

Implementation of an Orthopaedic Triage Service for Osteoarthritis in the New Zealand Health System: A Retrospective Audit

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ABSTRACT

Orthopaedic triage services led by advanced physiotherapy practitioners (APPs) have been shown to be effective health care models in the management of osteoarthritis. Despite this, New Zealand health systems have only recently begun to implement and evaluate these models of care. The implementation of the community orthopaedic triage service (COTS) within the Bay of Plenty District Health Board (BOPDHB) was piloted to improve the patient journey through the health system by providing earlier assessment and referral to the most appropriate intervention. This retrospective audit analysed data collected from patients assessed in the COTS and orthopaedic outpatients between September 1 2020 to September 1 2021. Results show the COTS saw 49–52% of the volume of patients referred to orthopaedic outpatients. The mean (*SD*) wait time to be seen in the COTS was 37.3 (32.8) days compared to 157.7 (56.2) days in orthopaedics. Eighty per cent of patients referred to orthopaedics from the COTS were appropriate for first specialist appointment with 65% being listed for surgery by an orthopaedic surgeon. Adoption of these pathways has the potential to facilitate earlier assessment and access to intervention, thus improving the musculoskeletal health of New Zealanders.

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INTRODUCTION

Osteoarthritis (OA) is a worldwide highly prevalent condition that causes loss of function, disability, and pain (Long et al., 2022). Despite the prevalence and financial burden of this condition, the New Zealand public health system has yet to adopt a national model of care for OA management (Baldwin et al., 2017). One of the key goals of the Ministry of Health (2011) is “better, sooner, more convenient care” and draws attention to freeing up highly trained health professionals to focus on the most complex patients. This involves training other health professionals to manage more straightforward cases that would otherwise have been seen by a doctor or senior medial professional (Ministry of Health, 2011). An advanced practice physiotherapist (APP) is a physiotherapist who has undertaken advanced training in a particular area of physiotherapy. APPs have the ability to examine and provide early conservative management strategies and reassurance about the management of their condition to patients who are currently referred to orthopaedic surgeons (Vedanayagam et al., 2021). OA models of care led by APPs have long been implemented in health care systems around the world (Button et al., 2019; Desmeules et al., 2012) but have only recently been introduced in the New Zealand public health system (Gwynne-Jones et al., 2018). In

2020, the Bay of Plenty District Health Board (BOPDHB) piloted a community orthopaedic triage service (COTS) to address the ever-increasing demand of referrals for hip and knee OA into orthopaedic services. It was established as part of a larger orthopaedic transformation project to improve the patient journey through the public health system. It has provided earlier assessment and onward referral to the most appropriate intervention for patients with OA of the hip and knee. The aim of this research was to determine how the COTS impacted the management of hip and knee OA in the New Zealand public health system by evaluating waiting times, assessment outcomes, and conversion rate to surgery.

METHODS

Study design

A retrospective clinical audit was undertaken with data collected from BOPDHB patients from the COTS and orthopaedic outpatients' department. The data were retrieved in three discrete subsections: pre-COTS orthopaedic data, COTS data, and post COTS orthopaedic data. Data were retrieved from July 1 2017 to July 1 2018 for pre-COTS orthopaedics and from September 1 2020 to September 1 2021 for COTS and post COTS orthopaedics.

Model of care

The primary aim of the COTS was to improve access to musculoskeletal services through lower threshold criteria while utilising APPs as an alternative pathway for orthopaedic patients with hip or knee OA. Although the term APP is widely recognised, there is some ambiguity around the terminology and the titles “advanced practice”, “extended scope”, “experienced”, “specialist”, and “clinical specialities”. These terms have all been used in the literature to describe the role of a physiotherapist who has specialist training working within orthopaedic or musculoskeletal triage clinics (Vedanayagam et al., 2021). At the time of the COTS implementation, APP roles across New Zealand had not been rolled out but orthopaedic triage roles were ad hoc and opportunistic. The orthopaedic triage physiotherapy roles within the COTS were therefore developed as a reactive need of the organisation. The physiotherapists were determined by the organisation to be working at an APP level as per the Physiotherapy Board of New Zealand proposed guidelines (Physiotherapy Board of New Zealand, 2024). At the time of this research, the three physiotherapists in the COTS had clinical experience in orthopaedics ranging from 11 to 25 years, had relevant postgraduate education to a Master’s level, and had undertaken relevant workplace competency-based training. The physiotherapists also spent time with orthopaedic surgeons in clinic observing first specialist appointments (FSA) and attended orthopaedic registrar training sessions. For the purpose of this research, the term APP will be used to define the orthopaedic triage physiotherapy roles. Having physiotherapists working in the COTS with this experience provided quality assurance to stakeholders and service users.

The COTS was accessed via a GP referral and was designed to be the first point of contact in the patient journey through the public health system (Figure 1). GP practices were informed of

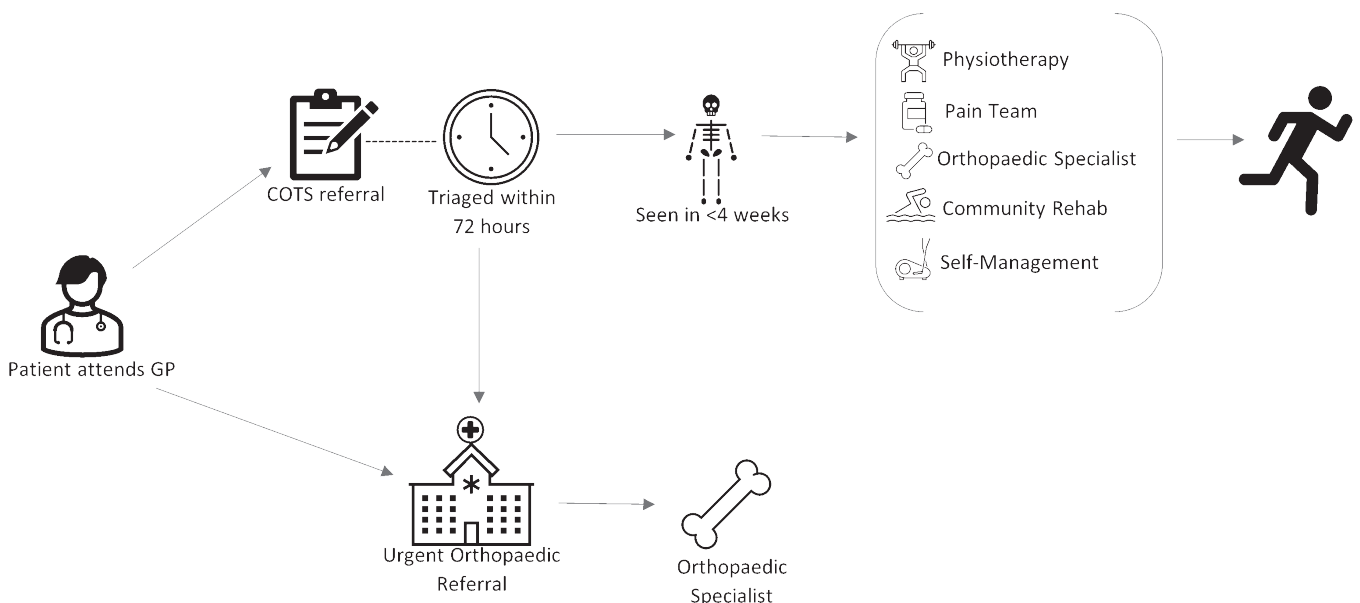
the new service in a staged approach via a GP liaison through a large communication platform. A new electronic referral form was developed for the service and was available via “Best Practice”, a web-based system designed specifically to support GPs in patient management including health screening, best practice guidelines, assessment, and online referral into secondary care. As this pathway was a staged rollout, the standard orthopaedic pathway was still available for some GPs to refer directly to orthopaedics. GPs were guided on the referral criteria for the COTS in the electronic referral form and through “best practice guidelines”. Patients referred to the COTS by their GP were triaged within 72 hours by an APP and seen by the COTS within 4 weeks. The inclusion criteria to be seen in the COTS included patients with primary hip or knee OA who were being referred for orthopaedic opinion. The exclusion criteria included those patients who were being seen for (a) consideration of revision arthroplasty, (b) post-surgical complications, (c) arthroplasty for the management for other conditions such as tumours, and (d) by patient request. Excluded patients were referred via the urgent pathway for grading by a senior medical officer (Figure 1).

When arriving at their COTS appointment, patients were given patient-reported outcome measures by administration staff including the impact of life questionnaire (Chan et al., 2016) and Knee Injury and Osteoarthritis Outcome Score (KOOS) (Roos and Lohmander, 2003). These were used by the APP to assist with clinical decision making. The APP assessment involved completing a full subjective and objective examination and completing the National Orthopaedic Clinical Priority Score for prioritisation of hip and knee replacement (Ministry of Health, 2007).

Following their assessment, patients were referred to the most appropriate intervention as determined by the APP, which included one on one physiotherapy, FSA, activity with arthritis (AWA) community rehabilitation programme, chronic pain team,

Figure 1

Flow Diagram Representing the Bay of Plenty Community Orthopaedic Triage Service (COTS) Pathway



or returned to their GP. Basic information about OA in the form of a handout was provided to the patient at the time of their appointment. Following the appointment, the APP completed a clinic letter, which was sent to the GP with the recommended outcome. The COTS appointments were scheduled in 45 min slots as a one-off assessment. The COTS clinics were not delivered in conjunction with orthopaedic clinics or with orthopaedic surgeons, but clinicians had direct contact with an orthopaedic surgeon for case discussion and clinical support if indicated. In 2020–2021, the COTS model did not alter the existing model of care that was being delivered in orthopaedic clinics for a FSA.

Two community clinics across the Bay of Plenty were initially set up. The service was delivered from community clinics in Te Puke and Whakatāne. Patients attended the clinic closest to their permanent residence. At the commencement of the data collection period, the COTS was staffed by a 1.0 full time equivalent (FTE) clinical lead physiotherapist and two 0.5 FTE physiotherapists. An additional 0.4 FTE administration role was appointed for assistance with administration tasks such as bookings and uploading clinic letters. As this was a service being evaluated in real time, the clinics and FTE continued to expand during the data collection time frame.

Data collection

The BOPDHB maintains an electronic database that records all patient activity including information for audit and evaluation. The data in the database were collected from the patient at the time of their initial assessment and inputted into the electronic database by administration staff. An independent data support analyst then collated the data for analysis from the electronic database. Since these data were collected over a defined time period, the sample size was subject to the number of patients who were assessed in the service within that chosen period. Data variables that were extracted from the DHB database included referral volumes, patient age, ethnicity, body area (hip or knee), length of wait time for an appointment, referral intake, outcome of assessment, and conversion rate to surgery. Once these data were collected, they were de-identified and forwarded to the primary investigator for analysis.

Data analysis

A quantitative analysis approach using descriptive statistics (means (*SD*) and 95% confidence intervals (*CI*)) was used to assess the outcome data.

RESULTS

COTS results

Six hundred and seventy-six patients were referred with hip or knee joint OA and seen in the COTS. A description of the patient cohort can be found in Table 1. The mean (*SD*) wait time to be seen in the COTS was 37.3 (32.9) days, 95% *CI* [34.7–40.0]. The median wait time was 24 days. The shortest wait time was 5 days, and the longest wait time was 175 days. This outlier is attributed to a patient being away overseas when initial contact was made.

Of the 676 patients who presented to the COTS for assessment, 193 (29%) had mild symptoms and were referred back to their GP for ongoing management. Just over a quarter ($n = 178$,

26%) of patients were referred onto orthopaedics for further investigation and/or a surgical opinion. Of the 676 patients, 250 (37%) were referred for conservative management, which included either a referral to the allied health team at the BOPDHB or to AWA, a community education and exercise programme (Table 2).

Of the 178 patients referred from COTS into orthopaedics, 133 had received their FSA at the time of data analysis. Of the 133 patients who had been assessed in orthopaedics at the time of data analysis, 107 (80%) were appropriate for orthopaedic input when assessed by an orthopaedic surgeon, which included reaching surgical threshold and being listed for surgery (65%), receiving a corticosteroid injection (12%), or being referred for further investigation (3%). Eight patients (6%) were deemed appropriate for surgery by the orthopaedic surgeon but failed to meet surgical threshold on surgical prioritisation scoring. Sixteen (12%) patients were referred for conservative management including referral back to the GP (10%), referral to physiotherapy (1%), referral to the pain team (1%), or referral to AWA (1%).

Orthopaedic results

Prior to the implementation of the COTS (July 2017 to July 2018), 1,271 patients were assessed in orthopaedics with hip or knee joint OA. During the implementation of the COTS (September 2020 to September 2021), 1,362 patients were assessed in the orthopaedic department with hip or knee joint OA. This did not include patients who were referred to the COTS ($n = 676$) (Table 1).

The overall mean (*SD*) age for patients referred to orthopaedics with hip or knee joint OA pre-COTS was 72.6 (11.7) years. The overall mean (*SD*) age for patients referred to orthopaedics with hip or knee joint OA during COTS was 70.1 (11.3) years. Of the patients referred into orthopaedics pre- and during COTS implementation, the most prevalent age group was 70–79 years for both hip and knee joint OA (Table 1).

With respect to ethnicity, this was similar for patients presenting for assessment in orthopaedics pre-COTS (Māori, $n = 227$ (18%); Pasifika, $n = 10$ (1%); other, $n = 1034$ (81%)) and during COTS (Māori, $n = 217$ (16%); Pasifika, $n = 9$ (1%); other, $n = 1136$ (83%)) (Table 1).

The mean (*SD*) wait time for patients to be seen in orthopaedics pre-COTS was 87.7 (27.8) days. The mean (*SD*) wait time for patients referred into orthopaedics during the COTS project with hip joint OA was 156.4 (56.4) days, and with knee joint OA, 158.9 (56.0) days (Table 4).

Of the patients assessed in orthopaedics during COTS, 424 (37%) were placed on the inpatient treatment list for surgery at the time of their appointment, 140 (12%) were discharged straight back to their GP with no intervention, and 291 (25%) of patients received ongoing follow up (Table 5). The corresponding numbers of pre-COTS were not able to be retrieved due to a change in system coding.

DISCUSSION

Systematic reviews on OA models of care have shown APPs have high diagnostic concordance and similar treatment

Table 1
Patient Demographics

Demographics	Patients assessed		Age		Ethnicity		
	<i>n</i>	%	<i>M</i>	<i>SD</i>		<i>n</i>	%
Pre-COTS							
Hip OA	686	54	71.9	12.9	Māori	117	20
					Pasifika	0	0
					Other	468	80
Knee OA	585	46	73.2	10.6	Māori	110	16
					Pasifika	10	1
					Other	566	83
Overall	1271		72.6	11.7	Māori	227	18
					Pasifika	10	1
					Other	1034	81
COTS							
Hip OA	297	46	67.6	12.6	Māori	61	21
					Pasifika	2	1
					Other	234	78
Knee OA	379	56	66.7	12.6	Māori	88	23
					Pasifika	4	1
					Other	287	76
Overall	676		67.1	12.0	Māori	149	22
					Pasifika	6	1
					Other	521	77
Post COTS							
Hip OA	673	49	69.7	12.7	Māori	112	17
					Pasifika	1	1
					Other	83	83
Knee OA	689	51	70.5	9.8	Māori	105	15
					Pasifika	5	1
					Other	579	84
Overall	1362		70.1	11.3	Māori	217	16
					Pasifika	9	1
					Other	1136	83

Note. COTS = community orthopaedic triage service; OA = osteoarthritis.

recommendations to orthopaedic surgeons (Button et al., 2019). This includes support for APPs listing patients for total hip joint replacement (Parfitt et al., 2012). This study did not compare diagnoses; however, there was a high conversion rate to surgery demonstrated in the APP-led pathway. Our results have shown that 80% of patients with hip or knee OA assessed in COTS were appropriate for orthopaedic intervention with 65% of these converting to surgery compared to 37% of the patients referred to the orthopaedic service. This suggests that APPs working in the COTS are clinically effective, can streamline the appropriateness of patient referrals to the orthopaedic surgeon, and, as a result, have the potential to improve the overall surgical conversion rate. This may lead to an increase in productivity for the orthopaedic service, potentially improving patient outcomes in the longer term.

Early access to OA care from a health professional with the appropriate clinical assessment skills and knowledge base has been highly regarded in the literature (Gillis et al., 2014). While many strategies have been put in place to try and reduce waiting times across the country, wait times for initial assessments in orthopaedic services in New Zealand remain longer than anticipated (Cook, 2022). Previous literature has shown there is a risk of significant functional decline when a patient with hip OA waits longer than 6 months to be seen (Mahon et al., 2002). This includes a loss of functional mobility and health-related quality of life (Morris et al., 2018; Morris et al., 2017). Reducing wait times by implementing APP clinics has resulted in superior outcomes in the management of hip and knee pain (Aiken et al., 2009; Cavka et al., 2015; Doerr et al., 2013; Farrar et al., 2014). Consistent with these findings, data

Table 2*Outcome of COTS Assessments*

Outcome	Knee joint OA		Hip joint OA		Overall	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Referred back to GP/referrer	114	30	79	27	193	29
Referred to orthopaedics	84	22	94	32	178	26
Referred to surgical services	11	3	13	4	24	4
Referred to allied health services	92	24	73	25	165	24
Referred to another service	1	0	0	0	1	0
Referred to AWA	59	16	26	9	85	13
Referred to DHB education class	1	0	0	0	1	0
Referred to radiology	0	0	1	0	1	0
Referred to pain team	1	0	1	0	2	0
Referred elsewhere	1	0	0	0	1	0
Referred to medical services	0	0	1	0	1	0
Treatment complete	0	0	1	0	1	0
Unseen no referral	1	0	0	0	1	0
Not recorded	13	3	8	3	21	3
Deceased	1	0	0	0	1	0
Total	379	100	297	100	676	100

Note. AWA = activity with arthritis; COTS = community orthopaedic triage service; DHB = district health board; GP = general practitioner; OA = osteoarthritis.

Table 3*Outcome of Patient FSA After Being Referred to Orthopaedics by the COTS*

Outcome of FSA	<i>N</i>	%
Listed for surgery	87	65
Corticosteroid injection	16	12
Further investigation	4	3
Discharge to GP	13	10
Referred to pain team	1	1
AWA	1	1
Physiotherapy	1	1
Did not meet scoring threshold	8	6
Not medically fit	1	1
DNA	1	1
Total	133	100

Note. AWA = activity with arthritis; COTS = community orthopaedic triage service; DNA = did not attend; FSA = first specialist appointment; GP = general practitioner.

Table 4*COTS and Overall Orthopaedic Wait Time (Days)*

Variable	<i>M</i>	<i>SD</i>	95% CI		<i>Mdn</i>	Wait	
			LL	UL		Shortest	Longest
Pre-COTS	87.7	27.8	86.1	89.4	86	4	163
COTS	37.3	32.9	34.7	40.0	24	5	175
Post COTS	157.7	56.2	154.7	160.7	153	9	537

Note. COTS = community orthopaedic triage service; *LL* = lower limit; *UL* = upper limit.

Table 5*Outcome of Patients Assessed in Orthopaedics during COTS*

Outcome of FSA	N	%
Inpatient treatment list	424	37
Diagnostic review	185	16
Ongoing follow up	36	3
Outpatient follow up	292	25
AWA physiotherapy programme	3	0
SOS follow up at patient choice	42	4
Discharge to GP/referrer	140	12
Not medically fit	1	0
DNA – discharged	4	0
DNA – another appointment	21	2
Patient cancel due to COVID-19	1	0
Total	1149	100

Note. AWA = activity with arthritis; DNA = did not attend; FSA = first specialist appointment; GP = general practitioner; SOS = self-referral of symptoms.

in this study have shown the average wait time for an FSA in the COTS was 37 days, much less than the waiting time of 156 days to be seen in orthopaedics. Results have shown an increase in orthopaedic waiting times during the implementation of the COTS. This is likely attributed to several factors including the underlying region population growth, the significant reduction in orthopaedic productivity during the COVID-19 pandemic, and the COTS service producing additional referrals (Bowman et al., 2022). With its ability to provide earlier assessments and appropriate interventions, the adoption of a COTS model in a post-pandemic health system could assist with improving healthcare in the New Zealand setting.

The Ministry of Health planned care process is a system by which New Zealanders can access publicly funded healthcare services in a timely and effective way. Two of the five planned care principles refer to access and timeliness; stating a service should be provided so a patient can access the care they need in the right place, with the right health provider at the most appropriate time to support improved health and minimise ill-health, discomfort, and distress (Ministry of Health, 2023). The literature has suggested that only 33% of patients referred to an orthopaedic surgeon for consideration of joint replacement are surgical candidates, highlighting that the most appropriate patients are not being referred at the most appropriate times, thus creating a delay for the patients who require surgery the most (McHugh et al., 2011). Previous literature on APP models of care for OA has shown that physiotherapists can triage patients onto the most appropriate surgical or non-surgical pathway, prioritising patients with the greatest need to be seen by a surgeon (Vedanayagam et al., 2021). The COTS has also shown to have impact in this way. Of the patients seen in the COTS, 29% were deemed to not require any further intervention when assessed using the Impact on Life score (a patient-reported outcome measure), and clinical examination. These patients were referred back to their GP for ongoing management. Recommendations on further management

including ongoing education, analgesia, and community exercise groups were provided to the patients at the time of their appointment and documented in the clinic letter to their GP. Twenty-six per cent were referred onto orthopaedics for further investigation and/or surgical opinion and 37% were referred for conservative management. This shows the COTS has the potential to improve the quality of the referrals to orthopaedics by referring the right patient to the most appropriate service in a timely manner. Having a triage service such as the COTS in New Zealand could improve the referral process and health status of patients with OA attending the orthopaedic outpatient department by effectively applying the Ministry of Health planned care principles.

With a growing unmet need for secondary care consultations, new models of care for OA have focused on utilising APPs to free up surgeon time in outpatient clinics. A previous study has reported that the implementation of a joint clinic resulted in improved efficiency in appointment resources by increasing capacity of the orthopaedic department to provide FSAs (Abbott et al., 2019). This model utilised physiotherapists and nurses as gatekeepers to orthopaedic services, where all patients were triaged using a single point entry to orthopaedics. Furthermore, a systematic review of systematic reviews has shown that APP-led triage services can reduce the load on orthopaedic surgeons, which can result in more time to perform surgery (Vedanayagam et al., 2021). The results of our study found that only 26% of patients assessed in COTS required onward referral for orthopaedic opinion, suggesting an APP has the potential over time to reduce the number of patients being seen by the surgeon, thus freeing up surgeon time. However, our study also showed an overall increase in patients who received an FSA in orthopaedics with hip or knee joint OA. This may be due to the initial implementation of the service. As the flow of patients improves, it is predicted the number of referrals will reduce and become more targeted. Like previous studies, the results of this audit demonstrate that a triage service such as the COTS can

assist with meeting the unmet need for specialist assessment of hip and knee OA at the interface of primary and secondary care while improving the likelihood the patient will require surgery (Abbott et al., 2019). However, for APPs to have an impact in freeing up surgeon time, future services should consider providing additional surgical resources to allow the surgeon to shift from the clinic into the operating theatre.

Recent reports have identified stark inequities in accessing healthcare between Māori and non-Māori communities (Waitangi Tribunal, 2019). The articles of Te Tiriti o Waitangi signed in 1840 have been interpreted and expressed through a set of principles. They provide direction for the wider health care system and provide a framework for how health professionals meet their obligations to Te Tiriti in their day-to-day work. Identified as one of the founding principles by the 2019 Hauora report, equity in healthcare requires the Crown to commit to achieving equitable health outcomes for Māori (Waitangi Tribunal, 2019). Recent literature has anticipated that the APP role will improve accessibility to healthcare and provide equality and equity of healthcare to Māori populations (Naik, 2021). An exploratory case study by Naik (2021) reported that participants have identified the need for upskilling the allied health workforce to meet healthcare requirements and deliver equity within services. Although evaluating equity was not an initial aim of our study, we have shown there was an increase of patients identifying as Māori accessing the COTS service for hip and knee pain (22%), compared to those seen in orthopaedics (16%). However, as this is not up to the level of the underlying regional population (25.6%), further work is required to ensure the proportion of Māori coming through the service is higher than 25.6% in order to address pre-existing inequities. Te Tiriti o Waitangi identifies the principle of partnership, which requires the Crown and Māori to work in partnership in the governance, design, delivery, and monitoring of health and disability services (Waitangi Tribunal, 2019). They also state that Māori must be co-designers of the new health services, with the Crown, in the primary health system for Māori. Although it has been shown that the COTS can improve access for Māori compared to the previous model of care in the Bay of Plenty, in honour of Te Tiriti, further consultation should be sought from Māori health services with respect to co-designing further expansions of this pathway.

Ministry of Health policy has recognised that identifying problems earlier in the disease process leads to more effective management (Ministry of Health, 2011). To align with this, a community education and exercise programme called the mobility action plan (MAP) was established in 2015. This was designed to respond to the specific challenges for patients with mild to moderate OA including the lack of early intervention programmes and increasing demand for health services for musculoskeletal conditions (Wilson et al., 2021). An evaluation of the MAP determined that this is an effective intervention programme for patients with musculoskeletal conditions such as OA. It has shown to increase healthy behaviours, reduce pain, and enhance function, and can reduce the need for patients to visit secondary care services such as orthopaedics (Wilson et al., 2021). Alongside this, significant improvements have been

reported in a patient's ability to self-manage their condition. A feasibility study by Gibbs et al. (2020) evaluated the time taken to access non-surgical management pathways for OA patients in the community compared to a hospital setting. They found waiting times were significantly shorter in community APP models (Gibbs et al., 2020). Data from this study have also shown that the mean age for patients seen in orthopaedics was 70.1 years, while the mean age for patients seen in COTS was 67.1 years. This may suggest that patients were referred into the COTS earlier than they would have been into orthopaedics, thus improving their care trajectory in accessing conservative management pathways.

Limitations

This study was limited by the confines of the pre-determined data collection at the BOPDHB. The data analysed in this study were retrieved from an electronic database that recorded all patient activity including information for audit and evaluation. The data in the database were collected from patients at the time of their initial assessment and then inputted into the electronic database by administration staff. Using data that have already been pre-determined limits the ability to answer specific research questions and reduces the ability to perform in-depth statistical analysis. To mitigate this in the future, dashboards for quantitative data collection with additional measures could be considered to ensure the impact of the service is further validated. Due to the specific settings of this data collection, we can also not conclude whether this model is generalisable to other settings.

CONCLUSION

There is strong evidence worldwide to support the role of APPs in the triaging and management of orthopaedic patients with OA. Despite this, New Zealand health systems have only recently begun to implement and evaluate these models of care. With the ever-increasing load on orthopaedics in a post-pandemic health system, this research study has evaluated how a COTS can impact the management of hip and knee OA in the New Zealand public health system. To the best of our knowledge, this is the first time a New Zealand APP clinic has been established in a community setting independent of a hospital network, which offers several potential advantages. The study contributes to a better understanding of the impact of an APP mode of care for hip and knee OA including how it affects waiting times and resource use. This evaluation has shown multiple benefits of the COTS to patients with hip or knee OA including providing earlier assessment and access to the most appropriate intervention. The COTS can streamline the appropriateness of patient referrals to the orthopaedic surgeon and, as a result, has the potential to improve the overall surgical conversion rate. It is difficult to determine the true impact of this service to the orthopaedic workforce and further research is required to determine its impact in reducing waiting list pressures and optimising time spent in the operating theatre.

KEY POINTS

1. There is an ever-increasing load on orthopaedic waitlists in a post pandemic health system. This research has provided

timely and critical data on the significant contributions that APPs can make to this service. This can be achieved in the management of OA through the development of extended clinical roles and organisational change.

2. An orthopaedic triage service in the New Zealand public health system has the potential to improve health care by offering timely access to patients presenting with OA of the hip and knee. This pilot has demonstrated that this is possible without comprising quality of care compared to traditional orthopaedic pathways.
3. A triage service such as the COTS can assist with meeting the unmet need for specialist assessment of hip and knee OA at the interface of primary and secondary care while improving the likelihood the patient will require surgery. However, further work needs to be done to assess the impact of these models directly on freeing up surgeon time for more complex patients and shifting orthopaedic resource from the clinic to the operating theatre.

DISCLOSURES

The primary researcher is a physiotherapist employed by the Bay of Plenty District Health Board and worked in the Community Orthopaedic Triage Service during the time of the data collection. No funding was obtained for this study.

PERMISSIONS

This study was granted ethical consent by Auckland University of Technology (reference number 20/36). No additional permissions were required for this manuscript.

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CONTRIBUTIONS OF THE AUTHORS

Conceptualisation and methodology, JS, DR, and PL; writing – original draft preparation, JS; writing – review and editing, JS, DR, and PL.

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