during the triaging process. Seventeen patients (16%) were referred on to an orthopaedic surgeon. Nine of these patients (53%) went on to have spinal surgery within 8 weeks of their initial PLTC appointment. Overall, 75 patients (71%) were removed from the orthopaedic waiting list without having seen an orthopaedic consultant.

2 Reduction in waiting times in the general orthopaedic clinic and spinal orthopaedic clinic with the introduction of the physiotherapy-led triage clinic



GP satisfaction

The general orthopaedic clinic satisfaction survey was completed and returned by 12 of the 30 GPs surveyed (40%). The PLTC survey was returned by 16 of the 30 GPs surveyed (53%).

Waiting time for first appointment

Only 25% of GPs were satisfied or very satisfied with the waiting time for the general orthopaedic clinic, whereas 69% of the GPs felt the waiting time for the PLTC was appropriate.

Quality and timeliness of feedback

Forty-two percent of GPs were satisfied with the quality of the feedback from the general orthopaedic clinic, however only 33% were satisfied with the time spent waiting for this feedback. In comparison, 62% percent of the GPs agreed or strongly agreed that feedback received from the clinic physiotherapist was clear and precise, and was received promptly.

Satisfaction with overall patient management

Only 58% of GPs felt that their patients received appropriate management in the general orthopaedic clinic, whereas 87% percent of GPs felt that their patients received appropriate management in the PLTC. Ninety-four percent of these GPs would support the continuation of the PLTC for patients with low back pain.

Discussion

PLTC reduces waiting list times

This pilot evaluation found that the PLTC was able to provide patients with an initial appoint-

ment in less than 9 weeks. The patients were therefore able to access treatment on average 16 weeks earlier than patients waiting for an appointment in the general orthopaedic or spinal orthopaedic clinics.

There are obvious benefits in accessing earlier intervention for patients, in reducing their pain and disability. Further, early intervention also plays a significant role in reducing development of some of the biopsychosocial behaviours associated with chronic pain.[6] Chronic conditions are by nature more complex and expensive to treat, and often have poor long-term outcome.[20] In addition, the social and financial burden on individuals and the community with chronic pain is well established.[21,22]

The waiting time to see an orthopaedic consultant was also reduced with the introduction of the PLTC. The PLTC for low back conditions provided appointments for four new patients per week, which increased the throughput of the orthopaedic clinic overall. The number of patients seen was limited by many factors, including funding, the duration of the clinic and infrastructure issues. It was beyond the scope of this study to assess the proportion of additional orthopaedic outpatients that could potentially be managed through a clinic of this nature.

Overall, 75 patients (71%) were removed from the orthopaedic waiting list without ever having seen an orthopaedic consultant. The remaining 30 patients (29%) received an orthopaedic surgical opinion either immediately or after a trial of physiotherapy. This demonstrated that the system is effective in ensuring that patients' needs are assessed and met in a thorough and logical manner.

The conversion to spinal surgery rate increased significantly from 2002 to 2005. While the reasons for this are multifactorial, it is reasonable to assume that the PLTC had some impact in appropriately absorbing non-surgical referrals. An important benefit of the PLTC is ensuring that the surgeon's time is used seeing the patients for whom surgery may be appropriate.

GPs are satisfied with the PLTC

The overall response rate for the GP surveys was low at 47%, markedly lower than that postulated by other authors,[23,24] who describe an expected response rate between 70% and 75%. However, the positive response to our program was consistent with results from previous Australian and UK studies.[8,10,14] In all categories, GPs were as satisfied or more satisfied with patient management through the PLTC. This reaction would appear to be primarily due to the decreased waiting times for patients to be seen and provided with a management plan.

In contrast to similar primary contact physiotherapy programs, this model of care did not require the GPs to refer to the PLTC specifically. The decision for the patient to be seen by the PLTC was made by the surgeon who triaged all the orthopaedic referrals to the health service. In light of this, the responses to the GP satisfaction survey were particularly pleasing.

This advanced practice physiotherapy role in a PLTC provides an important career progression for physiotherapists in the public sector. While physiotherapists have worked as primary contact practitioners for over 30 years, this has been mostly within the private sector. The shortage of health professionals, including physiotherapists, has been well documented.[25] This type of role provides a greater scope for physiotherapists to use their skills and be remunerated at a more appropriate level reflective of their advanced skills. These opportunities may decrease the rate at which experienced physiotherapists leave the profession.

Expanding primary care roles in public hospital outpatient departments

Since the completion of this evaluation, advanced practice roles have been expanded at Austin Health to cover peripheral orthopaedic conditions, spinal presentations to neurosurgery, pain service triaging and simple musculoskeletal presentations to the emergency department. Physiotherapy staff, surgeons and physicians have been enthusiastic and supportive of these initiatives.

There are at least 12 other Victorian health services with similar advanced practice physiotherapy roles dealing with musculoskeletal conditions. However, financial barriers significantly limit further development of these roles.

The existing allied health funding scheme, the Victorian Ambulatory Care System (VACS), currently provides a payment of $54 per allied health consultation. This payment is intended to cover the cost of physiotherapy intervention such as manual therapy, exercise prescription etc. However, in the PLTC the physiotherapists perform a consulting-type role which involves assessment, diagnosis and in some circumstances further investigations. Therefore, the standard allied health payment of $54 is insufficient to cover the salary costs of an experienced physiotherapist in addition to the flow-on costs of radiology and pathology investigations, which may be required following an initial PLTC consultation. At Austin Health the PLTC is funded using weighted medical VACS (orthopaedic), funded at $154 per visit. This funding model is appropriate provided a consultant is present in the clinic. However, medical VACS and allied health VACS funding is capped, and targets are met and exceeded in most Victorian public hospitals. Therefore, there are limitations to growth of PLTCs from this source of funding. Other sources of funding must be explored for these innovative roles to become mainstream.

Triaging services are also constrained by the lack of availability of publicly funded non-surgical care in the community. About 90% of patients seen in these clinics require physiotherapy management for their condition. About 10% required interventions from other health professionals, including weight management, psychology and orthotics. The effectiveness of a PLTC is significantly reduced if patients who are not suitable for surgery are then unable to access the services they do require in a timely manner.

Medicare enhanced primary care funding for allied health treatment provides funding for up to five allied health interventions in a 12-month period.[26] While this initiative is commendable, the number of funded treatments is inadequate for the intervention required for patients with chronic and complex conditions. Clinical guidelines for management of non-specific low back pain recommend manual therapy, land and water-based exercise, education and reassurance. In addition, patients may require advice regarding weight loss and use of pain medication, and psychological support.[6,27] This approach requires intervention by a multidisciplinary team. Five treatment sessions over 12 months is not adequate to deliver the comprehensive care required.

This pilot study has highlighted the need for further investigation in several areas. A comprehensive cost–benefit analysis of this model of care has not been conducted in Australia, and is essential to establish the financial benefits of such a model of care. It has been demonstrated that experienced physiotherapists are able to diagnose and formulate management plans which have a high level of concurrence with those developed by orthopaedic consultants and orthopaedic registrars.[14] However, the long-term clinical outcomes, processes and financial implications to the community and for patients have not been explored.

Conclusions

A PLTC can reduce waiting times for orthopaedic outpatient appointments in a public hospital setting. Many patients can be managed entirely by these experienced physiotherapists and their GPs, without the need for face-to-face contact with an orthopaedic surgeon. Pilot results indicate that GPs whose patients were managed in this PLTC were very satisfied with this model of management for their patients with low back conditions.

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Competing interests

The authors declare that they have no competing interests.

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