Clinical and cost-effectiveness of first contact physiotherapy for musculoskeletal disorders in primary care: the FRONTIER, mixed method realist evaluation

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Published December 2024
DOI: 10.3310/RTKY7521

Scientific summary

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Health and Social Care Delivery Research 2024; Vol. 12: No. 49
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Scientific summary

Background

Musculoskeletal disorders (MSKDs) are the leading cause of disability in the UK. They accounted for over 23 million lost workdays annually and consume a significant amount of the health budget (approximately £5 billion per annum is spent by NHS England). Year on year, there continue to be unprecedented numbers of consultations in primary care; between 20% and 30% are related to MSKDs. Given the increasing demand for general practitioner (GP) services and current difficulties surrounding GP recruitment and retention, alternative implementable and affordable models of care are essential.

One service initiative that has become prevalent is first-contact physiotherapy , whereby patients attending GP surgeries for MSKD are treated by experienced first contact physiotherapy practitioners (FCPs) on a first point of access basis, thereby providing timely specialist advice and reducing demands on GP time. Local service initiatives and a national evaluation indicate that they reduce GP appointments and requests for unnecessary investigations and improve patient satisfaction. There was no evidence to determine whether the model was more clinically efficacious or cost-effective than GP-led models of care.

Aim

The aim of this study was to conduct a realist evaluation to identify how FCP works, for whom, under what circumstances, how and with what resource implications.

Methods

The research was conducted in four phases:

1. A UK-wide survey of 102 FCP services to identify key aspects of delivery models to inform phases 2 and 3.
2. A rapid realist review to establish the initial set of realist programme theories underpinning FCP models of care, followed by a consensus exercise with key stakeholders to validate the programme theories that were tested in phase 3.
3. Mixed-method case study evaluation of 46 general practices across the UK investigating three models of service provision.
    a. GP-led models of care (usual practice).
    b. FCP without additional qualifications [FCP standard provision (ST)] to inject and/or prescribe.
    c. FCP with additional qualifications [FCP(AQ)] to inject and/or prescribe.

Data were collected from 426 adults consulting with a new (episode) MSKD. Outcome measures were recorded at baseline, 3 and 6 months (primary end point) to track changes in pain and functioning using the Short Form questionnaire-36 items physical component summary (SF-36-PCS) primary outcome measure, and were compared across the care models. Secondary outcomes included MSKD impact, mental health, patient safety, time off work/change of work practices, health-related quality of life and patient satisfaction. The scope of the economic evaluation was informed by the realist programme theories to determine the costs and cost-effectiveness given a range of associated processes, contexts and services, and data were collected using a tailored version of the Client Services Receipt Inventory for MSKDs in primary care.

Realist qualitative interviews (n = 80) were conducted with practice staff, patients and other system informants (FCP educator, interface clinician and manager) to test programme theories derived in stage 2 regarding what works, for whom, how and in what circumstances, accounting for aspects of the context that have causal impact.

4. In response to the COVID-19 pandemic, an additional work package investigating the impact of remote consultations on FCP well-being was also undertaken. A UK-wide survey was completed by 109 FCPs with 16 follow-up interviews.

Findings

Phase 1 – survey: Most FCPs were band 7 or 8a and had additional competencies including prescribing, injecting and imaging request/interpretation. The majority had 20-minute appointment slots (range 10–30 minutes) with patients permitted to self-book or with reception triage; 90% were NHS employees but service configurations were diverse.

Phase 2 – realist synthesis: Empirical and grey literature, together with online discussion boards, social media sources and blogs were used to create initial programme theories regarding service architecture. These were then presented to a group of key stakeholders to validate, refine and develop as required. The areas identified for further exploration included Awareness of the FCPs; FCP team integration and communication; FCP approach to appointments; FCP levels of competency; practice workload; FCP professional development; impact of consultation modes; and employment models.

Phase 3 – case study evaluation: The non-inferiority analysis of GP, FCP(ST) and FCP(AQ) led models of care showed no significant difference between arms based on the primary outcome of the SF-36-PCS at the 6-month primary end point (p = 0.999). There were also no significant differences across the secondary outcome measures, including the EuroQol-5 Dimensions, five-level version at 6 months (p = 0.63). At 3 months, 54.7% of patients who consulted the GP, 72.4% who consulted with the FCP(ST), and 66.4% who consulted the FCP(AQ) had improved. This indicates that patients who consulted with FCPs apparently improved sooner than those who consulted the GP. 6.3% of participants were lost to follow-up at 3 months; a further 1.9% were lost to follow-up after 3 months and before 6 months. Total cost for each participant was calculated across NHS services, outpatient referrals and Investigations (tests, including injections). An additional total cost was calculated, which also included inpatient events (planned surgery due to musculoskeletal condition). Data were available on 348 complete data sets at all time points for total costs. Results showed a statistically significant difference in total cost between the three service models, irrespective of whether inpatient costs are included or excluded from the total cost calculation. In both instances, the GP service model was found to be significantly more costly, with a median total cost of £105.50 compared with £41.00 for FCP(ST) and £44.00 for FCP(AQ). There was no statistically significant difference between the FCP(ST) and FCP(AQ) total cost. A sensitivity analysis relating to a potential higher salary band for the FCP(AQ) physiotherapists (band 8a) did not contradict these findings, other than to detect a statistically significant higher total cost in the FCP(AQ) when compared with the FCP(ST) service model (p < 0.001, when excluding and when including inpatient costs).

Qualitative interviews building on the initial programme theories derived from the realist synthesis resulted in context-mechanism-outcome configurations, which impacted on the successful implementation of the FCP initiative into practice. The areas are included below:

1. practice staff promoting, endorsing and advocating for the role to patients
2. multidisciplinary team working to support decision-making
3. extended FCP consultation time compared with GPs to allow for more in-depth assessment and exercise advice on condition management

4. increased independence associated with additional non-medical prescribing and injection capabilities
5. service configurations that permitted FCP to see non-resolved MSKDs referred from the GP in addition to new consultations
6. consideration of consultation format to ensure equitable and appropriate access to FCP appointments
7. established professional networks to allow support regarding decision-making, improve confidence and reduce professional isolation
8. continued employment of FCPs through a central provider model on continued terms and conditions with access to continued professional development and governance, in addition to practice cover during absence
9. information technology (IT) systems that have standardised templates and provide full access to electronic medical records, referral templates and prescriptions (for non-medical prescribers)
10. service configurations that provide a structured career pathway for the FCP while ensuring appropriate skill mix and staffing levels are retained throughout the physiotherapy service pathway.

Phase 4 – survey and interviews: Most FCPs thought remote consultations benefited the patient rather than themselves and nearly two-thirds had not received any training in how to undertake effective remote consultation. The main challenges identified were IT access and stability from both staff and patient perspective; compromised assessment efficacy and resource use; anxiety related to incorrect diagnosis; impact on physical and mental well-being of FCPs; and particular challenges in areas of high deprivation associated with communication, health literacy and digital poverty. Measures of stress levels associated with remote working showed that, while FCPs perceived consultations to be stressful, their coping ability was sufficient to see these as a challenge to their practice rather than a threat.

Limitations

This study was conducted during the COVID-19 pandemic, which significantly hampered recruitment due to pressures in primary care. As such, the case study evaluation was slightly underpowered, particularly in the GP arm, as services were capitalising on national funding programmes supporting the employment of FCPs in primary care, yet this work still provides significant insight into the clinical effectiveness and costs associated with the various models of care. Furthermore, recruitment was significantly different across individual participating sites. A further limitation is the diversity within the patient sample. While practices were purposefully recruited in areas that had high ethnic diversity, the recruited sample did not reflect practice populations.

Conclusions and implications

The FCP model of care, irrespective of whether the practitioner has additional qualifications to inject and/or prescribe, demonstrates no statistically significant difference in clinical outcomes over time compared with a GP-led model of care, and no differences in safety were identified across arms; findings that patients who see the FCP recover sooner and have fewer lost days suggest a valuable societal impact. These data would suggest that FCP is a viable alternative model to GP-led models of care for MSKD. When considering costs, both the FCP(ST) and FCP(AQ) models produced lower total health costs compared with the GP-led model of care.

Successful implementation of FCP is supported through widespread advertising of the role to patients; ensuring a good understanding of the role among practice staff who can advocate for the role, including reception staff who are better equipped to direct appropriate patients to FCP services; employment models that support FCP professional development and offer professional support; and ensuring that extended consultation times are retained (20 minutes) to ensure a full assessment and biopsychosocial approach to patient management.

Research recommendations

The finding that patients whose care initiated by the FCP improved quicker than those who saw the GP should be explored further. In addition, investigating the impact of widespread introduction of FCP services on the whole system would be beneficial to determine whether a shift in skill mix and workforce, impact physiotherapy service provision and outcomes across the patient pathway. Further work should explore how new ways of working (remote consultations and hybrid approaches) impact service effectiveness.

Study registration

The study is registered as Research Registry UIN researchregistry5033.

Funding

This award was funded by the National Institute for Health and Care Research (NIHR) Health and Social Care Delivery Research programme (NIHR award ref: 16/116/03) and is published in full in Health and Social Care Delivery Research; Vol. 12, No. 49. See the NIHR Funding and Awards website for further award information.

Health and Social Care Delivery Research

ISSN 2755-0079 (Online)

A list of Journals Library editors can be found on the NIHR Journals Library website

Health and Social Care Delivery Research (HSDR) was launched in 2013 and is indexed by Europe PMC, DOAJ, INAHTA, Ulrichsweb™ (ProQuest LLC, Ann Arbor, MI, USA), NCBI Bookshelf, Scopus and MEDLINE.

This journal is a member of and subscribes to the principles of the Committee on Publication Ethics (COPE) (www.publicationethics.org/).

Editorial contact: journals.library@nihr.ac.uk

This journal was previously published as *Health Services and Delivery Research* (Volumes 1–9); ISSN 2050-4349 (print), ISSN 2050-4357 (online)

The full HSDR archive is freely available to view online at www.journalslibrary.nihr.ac.uk/hsdr.

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This article

The research reported in this issue of the journal was funded by the HSDR programme or one of its preceding programmes as award number 16/116/03. The contractual start date was in September 2018. The draft manuscript began editorial review in June 2023 and was accepted for publication in January 2024. The authors have been wholly responsible for all data collection, analysis and interpretation, and for writing up their work. The HSDR editors and production house have tried to ensure the accuracy of the authors' manuscript and would like to thank the reviewers for their constructive comments on the draft document. However, they do not accept liability for damages or losses arising from material published in this article.

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