



Scottish School of Primary Care

Evaluation of New Models of Primary Care in Scotland

Musculoskeletal Physiotherapy Case Study

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This study is led by the University of Glasgow



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Disclaimer

The views, information, and opinions expressed in this report are solely those of the authors and do not necessarily represent those of the University of Glasgow or the study funder, the Scottish Government. They are based on the information provided by the identified key informants who participated in this case study and may not necessarily represent potential key informants who were either not identified by the study recruitment strategy or who declined the invitation to participate in the case study.

KEY MESSAGES

Musculoskeletal (MSK) Physiotherapy Case Study

Findings: A two phase approach identified a variety of tests of change within MSK services in primary care. In depth exploration of two approaches to service delivery led to deeper understanding of the barriers and facilitators to implementation. A review of the international literature set these national findings in context.

Phase 1 identified 36 tests of change of MSK primary care across 14 regional NHS Scottish health boards. These ranged from health board-wide initiatives to single practice-based solutions. Tests of change included a physiotherapist-run telephone consultation system, an MSK Hub to streamline appointment and referrals, and multidisciplinary community teams. However, two approaches predominated:

- Advanced Physiotherapist Practitioner (APP) in primary care -12 health boards had implemented or were in process of implementing these roles. This included APPs working with practices and condition-specific MSK Pathways integrating services across primary and secondary care.
- NHS 24 Musculoskeletal Advice and Triage Service (MATS) – 10 health boards had implemented this, and 2 were in the process of implementing it.

Phase 2 conducted in-depth exploration of the APP model in two contrasting board areas (NHS Highland, NHS Lothian) and the NHS 24 MATS model. Implementation of new APP roles in primary care was facilitated when there was buy-in of patients and staff, support from management and clinicians, and appropriate training of staff. Evaluation plans appeared less developed, but perceived positive patient, staff and service impacts included: quicker access to appropriate care, a reduction in the number of GP consultations, fewer unnecessary onward referrals for investigations and assessment, and a reduction in waiting times for secondary care. Recruitment and retention of APPs was, in places, problematic particularly for rural boards. Key informants suggested successful sustainability and expansion of services required improvements in funding, recruitment and retention, accommodation and IT services. However, these tests of change were seen as clinical and cost-effective alternatives to GP consultation as the first point of contact for patients with MSK problems.

Key Recommendations:

- Advanced Physiotherapist Practitioners (APP) and the NHS 24 Musculoskeletal Advice and Triage Service (MATS) have been the **most widely implemented tests of change**, indicating that geographical coverage of tests of change is possible.
- **Support and buy-in** from patients, staff and management is required for successful Implementation of these tests of change.
- Appropriate resourcing, in terms of **funding and accommodation** is also required.
- **Robust IT systems** to support data collection, extraction and analysis are required to support future evaluation.
- Measurement of the **actual impacts, sustainability** and **spread** of tests of change will require further evaluation of primary care transformation journeys over the next five to ten years.

Abbreviations

AHP	Allied Health Professionals
ANP	Advanced Nurse Practitioner
APP	Advanced Physiotherapy Practitioner
CSP	Chartered Society of Physiotherapists
CWIC	Collaborative Working for Immediate Care
FPOC	First Point of Contact
GG&C	Greater Glasgow and Clyde
GP	General Practitioner
HSCP	Health and Social Care Partnership
ISD	Information Services Division
IJB	Integrated Joint Board
MATS	Muskuloskeletal Advice and Triage Service
MSK	Muskuloskeletal
NHS	National Health Service
NPT	Normalisation Process Theory
PCFMH	Primary Care Fund for Mental Health
PCTF	Primary Care Transformation Fund
PMS	Patient Management System
QIT	Quality Improvement Team
QOF	Quality and Outcomes Framework
SSPC	Scottish School of Primary Care
WTE	Whole Time Equivalent

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EXECUTIVE SUMMARY

BACKGROUND

In July 2016, the Scottish Government (SG) awarded Primary Care Transformation Funds (PCTF) and Primary Care Funds for Mental Health (PCFMH) to Health boards in Scotland to test new models of care. Ahead of these awards, the SG commissioned the Scottish School of Primary Care (SSPC) to undertake a national evaluation of primary care tests of change in Scotland. This report concerns one of eight case studies contributing to the SSPC national

evaluation. It focuses on the implementation of musculoskeletal (MSK) primary care tests of change across Scotland. Patients with MSK problems are estimated to account for between 18% and 33% of the workload of a General Practitioner (GP) (Cree, 2014). Allied health professional (AHP) MSK services are under increasing strain in Scotland, and receive approximately 400,000 referrals per year (Cree, 2014). This results in high MSK secondary care activity, with duplication of effort across GP, orthopaedic and AHP services (NHS Scotland, 2014a). This impacts on patient experience of access, waiting times and investigations (NHS Scotland, 2014a). In 2010, the SG sought to make significant changes to Scotland's AHP MSK services with the introduction of the 'National Delivery Plan for Allied Health Professionals in Scotland, 2012-2015'. One element of this was the development of a *National Allied Health Professional MSK 4 Week Target*, which sought to provide a significant redesign of MSK services (Cree, 2014). The redesign of both MSK and primary care services aimed at the reduction of both GP appointments and AHP physiotherapy referral waiting times for patients with MSK problems.

AIMS

The overall aim of this case study was to determine, in relation to the implementation of MSK primary care tests of change in Scotland, what works, for whom, why and in what circumstances.

The specific aims were to:

1. understand primary care transformation in relation to MSK and the contexts in which new models of care were being tested
2. identify and map all MSK primary care tests of change in Scotland
3. Identify the target populations, components, expected impacts and projected timelines of the MSK primary care tests of change
4. identify key sites for further in-depth exploration (the case study 'deep dives'), and in relation to these
5. identify the barriers and facilitators to implementation
6. identify the actual impacts (both intended and unintended) for patients, practitioners and the wider health system
7. explore the likely sustainability and spread/roll-out
8. develop a logic model to map how such new models of care are planned, developed, and implemented.

METHODS

The study was conducted over a 15-month period (March 2017 to May 2018) with a review of the international, peer-reviewed literature, review of other published documents, and interviews with key informants:

- **The review of the international peer-reviewed literature** was conducted to identify research publications describing new models of MSK primary care, and facilitators and challenges to their implementation.
- **The review of national and local documentation and key informant interviews** explored the implementation of MSK primary care in Scotland. These were based on the SSPC Evaluation Framework, which had been agreed with the SG (Appendix A). This involved two distinct but complementary phases
- **Phase 1** comprised a scoping survey to ascertain the extent of development and implementation of MSK primary care across Scotland. In relation to each identified tests of change, key research questions sought to determine its overall aim, target population, components/activities, expected impact, underpinning theory of change, and early impressions on facilitators/challenges to implementation.
- **Phase 2** comprised a more in-depth exploration (the case study 'deep dives') of each the purposively selected sample of Scottish Health boards. In relation to each, the key research questions sought to gain a deeper understanding of its development and implementation, and to determine its actual impacts, key learning, and likely sustainability and spread/roll-out.
- Findings from the data collected from all sources were then synthesised and to refine **a theory of change for primary care MSK physiotherapy**.

FINDINGS

The literature review identified **18 relevant peer-reviewed research publications**, published between 2009 and 2017. Most were published from 2012 onwards, suggesting that new models of MSK primary care became a priority after this point in time. The publications were based on research studies that were conducted predominantly in Europe. Most publications reported on the implementation of MSK physiotherapy services in primary care, mainly delivered by Advanced Physiotherapy Practitioners (APPs) seeing patients with MSK problems either as the first-point of contact or following GP referral. The remainder were based on studies that focused on the implementation of systems e.g. telephone triage systems. Key mechanisms in implementing new models of care included: introduction of new staff or retraining existing staff; promotion of acceptability of physiotherapists as an alternative to the GP for the treatment of MSK conditions; securing appropriate staff and accommodation. Reported facilitators to the implementation included staff buy-in, appropriate resourcing and patient buy-in. Challenges related to insecurity of sustained funding, pressures on staff time, and buy-in or support from staff and patients for change.

A total of **156 national and local documents** relevant to MSK primary care transformation in Scotland were reviewed and **42 interviews with key informants** were carried out (18 in Phase 1 and 24 in Phase 2).

Phase 1 scoping exercise identified **36 new models of MSK primary care** across the 14 regional Scottish Health boards. These represented a range of models including a physiotherapist-run telephone consultation system (NHS Highland and NHS Grampian), an MSK Hub to streamline appointment systems and referrals (NHS Forth Valley), an online advice tool (NHS Fife), and an MSK solutions tool (NHS Tayside). However across the health boards, there were two predominant models:

- APPs
- NHS 24 Musculoskeletal Advice and Triage Service (MATS)

Advanced Physiotherapy Practitioner

The reported aim of developing and implementing an APP role in GP practices was to help GP practices with limited resources achieve equitable and timely patient access to a service for MSK problems. Implementation of APP services varied across health boards and between Health and Social Care Partnerships (HSCPs) and general practices. Key

informants reported that APPs contributed towards reductions in GP workload, improvements in patient experience and reductions in overall referrals to secondary care MSK services. However, there was a lack of high quality structured evaluation to support these claims. Reported facilitators to implementation included staff buy-in, appropriate resourcing and patient buy-in. Barriers to the sustainability and spread of the APP role in GP practices included uncertainties concerning continued funding, training, recruitment and retention of staff.

Musculoskeletal Advice and Triage Service

The reported aim of MATS was to help reduce workload on GPs and physiotherapy staff in secondary care. Funding for the MATS was top-sliced from each participating health board's existing budget and, despite national endorsement, not all health boards had chosen to implement MATS. Key informants within health boards that had implemented MATS reported positive changes including a decrease in GP workload and an increase in complexity of the cases that were referred to secondary care MSK services, but again evidence was not provided to support these claims. Reported facilitators to implementation included health board buy-in, staff buy-in and patient buy-in. Barriers included lack of dedicated funding, which was allied to the failure of some health boards to buy-in to the service. The latter affected the ability of advertising MATS nationally, which was perceived to undermine efforts to promote the service to patients and consequently its effectiveness. The service was reported to undergo continuous internal evaluation, but evaluation reports were not made available to this case study team.

All 36 Identified MSK Primary Care Tests of Change

The 36 identified tests of change were assessed using an implementation staging system: those which are well established and implemented; those still in the early stages of implementation; and those which have not progressed.

Phase 2 of the case study concentrated on a more in-depth exploration of the MSK primary care tests of change in NHS Highland and NHS Lothian in relation to APPs in primary care and NHS24 MATS.

Both NHS Highland and NHS Lothian had implemented services to allow patients with MSK symptoms to visit an APP based within a GP practice for an initial consultation. This service was reported to reduce GP time on MSK-related problems. Furthermore, NHS Lothian also offered an MSK Pathways Integrated Low Back Pain APP who specifically dealt with spinal pain; other Pathways APPs targeting shoulder and elbow conditions, and foot and ankle pain were also in the process of being implemented. The successful implementation of APPs in primary care was perceived to be driven by buy-in of patients and staff, support from management and clinicians, and appropriate training of staff. This service was reported to have impacted positively on patients (allowing them timely access to physiotherapy), and supplementary documentary evidence provided by key informants showed good patient satisfaction and a reduction in the number of onward referrals were reported by key informants in NHS Highland and NHS Lothian. Key informants in both health boards communicated that sustainability and expansion relied on appropriate funding of resources, recruitment and retention of staff, availability of accommodation in which new models of care could be undertaken and more robust IT systems for information sharing. Key informants believed that this test of change had resulted greater equity for patients in accessing both physiotherapy and GP appointments, particularly in rural communities.

Success of the NHS 24 MATS service was largely driven by the approach adopted by the health board to implement it. In NHS Highland, the service was viewed negatively by patients, GPs and physiotherapists due to it replacing a well-liked paper-based system used by GPs to refer patients to secondary care physiotherapy. In NHS Lothian, NHS 24 MATS was received more favourably and it was implemented to supplement rather than replace existing systems or services. Sustainability and expansion of new models of care was thought to be possible if they were properly supported by staff and patients, and properly funded. The service was thought to impact negatively on equity of

access in NHS Highland due to having an older population who were believed to be less comfortable with using telephone triage systems and preferred face-to-face consultation with familiar clinical staff. Moreover, key informants believed that their population of sessional workers, who did not speak English as their first language, had difficulty expressing themselves fully through telephone consultation.

Other MSK primary care tests of change in NHS Highland included telephone consultation, which involved physiotherapists calling patients over the phone as opposed to face-to-face consultation. This was aimed at improving the patient experience, reducing GP contact for MSK related conditions and increasing patient self-management. In NHS Lothian, these services included a specific lower back pain pathway. This involved utilising a Spinal APP specialised in triaging patients with spinal complaints which who sat in between primary and secondary care. This role sought to support GP practices as well as secondary care physiotherapy and orthopaedics, reducing the instance of needless referral. At the time of reporting, this new model of care was in the early stages of implementation and therefore no outcomes were available.

KEY RECOMMENDATIONS

- Advanced Physiotherapist Practitioners (APP) and the NHS 24 Musculoskeletal Advice and Triage Service (MATS) have been the **most widely implemented** tests of change, indicating that geographical coverage of tests of change is possible.
- **Support** and **buy-in** from patients, staff and management is required for successful Implementation of these tests of change.
- Appropriate resourcing, in terms of **funding** and **accommodation** is also required.
- **Robust IT systems** to support data collection, extraction and analysis are required to support future evaluation.
- Measurement of the **actual impacts, sustainability** and **spread** of tests of change will require further evaluation of primary care transformation journeys over the next five to ten years.

1 INTRODUCTION

1.1 Context

Primary care is facing increasing demand and complex challenges. Patient contacts continue to increase. Data from the Information Services Division (ISD) Scotland show that between 2003/04 to 2012/13, consultations with general medical practitioners (GPs) and practice nurses increased from 21.7 million to 24.2 million, an increase of 11.5%. A similar increase has been observed in England where demand has increased by 12.4% per 10,000 person years between 2007/8 and 2013/14 and consultation length has increased, resulting in a 16% increase in workload for GPs (Hobbs *et al*, 2016). There is no reason to assume that this has slowed down since 2013. The population is ageing and there is an increase in multimorbidity, particularly in areas of socioeconomic deprivation (Barnett *et al*, 2012), resulting in greater patient frailty and complexity. This is coupled with a crisis in GP recruitment and retention (Zarkali *et al*, 2015; Fletcher *et al*, 2017). As a result, there is a growing recognition amongst politicians and policy-makers that new models of primary care are required, drawing on a mix of professional groups and working across primary healthcare and social care, and that such approaches need to be subject to rigorous evaluation and testing (NHS Scotland, 2013, NHS England, 2014a).

The need for transformation in primary care underpinned the creation of a new Scottish GP contract, the first phase of which came into effect in April 2018. The contract has proposed a reframing of the GP role whereby the GP is the expert within a multi-disciplinary team (NHS Scotland, 2018). With these changes in place, GP and GP Practice workload should decrease and patients should receive better levels of care (British Medical Association, 2017).

Primary care demand and workforce issues are not limited to general medical practices; allied health professional (AHP) musculoskeletal (MSK) services are also under increasing strain across the UK (Cree, 2014). In Scotland, MSK services deal with approximately 400,000 referrals per year resulting in high secondary care physiotherapy activity, with duplication of effort across GP, orthopaedic and secondary care services (NHS Scotland, 2014a). This leads to variation of patient experience in terms of information, access, waiting times and investigations (NHS Scotland, 2014a). Significant redesign and transformation of Scotland's AHP MSK services has been on-going since 2010 (Cree, 2014) with the Scottish Government determining that at least 90% of AHP MSK patients should wait no longer than 4 weeks from the receipt of referral (ISD Scotland, 2017). This was outlined in "The National Delivery Plan for Allied Health Professionals in Scotland, 2012-2015", and included the development of a National AHP MSK 4-week target. This was initially piloted in NHS Lanarkshire, NHS Ayrshire & Arran and NHS Lothian before being rolled out to the remaining health boards (Cree, 2014).

It has been recognised that there is a need for significant redesign of primary care services to accommodate the rising need for MSK management and to improve the quality of life for people living with common MSK complaints, (Briggs, 2018). There is some evidence to support the substitution of doctors with physiotherapists for common MSK complaints in primary care (Marks, 2017; Desmeules, 2012), however research in this area is limited.

In Scotland in 2015, the Cabinet Secretary for Sport and Health announced a new Primary Care Transformation Fund (PCTF) of £20.5 million, over three years, aimed at supporting the redesign of

primary care services across Scotland. This fund was to complement work already underway within Integrated Joint Boards (IJBs) and NHS Boards, supported by a number of primary care funding streams including Pharmacy; GP Recruitment and Retention Fund; and the Out Of Hours (OOH) Transformation Fund. This worked towards a future where primary care is delivered by multidisciplinary community teams in localities.

In February 2016, the Scottish Government (SG) invited proposals NHS health boards for projects to be funded by the Primary Care Transformation Fund (PCTF) and the Primary Care Fund for Mental Health (PCFMH), to transform primary care services. Ahead of this the SG commissioned the Scottish School of Primary Care (SSPC) to undertake a national evaluation of projects that were testing new ways of working in primary care across Scotland, irrespective of funding stream. This report concerns one of eight case studies contributing to the SSPC national evaluation. It focuses on MSK primary care tests of change.

For the purpose of this case study, the SSPC definition of primary care was used:

“Any project, which may be a new initiative or one that builds on previous/existing work, that is testing a new way of delivering, or facilitating the delivery of, primary care services or improving the integration/interface between primary care and other services (such as other health sectors, social care and third sector).”

1.2 Aims

The overall aim of this case study was to determine, in relation to the implementation of MSK primary care tests of change in Scotland, what works, for whom, why and in what circumstances.

The specific objectives were to:

1. understand primary care transformation in relation to MSK and the contexts in which new models of care were being tested
2. identify and map all MSK primary care tests of change in Scotland
3. Identify the target populations, components, expected impacts and projected timelines of the MSK primary care tests of change
4. identify key sites for further in-depth exploration (the case study ‘deep dives’) , and in relation to these
 5. identify the barriers and facilitators to implementation
 6. identify the actual impacts (both intended and unintended) for patients, practitioners and the wider health system
 7. explore the likely sustainability and spread/roll-out
 8. develop a logic model to map how such new models of care are planned, developed, and implemented.

2 METHODS

This case study was conducted over a 15-month period (March 2017 - May 2018) and concerned the period from the release of funding to Scottish health boards to pilot tests of new models of primary care to the end of the study (i.e. from July 2016 to May 2018).

2.1 Case Study Design

A review of the literature on primary care MSK physiotherapy was undertaken to identify and understand new models of care in MSK physiotherapy operating within primary care.

Additionally, the study used a qualitative mixed methods approach, informed by the SSPC Evaluation Framework agreed with Scottish Government (Appendix A). Within this framework a number of key questions were addressed over two distinct but complementary work phases:

- Phase 1 (conducted between March 2017 and January 2017) sought to identify and understand the tests of change that were being implemented and their expected impacts. This led to proposing a selection of tests of change for further in-depth exploration (the study's 'deep-dives'). The selection of the deep dives was agreed with the Scottish Government.
- Phase 2 (conducted between February 2018 and May 2018) explored the early impacts, key learnings, spread and likely sustainability, and potential impact on inequalities in relation to the selected deep-dives.

Methods used during both phases included documentary analysis and qualitative semi-structured

2.2 Literature Review

As the models identified were potentially broad in scope and remit, it was necessary to take a broad view of the research literature. Consequently, a systematic scoping review was undertaken (Levac et al., 2010, Colquhoun et al., 2014). Scoping reviews are conducted when the research question of interest is broad, as is often the case when developing work to inform policy, where research using a range of study designs will be informative and are particularly useful in identifying gaps in the research literature (Arksey and O'Malley, 2005, Colquhoun et al., 2014, Peters et al., 2015). However, while the aim and scope may be broader, scoping reviews are undertaken with the same degree of rigor as more traditional systematic reviews. There are five key steps: (1) identification of the research question(s); (2) identification of relevant studies; (3) study selection; (4) data extraction and charting; (5) collating, summarising and reporting data (Arksey and O'Malley, 2005, Levac et al., 2010).

OVID was used to search Medline and Embase bibliographic databases. Searches were conducted from 1999 until 2 June 2018. Search terms used were "primary care", "physiotherap*", "musculoskeletal" and "healthcare", where the asterisk denotes a wildcard operator allowing for single or multiple letters ending the word (e.g. "physiotherapy", "physiotherapist", or

“physiotherapists”). MeSH terms were employed for all keywords to ensure relevant papers were captured including those using synonyms of search terms (e.g. “primary care” includes the term “primary healthcare”). Studies were limited to those published in the English language and using human participants. Duplicate articles were removed at this stage. A total of 546 papers were identified and downloaded to DistillerSR (Table 2.1).

Table 2.1 Papers identified from the different search terms

	Search term	Number of Identified Papers
OVID keyword/Mesh search		
1.	Primary care.mp.	231476
2.	"physiotherap*".mp.	104104
3.	"musculoskeletal".mp.	148576
4.	"healthcare".mp.	523290
5.	1 or 4	730160
6.	2 and 3 and 5	788
7.	Limit 6 to English language	774
8.	Limit 7 to human	711
9.	Remove duplicates from 8	546

2.2.1 Screening of identified publications

Identified publications were downloaded to DistillerSR. Screening was conducted by two team members, with any conflicts after the final level of screening resolved by a third team member. Screening of these were carried out at 3 levels:

Level 1 title screening was carried out based on addressing 1 question -

1. *Is the paper about MSK physiotherapy transformation within primary care services (e.g. new models of care; new ways of working; integration/interface between services)?*

Level 2 abstract screening was carried out based on 3 questions-

1. *Is the paper about MSK physiotherapy transformation within primary care services (e.g. new models of care; new ways of working; integration/interface between services)?*
2. *Is this a systematic review or original research study?*
3. *Is the paper about MSK physiotherapy service delivery and organisation?*

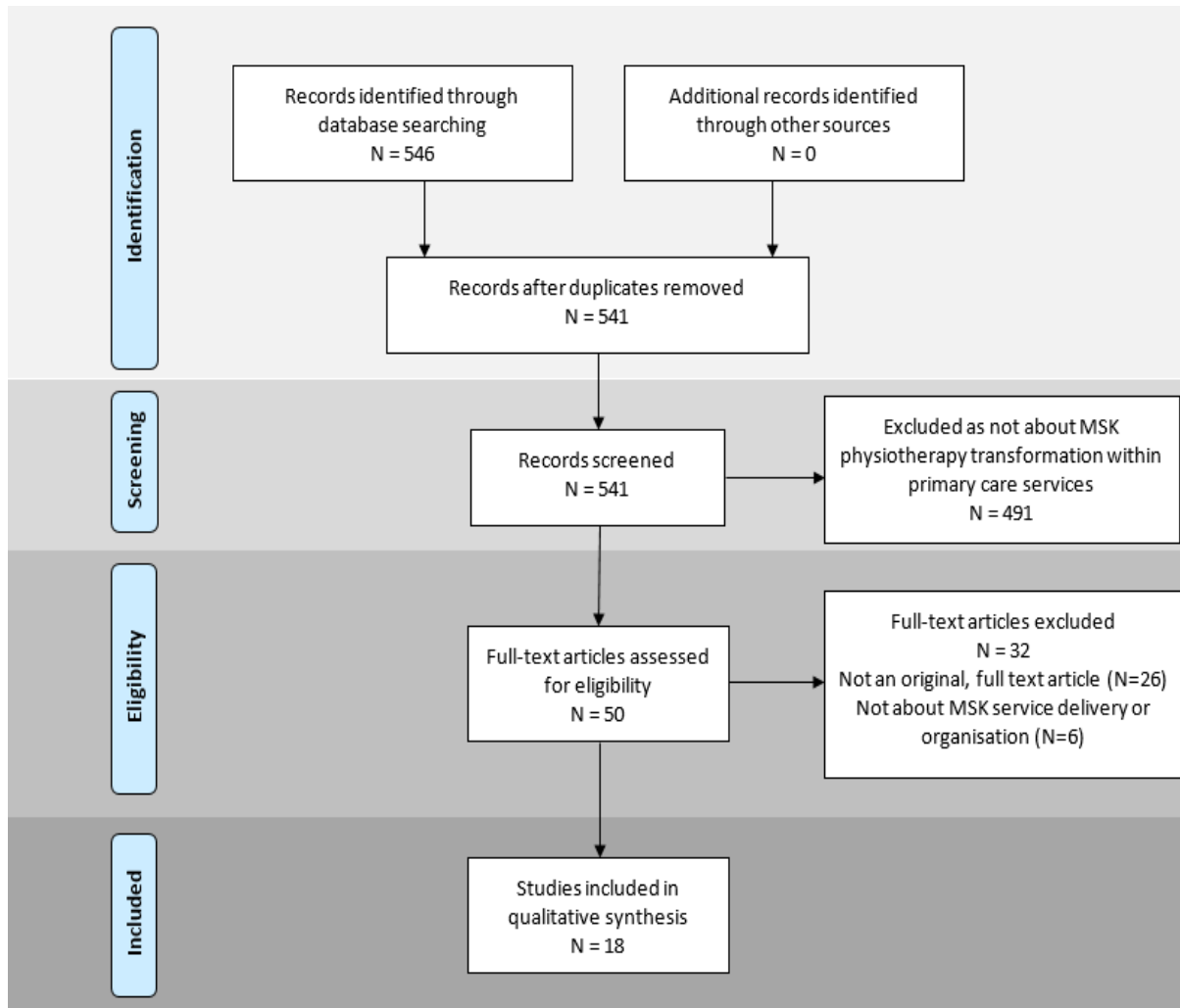
Level 3, full text screening was carried out based on three questions -

1. *Is the paper an original, full text article (e.g. research article, review, excluding conference proceedings, opinion pieces)?*
2. *Is the paper about MSK physiotherapy service delivery and organisation?*
3. *Is the paper in primary care settings?*

Any conflicts identified during screening were resolved by discussion. Any conflict remaining after discussion were resolved by a third party.

The search strategy resulted in identifying 546 papers; 491 papers were excluded via title screening and abstract screening. This left 50 papers for full text screening after which the 18 remaining papers were included in the final qualitative synthesis (Figure 2.1).

Figure 2.1 *Prisma flowchart of the literature search and screening strategies*



2.2.2 Data extraction

A preliminary data extraction of the included papers was conducted and focused on:

1. location the study was conducted in
2. description of new models of care
3. details of any interventions
4. barriers and facilitators to implementation
5. acceptability of new models of care to service users
6. clinical governance arrangements
7. mechanisms for monitoring outcomes
8. study limitations

2.2.3 Quality assessment

Following data extraction, a quality assessment of literature was carried out by two researchers. Each paper was assessed against set criteria and awarded either 2 points for a good paper, 1 point for a fair paper or 0 points for a poor paper; this was dependant on the inclusion of certain criteria.

2.3 Documentary Evidence

2.3.1 Data collection

Two members of the research team conducted the primary data collection.

Documents relating to MSK transformation and new models of care across Scotland were identified from relevant websites, such as Health and Social Care Partnerships (HSCPs), IJBs and from internet searches using Google. The key informants interviewed as part of the case study were a further source of documents. At the time of requesting their participation in an interview, key informants were asked if they were willing to share any documentation relevant to the new models of care in which they were involved.

2.3.2 Data analysis

In Phase 1, documents were read and screened for important content relating to background of MSK transformation, and secondly for purposes of understanding the Scottish setting and identifying key projects and contacts. In phase 2, documents provided by key informants were used to support findings from in-depth interviews and to provide any further details on implementation and evaluation of new models of care. Two documents were deemed to disclose key informants' identity so were coded using a unique numerical identifier.

Documentary evidence related to the evaluation was initially reviewed for background information on the possible new models of care in MSK physiotherapy being implemented across the 14 regional health boards. These documents acted as foregrounding material prior to interviews to aid understanding of new models of care. Key informants interviewed during Phase 2 the case study were asked to provide any relevant documents linked to the new models of care they were working in, particularly in relation to implementation and evaluation

2.4 Key Informant Interviews

2.4.1 Recruitment and informed consent

A snowball approach was used to identify potential key informants to provide information relating to new models of care across Scotland. Initially a number of potential key informants were identified through consultation with the national MSK Lead for Scotland and based on the interviews with these key informants, further potential key informants were identified and contacted on an on-going basis.

Phase 1: focussed on recruiting key informants working in a lead role within each health board, who would be able to provide an overview of all new models of care within their health board. A preliminary interview schedule was developed based on the SSPC Evaluation Framework and the

findings of the documentary analysis (Appendix B). These questions focused on the changes identified in delivery of MSK physiotherapy services in primary care and sought to understand the reasons behind changes, the processes of implementation and the sustainability and possible future expansion of new models of care. Where appropriate, further pertinent questions were asked which provided more in-depth information useful in providing a deeper understanding of the Phase 1 findings and suggesting further lines of questioning for Phase 2.

Phase 2: focussed on recruiting key informants from a wide range of job roles who were involved in service redesign or provision of such a service, including physiotherapists, GPs, practice managers and service managers. An interview schedule was developed based on the Phase 1 schedule and findings, and on other pertinent areas of interest, including participant's perception of equity in accessing the service, particularly in relation to more deprived patient groups (Appendix C). The questions focused on the changes identified in delivery of MSK physiotherapy services and innovative new models of care and sought to understand the reasons behind changes, the processes of implementation and the sustainability and possible future expansion of new models of care.

Initial contact with potential key informants was made by email and followed-up by either telephone or further email (dependent on the contact information available for each key informant). Those who agreed to proceed to interview were asked to complete and sign two consent forms (one for the key informants to keep and another to be kept by the researcher), which were counter-signed by the researcher. Key informants were initially sent a participant information leaflet with full details of the study (Appendix D) before being asked to complete the informed consent forms (Appendix E).

2.4.2 Data collection

Each interview lasted for approximately 60 minutes and took place in the participant's place of work, another venue convenient to them or by telephone, as most appropriate. All interviews were recorded using a digital voice recorder and later transcribed verbatim and redacted by the research team, taking every effort to ensure participant confidentiality.

2.4.3 Data analysis

The research team concentrated on identifying themes arising from the interviews in relation to the SSPC Evaluation Framework, namely the early impacts, key learnings, spread and likely sustainability, and potential impact on inequalities (Figure 2.2). Thus Phase 1 analysis focused on context, activities, impacts and outcomes of all new models of MSK primary care across Scotland. Phase 2 involved a more detailed evaluation of new models of MSK primary care in the selected 'deep dive' health boards. These provided information to help understand the barriers and facilitators to planning, development, implementation, embedding and, sustainability.

Figure 2.2 SSPC Evaluation Framework



Data analysis sought to explore and understand key areas of interest in relation to the various models of service change tested, underway or planned.

A summary of each interview was created. Each summary included, where possible, a description of the change(s) being undertaken, the context in which it was occurring and how it was funded. The duration of the new model of care was also identified along with any governance arrangements that had been put in place.

Documents received from key informants supplemented the interview data. Key information relating to individual new models of care were incorporated into the summaries.

Phase 1 data were also utilised to determine the 'status' or progress of each new model of care based on an implementation staging system. Within this system, new models of care were described as: 'implemented'; 'in the planning stages' or 'not yet fully implemented'; or 'not got off the ground or 'has been stopped'.)

This informed the selection of the 'deep dives' for more in depth exploration in the second phase of the case study. The selection of these was endorsed by the SG.

2.5 Ethical Approval

The study was approved by the University of Glasgow on 21 June 2017 (Appendix F). By August 2017, NHS R&D/clinical governance approval was granted by each individual health board to carry out interviews with staff.

3 PHASE 1 FINDINGS

The findings in this chapter are based on a **review of 73 documents and 18 interviews** with key informants.

A total of 23 policy documents were found through initial scoping searches online, These included Strategic and Delivery Plans, reports and presentations relating to MSK transformation nationally and individual MSK new models of care, and minutes of meetings. A further 50 new policy documents were received from key informants including presentations, reports and reviews, minutes of meetings, guidelines, and early results of data collections. These were provided by the following health boards: NSH24, NHS Forth Valley, NHS Lanarkshire, NHS Ayrshire & Arran, NHS Shetland, and NHS Greater Glasgow & Clyde (GG&C).

The key informants were involved in MSK transformation at both national and local levels. Six interviews were conducted during face-to-face meetings and 12 were conducted by telephone. For the purpose of assigning quotes each key informant was assigned the code 'MSK' with a unique numerical identifier e.g. MSK_01.

3.1 Context

The 14 regional Scottish health boards serve a total population of approximately 5.2 million people (Table 3.1). The biggest NHS board by population is NHS GG&C (GG&C) serving approximately 1.2 million people; around 23% of the Scottish population. Serving 21,500 people, NHS Orkney represents the smallest of the Scottish Health boards. These health boards vary in the characteristics of communities served with populations in NHS Orkney, NHS Shetland, NHS Highland, and NHS Dumfries and Galloway, for example, representing rural areas with more disparate communities. Health boards such as NHS GG&C and NHS Lothian are representative of more densely populated urban areas, while NHS Grampian and NHS Ayrshire & Arran have both urban and rural populations

Figure 3.1. Map of 14 regional Scottish health boards (NHS Scotland, 2017)



MSK conditions account for between 20 and 30% of all GP consultations (NHS Scotland 2014a; Cree 2014) and over 400,000 referrals (self or GP led referrals) are made to the four main secondary care MSK services every year in Scotland (Cree, 2014; QI Hub, 2017) as shown in Figure 4.2. Primary care referrals to physiotherapy alone stand at 270,988 per year (Holdsworth *et al*, 2007).

Across Scotland more rural communities, such as in NHS Borders and NHS Western Isles, tended to have an older age profile with 60% of the population over 65 years of age. Conversely, urban centres

such as NHS GG&C had a higher proportion of the population aged between 16 and 64 years. These changing age demographics are likely to increase expenditure on MSK physiotherapy by over 70% (Arthritis Research UK, 2017) since people in older age brackets tend to have more need for physiotherapy services, representing a challenge for MSK physiotherapy services in primary care now and in the future.

Table 3.1. Scottish NHS health board population and percentage of Scottish population

Scottish health board	Population	% of Scottish Population
NHS Ayrshire & Arran	367,000	7%
NHS Borders	110,200	2%
NHS Dumfries & Galloway	148,000	3%
NHS Fife	358,900	7%
NHS Forth Valley	300,000	6%
NHS Grampian	525,936	10%
NHS Greater Glasgow & Clyde	1,200,000	23%
NHS Highland	310,000	6%
NHS Lanarkshire	563,185	11%
NHS Lothian	800,000	15%
NHS Orkney	21,500	0.5%
NHS Shetland	23,000	0.5%
NHS Tayside	400,000	8%
NHS Western Isles	26,500	1%
Total	5,154,221	100%

Challenges for MSK Physiotherapy services are likely to increase since, according to the National Record of Scotland statistics release 2016, the population of Scotland has continued to grow - by approximately 0.6% within a one-year period - the highest yearly rate in growth to date. In this same period, there was a much higher population growth in older age groups (45+ years) than those in younger age groups (16-45 years) with a 31% increase in those over 75 compared to a 10% drop in those under 15 (NRS Scotland 2016).

A drop in GP recruitment and retention alongside an ageing population and a need to cut costs adds to the need for changes to MSK physiotherapy delivery in primary care to meet current and future demand. Calculations by the Chartered Society for Physiotherapy (CSP) suggested that an APP was significantly cheaper than a GP; £54.11 per hour versus £130.71 per hour (CSP 2017).

Differences in population, density and rurality in the 14 regional health boards have led to a number of different ways in which change to MSK physiotherapy delivery in primary care has been approached, implemented, sustained and expanded.

3.1.1 MSK Service Provision across Scotland

The Chartered Society of Physiotherapy (CSP) recently reported on the SG support for first contact physiotherapists within the general practice multidisciplinary team, arguing that changes to MSK physiotherapy delivery improves the service for patients, reduces NHS spending and helps to alleviate GP demand (CSP 2018). A NHS Scotland report highlights various aspects of workforce planning and service redesign that are required for an effective and efficient primary care service in Scotland, including the fundamental involvement of secondary care physiotherapy and the need for whole system approaches to the management of MSK conditions (NHS Scotland, 2018). However, there remains a lack of full understanding of how such service redesign is implemented across different primary care settings, including how barriers and facilitators for service redesign, at both national and local levels, impact on the success of new models of delivery of care across the MSK physiotherapy primary care service.

Figure 3.2. Different types of MSK services available in Primary Care in Scotland



A key facet of MSK service delivery in Scotland is the relationship between need for MSK services and deprivation. Those living in more deprived areas are more likely to have a longstanding illness than those in the least deprived areas (55% compared to 42%) (Scottish Government, 2013). Furthermore, those who have a longstanding illness in more deprived areas have a higher percentage of MSK-related illnesses than those in the least deprived areas (23% compared to 15%) (Scottish Government, 2013). For certain this relationship is particularly pertinent within NHS GGC and NHS Tayside, which have some of the highest levels of deprivation. The transformation of MSK services was influenced by the publication of the Scottish Government's Strategic Vision for Advanced Health Practitioners. This vision stated that AHPs:

...will work increasingly to transform wellbeing and recovery, promoting prevention, earlier diagnosis and reducing unnecessary referrals and admissions to hospital and care by working "upstream" and supporting early years development to strengthen user and carer capabilities and assets in the communities they serve.

Scottish Government 2012

A key part of this vision was the introduction of the National Allied Health Professional Musculoskeletal 4 Week Target (Cree, 2014). This target stated that by 1 April 2016, 90% of MSK patients should be seen within four weeks of referral, whether self-referral or by a healthcare professional (ISD 2017; Cree 2014). In the second quarter of 2017, 50.9% of patients were seen within the 4-week target; however, there was variation between NHS Boards. For example, 70.5% of patients in NHS Grampian were seen within 4-weeks in contrast to 29.7% of patients in NHS Lanarkshire (ISD, 2017). NHS Forth Valley (0.1%), NHS Shetland (0.3%) and NHS Orkney (0.3%) had the lowest percentage of patients waiting over 16 weeks to be seen. The boards with the highest

percentage of patients waiting over 16 weeks were NHS Ayrshire & Arran (30.4%), NHS GG&C (20.2%) and NHS Borders (18.2%) (ISD 2017). Specifically in relation to physiotherapy, there has been an increase in the number of patients seen within the 4-week target since July 2015; however, there has also been a concurrent increase in the number of patients waiting over 16 weeks (ISD, 2017). The new models of care explored within this evaluation are aimed at implementing new models of care which help to reach this 4-week target.

The AHP Musculoskeletal Service Redesign Programme Board was established in September 2010 with the aim of improving *“access, efficiency, quality and patient experience...through active dissemination of best practice knowledge and implementation of each intervention in all locations”* (NHS Scotland, 2014a). Along with the MSK Programme Board, a National MSK Lead was appointed to lead the transformation of MSK services; local MSK leads positions were also created (NHS Scotland, 2014a). These stakeholders amongst others developed NHS Scotland’s Transforming Outpatient Services Change Package – Getting Patients on the Right Pathway – which aimed to ensure that patients could access self-management resources and advice and assessment by an AHP if required, thereby ensuring patients *“started on the right pathway for their treatment first time”* (NHS Scotland, 2014b).

The Programme developed five *“evidence based, high impact change concepts”* or work strands including transforming Community AHP MSK (NHS Scotland 2014b); Fracture Pathway Redesign; Hip Fracture Care Pathway; Enhanced Recovery; and Demand and Capacity Planning Management (NHS Scotland 2014a). A number of drivers were identified as key to supporting the aims of the Community AHP MSK strand:

1. Patient Access Model – including self-referral to AHP MSK services, self-management advice platform and telephone triage (clinical and non-clinical).
2. Efficient AHP IT & Referral Management – centralised electronic administration and electronic tracking.
3. Sustainable AHP-led Clinical Pathways – effective pathways for all body parts. Implementation of the AHP MSK Standards, providing excellence in experience of care.
4. Efficient Exit Route Flow – chronic pain, rheumatology, leisure & mental health.
5. National MRI Protocol – appropriate referrals for low back and knee.
6. Accurate Data and Reporting – MSK dataset through ISD data warehouse. Improved data collection to support better outcomes.

NHS Scotland, 2014a; NHS Scotland 2014b

In 2012, three health boards – NHS Ayrshire & Arran, NHS Lanarkshire and NHS Lothian - were selected as *“MSK Early Implementer Boards”* in order to test new models of care (NHS Scotland, 2014a; Cree, 2014). The development of a telephone Musculoskeletal Advice and Triage Service (MATS) with NHS 24 also formed part of the work of the early implementation sites (Cree, 2014; NHS Scotland, 2014a). In addition to the MATS service, a number of other key new models of care were identified for testing at this time including IT and Referral Management (including the development

of national MSK dataset reporting), Clinical Pathways, and Exit Route Solutions (NHS Scotland, 2014a).

Based on the outcomes achieved in the early implementer sites, it was suggested that if the measures were implemented across Scotland that 13% of patients could be:

transferred from AHP to self-management options; 15% better capacity utilisation of AHP resource through referral management and IT improvements; sustainable AHP-led pathways – up to 25% fewer orthopaedic referrals (with potential for re-investment of surgeons time); up to 20% fewer low back MRIs by use of consistent protocol

NHS Scotland, 2014a

Additional new models of care were suggested for testing relating to creating and improving internet-focused MSK services and self-management resources including the use of telephone and video triaging, the creation of a GP decision support tool, and prioritising appointments based on the complexity of patients conditions (NHS Scotland, 2014a). Along with the four week target, this redesign was to have been implemented in all NHS Boards by 1 April 2016 (NHS Scotland, 2014a); the IT and dataset aspects of the package were, however, to be in place by December 2015.

Furthermore, an AHP Musculoskeletal Pathway Framework (National Minimum Standards) was published in 2014 with the aim to:

reduce variance within MSK service provision and facilitate the delivery of key quality policy directives, in particular the triple aim in the 2020 vision of quality care, value and sustainability and a healthy population.

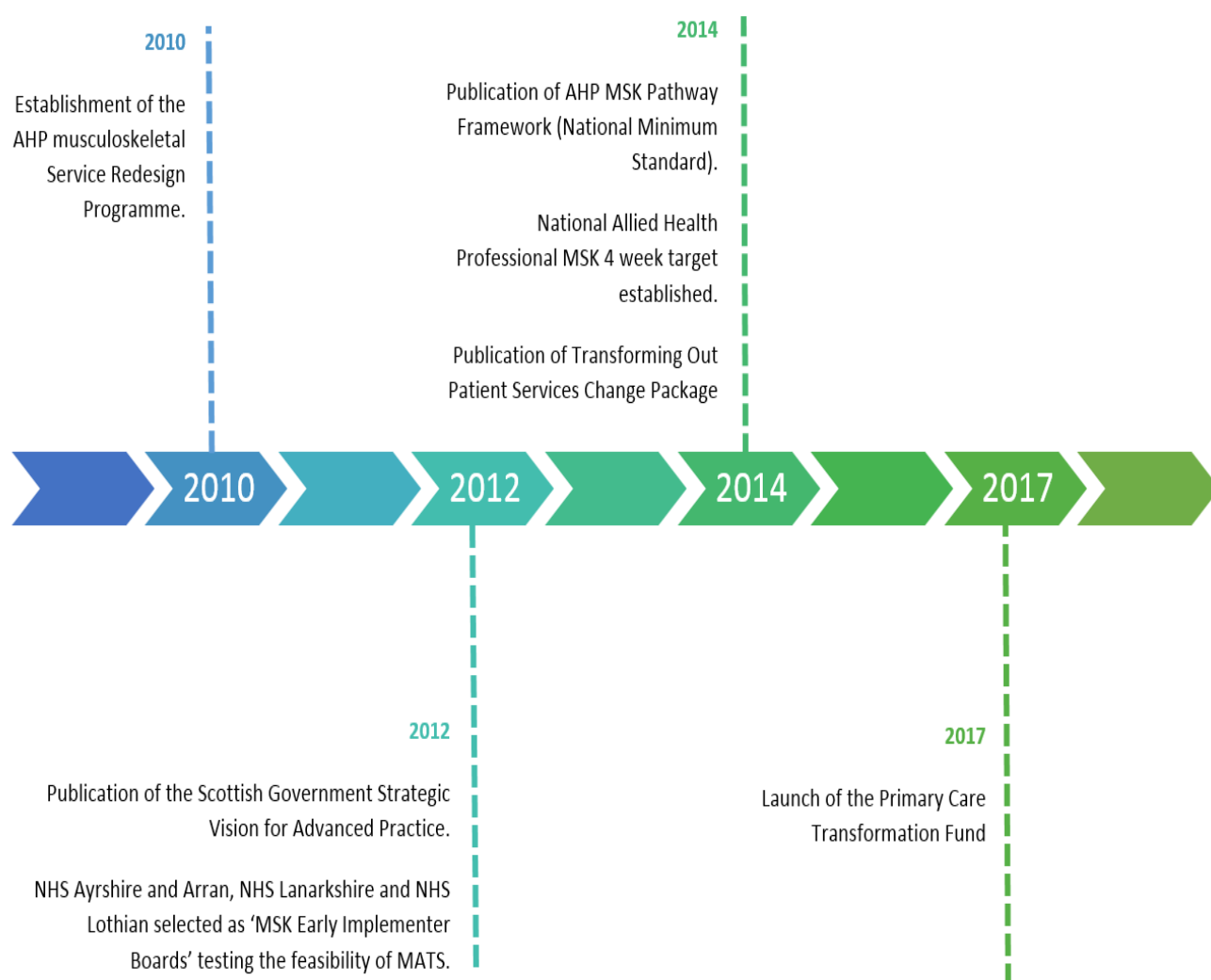
Thomson and Syme 2013

According to the SG (Scottish Government, 2016b) the core principles of The Modern Outpatient: A Collaborative Approach 2017-2020 are:

- Strengthening knowledge exchange and self-management in the community with the patient at the centre
- accessing decision support, care planning and care services in the community wherever safe and appropriate
- emphasising competency-based roles in secondary care
- focus consultant resource on more complex patients
- recognising the role of the GP as the 'expert clinical generalist'
- raising the profile and enhancing the role of the wider multidisciplinary team of community-based practitioners
- optimising e-Health and digital opportunities at the primary/secondary care interface as the norm
- reducing widespread variation in secondary care return appointments and review processes, wherever clinically appropriate.

These approaches to MSK service delivery, driven by the policy directives mentioned above, have influenced new models of care across the 14 regional Scottish health boards. These changes have been funded both by the PCTF and through alternative funding options and have resulted in the implementation of different new models of care dependent on population size, demographics and resources. Figure 3.3 summarises the MSK physiotherapy initiatives within Scotland that led up to the launch of the PCTF.

Figure 3.3. Timeline showing MSK physiotherapy initiatives leading to the launch of the Primary Care Transformation Fund



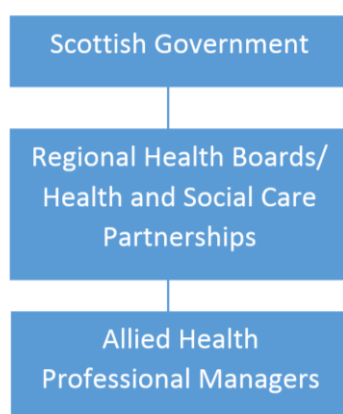
3.2 MSK Physiotherapy Transformation in Primary Care across Scotland

3.2.1 Infrastructure supporting the MSK new models of care

Upon application, a proportion of the PCTF was made available to each health board to use towards implementing new models of care in order to help support MSK services fulfil their target of 90% of MSK patients being seen within four weeks (Scottish Government, 2013). However, funding for MSK redesign in primary care was not solely limited to PCTF.

In consultation with a Scotland-wide MSK lead and in liaison with the Scottish Government, this funding was administered as shown in Figure 3.4. Each individual health board within Scotland had a designated MSK lead that was responsible for individual new models of care to be enacted within the board amongst other responsibilities. In some cases, there were no new models of care in MSK carried out within boards, either because MSK service redesign was not needed to achieve targets (e.g. as reported in NHS Dumfries & Galloway), or because PCTF funding was distributed to other PCTF projects and not used towards the transformation of MSK physiotherapy. This process resulted in a varied supporting infrastructure between health boards, including differences in funding support and reporting structures. For example, health boards may report MSK activity directly to HSCPs or to IJBs.

Figure 3.4. Governance structure of PCTF MSK funding



The funding used to support MSK physiotherapy new models of care in primary care is shown below in Table 3.2.

Table 3.2. Funding source for MSK new models of care for each regional Scottish NHS health board and NHS 24 MATS service

NHS health board	PCTF Funding	Other funding	Source of other MSK funding, if known	No additional MSK new models of care
Ayrshire & Arran	✓	✓	Not known	
Borders		✓	Physiotherapy services	
Dumfries & Galloway		✓	Board top-slicing, orthopaedic funding	
Fife		✓	Board top-slicing, individual practice funding	
Forth Valley		✓	Primary care (non PCTF), Board top-slicing	
GG&C	✓	✓	Quality Outcome Framework funding	
Grampian		✓	HSPC funding	
Highland		✓	Individual practice funding	

Lanarkshire	✓			
Lothian	✓	✓	health board pump-prime funding	
Orkney		✓	health board funding	
Shetland				✓
Tayside		✓	Not known	
Western Isles		✓	Not known	
NHS 24 MATS		✓	Individual board top-slicing	

Highlighted within Table 4.2 are other sources of funding used for MSK new models of care, including:

- direct funding from physiotherapy/orthopaedic services
- top-slicing of current health board budgets
- budgets of individual GP practices
- HSCPs
- Quality and Outcomes Framework (QOF) funds
- health board pump-prime funds

The new models of care discussed in this report were identified during the key informant interviews. It is possible that some health boards had additional models of which key informants were unaware because they had not been involved in the planning, development or implementation e.g. an individual GP practice directly employing an APP.

3.2.2 Implementation of the MSK new models of care

MSK new models of care were implemented at different rates across the health boards, mainly due to:

- rates of processing of PCTF MSK funding applications
- differences in prioritisation
- staff implementation issues (such as. staff banding issues, rurality)
- funding outwith PCTF
- difference in the type of model of care implemented by Boards (e.g. health board designed chronic back pain pathways)

3.2.3 New models of care

Across the 14 regional Scottish NHS health boards a total of 36 new models of MSK primary care were identified (Table 4.3). These were assessed using an implementation staging systems: those which are well established and implemented; those still in the planning stages or not yet fully implemented; and those which had not got off the ground or had been stopped. At the end of the scoping exercise (date):

- **25 were classified implemented**
(1 in Ayrshire & Arran, 2 in Borders, 1 in Dumfries & Galloway, 3 in Forth Valley, 3 in Fife, 2 in GG&C, 2 in Grampian, 3 in Highland, 1 in Lanarkshire, 3 in Lothian, 1 in Orkney, 2 in Tayside, and 1 in NHS 24)
- **10 were classified partially implemented**

(1 in Borders, 2 in Dumfries & Galloway, 2 in GG&C, 1 in Grampian, 1 in Highland, 1 in Lanarkshire, 1 in Lothian, and 1 in Western Isles))

- **1 was classified 'not started'**
(in NHS Orkney was still in the discussion stage of implementing NHS24 MATS)

Table 3.3. New models of care in Scottish health boards as reported by key informants

Project Number	New Model of Care	New Model of Care Component	Implementation Status
NHS Ayrshire & Arran			
1.	APP in GP Practice	3 WTE GP APPs covering 9 practices (1 cluster)	implemented
NHS Borders			
2.	APP in GP practice	1 WTE GP APP for Spinal MSK	implemented
3.	Community APP	2 APPs in community care	In early stages of development
4.	NHS 24	MATS	implemented
NHS Dumfries & Galloway			
5.	NHS 24	MATS	implemented
6.	Chronic Pain Pathway	Questionnaire and Physio-led workshop prior to MSK referral	In early stages of development
7.	AHP Triage	Triaging orthopaedic patients through MSK Physio	In early stages of development
NHS Forth Valley			
8.	Extended Scope Practitioner	2 GP practices involved	implemented
9.	MSK hub	for better triage and general services	implemented
10.	NHS 24	MATS	implemented
NHS Fife			
11.	APP in GP practice	APP in 1 practice (2 more planned funding dependent)	implemented
12.	Online advice tool	MSK information for GPs and physiotherapists	implemented
13.	NHS 24	MATS	implemented

Key

APP – advanced physiotherapy practitioner; MATS – Musculoskeletal Advice Triage Service; GP – general practitioner; WTE – whole time equivalent; MSK – musculoskeletal; NHS – national health service; FPOC – first point of contact

NHS Greater Glasgow & Clyde			
14.	APP in GP practice	1 APP working in first cluster	implemented
15.	APP in GP Practice	3 APPs in 3 practices within second cluster	In early stages of development
16.	SHIP project	Development of an APP role (1 APP covering 4 GP practices) as part of an established multi-disciplinary team	In early stages of development
17.	Physiotherapist in GP practice	1 physiotherapist blocking off two appointments per week for non-urgent MSK problems	implemented
NHS Grampian			
18.	APP in GP practice	APP in 1 practice	implemented
19.	Telephone Appointments	First point of contact (FPOC) triage by phone call	implemented
20.	Telephone appointments	Roll out of service to other practices	In early stages of development
NHS Highland			
21.	APP in GP practice	APP in 1 practice	implemented
22.	APP in GP practice	Roll out of FPOC APP in other practices	In early stages of development
23.	Telephone consultations	Self-referral to FPOC MSK physiotherapist for telephone assessment	implemented
24.	NHS 24	MATS service	implemented
NHS Lanarkshire			
25.	APP in GP practice	1 APP working in 3 practices	implemented
26.	APP in GP practice	12 additional interested practices	In early stages of development
N7S Lothian			
27.	APPs in GP practice	5 GP APPs (4 in one HSCP and 1 in another)	implemented
28.	NHS 24	MATS service	implemented
29.	Lower Back Pathways APP	Primary Care MSK Pathway APP	implemented
30.	Other Pathways APP	Other Pathways APPs including shoulder & elbow, and foot and ankle services	In earlier stages of development (at time of data collection)

NHS Orkney			
31.	APP in GP practice	1 APP covering 2 practices)	implemented
32.	NHS24	MATS	Not started-in discussion with NHS MATS about the feasibility of running MATS as a new model of care
NHS Shetland			
	No primary care projects reported		
NHS Tayside			
33.	MSK Solutions Tool	Web-based tools for GPs and AHPs	implemented
34.	APP in GP practice	APP for advice and Triage in a single practice	implemented
NHS Western Isles			
35.	APP in GP practice	1 APP available for 2 sessions per week in a single practice	In early stages of development
NHS 24			
36.	MATS Service	Direct referral to MSK physio Single point of access for triage	implemented

Thus, there were a number of different types of new models of MSK primary care across the 14 Scottish health boards. However, two particular new models of care have been implemented across most areas:

- APPs (including extended scope practitioners) in GP practice (implemented in 12 health boards)
- NHS24 MATS (implemented in 10 health boards).

3.3 Advanced Physiotherapy Practitioner

NHS Highland was the first health board to implement an APP in GP practice in 2008 (Table 3.4). The APP was implemented as a result of the GP looking to develop new models of care as opposed to a response to health board needs or national directives.

Table 3.4. Year APP was first enacted in a GP practice in each NHS health board

NHS health board	Year of first APP in practice
Highland	2008
Ayrshire & Arran	2016
Forth Valley	2016
GG&C	2016
Tayside	2016
Grampian	2017
Lanarkshire	2017
Lothian	2017
Fife	Not Recorded
Orkney	Not Recorded
Western Isles	Not Recorded
Dumfries & Galloway	No APP service reported
Shetland	No APP service reported

3.3.1 Development of the APP role

The role of the APP is to act as a FPOC practitioner, allowing patients with an MSK related issue to get direct access to physiotherapy services quickly without having to see their GP first (Allan *et al*, 2017). According to CSP, self-referral to physiotherapy is 25% cheaper to the NHS than a GP referral (Holdsworth *et al*. 2007) and, as such, is not only considered by the CSP to be cost effective, but ensures that the patient is seeing the correct practitioner at the correct time.

The APP role was viewed by key informants as part of an “*evolving model of care*” that had been primarily developed as a response to a “*lack of GP resource*” (MSK_01) and wider need for a change in the delivery of care in the community to ensure “*equitable access*” to MSK physiotherapy services for all patients (MSK_05). One key informant emphasised that the choice to develop and design the APP role was linked to the specific need of a struggling set of GP practices, which MSK physiotherapy redesign could specifically target and improve (MSK_01). Whilst some boards created a bespoke model, many replicated existing systems in other health boards:

some of the models are mimicking other boards' models that are out there. Some of them are actually developing very much their own model. So a mixture.

MSK_07

Some APPs were able to schedule follow-up or review appointments with existing patients:

They can be directly booked in for a face to face appointment with a physio or very occasionally they are going to run a few...ten minute review slots

MSK_10

The recent design and development of the APP role built on work already underway in some health boards. For example, a FPOC role had been utilised in Dundee Community Hospital, providing a primary care advice and triage service but, with PCTF funding, this had been transformed into a dedicated model suitable for GP practices. Some key informants highlighted that direct referrals to physiotherapy had been used in some practices since 2008, but that the role did not include access to diagnostics or advanced practice offered by the APP role.

The development of the role had also been achieved through shared practice between health boards. This allowed roles to be developed more quickly and adapted to suit the local context. For example, NHS Lothian had utilised the same model used by NHS Highland; adapting it to suit a cluster model with one physiotherapist working across three GP practices. This was better suited to patient need and spread and the previous success of the model within the other board encouraged GP buy-in. The sharing of success also encouraged other health boards to look at the development of APPs in GP practices:

[I'd] also heard of all, you know sort of other people in NHS Scotland actually looking at first contact practitioners and I, when you look at [named individual] who works for this one particular practice in Inverness their referrals to orthopaedics are from that GP practice are far lower than, than any of the other practices.

MSK_05

3.3.2 Implementation and progress of APP role

Key informants were not always aware of all APPs practicing within their health board, usually due to different funding and governance structures. The APP implementation model varied across and within health boards. GP practices within NHS GG&C and NHS Ayrshire & Arran, for example, reported that they were working within a cluster model, whereby GP surgeries in a close geographical location work together with the aim of quality improvement. Within NHS GG&C this included one APP covering a small cluster of practices and three APPs working across three different GP practices. NHS Lanarkshire had one APP working across three practices and NHS Orkney had one APP working in two practices, although neither described this as working within a cluster model. In NHS Highland an APP was employed directly by an individual GP practice.

In NHS Fife, patients were triaged upon calling their GP reception, which involved trained reception staff moving through a clinically approved triage questionnaire before advising on which

practitioner was best suited to meet the needs of the patient. Within the test practices in NHS Lanarkshire and NHS Grampian, patients were able to self-refer to their APP when calling the surgery if they felt the need to see a physiotherapist rather than the GP. One practice within NHS GG&C utilised a physiotherapist within practice who blocked off two non-emergency physiotherapist appointments per week, allowing the GP to refer patients, ensuring that they were seen more quickly.

Availability of APPs also varied across health boards. NHS Western Isles had one APP in GP practice for two half-day sessions per week. Funding in NHS Lanarkshire allowed for one WTE APP across three practices, this equated to one APP in one practice for one day and another two APPs covering two practices for two days. There were also divergences between HSCPs. For example, of the three HSCPs within NHS Lothian there were four APPs working across different GP practices in one HSCP, while in another HSCP there was one APP covering one practice; number and structure of APPs within the third HSPC were unreported:

It was reported that APP roles had remained relatively consistent due to the short time scale that the APPs had been in place: There's not enough time, yet too short a period.

MSK_11

We are only six months seven months now into the test so it's still early days and we had said that we would try and embed the roles, do the first report out at six months and then consider where we are so the roles, our ambition in what we are delivering has stayed fairly consistent

MSK_03

However, this key informant stated further that the evolution of APP roles was different across practices due to differing levels of confidence in the new system, and that the main evolution of the role was an increase in working independently:

There has been evolution of the roles it has been variable in different practice what the starting point was and that, I think that is reflective of different levels of comfort in terms of confidence and the autonomy of the practitioner I think you know the roles have evolved in terms of the clinical independence , confidence from both sides really

MSK_03

It was believed that evolution of APPs roles was limited due to a lack of resources (MSK_04).

It was highlighted that changes had not only occurred in APP roles, but also in the roles of supporting staff. Previously, APPs were responsible for booking patient review and follow up appointments, but over time administrators took an active role in this:

For a while the physiotherapist tended to mark their.... own review appointments.... it's kind of moving all back....to the admin person so, they're much more in control of the whole appointment system, rather than just new appointments.

MSK_13

Furthermore, some APPs were able to use advanced training they had undertaken on “red flag” conditions – symptoms which indicate a serious underlying pathology – to help them diagnose patients more fully:

They're using their generic skills, to pick up some quite significant and serious pathologies it's not unusual for a UTI to present as lower back pain

MSK_16

3.3.3 Achieving Impact with APPs

Often, the short-term impact of APPs was perceived to be of benefit to GP workload, a benefit to patients themselves, and reduced referrals to secondary care services.

We will certainly be able to improve what the kind of patient journey is [and] the hope would be that we would have some impact on the GPs

MSK_01

Until now our MSK services have been about patient sees the GP, they decide that their problems are an MSK problem and they should see a physiotherapist so they wait in a queue to see a physiotherapist with no pro-active intervention in that wait, so this is a real opportunity to improve on the care of these patients and the ambition would be to prevent patients developing more chronic conditions so potentially almost flip the pattern of increase and demand year on year

MSK_03

One key informant commented that GP time would be freed up, referrals to secondary care – particularly to secondary care based imaging services – would be reduced, prescribing costs would decrease, and that patients would get to the most appropriate service without any obstacles (MSK_04). The short-term impact of reduced referrals to secondary care was also highlighted by others:

The impact for secondary care is that they are obviously getting less referrals which is good

MSK_09

Another key informant stated that referrals to orthotics specifically were likely to reduce in the short term, and further highlighted that APPs would impact in the short term on prescribing:

Often what patients do is they come in to see them, the GP will say ok well I'll just prescribe this for you while you wait to get your physiotherapy appointment so there's probably quite a big impact on reduction in prescribing.

MSK_05

One key informant described that there was an observable impact on patients who only required a single appointment. As a result there was more time for patients who had more complex physiotherapy problems or if referred on and there was a shorter waiting list to access full MSK physiotherapy services:

Patients will get seen quicker, well they get access to a physiotherapist quicker because they are not actually being seen and...there is quite a high percentage of patients because they are speaking to a physio sooner they are actually only requiring that one appointment and therefore we then have more time...for the more complicated patient

MSK_10.

Another agreed that there would be a freeing of GP time and a benefit to patient's treatment:

The main outcome is freeing up GP time, every patient that is seen by the physiotherapist would normally have had the GP appointment...outcome of hopefully improving the MSK management for individual patients either by supporting the patient to self manage or being able to get them to the right place...quicker

MSK_18

Similar to the short term, medium and long-term impacts were anticipated to be positive for both GPs and patients. These included an increase in quality of the care patients received, and an increase in the capacity of the system for meeting those needs (MSK_03), shared pathways that would remain consistent between health boards, including standardisation of triage services (MSK_04). It was envisaged that in the future patients' access to physiotherapy services would be equivalent to the access to a generic GP appointment (MSK_05).

Some concerns were raised about the medium and long-term impact of APPs on physiotherapy services in relation to the backfill of posts:

We then had to backfill them and then backfill their backfill so it does have an impact on the service because when people are given a fixed term post they obviously then look to attain obviously permanent posts. So it's on the work force it has a negative impact

MSK_09

Similar long-term impact on secondary care physiotherapy staffing levels were highlighted:

You can't instantly manufacture more physiotherapists, and if you are taking some [for] GP APP work and you're taking some for musculoskeletal pathways work, you're decimating the physiotherapy population

MSK_11

The problems with staff recruitment and retention were further corroborated by one key informant who noted that there was a "national shortage" of qualified physiotherapy staff.

In the medium and long term, it was often stated that any further impact would be achieved by appropriate funding of the service. This was believed to be a national issue, and that current APP funding sources were often temporary, and service-level agreement with GP practices were key to long term impact:

Whether they fund 50%...for the next nine months and then 75% for the next nine months and then at the x point in time [GP practices] will need to fully fund it...looking at service level agreement models is key

MSK_01

The need for an appropriate strategy was highlighted:

Outcomes and impacts over the long term would very much be dependent on the strategy that's taken. I don't think I can say anything more than that, at the moment.

MSK_11

3.3.4 Evaluation of APP impact

There was variation in measuring key indicators between and within health boards (Table 3.5). Some key informants reported that their health boards had established mechanisms for collecting a range of key indicators. Others reported that they relied on the individual APPs or GP practices to collect these data. It was reported that in one NHS health board there was no overall data collection from GP practices due to there being no national requirement for it.

Table 3.5. Key indicators measured by each NHS health board

NHS health board	FPOC rates	Self-management rates	Prescribing	Injection	Investigations	Referral	Patient Satisfaction	Other
Highland			✓			✓	✓	✓ (GP appointment numbers before and after new model of care)
Ayrshire & Arran	✓	✓	✓	✓	✓			✓
Borders						✓		
Forth Valley						✓		
GG&C	✓		✓					
Tayside			✓	✓				✓
Grampian							✓	
Lanarkshire	✓			✓		✓	✓	✓ (Physio/GP/reception staff feedback)
Lothian								
Fife	✓	✓	✓	✓			✓	✓ (return to service numbers)
Orkney								
Western Isles								
Dumfries & Galloway						✓	✓	✓ (waiting times)
Shetland								✓ (waiting times)

3.3.5 Sustainability of APP role

Sustainability and future spread of APPs was framed by key informants as being predominantly driven by two key factors. First, it was highlighted by many key informants that a continuing source of funding was required for APPs to be sustained:

What happens next [is] really down to funding, who funds it and who is willing to cough up the beans

MSK_01

The reality being that that will need additional funding

MSK_02

Some key informants highlighted that they were concerned about financial and staff implications on other existing physiotherapy services:

You are taking your most experienced clinical workforce out of your core service into GP so [...] how do you then backfill?

(MSK_01

Where's the money going to come from should it be made permanent? I'm concerned that would come out of physiotherapy

MSK_07

The limitations on that are mainly around the funding from the HSCPs and from primary care There isn't money within MSK physio to do this

MSK_18

It was highlighted that an APP post in one health board would be sustained due to permanent funding being found:

The post is sustainable in that it's permanent funding within the department MSK_12

Second, physiotherapy training, recruitment and retention was perceived as being crucial to many health boards' plans to sustain and expand MSK services. It was believed that creating a successful APP system would lead to more GP practices requesting them:

[In] terms of a work force sustainability because if it's successful and every GP practice within [named health board] wants to have a bit of an APP

MSK_01

Other key informants expanded on this further by querying the ability of the service to sustainably train and support physiotherapists in APP roles:

There are only so many advanced practitioners in Scotland, you know there are only so many people within that skill set that would be able to deliver on these roles.

MSK_03

We haven't got the staff to be able to do that without some sort of influx I think we've only got what 3 or 4 advanced practitioners in [named health board] I don't know where we are going to find the staff locally or nationally to underpin that model really.

MSK_04

We're putting all these physios we can't sustain the MSK service that's left. Because we've not got physios to do that service

MSK_08

Retirement of existing physiotherapists was noted as a potential further strain on sustainability of an APP service:

....sustainability and alsosuccession planning, because we have a few people on the team that will be, in sort of 5 to 10 years' time will be looking at retirement

MSK_13

It was stated by some key informants that university training to produce APPs is required to offer a long-term sustainable service, similar to that of the Advanced Nurse Practitioner (ANP) Academy:

To expand this model you know the universities need to be involved

MSK_09

We also need to think about the universities as well, if this is going to be a direction of travel and.... if it is going to be scaled up then we need to look right back to universities and recruitment in the universities in order to be able to do the right succession planning and the long term planning of the roll out of this

MSK_18

Finally, the rurality of health boards was stated by some as a barrier to hiring and retaining APPs:

3.4 NHS MATS

3.4.1 Development of MATS

NHS MATS is a telephone advice and triage service operated by NHS 24, which became operational in 2010. It builds on self-referral research conducted by The Scottish Physiotherapy Self-Referral Study Group (Webster *et al*, 2008; Holdsworth *et al*, 2006a; Holdsworth *et al*, 2006b), which sought to better understand patient self-referral trends and patient understanding of MSK Physiotherapy services. This work was brought together with self-referral services already in operation within NHS Lanarkshire and was redeveloped to become a nationally endorsed programme that could be accessed by patients in a similar way to NHS 24.

The service initially covered one pilot health board and some other health boards joined as the service progressed. Consequently, some key informants from the early adopter health boards did

not acknowledge MATS as a new model of care when interviewed, whilst others from health boards that had adopted it more recently.

The service was available in eight out of eleven mainland health boards (Table 3.6). NHS Fife was in the process of joining the service while NHS GG&C had no plans to join this service. NHS Western Isles, NHS Orkney and NHS Shetland had opted not to join given the differing need for services in these rural locations.

Table 3.6 Year MATS was first enacted in a GP practice in each NHS health board

NHS health board	Year of MATS implementation
Lanarkshire	2010
Highland	
Ayrshire & Arran	
Borders	2015
Forth Valley	
GG&C	no plans to implement
Tayside	
Grampian	
Lothian	
Fife	in process of implementing
Orkney	decided not to implement
Western Isles	
Dumfries & Galloway	
Shetland	decided not to implement

MATS was designed to act as a FPOC for patients who believe that they are suffering from an MSK related issue. In MATS, patient calls to a Freephone number are handled by fully trained call operators who move through a triage questionnaire developed and endorsed by healthcare professionals, including nurses and physiotherapists, to provide key information and advice to patients (MSK_17). The questionnaire is underpinned by the STarT Back Screening Tool developed by researchers at Keele University (Hill *et al*, 2008) and so patients are automatically stratified by low, medium and high risk indicators which helps to escalate high level cases. Patients are then provided a treatment option:

- to self-manage by visiting the NHS Inform website
- to visit their GP
- referred to physiotherapists or podiatrists where needed.

Between January 2012 and July 2013, 41,764 patients contacted MATS and completed a protocol based triage tool over the telephone, 79.7% of which were treated with self-management (MSK_17).

3.4.2 Implementation and progress of MATS service

The key components of the MATS service are:

1. Telephone Advice and Triage:
A 7 minute triage tool containing high level safety questions
2. NHS Inform:
the NHS Inform website for self-help

These components were carefully designed and adapted to suit the needs and safety of patients and though the components of the service were thought to remain the same, it was reported that continue to be evaluated to ensure best practice (MSK_06). Similarly, it was believed that professional and clinical roles rare likely to remain similar within the MATS even as it continues to grow as new boards are brought in to the service (MSK_06).

The initial stages of design required discussion and negotiation around what exactly the role would involve and who would need to be brought on board to support and facilitate the subsequent roll-out, meeting some resistance from CSP:

The Chartered Society of Physiotherapy...had great misgivings about it [the introduction of the MAT Service] because they thought they were taking roles away from physio clinicians

MSK_06

These views were further echoed by key informant who noted that in the early stages of development there was positive support within NHS policy and strategy, but the new service faced most opposition from physiotherapists themselves with regards to the safety of telephone triage. There was also some initial hesitation from NHS Lanarkshire - the original board to trial MATS. The introduction of MATS replaced a self-referral service that was already up and running within this board and due to having less control of this service, faced opposition in the early stages of design (MSK_06).

One key informant discussed how MATS was designed to take away workload from physiotherapists:

If we provide a service to 100 of your patients we will only send 65 back to you. you take 35% referrals out of the system, manage them very effectively and satisfactorily without you having to do any work.

MSK_17

Initial apprehensions of the CSP, physiotherapists and GPs were centred on concerns over the safety of using band 2 staff to manage calls, with uncertainty over the ability of band 2 staff to correctly triage patients without themselves having the clinical experience of band 5/6 physiotherapy staff. Echoing these concerns, NHS 24 were reportedly “hesitant having non-nurses in the service” (MSK_06). These concerns were addressed and alleviated at the development stage through continuous discussion within the steering group, an economic evaluation and the outcomes of the pilot undertaken in NHS Lanarkshire (MSK_17).

Concerns with regards to patient safety were addressed by the establishment of a steering group comprised of SG officials, clinicians, academics and patients. The patient members were recruited from existing NHS 24 steering groups and the professional and clinical members represented different Scottish NHS health boards, professions, skills-sets and pay grades and, as such, was considered to represent the widest possible cross-section of lay-people and professionals. The programme was then developed amid conversations and discussions that arose as part of these group meetings:

We had patients in one side, clinicians on the other and the patients were saying 'we want exercises on the website that you are developing' and the clinicians were going 'no you are not getting exercises', 'why not'? 'Well I couldn't give you an exercise until we have diagnosed you' and the patients were saying 'we'll just google it then' and now there are exercises on the website, the physios want more exercise on the website

MSK_06

This example of exchange between clinical staff and patients highlighted the importance of open conversation to the design and development of the MATS service, which was considered by NHS MATS to be both safe for use and fit for purpose. MATS was described as a “fluid service” and this was reflected in the adaptations to call delivery as the service had been rolled out (MSK_06). In response patient feedback, the triage questionnaire had been shortened and staff had been encouraged to be less scripted during the initial stages of the call (MSK_06). These changes had been agreed with physiotherapists within the steering group. These changes had resulted in a service that was generally considered to be faster, more coherent and safer for patients (MSK_06).

Crucial to the design, development and eventual roll-out of MATS was understanding the local contexts into which the service was introduced. In particular, rurality had impacted on how MATS had been approached and understood by the public. It was suggested that the introduction of MATS had a profound cultural impact on the ways by which patients' in rural areas accessed physiotherapy services, which may not be so keenly felt in more urbanised areas:

I think one of the biggest issues was [in] the rural boards, patients didn't like it because before they would arrange a physio appointment in the queue at the post office, like kind of remote Highland villagers there's Steve from physio "I've got a sore shoulder", come in tomorrow and then they were having to phone the big city and speak to somebody every health service could meet in the pub or the post office but it's for everybody so we still have a disproportionate number of complaints coming from very rural areas where their wonderfully bespoke service has been removed from them.

MSK_06

Through the use of MATS, it was envisaged that MSK related problems would be treated more quickly and more effectively, freeing up the time of GPs and MSK services in primary and within secondary care physiotherapy services. Changes were very quickly noted during initial trials in NHS Lanarkshire:

Physio clinicians in the board in Lanarkshire quite quickly picked up that they were getting what they felt were more complex patients because we [MATS] were skimming the ones who didn't need to be medicalised so they were saying that their case load started to change from somebody who gets better very quickly but that's, you could argue they shouldn't be seeing these patients.

MSK_06

How MATS was used by patients, physiotherapists, GPs and health boards directly affected the impact that the service made on GP workload, physiotherapy waiting times and patient experience.

There were problems with advertising of the service:

Because we don't have every board on it that's certainly an issue with message and lack of consistency.

MSK_06

It was envisaged that a national campaign would allow the public to gain a clearer understanding of the service and could result in greater use of MATS and therefore a greater reduction in unnecessary GP and self-referral physiotherapy appointments with minor MSK ailments (MSK_06).

With only nine of ten mainland health boards participating, MATS they was unable to run a nationwide campaign, impacting on their ability to properly reflect the priorities of the service. This had knock on effects for how the service was viewed and understood and used by the public:

Nearly every call that comes to MATS still starts with 'my doctor told me to call this number to make a physiotherapy appointment', so nearly every call we have starts on that back foot.

MSK_06

Without a national campaign, MATS received many calls requesting confirmation of MSK physiotherapy appointments or requests for faster referrals. With calls answered, on average, within 90 seconds, patients were using the MAT Service as a faster point of contact for services in secondary care (MSK_06). For each new call a log was created despite MATS not being a suitable pathway for the patient and this use of the service misappropriated valuable time and resources.

3.4.3 Achieving Impact with MATS

A number of early outcomes showed that MATS was providing a cost effective alternative to visiting the GP. The call handling time had reduced from 14 minutes to roughly 7 minutes, which had been managed by the increased input and support of clinicians to refine and shorten the triage questionnaire in line with comments from patient feedback (MSK_06). With reduced call time the service also reported that the costs per call had dropped from £12 to £7, showing that efficiency in MATS could have positive cost implications. On average MATS triaged approximately 270,000 patients per year, 15% of which were triaged to self-care, resulting in approximately 12,167 fewer referrals to MSK secondary care waiting lists (Ferguson, 2016). In order to support callers to access MATS, the phone number had been changed to a Freephone service, allowing easier access for

patients. Moreover, although the triage tool itself had not changed, clinical supervision was now recorded, allowing evaluation and monitoring of calls to increase patient safety. Further exploration of the content of this evaluation is reported in the next chapter.

The cost-efficiency of self-referral through MATS was questioned:

If somebody at the frontend [GP] reception is saying to them [patients] oh, is there any chance that your problem is back pain or something like that then redirecting them accordingly. You know, and you say well, sure, what difference is that to identifying and telling them to go and telephone NHS 24 to get some initial advice and then be ultimately redirected to physiotherapy. And you say to yourself okay, well how much money's gone into that? And then you say well give [me] my money I can probably put in two band fives or a band six and half a band five.

MSK_07

3.4.4 Sustainability of the MATS service

In order to sustain MATS as a viable service MSK_06 believed that continued funding was key. The service was funded by top-slicing from each of the health boards involved and this continued financial support would remain crucial if MATS was to provide a safe FPOC alternative to a GP. Furthermore, it was argued that the service remained sustainable due to the open and interactive way that it had been developed at a national level:

From day one it was a nationally developed and endorsed tool and website so that if somebody disagreed with it then...it's not just been two people in a room going "I like the exercise, I like the information"...that's been the key...that [its] been nationally developed and endorsed.

MSK_06

Thus, MATS leads believed that the service could ensure that it continued to meet the needs of patients and clinicians.

The spread of the MATS service was entirely dependent on uptake from the individual health boards and although MSK_06 believed that the service could only be improved further by having all health boards involved, there was no formal obligation to join:

We cannot make boards join us. We can't force them, the other boards that are out there in my personal opinion have not got a better service. One of the boards you have to print off a form, fill it in yourself and then deliver it or post it to your local physio department

MSK_06

See Appendix G for an example of a self-referral form.

At time of interview (September, 2017), the health board of one key informant did not use MATS as it did not fit well with local, more rural, practices, however, a continued increase in waiting times,

and the resulting pressure on services, meant that it was being considered as a more viable model of MSK physiotherapy care:

We haven't implemented MATS here. And been very slow to take that on board, basically, because there's such a small community. We think we can manage a lot of our stuff locally, but we are starting to see a creep in our waiting times. And, to fund the MATS we'll be looking at resources within the team. So, if we've got any underspend, rather than looking to employ 'a' another employee or physiotherapist or assistant role, we might use some of that funding to pay for MATS

MSK_12

This future spread and sustainability was noted to be dependent upon a cultural shift within the patient population. One key informant reported scepticism about MATS by patients who still preferred to speak to their GP in the first instance (MSK_05). Again, the rurality of certain practices within health boards created close community bonds between patients and clinicians, which patients were reportedly uneasy about changing:

The problem that we have in that in some areas in, particularly in Badenoch and Strathspey people don't like MATS service.

MSK_05

The rate of patient cultural change was further highlighted by key informants who reported that GPs and physiotherapists were still signposting patients to MATS rather than it being used as a FPOC by patients (MSK_03, MSK_04, MSK_05 and MSK_16). One noted that patients were more enthusiastic about using MATS when there was also local practice access to a physiotherapist if they should feel that they had not improved (MSK_16). This opinion was echoed by another who viewed MATS as a long term solution (MSK_09). Boards attempted to utilise MATS and general practice based APPs alongside one another to create a smoother FPOC service for patients:

We were in a situation where patients still went to their GP at first point of contact and that would take a number of years to change that. So in the interim we needed support our local GP practices.

MSK_09

Moreover, this spread would end a so-called “postcode lottery” (MATS_06) wherein patients who straddled health board boundaries were able to access MATS only if they resided within a participating health board despite their surgery falling within a non-participating health board, creating an uneven landscape of access. It was believed that participation from all health boards would allow for better flow within the MATS referral system, meaning that patients could be referred for an appointment based on where they worked as opposed to where they live (MSK_06). This would, in turn, would create a more open and flexible MSK physiotherapy service

Staffing remained a priority for the sustainability and potential spread since a drop in staffing would impact on the quality of the service which MATS would be able to provide. Moreover, should

the remaining health boards agree to join the MAT service, this would have some initial resource implications for call handlers:

If GG[&]C said they were going to join tomorrow we would need to knit a huge amount of extra call operators because that would be, so yeah Fife will take us to just about 70% and the Island boards might be 3% between them so one board could add like nearly 25% more calls, so resource implications would be getting staff trained.

MSK_06

Spread and sustainability was impacted by continued resistance to the service by clinicians. One key informant remained sceptical about the need for a centralised MAT service as opposed to the local, board level self-referral systems which it replaced in many NHS Boards (MSK_07). This was further echoed by another who felt that MATS was an inappropriate service in health boards that had well-established and effective self-referral systems (MSK_13). Similarly, it was reported that MATS replaced a local self-referral system with, according to anecdotal evidence, only 50% effectiveness as a FPOC service (MSK_05).

It was emphasised that the service was “*at least cost-neutral*” to each health board (MSK_06). This view was supported by an evaluation which suggested that the monetary case for MATS was “*overwhelming*”, potentially saving NHS Scotland between £600,000 and £1.5 million annually” (Ferguson, 2016).

Funding for the MATS service could be contentious when the service did not necessarily have backing from all health board. One key informant articulated that there was an opinion that funding for MATS should come solely from the physiotherapy budget, as opposed to top-sliced from board funds (MSK_11). However, it was reported that physiotherapists within this key informant’s health board took the view that MATS represents the “*first tier on a pathway that helps multiple services*” (MSK_11).

3.4.5 Evaluation of MATS service

The MATS service undertakes continuous internal evaluation in order to ensure that the service continues to meet need:

...the model has been developed, it has been revised, it had been tweaked [based on] feedback evaluation etc. etc. and it was very robust and proven to be so.

MSK_17

At the time of the Phase 1 key informant interviews, there had been no formal independent evaluation of MATS. Whilst a proposal had been put forward for a formal evaluation of the service, the details of this were unavailable to the research team. On-going internal evaluation was carried out by the MATS team in order to make changes to the service to meet demand from service users and clinicians (MSK_17).

3.5 Other MSK Projects

3.5.1 Development of other MSK projects

Alongside or instead of the use of APPs and MATS services, some boards implemented smaller, bespoke programmes ((Table 4.5). For example, in NHS Fife, an online MSK advice tool was available for the public to access. This was an in-house model based on modification of the national advice tool which was available on an intranet system (MSK_04).

NHS Grampian introduced a telephone consultation service in which a physiotherapist would screen referrals to ascertain whether a face-to-face appointment was needed. Further, it introduced a low back pain seminar that could be delivered to patients during these phone consultations, and a hand and foot group meeting. The option was kept open to use a face-to-face appointment if needed. To supplement these, patients who were discharged from hospital following MSK-related surgery on knees, hips and back were offered the opportunity to attend a 4-session life skills workshop:

The first one was understanding pain, the second one was around relaxation, the third one is around exploring the role of movement, activity and exercisewhen you're affected by persisting conditions and then the last one is about striking a balance so that you know if they need to move forward to manage their pain etc. we actually have brought our waiting lists down from around about 25 weeks to an average of 6 to 8 weeks in this, in this area.

MSK_05

In NHS Borders, spinal service transformation was a particular focus. In 2008, the spinal service in this board was under a medical consultant-led service through which MSK physiotherapists had to request imaging via a consultant. This was changed to a primary care service, where primary care based APPs could request blood and imaging for patients (MSK_07).

A number of health boards had developed a chronic pain pathway, where GPs could refer patients to a chronic pain management service. The patients were required to complete a lengthy questionnaire, after which they attended a physiotherapy education session. From there referrals were triaged secondary care physiotherapy and sent to either physiotherapy, psychology or pain management services (MSK_08).

NHS Forth Valley had introduced an MSK hub to streamline appointment systems, and a back pain pathway:

To manage all appointments prior to [the introduction of the MSK hub], we had physiotherapists managing appointments at the local health centre so we had clinical staff, using their skills to make new patient appointments which was obviously inappropriate so we had 18 separate waiting lists before we launched the hub.... so we now have one single waiting list, we have one phone number, the return appointments are made by the physiotherapist but because obviously they have the patients with them in front of them so they can agree a suitable time and because the patients normally coming back fairly quickly after their new patient appointment that

makes sense, but if a patient wants to change the appointment then they phone our hub so we have single waiting lists, patients are taken in turn, we triage at the hub so the processes are now efficient, we have admin staff obviously doing admin tasks so the right person, right time.

MSK_09

MSK phone appointments were introduced by NHS Grampian in both Aberdeenshire and Kilmory. These involved the receptionist asking if patients had an MSK-related problem, and, if so, they were offered a chance to have a telephone consultation with the physiotherapist as a FPOC (MSK_10). This was distinct from APP-based physiotherapists as the physiotherapist was not always in a primary care setting.

NHS Lothian had introduced a back pain service, and planned to expand this to other areas of pain:

The lower back pain pathway that we launched. It's been very successful, it is delivering an integrated back pain service in primary care. So if somebody presents in primary care with a back problem that requires surgical opinion, very rapidly our advanced physiotherapists can order any investigations appropriately, and can have a multi-disciplinary team meeting with a neurosurgeon that week, if necessary because of the success of the lower back pathway, we're looking at foot and ankle, at upper limb – which includes shoulder and elbow at the moment. Not wrist and hand. in the next phase [k]nee would certainly be included. The rest of the spine. So managing to get this primary care, if somebody comes into the physiotherapy realm, that they can be escalated, where appropriate, straight into secondary care.

MSK_11

NHS Tayside created an MSK solutions tool for GP and APPs to use. It contained information on:

Finding symptoms, what to do in primary care, when to refer to secondary care, how to assess that joint or that area, how to inject the area with steroid if necessary, what investigations to request prior to secondary care referral, basically it's a one stop shop for everything.

MSK_14

Through SG Health Department funding, 4 GP practices in Govan (NHS GG&C) had been participating in the Social Health and Integration (SHIP) Project. This was described as a different model of primary care focussing on multidisciplinary work. There were plans to introduce APPs into this multi-disciplinary team to assess whether this would confer any additional benefit to the patient (MSK_18).

3.5.2 Implementation and progress of other MSK projects

Interventions were usually developed due to specific demands in local areas and often adapted based on MSK leads examining the services or through discussions with users of that service:

We almost had to wait to put people into [the life skills] group because we actually managed quite a number of low back pains really quite efficiently via our low back pain seminar.

MSK_05

NHS Borders discussed adapting the administration of its spinal service to allow for GPs being unable to change existing models of care. GPs had existing methods of referral, for example orthopaedics referral, which they found difficult to change. Consequently, a potential solution was devised with orthopaedic staff, upon which a spinal referral would be redirected to the physiotherapy spinal team immediately (MSK_07).

A key informant discussed how NHS Dumfries & Galloway had used a questionnaire that patients were asked to complete before given access to a chronic pain management group:

A patient who the GP feels should be referred to chronic pain management service, it would refer them in, and patients will be sent a questionnaire, which is quite a lengthy questionnaire...If they don't return the questionnaire...that's where the referral stops.

MSK_08

NHS Forth Valley introduced its in response to existing local waiting lists:

We had 18 separate waiting lists before we launched the hub so we now have one single list.

MSK_09

NHS Grampian developed its telephone appointment as a result of successful use of other non-MSK telephone appointment systems:

That is sort of in line with the other things that they do like sometimes when they speak to the receptionist they might be directed towards the district nurse or the pharmacist or the GP you know so the physio is just another line in that.

MSK_10

NHS Lothian adapted to the local contexts by allowing each of the four areas within their health board to create services specific to that locale, whilst also monitoring what worked well across the whole health board:

So we have different parts of Lothian doing different things, because there are four different health and social care partnerships, each with their own budget, each doing their own thing. whilst they are separately budgeted, and so decisions can be very independently made, the services actually work very, very collaboratively with each other. And this is something we've built over years, being able to have robust discussions about what...things can be pan-Lothian. So whilst...we cannot dictate to one health and social care partnership how to arrange their model, what we can say is that we're all aligned and that this would be the job description proposed.

MSK_11

3.6 Summary of Phase 1 Findings

Whilst each health board had a number of smaller projects, the predominant transformational changes to MSK physiotherapy services reported in primary care were:

1. MSK APPs in GP practice

By piloting the use of APPs within GP Practices, the aim was to have physiotherapists working in a FPOC role, so offering a safe and cost-effective alternative to the GP. It was hoped this would decrease patient waiting lists, improve patient outcomes and free up GP time. Twelve of 14 regional NHS health boards were found to have already implemented or be in the early stages of developing APP roles within GP Practices. Something about barriers/facilitators/perceived impact/sustainability and roll-out

2. NHS 24 MATS

MATS is a single point of contact service run through NHS24. Callers are taken through a nationally endorsed triage protocol and either given self-management advice or referred to local services. The service is run by call operators supported by a team of clinicians. This service began in some health boards as early as 2010 yet was still being rolled out in others. It was considered by many as a transformational change to primary care MSK services. The establishment of MATS was widely believed to be a cost effective and safe alternative to visiting the GP for minor MSK physiotherapy problems. However, there appeared to be some hesitation and caution in relation to MATS in some health boards or by individuals within health boards. In order for MATS to improve further, it was felt that there was a need for a cohesive and well-advertised national MATS service, effectively ending a “*postcode lottery*” of care and ensuring equitable access across Scotland. It was anticipated this would further impact on patient awareness of the service and solidify its role as a FPOC alternative. The findings also highlight that sustained funding was essential in order to maintain staffing levels and to continue to provide a fast and reliable service

The implementation, governance and spread of these new models of care varied across health boards, and were related to rurality, funding, population, demographics and staffing. This had resulted in an uneven landscape of service redesign whereby health boards were at different stages implementing new models of care.

3.7 Selection of the Phase 2 Deep Dive

MSK physiotherapy redesign in primary care within NHS Highland, NHS Lothian and NHS 24 MATS were selected for more in-depth exploration in the next phase of this case study. These were selected as they both have active NHS 24 MATS and APP services, but have differing urban/rural settings, differing length of implementation of services, and variations on the way in which services are implemented.

1. NHS Highland was selected as it represented a health board that comprises both rural and semi-rural areas. This was communicated Phase 1 key informants as an important factor in

the development, implementation and funding of new models of care. Inverness was also the first location to establish an APP within a Scottish GP practice and this had been running since 2009. This APP position had been funded in-practice and can be compared with a second practice within the NHS Highland that has an APP position funded by PCTF for six months. Both APPs worked within single practices in contrast to the second proposed deep dive location where APPs worked across more than one practice. NHS Highland has also implemented telephone assessments as a FPOC representing a further transformational change unique to the Highlands. Lastly, NHS Highland made use of the well-established MATS service, which impacted upon MSK appointment access and treatment within primary care. Considering NHS Highland as a deep dive area allow further exploration of MATS (deep dive 3) from a health board perspective.

2. The second deep dive location was NHS Lothian. NHS Lothian comprises an urban environment with a high population density, presenting a different setting in the development, implementation and delivery of transformational projects compared with NHS Highland. In contrast to NHS Highlands, APP services were recently established (early 2017) and included the introduction of five APPs across two HSCPs, funded by PCTF. NHS Lothian was unique in its use of telephone triage prior to face-to-face APP consultation. Self-referral based on the Lower Back Pathway (NHS Lothian, 2015) was also in operation within NHS Lothian, with the purpose of reducing the need for GP appointments, imaging and needless onward referral to secondary care. NHS Lothian also presented an opportunity to evaluate the use of MATS and innovative service redesign within NHS 24 from a health board perspective but in an urban setting.
3. Alongside the introduction of APPs, NHS 24 MATS represented the second major transformational change reported in Phase 1, occurring across most mainland health boards in Scotland; NHS Fife was in the early stages of rolling the service out. MATS allows a single point of triage for direct referral to MSK physiotherapy into secondary care, with the ambition of reducing GP workload and offering a faster, more efficient route to physiotherapy services. Exploring aspects of MATS in more detail will allow a Scotland-wide examination of how this service impacts on MSK physiotherapy transformation in primary care, concentrating on the innovative ways in which MATS has been used to achieve reduced pressures on GP time and secondary care physiotherapy waiting lists.

4 PHASE 2 FINDINGS

The findings in this chapter are based on a **review of 83 documents and 24 interviews** with key informants involved in MSK transformation in NHS Highland, NHS Lothian and NHS 24 MATS.

A total of 10 new documents were received from key informants including reports and reviews, academic papers, minutes of meetings, guidelines, and early results of data collections.

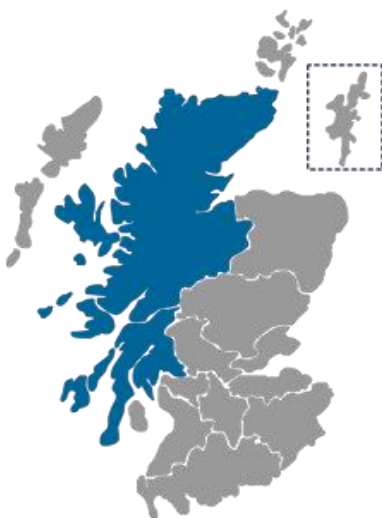
Overall, 62 potential key informants were contacted: 21 key informants who did not respond and 17 were either declined the invitation to participate or were consequently excluded because of their lack of involvement in primary care. Ultimately, 24 key informants participated in an interview: 11 in NHS Highland; 11 in NHS Lothian and; 2 NHS 24/MATS. Of the interviews conducted, 5 were conducted during face-to-face meetings and 19 by telephone.

Key informants represented a cross section of staff involved in the design and delivery of MSK Physiotherapy services in primary care. This included: Lead Physiotherapists from each of the HSCPs or geographical locations; GPs; APPs in various stages of the implementation of their role; clinical managers; GP practice managers; quality improvement personnel; operational managers; administrative staff; and practice managers (Figure 5.3 and Figure 5.4). For the purpose of assigning quotes, each key informant has been coded as MSK (indicating that their role is in musculoskeletal services), followed by either 'H' (NHS Highland), 'L' (NHS Lothian) or '24/MATS' (NHS 24/MATS) and assigned a unique numerical identifier (e.g. MSK_H_01).

4.1 NHS Highland

4.1.1 Context

Figure 4.1. Map of Scotland with NHS Highland highlighted (NHS Highland, 2018)



The population of NHS Highland comprises around 320,000 people (NHS Highland, 2018). Life expectancy is 76.6 years for males and 81.3 years for females. NHS Highland has a rural population interspersed with some urban areas and is set over 32,500 square kilometres (geographical area of Scotland mapped in Figure 4.1). NHS Highland has an aging population: 19% of the population of NHS Highland are over 65 and this is expected to rise to 24% by 2032 (NHS Highland, 2018).

NHS Highland includes two HSCPs: Highland HSCP and Argyll & Bute HSCP. These are delineated further by NHS Highland into distinct areas comprising Argyll & Bute, Mid, North, South and West.

Mid and South have shared services, therefore for the purposes of this report, the findings relate to four distinct “health board areas”: Argyll & Bute, Mid & South, North and West (Figure 4.2).

In terms of common MSK complaints, 20.1% of adults in the NHS Highland health board area were recorded as having had back pain, 1% higher than the national average. Osteoarthritis in the hip was reported by 10.1% of the population aged >45 years, and 16.5% reported knee osteoarthritis, both of which are the approximate values of the national average (Arthritis Research UK, 2018).

4.1.2 MSK primary care services

Four distinct new models of care in relation to MSK physiotherapy were identified within NHS Highland (Table 4.1) three of these tests were considered as primary care transformation.

4.1.3 Rationale

New models of care for MSK primary care services in NHS Highland was driven mainly by the need for a reduction in the number of MSK problems presenting to GPs. This had remained the main driver for many GP practices with MSK_H_08, reporting that GP time was “*top of the list*” in the planning and development of new models of working.

Key informants noted that utilising GP APPs not only helped to reduce secondary care waiting lists but also reduced the number of patients re-entering the physiotherapy pathway and having repeat visits to their GP about the same issue:

Even if patients were referred to secondary care or a physio department they would still come back and see the GP two or three times while they were waiting so having the physio in house especially one who wouldn't necessarily just triage but also provide some treatment still remove those appointments

MSK_H_08

Furthermore, some GP practices had required a FPOC post to be developed that provided more routine and stable healthcare for patients accessing physiotherapy in primary care than had previously been in place:

There has certainly been an issue with physio provision in the area, it's the usual waiting lists that have been the issue and DNAs and the like and trying to, you know, provide a first point of contact within the practice seems like a good option.

MSK_H_24

It was reported that changes had therefore also arisen as a result of local need, driven by physiotherapists within a single cluster and resulting in small scale changes to service delivery:

As a result of so many complaints and so many people being unhappy, and the fact that nothing was going to be done immediately, I decided to set up the Direct Access Clinic.

MSK_H_03

Figure 4.2. Showing the structure and spread of staff involved in MSK physiotherapy transformation in NHS Highland

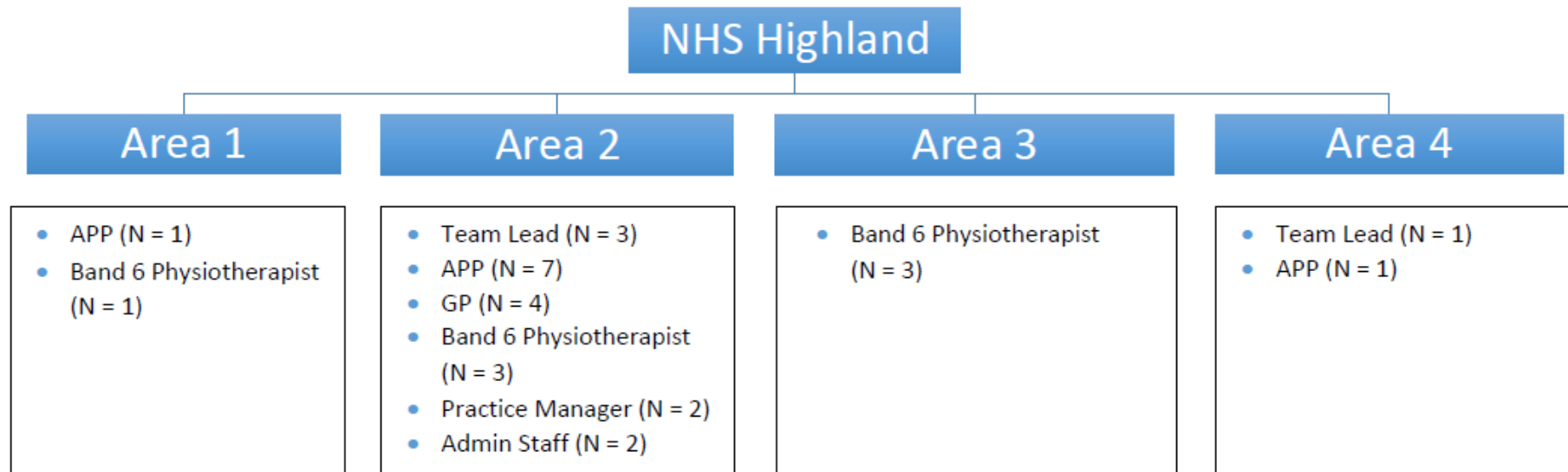


Table 4.1. New models of care identified within NHS Highland

New Model of Care Service	Description
APP	This involved direct access to an APP based in a local GP practice (N=2 reported here), or based within secondary care physiotherapy services (N=7 reported here). This service was available in three of the four health board areas. For both of the GP APPs, the service was accessed via signposting by reception staff after querying whether a patients appointment request was MSK-based.
Direct access clinic	A small-scale service comprising a trained physiotherapist offering 12 appointments per week for MSK issues, accessed following an appointment with a GP or via signposting by receptionist. This was based across two GP practices.
NHS 24 MATS	NHS 24 MATS was accessed by telephone and operates from 9am until 5pm on weekdays. A trained MSK call handler guides patients through a survey lasting no longer than 10 minutes, following which the patient is signposted to a doctor, provided with key information, or referred to a physiotherapist.
Band 6 physiotherapist	Band 6 physiotherapists have secondary care-based jobs, but are often located within GP surgeries themselves to allow for greater access by rural patients. Access to band 6 physiotherapists is through referral only and those contacted did not consider their role to be primary care; this service was not considered as part of primary care transformation for this report.

Small-scale changes in delivery such as this, resulted in uneven physiotherapy representation across NHS Highland i.e. some areas had no APPs in place and therefore no access to specialist physiotherapy services (MSK_H_40). Consequently, it was reported that the move towards the planning and establishment of a FPOC practitioner role had developed from a need to provide MSK physiotherapy services locally, so increasing access by reducing “long waits and long distances to travel” (MSK_H_40.)

Changes had therefore also arisen as a result of local need, driven by physiotherapists within a single cluster and resulting in small scale changes to service delivery.

4.1.4 Planning and Development

The change in GP contract had opened more opportunity for discussion around the development of new models of MSK primary care. For example, one key informant discussed a possible new way of working utilising telephone triage:

I sat down with the GPs because I wanted to put the idea across to them and I, very much, gave them the reasons why I thought it would be helpful, and why, based on, like I say, experience, clinical reasoning, various things, that I thought it could work, and they kind of, very much, saw the benefits of telephone because they would do it with their patients as well.

MSK_H_04

This collaborative approach between physiotherapy staff, GPs and practice managers was reported across NHS Highland. Collaborative approaches to developing new models of service delivery, included conversations between their physiotherapy team and a GP practice with an established FPOC APP in order to understand how their APP role was developed, implemented and communicated to patient groups (MSK_H_24). Again, this sharing of information had bred confidence in how the role could work in NHS Highland by allowing those projects still in the early stages of planning to “get a handle on [...] what provision do we require out here that’s going to work.” (MSK_H_24).

The planning and development of new models of care had been undertaken in a number of different ways. This planning involved interactions between clinicians from different clinical backgrounds. One top-down approach to planning and development within NHS Highland was the identification of GP practices that would be keen to participate in small-scale new models of care:

We picked] a Practice that we knew would be very welcoming of having physio there and was very pro-active in having physio there and, along with having them in the GP practice, having audit time alongside it as well so that they were able to audit the impact of their service.

MSK_H_04

By using small-scale pilots within keen GP practices, it was reported that the impacts of FPOC GP APPs could be appropriately evidenced and the outcomes used to plan a robust rollout of the role to

other interested GP practices (MSK_H_04). It was also reported that shared knowledge from a GP practice that had already an established APP in post was used to develop their new role:

We had a physio who was employed directly by one of the GP Practices, so we've got a lot of information from him. So, it was one of the GP practices who had, I guess, knew the benefits of having physios seeing patients first line. So, they directly employed this physio and, for a couple of days a week he also worked in the NHS. So, he would see patients first line along the cases of First Line Practitioners and, had set up a very workable model So, we were able to base a lot of it on the work that was being done locally anyway

MSK_H_04

Sharing of information and experiences within the planning phase was reported to have helped to evidence the potential outcomes for those GP practices that were more hesitant to undertake new models of MSK primary care. Moreover, it was stated small-scale pilots had proven effective in more rural areas of NHS Highland, so helping to instil confidence in new models of service delivery within the rural setting (MSK_H_04).

4.1.5 Barriers to planning and development

Barriers to the planning and development of new models of service delivery discussed by key informants fell into two main categories: funding and attitudes of clinical staff. An MSK team lead discussed feeling the need to “*beg and borrow little bits of money to transform physiotherapy services*” (MSK_H_40), making it initially difficult to begin making appropriate changes to the service. Finding these pots of funding was increasingly important to ensure that an APP could be established within different localities across NHS Highland, and thus working towards equity in patient’s experience across the health board. Appropriate funding was also critical in helping each locality to plan new models of service delivery, to meet waiting time targets, reduce wasted GP appointments and decrease needless onward referral to secondary care physiotherapy services and orthopaedics (MSK_H_40).

The attitudes of some members of clinical staff also proved to be a barrier to the planning and development of new models of service delivery. One respondent (MSK_H_15) reported that it could be difficult to “*tap into*” GP practices and secondary care resources in order to get them on board with new projects that overhaul the delivery of MSK physiotherapy services in the primary care setting. More than one key informant mentioned initial unease from GPs and consultants regarding a FPOC triage role for physiotherapists, raising concerns around the safety of the role. Similar to the experiences of MSK_H_15, who reported that “*Once we are in it's usually okay*”, with clinical staff becoming more comfortable with the advanced role that physiotherapists could offer as the APP became embedded in the GP practice.

In summary, APP roles were developed in NHS Highland as a response to GP caseload and long secondary care physiotherapy waiting lists. These changes were often driven by individual physiotherapists at a local level, and as such new models of care varied by area in order to meet the needs of their local population. Practices chosen for new models of care were often those that were the most welcoming of the idea of the introduction of APPs within their surgery. Information sharing

was key in the development stage, with the expertise of an APP who had worked in a GP practice for a number of years being used to help successful development of the role at other practices. Barriers to planning and development included existing clinical staff who were sceptical of the merits of the service and the continuation of appropriate funding.

4.1.6 Implementation

Implementing new models of service delivery had been done in many ways. As previously noted, a knowledge sharing approach with colleagues working in established APP services was useful for implementing new models of care:

I'd got their [another health board's] information so that I could kind of work around what I wanted to do. So, I'd spoken with some of the sites [GP surgeries] to make sure I was going in the right direction with what I wanted to do, and there was kind of some overlap. But, then I very much made it work for me, to work for the patients.

MSK_H_04

Recognising the differences in population needs across the board had helped key informants to implement a service that was more likely, in their opinion, to make the new model of care successful. For example, the importance of acknowledging the fluctuating patient numbers during peak tourist season was highlighted, and it was argued that an initial implementation period of six months would not have been sufficient in that particular locality to properly evaluate the success of changes in service delivery (MSK_H_24). As a result, the introduction of APPs was carried out over a year in order to allow flexibility in the number of appointments, appointment length and appointment frequency, to test the robustness of the APP role within this area across a period of time, allowing consideration of seasonal variation in need (MSK_H_24)

Understanding the local context in which new models of care were occurring resulted in a slow and steady implementation process for a very small-scale direct access triage clinic across two GP surgeries, utilising public knowledge for greatest impact:

I haven't advertised it at all...I've told the GPs about it and I've told the reception staff and...so, yeah...and it's an area where people know what goes on: people talk to each other. You know, quite small communities, relatively small communities, so people just slowly find out.

MSK_H_03

The small-scale rural communities that this direct access clinic serves also experienced the introduction of the MATS service, which, changed the route of access to physiotherapy services for many people in NHS Highland. . It was reported that it was financially unfeasible to recruit an APP with sufficient breadth of knowledge and experience to take on the role of a FPOC practitioner and as such, the direct access clinic had only gone some way to meeting local need (MSK_H_03). It was believed that the wealth of existing clinical experience and established working relationships afforded NHS Highland some freedom to implement such small-scale changes in service delivery (MSK_H_03).

Staff training

Implementing many of the new models of care had involved training staff to meet the requirements of the APP role. This training was undertaken to further the abilities of the APP in their role but also to meet the needs of both the patient population and individual practice needs within that particular GP surgery (MSK_H_15). In some instances, this training occurred on the job while others were trained in advance of taking on the post. It was reported that this training could overlap with other training such as non-medical prescriber training (MSK_H_15).

Implementing new ways of delivering physiotherapy in primary care had also placed the onus on physiotherapists themselves to take on new and challenging roles. Key informants reported that facilitators to the smooth implementation of such APP positions required staff to understand and appreciate physiotherapists' abilities in carrying out advanced roles safely and effectively:

The facilitators was certainly the staff's willingness to learn, a steep learning curve, and to engage directly with consultants. And you can't really underestimate how scary that is for physiotherapists who may be confident in their own skills, to suddenly put that confidence to the test by sitting and working with an orthopaedic consultant, and saying "I think this... My assessment... This is my assessment, please critique it. And this is the findings of my assessment, so this is what I would do." It's bad enough doing that in front of your peers.

MSK_H_40

We know that folk have the skills to do it and that they can have the ability to make a difference I think for the staff it's a little bit of the unknown.

MSK_H_15

It was considered crucial to build in support at the implementation phase to ensure that staff were confident moving forward in their role and establishing good relationships with other clinicians (MSK_H15, MSK_H_40). This could be particularly difficult if GPs and consultants had expressed negative attitudes towards this new model of care (MSK_H15, MSK_H_40).

Some key informants expressed a desire for more training at the development phases before the new model of care was rolled out, suggesting that more robust training in relevant computer systems would have helped implement a more cohesive collection of evaluation data at the early stages (MSK_H_15). This would allow for a better understanding of the impacts of the new model of care as it progressed (MSK_H_15).

Patient engagement

The communication of new models of care was carried out differently across the health board in the form of posters, leaflets and GP advice. The means of accessing the new model of care were through self-referral, GP referral, reception signposting or a combination of any of the three. During the early stages of implementation, it was noted the need to tweak the way in which the service was communicated and accessed in order to streamline the patient pathway into physiotherapy (MSK_H_04). This key informant also noted that despite taking time to consider patient engagement

at the planning and development phase, there were still teething problems when it came to implementing physiotherapy telephone triage:

Some people were like, 'Well, I'm not going to be referred to physio if I'm just going to speak to someone on the 'phone'. So, there was some slight misconceptions of it, but that was very, very few.

MSK_H_04

This highlighted the importance of being open about new models of care with the patient population and retaining fluidity and flexibility in the implementation of such new models of care to allow for patient engagement and to be able to take patient feedback on-board. Pathways for patient engagement had not always been devised at the planning and development phase and it was reported that much of this engagement work would be undertaken by the individual working in the APP role (MSK_H_24).

Barriers to implementation

Similarly to service planning and development, one barrier to the implementation of new models of service delivery was the support and buy-in of clinicians and senior management. Without the support of all staff involved in the running of new models of care in both primary and secondary care it was reported that it was difficult to implement them (MSK_H_40). Additionally, without the support of senior management, it could be difficult to obtain funding for new models of service delivery on an on-going basis:

Some of the consultants weren't entirely comfortable with the idea of physiotherapists triaging their own patients, and that has been probably one of the biggest barriers that we've found. Which meant I was a little bit concerned that as we moved towards discussions about first contact practitioners, were we gonna encounter that with the GPs?

MSK_H_40

The barriers have been getting senior management buy-in. At one point when we were running this service, having had no funding for it 'cause the funding was withdrawn after the first year.

MSK_H_40

Previous involvement in poorly implemented and short-lived new models of care experienced by physiotherapy staff was discussed by MSK_H_03, an MSK team lead, as a barrier to the implementation of new schemes designed to improve service delivery:

It's really difficult to motivate your team when someone from outside...these things were done to try and improve services but they've made them worse. And...you knew it was going to be introduced. You could see it wasn't going to work, and then the whole process has taken, two, three, four years doing reports for, eventually for people to realise that up here it wasn't working. And, now that there is...now, what they've come up with, in terms of, 'We can introduce First Contact Practitioners', can't be done in my

area. So, we're...so, although there's work being done, and there's a route forward, we've had three/four years of our service being worse.

MSK_H_03

The top-down implementation of new models of service delivery without input from physiotherapy staff about how the service might need to be adapted within particular areas, had instilled a scepticism with regards to further new models of care. Furthermore, MSK_H_03 stated that some new models of service delivery had *"taken away some of our autonomy"* and their concern was that this led to a service which was less suited to the needs of the patient population. MSK_H_03 and MSK_H_40 also expressed concerns over how new models of service delivery could be implemented within the smaller more, geographically sparse regions of NHS Highland. In particular, they raised concerns over the ability to recruit and retain required staff numbers since the current service did not have sufficient staff with the required skills to take on FPOC APP roles.

4.1.7 Sustainability and Expansion

Key informants believed that their new models of care were sustainable in the future if they received sufficient funding to develop the service and recognised that there could be *"different models working in different places"* (MSK_H_03). The small-scale direct access triage clinic was considered *"sustainable at the moment"* since it was popular with patients and GPs, however, this relied heavily on the skills and commitment of one particular clinician and, as such, could not be considered sustainable in the long-term (MSK_H_03). There was a belief that the provision of newly built treatment facilities within NHS Highland could encourage the recruitment and retention of staff into NHS Highland in order to maintain the sustainability of new models of service delivery in the longer-term (MSK_H_24). Several distinct barriers to sustainability were identified:

1. Understanding of new models of care by management and patients

As with implementation, senior management buy-in was reported as essential for the sustainability of new services, as without their knowledge and support it was difficult to ensure the initial and continued funding of posts:

I was passed a magazine article about a team in Tayside who had been set up to run orthopaedic triage, a team of advanced physiotherapists, and they'd won a national award because of their work, and every single post there had been funded. And I was handed a photocopy of the magazine article by one of the managers here, who said, "Oh, the senior management team have asked could we have something like that?".... And I had to explain that we had exactly that, and we'd had that for the past four years.

MSK_H_40

Poor knowledge of new models of care that were taking place in the board could also have a negative impact on morale of the staff involved in the changes, often without extra funding. It was that a successful telephone triage service was stopped due to a lack of insight by senior management and a lack of formative evaluation to support their experiences of success (MSK_H_04). . This new model of care was not made known to the study team during Phase 1. This apparent lack of coherent direction was reported as frustrating for clinicians:

Everybody has a different sort of viewpoint so primary care clinicians, GPs, have a certain view on how it should be run and how, how can be, what kind of impact physio has ... physio has a bit of a view about it and I'm not necessarily sure the senior management within NHS Highland have got a clear idea of what they want or what, what can be offered by physio.

MSK_H_08

The suggestion being that new models of service delivery were not sustainable unless there was an agreed direction with all stakeholders in the health board and better consideration given to how physiotherapists could maintain these roles in the long term, not merely for short-term gains. This was corroborated by key informants who reported that the understanding of the service by local populations which they served impacted on the sustainability of new models of service delivered:

Barriers are initially probably more knowledge of it so widespread knowledge about the practice population and potentially some initial reluctance.

MSK_H_08

2. Suitability of the new models of care for NHS Highland

Although the APP was considered a good idea the reality of the role in the setting of NHS Highland was perceived to be a barrier to staff recruitment and in particular, retention, which would clearly have an impact on the sustainability of the service:

The APP, you know she's going to have to come from town, which is lovely you know in May...but in December when it's snowing and the roads are full of potholes and ice that's one thing and so recruitment here...is she going to want to stay in that role or if she decides she doesn't...would we be able to recruit somebody...that's always a big issue in rural areas now is just recruiting to the position so that would be the biggest thing.

MSK_H_24

Some key informants felt that the APP role was not suitable for all areas of NHS Highland. As such, this led to small-scale new models of care that relied heavily on a single clinician and so were not necessarily supported appropriately by MSK Physiotherapy:

If I had to answer yes or no I'd say, 'No' [the service is not sustainable you can't guarantee that one person is going to be there continually...could go off sick...plan on retiring...don't...team who could come up and do the work. It's a band 7 post, and I think to attract someone into this area for what is band 8a work you'd struggle.

MSK_H_03

3. Staffing

Key informants reported burn out in advanced practice roles as described below one key informant shared experience of the mental health impacts:

It's been really hard work, I'd say, psychologically, to cope with something [MATS] that's made things worse, whatever the good intentions were behind it in the first place.

MSK_H_03

Sustainability and expansion of new models of service delivery was further hindered by time constraints on physiotherapy staff. One key informant stated that they simply did not have the working hours to expand the new model of service delivery any further (MSK_H_03). Sustainability could also be dependent on understanding how new models of care fitted into the wider remit of the physiotherapy service and its staff who worked across both primary and secondary care physiotherapy:

It's also dependent on what staff you can recruit because, you know, we're small teams and, although we're talking about the MSK service, the staff do not just treat MSK patients staff are treating patients in the ward, they're doing rehab outpatients and they're doing MSK. So, MSK, what we'd say that they're Specialist Generalists, you know.

MSK_H_03

Concerns were raised that a continued move of staff out of secondary care physiotherapy and into advanced practice roles in primary care would lead to a deskilling of the secondary care workforce (MSK_H_03, MSK_H_15 and MSK_H_40). This was considered to have implications for the expansion of services in both primary care and secondary care physiotherapy:

If you move everybody out who is going to be left [in ANP physiotherapy]?...So the plan is eventually to make those first contact practitioner roles sort of almost rotational. You will spend a certain amount of time out in the surgeries but then you will also rotate back in to the department. So that you are getting that mix of sort of skills.

MSK_H_15

We can't separate these really knowledgeable and skilled staff and take them out of a department, because that would be to the detriment of the department, and also to the detriment of that onward training

MSK_H_40

Key informants reported that it could be particularly difficult to recruit staff in order to expand service delivery:

It's not easy. Aviemore is National Park and it's expensive to live here. So, if you're trying to get younger staff up they're not interested in working here because it's too expensive to live so, you tend to attract more.....we're talking band 6 people who are, you know, around about 30ish, who are also all having children. So, there's a really high number of people going off on maternity leave with inadequate cover. So, we're probably running short staffed the majority of the time. At this point in time, now, it's sort of crisis level and.....yeah. So, and even if you've got someone who's interested there are delays in the whole process because of money. There is no money.

MSK_H_03

It was believed that appreciation of the hard work underlying the role and appropriate remuneration would affect morale, and thus the ability of the roles to be sustainable in future:

...you know lone working, autonomous healthcare deliverers...who are not necessarily...seen as a valued part of the process...so those are the frustrations really because...having a pretty big impact on referrals to orthopaedics and physio and...the prescribing and it's quite hard to measure that in terms of financial savings...you can kind of day to day you can see the financial savings but you don't really see that translated into, into remuneration.

MSK_H_08

It was also stated that there was a need for money to implement, support and sustain roles and to recruit appropriately skilled staff:

[The job...] does require a certain skill level and training and a level of experience and you get what you pay for basically so without that you know you're not going to get a quality deliverable service if you're not you know recruiting the right people or training them. And that's probably where the frustrations are in that you know.

MSK_H_08

The main barrier to sustainability and expansion reported by all key informants was the need for continued financial support:

If it is deemed a success where's the money going to come from to keep it going and I don't know at the moment, with that you know money often is found for pilots but for ongoing and ongoing project that's always much more difficult to persuade people to commit ongoing money.

MSK_H_24

Recognition of appropriate staff grades was also a recognised issue across NHS Highland. As the role of the ANP team lead was band 7, it was believed that this “blocks” the recruitment of staff to work at an advanced practice level as the training required would be at band 8a level (MSK_H_24). Consequently, it was believed that a service could not be sustained without appropriate and homogenous banding based on clinical skills and experience (MSK_H_04.). This was thought to make succession planning “almost impossible”. Another key informant argued that without agreed levels of skill and banding for APP roles, clinical staff were unable to have “resilience built into teams” and blamed cost pressures on the physiotherapy service and beyond (MSK_H_40).

4. Training and knowledge

Appropriate training and knowledge exchange possibilities were reported by key informants as essential to the maintenance and further expansion of new models of MSK primary care. It was reported that the board was keen to allow the advanced practice roles to inform and be informed by the physiotherapy service as continued training for lower banded physiotherapists (MSK_H_15). This was supported by another key informant:

We have to train our own staff, and if we take them away from the environment where they can provide that training, well, then we lose the ability to train our own staff.

MSK_H_40

This key informant also reported on feedback from their staff who, despite wishing to take on the advanced physiotherapy roles within primary care, were “*very keen not to lose their hands-on clinical skills*” honed within secondary care physiotherapy roles (MSK_H_40). Experience was considered essential to the expansion of advanced practice positions since there was a “*level of knowledge that you have to be able to recognise what’s appropriate for physio and what isn’t*” (MSK_H_03) and to be able to carry out the role safely. Adding to this, it was also believed that non-clinical IT skills were “*important practicalities*” (MSK_H_08) required to sustain the quality of advanced practice roles and to provide the data which underpin expansion.

Some key informants viewed the GP practice APP role as one which could provide further training and knowledge exchange opportunities which, in their opinion, could strengthen the service, making collaborative approaches to healthcare delivery more sustainable:

My other colleagues have sort of expressed an interest in sort of improving skills so that might be something that you know they might get an opportunity to sit in with, with the new physio and sort of you know look at triage, what, how do physios assess someone with, that’s presenting with an acute back pain, that sort of thing so I’d like to think this sort of skill sharing would be something that would be there in the medium to long term.

MSK_H_24

5. Accommodation

Sustainability and expansion had also been reported to be curtailed by a lack of appropriate space within GP practices to carry out advanced practice roles and the accompanying paperwork:

At the surgery...it’s trying to find a room is like gold dust, that’s just the nature of small buildings or older buildings I think that applies throughout most of the GP practices throughout the area.

MSK_H_08

Yeah absolutely, massive problem here [with accommodation]. Yeah. We are quite what would, I wouldn’t say over crowded but yes space is an issue definitely.

MSK_H_15

Yes. [IT] can be challenging. Just physically not enough space or computers I guess it’s difficult so we are having to sort of, we’ve just got to be really careful of our planning of clinics and things that there is enough physical space.

MSK_H_14

In summary, sustainability and expansion within NHS Highland had been supported by the continued work of physiotherapy clinicians and continued training of staff and opportunities for knowledge

exchange between primary care staff. However, key informants were clear long-term sustainability relied on a number of factors including staff training and recruitment, clinician and senior management buy-in, financial backing and adequate accommodation.

4.1.8 Impacts and outcomes

Key informants reported that new models of care had impacted upon the delivery of physiotherapy in primary care and the outcomes for services, patients and staff had been largely positive

Impacts and outcomes for the service

It was thought that:

...it's actually very easy to make improvements...with a common-sense approach.

MSK_H_40

The changes were said to have been largely well received by patients:

In the beginning probably more of the patients were coming directed by the GPs but over time...patients have taken it upon themselves to, to phone up and ask for a physio appointment as opposed to be directed by reception staff.

MSK_H_08

It was reported that “a musculoskeletal specialist physio can quite effectively and appropriately deal with the majority of the musculoskeletal caseload within a GP practice” (MSK_H_08). This was supported by the perception that physiotherapists triage of patients in primary care had “reduced the orthopaedic waiting times for spinal patients” (MSK_H_04). . One APP reported:

The intended outcomes were certainly to reduce down the GP appointment requirement, that's happened, I guess the intended outcome was to have more and more people triaged from reception and that's happened so there are less and less you know there's initially there was more referrals from the GPs now there's more referrals from reception so that was an intended outcome. I suppose the referral to physiotherapy department wasn't, was an unknown, it probably wasn't known how much...would send there and I suppose it turned out that...don't send very much.

MSK_H_08

It was also reported the positive strides forward for MSK physiotherapy in primary care linked to the new models of service delivery:

What we have now is staff in every area, who have developed the exact skills they require to step in to a first contact practitioner role and deliver all of the savings that that gives. So, in terms of reduced prescribing, reduced inappropriate referrals for imaging and MRIs, increases in GP available time, and reduction in inappropriate referrals through to orthopaedics.

MSK_H_40

Not all new models of care could boast entirely positive outcomes. Key informants discussed positive and negative outcomes when using a new Patient Management System (PMS) aimed at streamlining the physiotherapy service to allow physiotherapists more time to see patients:

When it comes to PMS it's sort of 50/50. The good side about it is that, because we don't have admin staff, physiotherapists no longer have to book all their patients in. It's done centrally, which is...which is great, and that's taken quite a lot of the workload away from us. The problem is that PMS is a really clunky system and, it's really time consuming, really awkward to use and so, the amount of time that has been saved with not having to put the patients in is probably spent trying to re-book patients' appointments because, people have got to pick about 20 times for different things to get to the bit they need.

MSK_H_03

Despite evidence from other areas in NHS Highland, one key informant reported that there were still clinicians who were hesitant about APP roles:

We do still have some consultants from [named health board] who do not like the idea of physiotherapists triaging their waiting lists. And that is a, you know, that has been, has caused problems for us, and it was very evident in the area where that didn't happen, that the outcomes weren't anywhere near as good as the other areas.

MSK_H_40

Outcomes for staff

New models of primary care MSK physiotherapy had been reported to impact on how staff viewed their role within the wider NHS system:

Now, they're [the staff] all kind of excited about the potential, because they see where their skills can now lead, in terms of leading on innovative services which have got the potential to demonstrate huge savings.

MSK_H_40

I think staff are, a lot of them are excited about the new opportunities but probably a little bit nervous you know it's the unknown a little bit.

MSK_H_15

One key informant believed that much of the enthusiasm among advanced practice staff was down to the limited opportunities for career progression offered within more rural health boards like NHS Highland, arguing that new roles gave:

another clear route to progress, in terms of being a clinician and a skilled clinician, rather than having to go down a management route to obtain a higher-banded post

MSK_H_40

However, another key informant tempered this enthusiasm by suggesting that the work of an APP in particular could potentially be carried out in isolation, both in geographically disparate communities and in isolation from the core physiotherapy service. This was in agreement with previously reported statements by other key informants that these advanced practice roles could have a high staff burnout rate).

Outcomes and impacts for patients

A number of key informants reported that patients were sceptical in the early phases of implementation of new models of care but that continued support and education had produced positive outcomes:

They [patients] were initially quite sceptical as to how a physiotherapy consultation could be done over a telephone...because they're small communities, word then kind of filtered out and patients then become a bit more aware of it and they're like, 'Oh yeah, I know. I was going to expect a telephone consultation. I'm absolutely fine with that'

MSK_H_04

So, the big bit for me was the ones that didn't see the orthopaedic consultant. Were they kind of going to somehow feel cheated that they hadn't seen that? But that wasn't ...the feedback that we got.

MSK_H_40

Some key informants had carried out evaluations measuring the patient experience of using new models of care:

They've [patients] been completely positive, yes. Completely positive. Everyone loves the fact they can just turn up and get an appointment.

MSK_H_03

.... small patient satisfaction survey and all patients were very pleased with it [telephone triage].

MSK_H_04

We did some patient experience surveys, and the results were that they were happy to be seen by a physiotherapist. They were confident in the skills of the physiotherapist, and they were happy with the outcomes, and that was whether or not they went on to see an orthopaedic consultant.

MSK_H_40

Positives for patients included the ability to be seen or telephoned quickly by a physiotherapist in order to be triaged. It was reported that the telephone triage service had been helpful in recognising that physiotherapy triage “*wasn't just one-size fits all*” and allowed patients, particularly the elderly and those with mobility issues, to be triaged without having to come to the GP practice (MSK_H_04). There were some concerns reported about the concentration of services and the impact that this could have on the patient population in NHS Highland:

We, that are more rural, are quite sceptical of how that's going to work. transport links are a big issue here you know. For example, if our patients are going to go into Raigmore [hospital] and they haven't got their own transport you are talking two buses minimum to get there, even though you know if you've got a car it's 15, 20 minutes.

MSK_H_08

Overall, outcomes and impacts from the introduction of new models of care were reported to have made positive impacts on the reduction of GP waiting times and needless onward referral to secondary care orthopaedics in NHS Highland. Patients were reported as being on board with the service and were referring themselves in larger numbers directly to GP APPs where the service was available. Staff were reported to have become more comfortable with their role and for the most part were seen as keen to develop their skills set in line with the push for more advanced practitioner roles. It had been noted that there were smaller-scale, more isolated roles that relied heavily on one member of clinical staff and that this could produce a unique set of pressures for that individual. Patient satisfaction surveys (not provided by key informants) were reported to have shown that patients were happy to be triaged by a physiotherapist and had confidence in their skills and abilities.

4.1.9 Deprivation and Equity of Access

Some key informants were unsure how new models of MSK physiotherapy working in primary care could affect deprived populations or impact on equity of access. Others recognised deprived populations in their area but were unsure how physiotherapy could help to address it:

There is no doubt there is rural deprivation, the deprived people here tend to be farmers who are working fairly small holdings and to be honest they never come near us unless literally they have amputated a leg. So to try and persuade these sort of guys to go and see a physio is virtually impossible because they are active anyway so what goods a physio going to do them so that's our sort of deprived population if you like out here.

MSK_H_08

Other key informants shared concerns that the automation of some services, which allowed people to access new models of physiotherapy might actually limit the ability of certain groups who may be considered vulnerable to access services:

You have lost that personal touch. You have lost the fact that a patient 'phones up. You know that maybe there's some learning difficulties. You know that maybe they're not particularly good at expressing themselves, and you make allowances for that person. You talk to them a certain way, and you make sure that they're seen. You have someone who comes in who hasn't got a telephone but you still manage to sort something out because they appear at your door. Whereas, if you're sending out letters and asking people to call, and I know the majority of people have 'phones but, you know, I know someone who doesn't, you know, so, I think you are reducing access by increasing efficiency.

MSK_H_03

Other key informants reported that new models of care potentially had positive impacts for achieving equity in accessing services. In particular, rural and aging populations within NHS Highland were said to have had a positive response to some new models of care:

...go up and do a clinic in Wick...do one in Skye or...do one down in Fort William...to get to those places it takes...about 2 and a half hours. So, if it's a bit more local for the patients in those areas, it reduces travel times: all sorts of things. So, it makes it a bit more convenient.

MSK_H_04

I know from sort of previous experience patients like being seen in their GP practice because it tends to be local. So it tends to be much closer than sort of having to come into the hospital. If you don't have you know car or transport or ability to, the buses and taxis and these types of things then hopefully it makes it a more equitable service. If we can get it rolled out to all the GP surgeries obviously you know if we are only doing one or two then it's not having that effect.

MSK_H_15

[New models of care are] particularly beneficial for those for whom transport links were very difficult because, certainly in the Highland bus links and that type of things. So, I guess people who are more deprived would rely on more public transport. So, for them it was much more beneficial and, if they were in their home or at work or anything like that then, it was very much based around them, rather than them having to take time out, get on a bus for an hour to come for an appointment to then get 2 or 3 buses back home again. So, for that it was very beneficial, yeah.

MSK_H_04

It was also reported that modelling the service around the needs of deprived populations, such as providing short notice appointments and local access to physiotherapy, had an impact on non-attendance rates:

In my experience in that type of population they tend to require appointments on the day so they're not very, not very good at pre planned appointments it's all very reactive and you know, I'm aware that there's a surgery in Inverness that has the highest level of deprivation they run predominantly in on the day appointments.

MSK_H_08

As such, consideration of the population context when implementing new models of care was reported as a key facet of service design and delivery. It was mentioned that it may not be possible to have one single model of care with blanket application across NHS Highland:

So it's trying to be able to tailor that to different surgery demands you know based on population and you know frailty within that particular practice population. There's obviously different areas which have you know more deprivation which you know you

need different requirements so I think that's the whole sort of nub of it is trying to make it dependant on the practice population.

MSK_H_08

So again they are trying to do sort of satellite clinics so they will travel up to Wick and all these types of places. I guess trying to make everything a bit more equitable.

MSK_H_15

One key informant also expressed belief that close proximity to patients helped physiotherapists to attain better communication skills with their patients, which was not always the case between patients and consultants:

The time available to the physiotherapy staff and the communication skills of style employed by physiotherapy staff, tend to be more adaptable to people who may not have the... a higher educational level as their background than you would generally find in most orthopaedic consultants that's anecdotally my experience of communication skills between patients and consultants, and communication skills between physiotherapists and patients.

MSK_H_40

In summary, although not all key informants were clear about the role of physiotherapy in addressing deprivation and its role in gaining a more equitable service, other key informants were clear that new models of service delivery, particularly FPOC roles, could positively impact on vulnerable populations. The rurality of the Highlands had been reported as the most influential barrier in access to physiotherapy and key informants were clear about how the new geography of service delivery could have positive impacts on more disparate populations

4.1.10 Evaluation

Data collection and evaluation were reported to not always be properly imbedded into the planning, development and implementation of new roles, and therefore no clear outcome measures or agreed methods of evaluation were in place:

There wasn't an agreed target that 'You must reduce this by x number' – it was very much us taking the lead as clinicians, and saying, 'Well, we know this will work'.

MSK_H_40

I mean most of the data collection that I've done simply out of interest. The key thing, I guess for like, any GP practice if it works then they will know pretty quickly because they're having less appointments or they're seeing less patients with MSK problems so that becomes pretty obvious I guess the partners and the GPs don't necessarily need data collection to, to appreciate that and that's probably the key thing really is that they wanted if they were still seeing MSK stuff then something was going wrong.

MSK_H_08

The Patient Satisfaction, I suppose, was a bit more ad-hoc. We did it at kind of like 6 months, then we did it at a year, that type of thing.

MSK_H_04

Furthermore, it was argued that physiotherapists “need to be able to interrogate electronic systems” in order to properly evaluate new models of care and as such, early backing from IT services within NHS Highland was needed (MSK_H_40). It was also reported however, that the IT available was not always suitable for the evaluation needs of clinicians:

It's [PMS] not designed, I think, for what we're using it for. And even though we've been putting information in for a long time, I haven't had any reports back or any information that's helped my service.

MSK_H_03

It was also reported by several key informants that evaluation methods and outcome measures were not always clear before a new model of care had been implemented:

The sort of evaluation and audit part of it is, hasn't really been discussed yet and I suspect it will be a case of you know just getting, getting some patients through that's through the system first of all and then maybe after a month or two we can sit down and decide what we need to evaluate from that.

MSK_H_24

If she [the APP] uses Vision that allows us to do searches depending on particular what we want to evaluate, we can search on the read codes and do that there. What we are going to search on at the moment see I don't really know. That'll be a discussion we'll have to have.

MSK_H_24

I think the physios in the practice I guess will be collecting a lot of that data themselves. So that's kind of what we need to make sure from the outset is that they know you know everybody is keeping the same data and sort of keeping it up to date I guess.

MSK_H_40

It was also reported that collection of data did not always manifest into evaluation given time and staffing constraints:

We are actually, we just had a change of staff so we've got somebody new coming in to part of the post, if you see what I mean? So that is something we are reviewing at the moment because we currently don't have any administrative support for that role. And the amount of data that they had been keeping was quite significant. So we are really looking at sort of, really sort of reviewing that at the moment, what data do we really want to know? Trying to streamline that a little bit. So that's kind of under review at the moment.

Secondary data provided by key informants in NHS Highland and NHS Lothian were used to evidence outcomes and impacts. These include audit data and service evaluations. NHS Highland conducted a 6 month audit in one local government ward in order to evaluate the trial of direct access to a physiotherapy clinic based at a local Health Centre (Document_H_01, 2017). This allowed approximately 13 patients per week to attend 30-minute clinic appointments with a MSK physiotherapist. Patients *“booked in directly via...reception either at the suggestion of a GP during consultation or as advised by another staff member including reception staff, physiotherapists and other professional”* (Document_H_01, 2017). On average 66% of patients discharged with no further appointment required. Following the introduction of the service, referrals into secondary care physiotherapy were reported to have decreased by approximately one third over the 6 month audit period. This was followed up in a secondary document (Document_H_02, 2017), which recorded route of referral into physiotherapy services – either by self-referral or GP referral. Introduction of the MATS service into NHS Highland in 2015 (in the three practices studied) was associated with an increased predominance of referrals by GP compared with self-referral.

4.1.11 Summary

Planning and development of new roles was facilitated by the sharing of information between those designing and implementing new models of care. Barriers to the planning and development of new models of care included funding and staff attitudes. The top-down implementation of new models of care within NHS Highland were noted as barriers to implementation. Alongside this, it was argued that some new models of care were not fit for the population. Sustainability and expansion was said to be supported by sharing working knowledge of new models of care and the continued training of staff to take on new roles. Barriers to the sustainability included resources for funding, training and accommodation. Overall, feedback from patients and staff with regards to new models of care was positive. Key informants also noted that new models of care had the potential to impact positively on deprivation by allowing more timely and local access to MSK physiotherapy services. Evaluation was reported to have been carried out through patient experience surveys, investigation of Read Codes on IT systems such as EMIS and Vision and by looking at GP appointments, GP referrals, orthopaedic referrals and ‘did not attend’ rates. Some of these evaluations were available to the research team, but most were not. Measures of success were said by key informants to not always be outlined before the implementation of new models of care. Moreover, some IT systems were reported as not fit for the purpose of capturing or retrieving data that could be used in an evaluation. The collection of data was said to have been carried out on the whole by clinical staff delivering new service models and these data may not always go on to be evaluated.

4.2 NHS Lothian

Figure 4.3. Map of Scotland with NHS Lothian highlighted (NHS Lothian, 2018)



NHS Lothian had a population of 843,733 as of the last census (2011). Life expectancy is 64.8 years for males and 67.2 years for females. 15.3% of NHS Lothian are aged 65 years or older (NHS Lothian Population and disease projections Appendix 1). NHS Lothian has mainly an urban population interspersed with rural areas and is set over 1800 square kilometres (geographical area of Scotland mapped in Figure 4.3).

NHS Lothian includes four HSCPs: East Lothian, West Lothian, Midlothian, and Edinburgh.

In relation to common MSK complaints, 17.7% of the adult NHS Lothian population reported back pain, 1.4% less than the national average. Osteoarthritis in the hip was reported by 9.6% of the population aged >45 years, and 15.6% reported knee osteoarthritis, both of which fall 0.5% and 1% below the national average respectively (Arthritis Research UK, 2018).

The structure and spread of staff in MSK physiotherapy in transformational new models of care in NHS Lothian is shown in Figure 5.4.

Four new models of care were identified for NHS Lothian, summarised in Table 4.2 These include GP APPs, MSK Pathway APPs, Exercise referral specialists and NHS 24 MATS. Exercise referral specialists were excluded from this evaluation.

Figure 4.4. Showing the structure and spread of staff involved in MSK physiotherapy transformation in NHS Lothian.

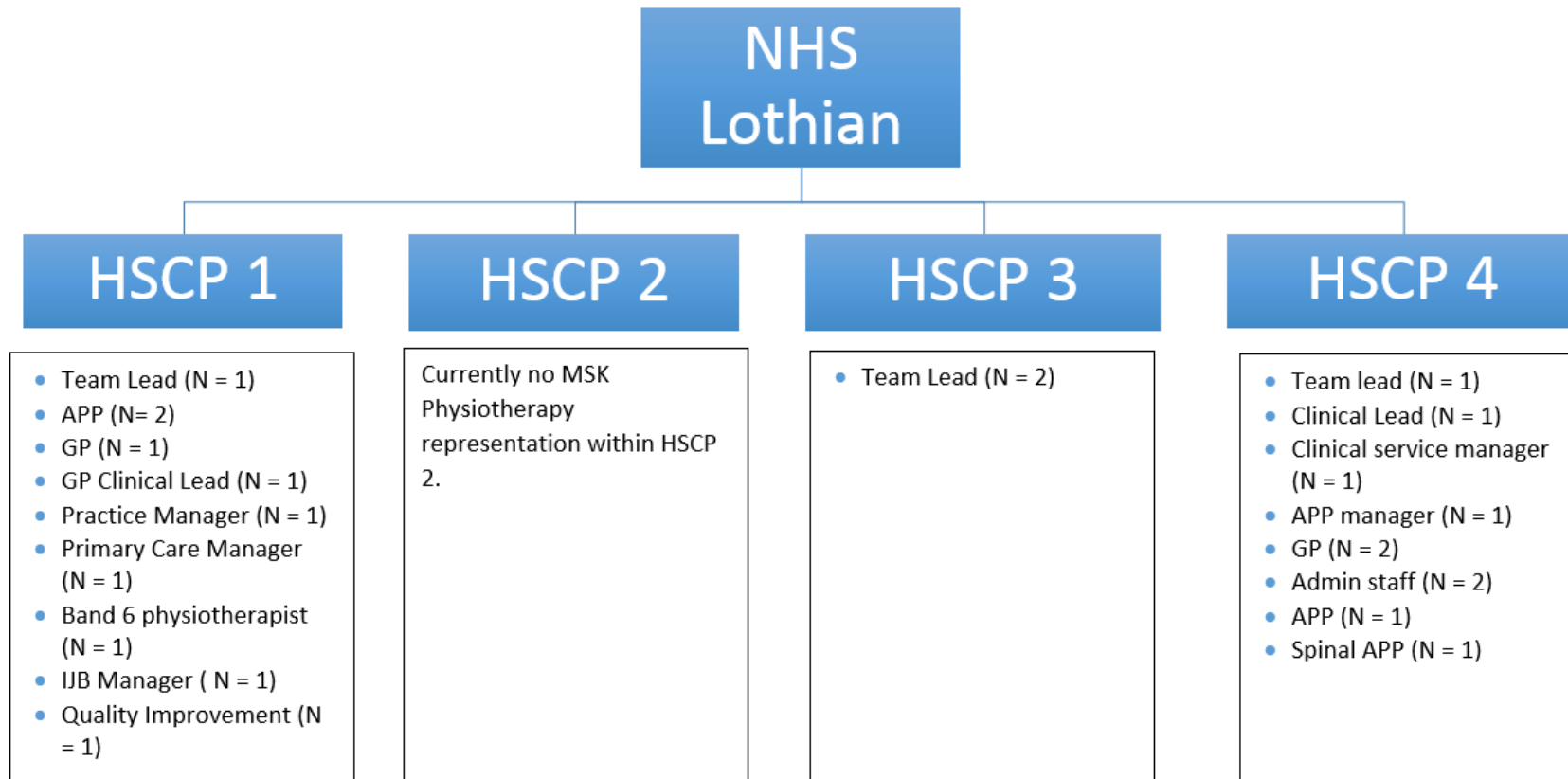


Table 4.2. New models of care identified in NHS Lothian

New Model of Care Service	Description
APP	This involved direct access to an APP based in a local GP practice (N=2 reported). One GP APP operated on a cluster basis working within two GP practices, with the second working within a single GP practice. All three practices were located within a single hub. GP APPs were part of a Collaborative Working for Immediate Care (CWIC) service. This involved direct access to an APP based in a local GP practice – which was incidentally co-located in building consisting of 3 GP practices, physiotherapy services and other healthcare providers. The CWIC service is a single multi-disciplinary team hub which was created in one of the GP practices to provide FCP from a wide range of clinicians – including APPs, ANPs and mental health clinicians. To access the CWIC hub, patients telephone NHS 24 in-hours services and the first 100 calls are triaged to the multi-disciplinary CWIC team. Thereafter NHS 24 in-hours service forwards calls to GP practice reception staff.
NHS 24 MATS	NHS 24 MATS was accessed by telephone and operates from 9am until 5pm on weekdays. A trained MSK call handler guides patients through a survey lasting no longer than 10 minutes, following which the patient was signposted to a doctor, provided with key information, or referred to a community physiotherapist.
Pathways APPs	An APP who specialised in one particular branch of MSK Physiotherapy. Several Pathway APPS were identified covering: Integrated low back pain service; Integrated foot and ankle service; Integrated shoulder and elbow service. These MSK Pathways APPs are funded by, and delivered in, primary care. At the time of data collection, respondents talked mainly about the low back pain service.
Exercise Referral Specialists	Exercise specialists employed to progress rehabilitation routines following completion of appointment and advice provided by APPs. They were able to link with leisure and third sector organisations. These roles were only just being rolled out and were therefore not studied here in detail.

4.3 NHS Lothian

4.3.1 Planning and Development

Rationale

Changes in MSK physiotherapy services at the primary care level in NHS Lothian were predominantly carried out by the development of advanced practitioner roles:

The move at the moment in Lothian is to try and have advanced scope practitioners [...] Physiotherapy, musculoskeletal practitioners on the ground.

MSK_L_07

These roles included APPs and MSK Pathways APPs. These models sit within a tiered service located in primary care. Tier 1 included GP APPs; Tier 3 the MSK Pathway APPs. Key informants within the main practice interviewed within NHS Lothian reported that the drive for GP APPs was initiated when a struggling practice was taken over by a neighbouring practice within the same hub. This called for new methods of service to meet demand:

When it first started it was a soft launch in September, 2017. We went into a Practice which was in special measures and, it was, therefore, being run by Health and Social Care Partnership. We went in originally and we saw patients triaged by reception and GPs still working in that Practice [...] The question was asked then, could we....could we put in GP APPs.

MSK_L_03

The Pathways APPs are an integrated service focus on particular body regions. Here. Patients can be referred by a GP or a GP APP for assessment and further investigations and discussion (if needed) with secondary care-based physiotherapy services are conducted by the Pathways APPs, reducing the need for further GP appointments.

The integrated back pain service used pathway APPs in order to reduce burden placed by patients with lumbar spine-related MSK issues on GPs, with the intention that patients would have no need to return to the GP for further appointments We're also trying to change pathways, so that rather than the GPs ordering investigations for their lumbar spine patients, they are referring them into our service, and leaving us to, you know, manage the full patient journeys.

MSK_L_14

APPs were included along with other advance scope practitioners (extended practice roles that may previously have been undertaken within a primary care setting by a GP such as ANP) in order to find new ways to “deal with the demand” and reduce the “burden” on the GP practice which doubled in size when two GP practices were combined (MSK_L_17). The move to advanced practice roles, including APPs, informed the development of a hub model whereby both amalgamated GP surgeries and small physiotherapy departments were housed within the same building, sharing services.

Following on from successes at this test site, planning and development of the APP role in NHS Lothian was driven at health board and IJB level:

There was a lot of meetings in the background before we sort of started as well, a lot of it has been in the process of build up for a long time. There's a sort of Senior Operational Group that are involved in all the things. There's [...] the physio, sort of service manager, she's involved in it. And, I know the.....the Integrated Joint Board with East Lothian Council.

MSK_L_16

Knowledge sharing, with regards to planning and development, was described as a facilitator and was achieved through pan-Lothian APP team meetings. These meetings were used as an opportunity to share experiences and progress planning in new areas and in the continuing development of current roles:

We...have regular meetings on Tuesdays that we all come together to ... air any concerns of any kind of recurring themes that are, that are building up ... whether it be ... problems with just how the diaries have been built or whether ... people [are] being put in appropriately or ... just being put in with nurse practitioners instead of MSK APPs.

MSK_L_17

Barriers to the development and planning of new models of care were reported as being the ability to properly train staff and retain those staff within the service in order to plan and develop further new models of care. This was echoed by another physiotherapy lead:

I'd say some of the key challenges coming back to the workforce issue so, within the physiotherapists services, making sure that there are the right clinicians, and training them appropriately, the time, the governance structures and so and so forth.

MSK_L_02

Moreover, it is was reported by one lead physiotherapist that staff retention was a barrier for the development of new posts as similar posts within other health boards were graded at a higher grade and banding within the salary scale.

In summary, many of the initial changes to the planning and development of new models of delivery within primary care in NHS Lothian were driven by the needs of specific failing practices. The model developed by these practices had been a catalyst for change throughout NHS Lothian. Facilitators had included the sharing of knowledge between advanced practice staff and physiotherapy leads. Barriers had been reported as issues regarding the training, recruitment, and retention of staff during the planning phase.

4.3.2 Implementation

At the time of reporting, implementation of GP APPs in NHS Lothian was within one GP practice. The role was relatively new, with the first APP being established in September 2017 (MSK_L_16) and a second APP added in January 2018 (MSK_L_17). It was run in conjunction with other services:

It is a, very much a joint project between [GP practice], Health and Social Care Partnership and NHS 24 In-Hours: so there are 3 major partners involved.

MSK_L_03

In a change from new models of care previously reported, the hub model, described above, also involved a trial of NHS 24 in-hours triage. Within this trial the first 100 calls to the practice were re-routed and triaged by NHS 24 who directed patients to self-help on NHS inform, booked appointments with the in-surgery GP or booked patients in with the appropriate advanced scope practitioner (including APPs). After the first 100 patients, calls were then taken by the reception staff within the GP surgery who were also able to book in with either the GP or signpost patients to advanced scope practitioners (MSK_L_03). Within the aforementioned hub there had also been a trial implementation of a new Collaborative Working for Immediate Care (CWIC) team. This multidisciplinary team was comprised of APPs, ANPs and mental health nurses and was implemented alongside NHS 24 in-hours triage in order to allow fast signposting to the appropriate clinician (MSK_L_16).

Besides the implementation of GP APPs, integrated back pain Pathway APPs were introduced as a triage service in order to move patients through the correct physiotherapy pathways:

It's more around diagnostics and where that triaging the patient to the appropriate type of management for them

MSK_L_14

Staff training

The initial implementation of one GP APP was staged over a period of time, which was considered by key informants to be advantageous to allow the new APP to shadow clinics and establish supervision before fully taking on the role (MSK_L_01). However, from the APP perspective it was felt that the implementation period was "very fast paced" - patient numbers increased quickly as did the range of MSK problems which were treated (MSK_L_17). As such, it was reported that a longer implementation period would have been preferable (MSK_L_17).

Contact and the creation of working relationships between APPs and GPs were seen as a crucial component to the successful implementation and embedding of APPs within practices. Within NHS Lothian, this involved building time into the GP timetable for discussion with APPs to allow for "questions" and "support" (MSK_L_01). From the APP perspective this allowed open and supportive conversations during implementation and beyond:

They're always on hand like you can go and speak to them, you can go and pick their brains about something or if you're just not really 100% sure you know it's, it seems to be fairly easy to get them to come in to have a look at the patient while you've got the patient there which has been really good you know that's, that's, I've learnt a huge amount from that.

MSK_L_16

Moreover, APPs were given direct training by dedicated training GPs who had no clinical caseload in order to support their implementation into GP practices:

We have CPD sessions with them twice a week you know clinical case, case study discussions etc. so yeah so there is that support there that we can go and discuss patients with them or we can take them to the, the sort of CPD sessions and discuss them and then get them to put all the kind of areas of the multidisciplinary team could it be more of a nursing issue, maybe more of a medical issue, they can kind of all put in there, all put in a, an opinion which is, which is really, really useful really helpful.

MSK_L_17

Patient engagement

Communication with the public around the early implementation of the advanced practice CWIC team impacted negatively on how the public initially reacted to the new method of service delivery:

There was some press about the CWIC Team when it started. It was in the Edinburgh Evening news. And, it wasn't particularly well managed. It was a bit negative how it came across. It was about people and how they weren't getting to see a doctor. Whereas it wasn't.....I felt that should've been a lot better managed when that came out and, actually, because the public reaction was, 'Who is it that's telling me not to see a doctor?'

MSK_L_16

Barriers to implementation

Barriers to implementation were also discussed by key informants. The administrative logistics involved in implementation of the hub model caused problems when establishing joint diaries and the creation of complex cross service communication. One physiotherapy lead suggested that:

What we really missed within our Hub, is like a co-ordinator for the Hub type role... somebody to just take charge of the basic logistics, the ordering, that sort of thing.

MSK_L_16

Desire for a role which coordinated administrative implementation of new models of care was echoed by management who reported that a band 4 coordinator would have freed up time to allow the smoother running of other parts of the service. Conversely, those practices in which a service manager was established described the implementation as a "tight ship", reporting that it eased implementation such that it felt like the service ran like it had "been there forever" (MSK_L_01). Those staff undertaking APP roles often continued to work within secondary care physiotherapy alongside their advanced practice role and it was reported that managing both workloads during the implementation phase could be difficult (MSK_L_03). One physiotherapy lead worried that new APPs may not fully understand how different the advanced practice role would be (MSK_L_01) and the implementation of new roles had proven to be challenging:

You've got 20 minute appointments and you're so if you've got a full day do you know I've got 18 patients in a full day so do you know all you really need is 1 patient, 2 patients to potentially go slightly awry and you're maybe needing to speak to the duty doctor or escalate them and then you're chasing your tail for the rest of the day so it's definitely, it's a much, much higher, higher level of stress I would say you know and much more pressure.

MSK_L_17

When we first started up we went into support a GP Practice that was in special measures...it was change on top of change and, that's kind of a bit of a barrier.

MSK_L_16

Staff in these positions were described as “exposed” in terms of both clinical pressure and volume of patients seen (MSK_L_03) compared to pressures felt within secondary care physiotherapy.

The process of implementing appropriately trained staff was also made difficult by the fact that staff often had to pay for their own training required for the role:

In order to get up to that level there's a significant amount of training that you have to do and unfortunately with being physios we kind of have to do a lot of that on our own.

MSK_L_16

The fact is they paid for their diploma course themselves. They paid for the special test course themselves and, if they were to go on and do a Masters there is no specific funding identified to do that. And, I think that's wrong. I think you're then employing clinicians on the basis of who can afford it, not who's good. And that, that doesn't sit comfortably with me, at all.

MSK_L_03

The need for quick recruitment of staff despite lack of funding was seen as a further barrier to APP implementation:

Staffing and probably funding to a certain extent as well you know obviously when you're implementing [...] a new service you [...] need that ability [...] to get the staff in and get the [...] the appropriate training for the staff and [...] doing that in a timely manner so that you're [...] able to get up and running as quickly as possible so I definitely think [...] they're probably the biggest barriers I would say.

MSK_L_17

In summary, the implementation of GP APP roles within this GP practice in NHS Lothian had been a project that involved a number of advanced practice roles, GPs and clinicians from secondary care in order to provide a completely novel way of delivering services. From a managerial perspective the implementation of training for staff had been slow and measured to allow time to ‘bed in’. From the APP perspective the implementation of their role had been a steep learning curve that had been well supported by GPs and physiotherapy leads. Engagement with patients during implementation was

difficult due to misinformation. Barriers to implementation included training and recruitment and sub-optimal coordination of services.

4.3.1 Sustainability and Expansion

Expansion

Many key informants expressed that the success of the APP service made it appealing to other practices within NHS Lothian, and that there was eagerness to make the APP model available across GP practices in the health board (MSK_L_03). This was expanded upon by one physiotherapist who reported that:

There's huge respect for the role already. And, I think the data currently out so far is very, very impressive. And, I think GPs are already very much on board [...] they want a slice of the action.

MSK_L_03

This was supported by another physiotherapist who believed that the role would expand “fairly quickly”, which they reported could only be “beneficial to the overall healthcare and overall patient journey”. (MSK_L_17). The potential speed of this expansion was noted by some key informants who reported that some caution may need to be shown in expanding further:

I think the.....the problem at the moment is just pulling the reins back a little bit because everybody else is looking at another GP Practice under pressure, every kind of little piece of the pie just now. So, I think that's maybe also been a victim of its own success.

MSK_L_16

Future expansion of the APP role was also discussed by key informants driven by their perceived gaps in the service. One example given was paediatric based MSK problems, a patient group which some APPs felt ill-equipped to deal with:

I think we haven't anticipated the number of paediatrics because we're a same-day service. We haven't anticipated the number of paediatrics, so a lot of our staff had not.....seen paediatrics because the GP APPs are not...we don't feel at that standard where they can.

MSK_L_03

However, some key informants reported plans to expand APP staff training to accommodate for a wider range of patient needs:

We're potentially going to be expanding to potentially doing sort of some paediatric clinics in terms of musculoskeletal paediatric clinics and you know [names colleague] has obviously identified the course that the 3 of us are going to try and go along to and you know give us the training in terms of building up our competency to be able to see these patients.

MSK_L_17

Further expansion plans reported involved moving from a single-practice based model to a hub-based APP service:

A hub model where you would... instead of putting an APP into every practice, you would put it into some practices and then other practices would go to that and then you would have a mixture of grades because then you could have, provided you had the supervision, you could have maybe a [grade] six doing some of the work, provided they were in the team... But, again, all linked into physio.

MSK_L_01

Some practices had begun to expand into other areas related to MSK physiotherapy in primary care. One practice had instituted the creation of Exercise Referral Specialists, who linked physiotherapy with community leisure and third sector organisations as part of rehabilitation:

We have Exercise Referral Specialists employed in our service and, they're...because they're exercise specialists they can adapt to rehabilitation programme, so they're not just delivering the programme that the physio has set: they're progressing it. And, we use them as a link into Leisure, and third sector for, you know, be it Pass to Health or Men's Shed, or whatever it is. And, I can see much more of a role coming for that exercise professional across physiotherapy.

MSK_L_03

Barriers to sustainability and expansion

Though the introduction of APPs has been reported as a fairly positive example of new models of care, barriers to the sustainability and expansion of the role were discussed by key informants. These themes included staff training and retention, pay banding, accommodation issues, and IT concerns. These themes are discussed below.

1. Staff Barriers

Staff barriers were discussed by key informants in two themes: the training of staff and the recruitment of staff. The importance of training for physiotherapy staff undertaking advanced practice roles was reported by a number of key informants as being crucial to the ability to expand and to sustain services:

There's still the logistics about the number of people that you've got on the ground that could actually do the training for the people that are coming in.

MSK_L_03

In order to expand the service across Lothian it was argued by key informants that there needed to be a more formal set-up with regards to training, so ensuring that APPs were trained appropriately across the board. Key informants reported that there was a lack of established training across NHS Lothian and, indeed, across Scotland, which hindered the growth of the role:

To be an APP you, obviously, need to get a certain level of physio training for certain skillsets and things like that so, it's not something you're going to walk straight into out

of uni. So, it's maybe getting that forward planning with who's coming up to do those roles in future.

MSK_L_16

It was suggested by key informants that advanced practice roles could be better supported at the university level to ensure appropriate and coherent practice across Scotland. Concerns were raised, however, regarding the ability of health boards to fund all APPs to undertake a specific university-led module (MSK_L_01). Moreover, one physiotherapist within NHS Lothian argued that much of the current physiotherapy training focused on roles within secondary care physiotherapy:

Certainly a lot of the uni stuff's very much, you know, hospital based. You know, general physio rotations type thing. Whereas, actually a bit more understanding of how Primary Care works coming through, would probably help people.

MSK_L_16

They further suggested the establishment of a dedicated APP training programme in an educational institution, similar to the existing ANP training program, may help to ensure that “*people have got the right skillsets*” (MSK_L_16), allowing physiotherapists to “*learn the job*” while undertaking an internship (MSK_L_17). Moreover, specifically tailored physiotherapy modules would allow the role to expand safely:

I'm doing my non-medical [prescriber training] just now. I'm the only MSK physio on it. There's one more physio with a respiratory background and everybody else is a nurse. So, I had my exam yesterday and it was all very much nurse led, nurse driven: doesn't really apply to me in practice. So, I think having ...like where the nurse has got their ANP training type programmes, where they go through their Prescribing and their Clinical Decision Making, and they do lots of different modules and then come out with their ANP at the end of it. Maybe something like that is a bit more...physio specific, that way.

MSK_L_16

One physiotherapist argued that without considering the development of new models of training for physiotherapy staff about the APP role, the role could not sustainably expand:

Really the challenges is going to be around sustainability of the services, making sure that there are enough, appropriately trained, physiotherapists coming in to do these roles, and that the....sort of traineeship and apprenticeship type models that we move on are appropriately developed, the funding's appropriate there, to make sure that the staff can get to that level. I think that's going to be the key challenge.

MSK_L_02

Further barriers were identified in the recruitment of appropriate staff into the APP role. One key informant questioned the sustainability of the APP role if staff could not be attracted to take on posts within physiotherapy:

I've noticed that in recruitment recently we had a temporary band 5 post. We had 2 applicants: one withdrew and the other didn't turn up. It's not a great time of year to

recruit because the times that the universities come out but, we've never seen this at band 5 level before. And so, I think there's something in that that the Scottish Government and the universities need to take on about training more students.

MSK_L_03

Concerns were raised by key informants about the appointment of APPs in primary care removing physiotherapists from secondary care physiotherapy and thus leaving secondary care physiotherapy inadequately staffed; one physiotherapist reported that “*we don't have backfill*” to meet that demand (MSK_L_01). This was also reported by a physiotherapy lead who believed that the introduction of APP roles must be strategically thought out and coordinated to ensure that “*we don't rob Peter to pay Paul*” and that physiotherapy APP roles could continue to work alongside secondary care physiotherapy (MSK_L_02). Removal of trained staff from the core physiotherapy service was also reported to have ongoing issues for the expansion of the service as it had the potential to impact waiting lists and remove support for staff advancing through the service (MSK_L_16). There was also a similar concern for APPs who felt that they may in future, be required to cover APP shortage in other practices, leaving their current practice understaffed:

If we start taking people out and satelliting people ... from the hub out into other practices and if we start to do that on ... larger ... spectrum then I think that we're then probably going to then start to struggle to deal with the demand that we've got here.

MSK_L_17

2. Funding

Many key informants stated that funding was a key issue for sustainability and expansion of APP roles. The source of the funding was often discussed as a key issue, and it was stated that it would have to be decided whether APPs should be funded by primary care or secondary care:

It would be the funding of it though that would be the problem ... if we had funding it would be fine, but at the minute I would say it's put a huge pressure on the physio services... some o' the shift of care is not sending to orthopaedics but it's going to be paid for by the primary care budget? ... it's that thing of “It's not my budget, it's your budget.

MSK_L_01

Furthermore, one physiotherapist shared particular concerns over what the funding options would be when the transformational money comes to an end and, as such, how this would impact on the likely sustainability of the service. It was argued that GP leads “*need to stay bought into it*” and it could become the case that the responsibility of payment for APPs would shift to the physiotherapy service; a shift that the service could not meet (MSK_L_03). Conversely, one APP stated that APPs were more cost effective than GPs, and that this should be a consideration when deciding on future funding (MSK_L_16).

Additionally, the short term nature of the current funding for APPs was stated as a barrier to sustainability and expansion. Managers in lead roles stated that it was often hard to hire staff due to the current temporary nature of the roles since “*nobody will leave a permanent post for a temporary post*”, impacting on the ability to expand the service appropriately (MSK_L_01). Furthermore, the temporary nature of funding had left some physiotherapists feeling that the service was in limbo, waiting to “*get back to normal*” and “*have staff to actually see the patients*” (MSK_L_01).

3. Pay banding issues

APP managers raised concerns about issues around pay banding which might prevent them from sustaining or expanding the service. Often within Lothian, APP staff were paid at band 7 level and soon left the role to take on higher paying APP posts elsewhere:

We’ve trained them all so well they’ve gone off to 8A posts elsewhere ‘cause we only have seven band seven posts.

MSK_L_01

Being unable to meet the same banding for similar posts meant that many members of trained staff had taken up jobs in other health boards where they could benefit from a higher pay grade for the same job. This links to findings reported earlier with regards to a lack of homogeneity in the APP role and related banding.

4. Accommodation

The availability of appropriate accommodation to house APP consultations within GP surgeries was reported as a concern by many key informants. It was stated that APPs needed particular equipment within treatment rooms to allow them to function in their role correctly and that this was not always possible in the current GP practices where APPs are embedded:

it’s practical things like, you know, we still, as physios, absolutely insist that we have an adjustable plinth, and that’s not common in GP Practices. ...and we use other resources that we’d have to think about how we get that in all the departments so you’re getting an equity, because you can’t walk around with a great big briefcase with all your models of your spine and your back and all the patient information leaflets.

MSK_L_03

I spent time, pretty much, trying to chase a GP who could give me a tendon hammer because I needed to check someone’s reflexes. So, I think, you know, actually just the logistics if you put someone in a Practice you must ensure what you’ve got is fit for purpose.

MSK_L_16

I keep bringing up the issues that we don’t have clinic space for the actual clinics to take place, and we don’t have any office to do our admin in.

MSK_L_14

Moreover, the availability and suitability of the rooms themselves was also raised as a concern:

[One of the practices] didn't have a room for me. So, I was in a cupboard, pretty much, on Tuesday. It's the room the midwife uses and so, it's set for a midwife with stuff for internal examinations and things like that and when we're getting chaps in it's like, 'What is that?'

MSK_L_16

Despite this, staff reiterated the importance of remaining within a primary care setting. APPs agreed that these *"are roles that do need to sit within a GP practice"* to allow a clear divide between the role of the APP and the role of the secondary care physiotherapist and to remain available to the patient in a community setting (MSK_L_17). The availability of appropriate accommodation continued to be a barrier to the sustainability and expansion of the role.

5. IT systems

The functionality of the IT systems concerned many key informants and it was described as *"the biggest barrier of the lot"* and an area where physiotherapists noted that they had *"really struggled"* (MSK_L_01). In particular, the need to adapt existing GP software to suit physiotherapists appeared to be particularly challenging and one physiotherapist reported that utilising the GP EMIS system was a *"nightmare"*, which signified a clear issue moving forward with the role (MSK_L_03). The unsuitability of the system for use by physiotherapists was reported to impact both on the time which APPs have to treat and manage patients and also for an APP to work with patients across a cluster of GP practices. One key informant stated that a solution to this problem would be to have the ability to share the data between GPs and physiotherapists, but realised there would be issues with privacy and data ownership:

I think, the ideal scenario would be that you could get access to all patient records, from any Practice, from wherever you were. But, we have to then think about who owns that data. Does the patient own that data? Does the GP Practice own that data? What rights do you need? How... are you going to, physically, do that? You know, do you plug two ends of a computer system in together? I...I don't know.

MSK_L_03

In summary, the expansion of the APP role had been considered in a number of ways including the rolling out of the new model of care across more sites within NHS Lothian. It was also reported that the role could also become part of further new models of care as part of multidisciplinary teams. Barriers to sustainability were also identified and included staff recruitment, training and retention. This was reportedly exacerbated by funding issues whereby short term contracts and funding made it difficult to attract staff to advanced roles. The grading and banding of APP roles was also reported as a barrier to expansion and sustainability since trained APPs were leaving NHS Lothian to take on the same position at a higher banding within other health boards. Accommodation further impacted on the ability of APPs to sustain the service as provision of space to carry out the role, and equipment to properly manage patients were often said to be unavailable. Finally, IT was mentioned as a further barrier to sustainability and expansion of the APP post as the lack of cohesive IT systems meant that APPs were using services not set up to meet their demands and highlighted that there

were issues around data sharing and information gathering between systems, which impacted on patient care.

4.3.2 Impacts and outcomes

Impacts and outcomes for the service

Impacts for the physiotherapy and primary care services were discussed positively, and it was reported anecdotally that the introduction of the service had a positive impact on the healthcare service as a whole. Often, the ability of specialist APPs (such as spinal APPs) to treat patients was reported to be associated with a decrease in onward referrals to secondary care, both physiotherapy services and orthopaedics:

[In the first practice] the drop in secondary care orthopaedic referrals was 49%. Yeah, it's the highest in Lothian. Now, I don't think we can attribute that all to [the APP] who started in September of that year. That's massive that's really exciting data. [The second practice] doubled in size. It became a 20k Practice. And, so their....I don't know their extrapolations for that month but their referral rate, I think it dropped by about 2%. So, it didn't change despite the fact that they had 2 months of double their patients on their caseload. So, there was an intervention there that made the difference there.

MSK_L_03

These impacts on the physiotherapy service, as driven by changes in primary care delivery of MSK physiotherapy, were also noted by APPs working in the GP practice who believed that onwards referral had dropped by almost “50% over the last year or so” (MSK_L_16), although supporting data was not shared with the research team.

Similarly, attendance at A&E for common MSK complaints also appeared to be reduced but that information on this was not fully evaluated by physiotherapists:

We expected that we would be referring more to A&E. We...and, that was our kind of thought that we might have an impact on them. Very, very early indications are that, in the last 4 months, there are patients arriving at A&E that are attached to this Practice and formerly to the other Practice, have dropped. So, it's early data but it's...it's actually showing the reverse of what we were expecting.

MSK_L_03

This led to a belief that those people who may have presented to secondary or emergency care were “arriving in Primary Care when they should do and therefore they're being seen and they're not needing, or not desiring to turn up at A&E” (MSK_L_03). This aligned with reported initial concern that patients would wish to be referred back to GPs after appointments with APPs, but this did not appear to be the case:

A lot of the time we're not having to re-involve the GP unless there has been something that we need to escalate back to the GP so it's definitely working quite well within that team.

MSK_L_17

The ability of the patients to see APPs instead of GPs for MSK related issues was anecdotally said to reduce the number of prescriptions given to patients:

I would say I saw 10 patients a day. So, I think I went first week without actually needing to ask for a script for anybody...because I ... still can't prescribe at the moment ... because it's not part of my skillset, it's not the first place I would go to reach for a prescription. I'd give other advice on things that...and, people haven't been coming back looking for anything else.

MSK_L_16

This experience was corroborated by another APP who reported that before the introduction of the APP role patients would most likely have visited the GP and been prescribed a painkiller “straight off the bat” but that the new role allowed APPs to try a number of different treatment methods before offering pain relief (MSK_L_17). It was suggested that this reduction in prescriptions empowered patients that attended appointments with APPs, and likely resulted in a longer-term reduction of burden for health services as a whole:

It's definitely given people you know empowering the population to give them the, the lifestyle changes and the advice that they need to try and deal with that problem and eventually prevent it from becoming more of a burden on the NHS further down the line.

MSK_L_17

Impacts and outcomes for staff

Outcomes for both GP and APP staff were framed positively during interviews, one lead physiotherapist described new APP staff as “excited” about undertaking new roles and “enjoying their progression” because there were previously no posts available at the banding level to which they were now working (MSK_L_01).

A positive impact noted by physiotherapists and GPs was that GPs were able to offer more time to patients by expanding their appointment time due to a decreased MSK workload GP appointments had moved to 15 minutes in one GP practice. This allowed the GP to deal with “chronic long-term conditions as standard” (MSK_L_03). Moreover, it was recognised by GPs themselves that APPs offered a specific skill-set which was complimentary to the delivery of primary care in GP surgeries (MSK_L_03):

If I'm seeing 18 patients in a full day and MSK_L_16 is seeing 9 in that morning then do you know that's, that's a lot of patients it's 27 patients you could be taking off of GPs you know doorstep so that's it's a huge, it's a huge volume of patients.

MSK_L_17

The close working relationship between GPs and APPs was seen as a positive influence on the success of the APP role and one physiotherapist noted that the relationship between the two was “really good” (MSK_L_03). From the APP perspective this close working was viewed as a “positive thing to forward” with (MSK_L_17).

The close working between GPs and APPs however, was not always well received by other staff within the GP surgery. Some reception staff were said to be struggling to adapt to changes in their role, including having to signpost patients to GPs or APPs:

One of the worst [challenges] signposting from the receptionists. So that's been a... that's been a long, hard battle. That's been a whole pile of wasted appointments, unfilled appointments, lots of things, but I think that's been more of a ... logistical problem.

MSK_L_01

Outcomes and impacts for patients

The introduction of FPOC APPs was said to have been well received by patients visiting the practices. This was measured through patient satisfaction surveys, where the results were largely positive; 91% of patients being either 'satisfied' or 'very satisfied' with the ability to receive "quick information" from the APP (MSK_L_01). Similar results were reported by other physiotherapists:

You're looking at 80 plus percent of patients rating the CWIC Service as excellent... That's now being developed by MSK_L_09_ at the request of one of the GP Development offices to include the whole journey through from the point that they call up their GP Practice so, it's not just about what our clinicians are doing within the Practice: it's what happens in the journey.

MSK_L_03

The patient satisfaction was also observed by APPs during face to face appointments with patients who reported that patients appeared "happier because they're putting their back out yesterday and they're getting an appointment today" (MSK_L_16). Additionally one APP reported that one steep learning curve had been the realisation that "just giving somebody a bit of reassurance that this'll get better makes a massive difference" (MSK_L_16).

Patient satisfaction was reported to be linked to the reduction in primary care waiting times for patients by the introduction of the APP service, and there was high uptake of these appointments since "if they come into the Advanced Practitioner the waits are certainly a lot shorter" (MSK_L_02). The ability to see patients earlier without the need for lengthy waiting lists was said to improve outcomes for patients:

I think it'll prevent chronicity of things because they are not waiting to get advice. I think it's best for patients, like, it'll be very positive as that quick access to the right things at the right time. I think it'll make accessing appointments with GP easier through time.

MSK_L_16

This was supported by another APP who reported that giving advice and exercise "can make a huge difference" as opposed to patients "sitting on a waiting list to see a physio" during which time the condition becomes chronic (MSK_L_17).

In the integrated back pain pathway APPs, it was reported that patients who would traditionally see GPs for lumbar spine issues would be routed to their service instead. This helped prevent the need for them to be referred straight to secondary healthcare by GPs. Instead, they were referred to the pathway APP service which helped “*patient flow and getting the patient to the right person at the right point in their journey*” (MSK_L_14).

However, key informants also identified negative aspects of the introduction of the APP role for the patient. These were predominantly due to patients having to adapt to changes in the way that the GP service operated, for example having to tell receptionists a little about their condition in order to be signposted to the correct clinician (MSK_L_02). Physiotherapists also reported that:

We’ve had patients going to the wrong location and turning up late and, so we’ve changed the wording and we now call the CWIC, First Point of Contact APP an ‘MSK Clinician’ just to try and stop the patient confusion. And....but, unfortunately that’s still not....not working terribly well. We’re still having issues with patients arriving at the wrong location... I think some of that is reception staff still saying, ‘Oh, it’s the physio’, when patients say, ‘What does MSK mean?’ And, of course, they don’t then appreciate the knock on that that has.

MSK_L_03

This change in culture was reported as a significant change for patients, which involved both education of the patient population and better communication between physiotherapists, APPs, advanced practitioners and patients.

Similarly, patients using the integrated back pain pathway APP service were said to be uncertain about how the service operates:

What I’ve found on the whole is that some people when they come in are a wee bit unsure of what the purpose of the appointment is

MSK_L_14

Overall, the introduction of the APP role was reported to have had a positive effect on the delivery of primary care both by reducing the number of MSK complaints presenting for GP appointments and by reducing the number of needless referrals to secondary care physiotherapy. The advanced practice role had also been reported to be reducing the rate of needless prescription for MSK problems through advice and triage. Staff were positive about the role and appreciated the challenges involved in establishing a new model of care although, as previously highlighted within this report, the implementation period could have been longer. This had been helped by close working relationships with both GPs and physiotherapy leads. The service was reported to have been generally well received by patients as they were able to see a clinician more quickly when acute problems presented. Negative experiences of patients were reported to have centred on adaption to a change in culture in how GP surgeries were run.

4.3.3 Evaluation

Evaluation of the APP service was carried out through several different methods. This included: internal audits (MSK_L_01); flash evaluations (MSK_L_01); informal spreadsheets produced by APPs (MSK_L_01, MSK_L_16 and MSK_L_14); questionnaires (MSK_L_03, MSK_L_16, MSK_L_17); patient volunteer feedback (MSK_L_03); and employment of an NHS service (quality improvement team, QIT) to formally evaluate data (MSK_L_03, MSK_L_16, MSK_L_17).

The need for evaluation of the APP service in NHS Lothian was reported across the Board. One physiotherapist reported that “robust audit” of the service was crucial to continue learning about the effectiveness of the service and to ensure health board targets were met (MSK_L_01). Another physiotherapist reported that evaluation was carried out by collecting data on:

Foot fall, we count DNAs, we count slot utilisation...and, we also predict ahead because we've got a service level agreement to meet, and we need to be able to predict ahead what...how many appointments we're offering each week so that I can make sure we meet service level agreement ... we started off with the spreadsheet, the outcome data so...what did the patient come in with? What did you do? Where did they go? ... 'Did you prescribe? Did you issue a sick note?' ... Was it escalated within the CWIC Service? or, was it escalated to A&E? So, we're trying to capture that.

MSK_L_03

One key informant further stated that this information was likely to be useful to other APP services operating in other Scottish health boards, giving an indication of how the APP service saw itself as fitting into the overall healthcare landscape in Scotland:

So, hopefully we're in a position to feed in to, not only the pan Lothian reports but Scottish national reports with something a bit more meaningful.

MSK_L_03

It was also argued that the existing methods of evaluation were incomplete without the use of GP practice data:

The trouble with all of this is, you know, GP practices don't collect figures. We really struggle with actually pricing this and looking, you know, what would we actually save, what are potential savings, where are we saving? You know, we're saving on pharmacy as well, we're saving on referrals to secondary care.... that side of the health economics is very difficult to obtain.

MSK_L_01

In summary, the evaluation of the introduction of the APP role had been carried out in a number of different ways by looking at available figures collected by APPs, collected by GP practices, and being filtered down from secondary care physiotherapy. Evaluation of the service was seen as crucial to implementing a successful service that could enthuse APPs, patients, GPs and funders alike and give a better picture of how the role would fit into wider models of healthcare delivery across Scotland.

4.3.4 Deprivation and Equity of Access

Key informants were asked their views on the effects of the introduction of the GP APP services in NHS Lothian on deprivation and equity of access into primary healthcare services. Some stated that deprived populations were better off as a result of this service due to decreased treatment burden:

It's obviously a barrier if you're paying on a call, and it's GP Practice and not a Freephone number ...But, in theory the access should be better. It's more local and, if you think that for the GP APPs, ...if they're managed and they don't need to go onto Secondary Care and they're managed, they're not then spending a bus fare, time off work to go and see a consultant potentially to be off work to be told, 'What you need is physio'.

MSK_L_03

However, other key informants stated that the service needed to focus more on reaching deprived populations in the future, aiming to understand how “*socioeconomic background*”, among other deprivation factors, impacted on the ability of patient populations to engage with primary care services (MSK_L_02). One key informant believed that the role of the APP could lead to more patient empowerment:

The difficulty I think they have really...I think for me, is really around health literacy: is ... patients understanding what it is that they can receive from the services. So, the uptake into physiotherapy services from certain socioeconomic groups is very challenging.

MSK_L_02

The APP role went some way towards giving patients the tools and knowledge to access healthcare where they felt that it was appropriate with an ability to signpost themselves to the correct services. It was reported however, that this involved work from GPs, APPs, and physiotherapy departments to work out how services could best meet the needs of population groups. Despite some different views on whether all groups within the populations were being reached, there was some consensus amongst key informants on improved equity of access to services in the test sites, particularly access to GP appointments, not only physiotherapy:

The orthopaedic data suggests, is that you're getting the right person at the right place, at the right time.

MSK_L_03

One informant noted that patients with poor health literacy were helped by the introduction of their service:

They're having to continually return to their GPs to ask for a scan, or to ask for a secondary care referral, these are barriers, which people who are generally, you know, more deprived people have poorer health literacy, or poorer patient activation scores then we know that they often don't get through complex systems.

Key informants also note that the role brought “*more equity of access*” in who could be seen by the GP, not only by opening up GP appointments for non-MSK complaints, but also by increasing the opportunities for those with long-standing MSK complaints to be seen more quickly “*as opposed to having to wait for a significant number of weeks to be seen*” (MSK_L_16).

Overall, it was reported that the APP role had a positive effect on deprived populations since faster access to primary care services had been noted to have a positive effect on the likelihood of patients attending appointments. It had also been reported that the APP role was thought to have positive impacts on equity of access by allowing patients to be seen quickly, therefore reducing the chance for MSK problems to become chronic.

4.3.5 Summary

In summary, within NHS Lothian the planning and development of new models of care was driven in some practices by the needs of failing practices, so presenting the opportunity to deliver primary care in a novel way. The implementation of advanced practice roles was undertaken with collaboration between GPs, APPs, physiotherapists and clinicians from secondary care to implement a robust service where possible. Opportunities for the expansion of the APP role had been considered across NHS Lothian but barriers had included: staff recruitment, training and retention; problems with comprehensive and long term funding; uneven banding for advanced roles when compared to other health boards; lack of suitable accommodation and; a lack of coherent IT systems. Despite these barriers the APP role was reported to have been generally well received by patients, enjoyed by staff, and supported by GPs. Early formal evaluation of the role had reportedly corroborated these findings. The APP role was reported as having the power to impact positively for more deprived populations and increase equity of access to physiotherapy services for all, although this has not been formally evaluated.

4.4 NHS 24 MATS

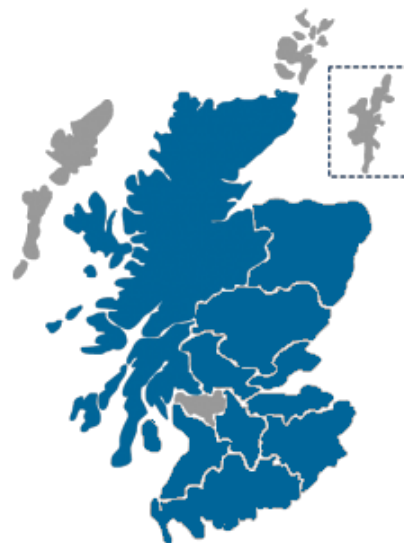
In order to determine how MATS was being utilised in innovative and new ways from how it was originally designed, the research team asked a broader range of key informants in NHS Highland and NHS Lothian to comment on their experiences of using the service alongside new models of care. This information was supported by speaking to two key informants from the NHS MATS service around the implementation of new health boards into the service and plans for new models of care that impact on the delivery of MSK physiotherapy in primary

care.

NHS 24 MATS is a telephone helpline and triage service offering support and advice to people experiencing MSK issues. This service operates from 9am until 5pm from Monday to Friday, with calls operated by trained advisors. The service began operating in 2010. Between January 2012 and July 2013, 41,764 prospective patients contacted MATS and completed a protocol based triage tool over the telephone, 79.7% of which were treated with self-management.

Use of MATS within Scotland is on a per Health board basis and had, as of May 2018, been implemented in 10 of 14 Health boards with NHS Western Isles, NHS Shetland, NHS Orkney and NHS Greater Glasgow & Clyde not using the service (Figure 4.5).

Figure 4.5. Map of NHS locations utilising MATS service



Although many key informants reported the use of MATS as a transformational change, it was originally established in 2010. This chapter focuses on innovative and transformational ways that the MATS service was being used in primary care; in the two deep dive case studies and more generally across Scotland through interviews with key MATS stakeholders.

4.4.1 Planning and Development

Much of the planning and development of the MATS service was outlined when the service was first established in 2012 and the format and structure of the service had not changed significantly, except to expand to take on additional health boards (NHS MATS serves 10/14 health boards at the time of this report). The focus of this evaluation was to establish how MATS had been implemented by health boards to deliver new models of care in physiotherapy within primary care. As such, the planning and development of the everyday MATS service was not a key consideration in our interviews. NHS Fife was the most recent health board to start to use MATS and was due to be rolled out in June 2018.

4.4.2 Implementation

One key informant from NHS MATS discussed the way in which the service was implemented within new health boards from early conversations between health boards and their Scottish Government Lead. These discussions were held at a senior level in order to determine the health board “*appetite*” for the service before exploring the benefits and, finally, engaging more fully in discussions around how the service could work locally (MSK_M_02). This had also been the experience of bringing NHS Fife on board:

Fife, they’ve been kind of looking at this for quite a long time, so actually they’re in a good place, they’ve done a lot of the work themselves to get themselves in that place, engagement with GPs etc. So actually they’re in a, they’re in a very good place to engage with us and have been really from the moment we’ve started talking to them, it’s not been a complex position to get ourselves into a place where we can integrate with them, there’s some other things that have delayed, delayed the implementation unfortunately, but that’s more paperwork and that sort of thing. The actual service linkage is pretty good.

MSK_M_01

It had therefore been the intention of MATS that implementation should be a process which was organic and utilised a bottom-up approach:

[The Scottish Government Lead is] kind of taking it from the sort of a, kind of driving bottom up as well, so if there are services that get in touch to say, “Actually, we’d quite like to be part of that,” then that, you know, that comes up that way, ‘cause Orkney are also on the cards as well. We’ve just started engaging with Orkney for later on this year. So, they’re on the cards as well, and also she... goes out to try and engage with, identify areas ‘cause obviously the target is that we’re a fully national service.

MSK_M_01

Through provision of resources such as posters and leaflets, the MATS service aimed to support new health boards as much as possible with the onus on individual health boards to develop, implement and run the service locally to allow health boards to be “*in a position that they’re comfortable to integrate and engage with the service.*” (MSK_M_01).

However, implementation of MATS had been poorly received by some physiotherapy clinicians, due to misunderstandings over what the service could offer and how it would be run:

[W]e always thought that MATS was to give people information and advice, so that they could start treating themselves before they came to see us. But we thought that the physiotherapists were going to be answering the calls. We didn’t think it was just going to be call operators. And, I thought that maybe that my patients just weren’t being assertive enough. And, I tried. And, it was like...it was just...it was appalling, just appalling! It was so bad it was funny.

MSK_H_03

From experiences reported by key informants, there appeared to be a divide in opinion on the implementation of the MATS service between physiotherapists and GPs. For example, one GP was very supportive of the service and reported that:

I really think it's an excellent system. So were we wary at the beginning? Yes. Did we lack trust in it? Yes. Did we quickly learn that it was good? Yes, because it is. So it works, we observe it to work.

MSK_L_07

This disparity in opinions across clinicians and health boards may have related to the expectations of implementing the service within particular areas:

It's almost like what they [MATS] thought the service was, and what I thought the service was are completely different things...I don't think MATS was introduced as a form of self-referral. I think it was introduced as a way of giving patients information but up here it was used as self-referral and it...it didn't work.

MSK_H_03

Alternatively, a GP in NHS Lothian reported that they had no “formal triage system” (MSK_L_07) in place before MATS and, as such, implementation of MATS had positively impacted on the number of MSK related problems being treated by GPs.

In summary, the implementation of MATS was intended to be a bottom-up process of service delivery driven by the needs of the health board. This process allowed the Board to take time to develop the service, implementing it through engagement with MATS and support in terms of literature and signposting media for patients. Having a Scottish Government Lead who was also a physiotherapy lead within a health board was intended to help address any concerns regarding implementation and running of the service and allow better feedback when things were not working. It had been evidenced above however that MATS was not always well received by physiotherapists, in this evaluation this was particularly evident within NHS Highland where MATS had replaced a paper self-referral system which was reportedly working well. GPs on the other hand appeared to have a more positive outlook with regards to MATS and reported that they felt the system worked well at reducing the number of MSK problems that they treated.

4.4.3 Sustainability and Expansion

Key informants from NHS MATS believed that the service was sustainable but that the service would have to develop new models of care to meet the needs of the population. It was noted by one key informant that:

We do what we do pretty well ... the Boards are absolutely engaged, our partners are very engaged with that, as are the expert panel who do all our sort of clinical governance and clinical changes within the service. So, both those key stakeholder groups are involved in the, in the service improvement, so they're all very keen to develop the service further and understand how we can, how we can move things forward a bit.

MSK_M_01

It was recognised, however, that the landscape of service delivery had changed since the service was first introduced and, as such, there was a need to be aware of the many ways in which patients might wish to interact with the service if it was to continue to grow and to develop to meet patient needs:

It's very much a one-size fits all model at the moment. So, I think it needs to be a bit more flexible just as I've touched on previously, maybe a bit broader in the services that it can refer into and direct people to that are maybe more appropriate [...] so I think that's an opportunity just to re-visit that and think, 'Okay, it can do that, and that does that well, but actually what else could it do within that scope?'

MSK_M_01

In speaking to both key informants from the MATS service it was clear that there were many ways in which the current service could develop further. One such suggestion was the expansion of the service to allow call handlers to book patients into secondary care physiotherapy during the course of the phone call. One key informant also suggested that NHS MATS could successfully utilise web chat facilities to engage with service users in a different way. Furthermore, both key informants recognised that the service could provide a better service, with one key informant noting that it could better serve callers with non-standard forms of communication e.g. British Sign Language, so opening up access and usability of the service to a wider proportion of the community. Conversely, some key informants from NHS Highland believed that the service would become obsolete as APP roles were rolled out across the health board:

No I can replace MATS basically, it's not required really at our surgery at all.

MSK_H_08

Realistically I think people will stop using it. I think what will happen is people will just, oh there is a physio coming in so I'll book an appointment with the physio rather than call the line.

MSK_H_24

I suspect it [MATS] will be replaced if I'm being honest I think people will be much happier to see someone face to face.

MSK_H_24

No because I think my understanding, again it could be completely wrong but my understanding is that we are trying to cut out that step [MATS] I guess.

MSK_H_15

Barriers

A number of other barriers to the sustainability and expansion of NHS MATS were also discussed by key informants. Adequate funding of the service was reported as crucial to the future sustainability of the MATS service. It was reported by MSK_M_02 that the service was currently running at a cost deficit which was being met by the wider NHS 24 service. Funding for MATS was provided on a cost

per calls basis at a rate of 450 seconds per call. The current average call handling time was 600-700 seconds per call meaning that the service was underfunded for the volume of calls received (MSK_M_02).

Alongside adequate funding, there was also a need for the continued recruitment of call handling staff to ensure that the service could continue to deliver services as it should. This would become particularly pertinent as more health boards implemented the service:

The biggest barrier from our perspective is sort of funding and recruitment ...But, for example, Glasgow coming on board would be a significant increase in volume, and we would have to recruit into that. So, that's a bit of a barrier in actually, the time taken internally to get that facilitated, is challenging.

MSK_M_01

While recruitment of staff was reported to be simple in terms of interest in call handling positions and training could be undertaken in two weeks, the process of recruitment itself was time consuming and could take over three months, limiting the speed at which expansion of the service could happen. One key informant also suggested that an increase in physiotherapy staff within the call handling team could improve the service and that the lack of coverage by physiotherapists during service opening hours was a barrier to the sustainability and expansion of the service. As it stood there were three WTE physiotherapists covering the service which was insufficient for demand (MSK_M_02).

It was reported that the position of NHS MATS as part of an overall NHS 24 service meant that it was often overlooked as an individual service that needed sustainable funding and continued evaluation:

It's maybe not seen as a, as such a priority service or anything like that. So, it's about positioning, you know, we're already, it's improving, but we're already trying to position that in a better way. So, that it's seen in an equitable way to all the other services that we run. That's not isolated to the MATS service, there's other services in the same boat. But, that has been a barrier to getting things like technology fixes through 'cause we're constantly competing with other bits of the service to get them in place. So, that's been a bit of a barrier just the recognition of the priority and the position that that service has nationally.

MSK_M_01

Overall, it was reported that MATS was not seen as sustainable in the future in its existing form. Some clinicians, particularly within NHS Highland, reported that they believed MATS was a service to be phased out and replaced, in part, by the GP APP role. Key informants from NHS MATS believed that the service would need to adapt and grow to the needs of the population by introducing web chat facilities, being able to book appointments into physiotherapy departments and making provision for non-standard communicators. Barriers to the sustainability and expansion of the MATS service included issues with comprehensive funding of the service and the recruitment of call handlers to meet the needs of the service. Moreover, it was reported that the service required more input from physiotherapists to ensure that it was properly supported.

4.4.4 Impacts and outcomes

Outcomes and impacts for the service

Negative experiences of using the MATS service within NHS Highland was reported to have impacted on how the service was viewed by physiotherapists and clinicians, with one physiotherapist sharing the view that *“it’s been recognised in NHS Highland that MATS isn’t working for the population up here”* (MSK_H_03). Furthermore, an APP within NHS Highland reported that:

Some people at my practice use MATS either because they don’t like me or because they you know maybe haven’t, aren’t aware of me there but would you know I don’t think, I don’t think there’s hardly any that refer to MATS from my surgery.

MSK_H_08

Although physiotherapists across NHS Highland reported negative feeling towards the service, one lead physiotherapist suggested that the service in its existing form was the main bone of contention:

The musculoskeletal assessment and triage service is a really good option for people who may want to use that option ... I have no problem with it as an option, and, in fact, I think it could be made better. You know, why do you have to have a phone call? What’s wrong with an app?

MSK_H_40

The problem was reported to centre on the lack of alternative routes for self-referral within NHS Highland, essentially forcing patients to use a service with which they were neither comfortable nor confident. This was supported by another physiotherapist who stated that *“The principal was there. The principal of providing information nice and early so people can do something I think is great”* (MSK_H_03).

The need for a more fluid service was one that was recognised by a key informant from NHS MATS who believed that *“different pathways”* had the potential to create a service which worked for all health boards:

Rather than just, as I say, one size fits all model that we’ve got at the moment, having different models through the service. So, people that have called before, you know, treating them in a slightly different way, or people that are just asking for an appointment, how can we facilitate that better? You know, can we do direct appointment booking with Board areas? That sort of thing.

MSK_M_01

Outcomes and impacts for staff

Within NHS Highland, MATS replaced a paper self-referral system that was reported to be working well, this has impacted on the number of self-referrals received by physiotherapy staff. It was reported by one physiotherapist that self-referral has decreased by 20% (MSK_H_03). This was echoed by another physiotherapist within NHS Highland covering a different area who reported that the self-referral rates had changed:

And the data that we gathered around that showed that we... the last data we collected, around 82% of our patients had self-referred. And that was true self-referral, not going to a GP appointment only to be told you have to fill this in. We're a small contained town, so everyone was aware of the process and it was really popular. So, less than 20% of our referrals came from GPs.

MSK_H_40

With no other way to self-refer into physiotherapy, it was reported that “most people volunteered with their feet and they went to see the doctor instead”, increasing the GP workload and blocking access to physiotherapy for those who were unable to express themselves well during a phone call to the MATS service (MSK_H_03).

Another physiotherapist within NHS Highland reported that MATS also impacted on the patient information available to them when referrals were received:

GPs would get the patient to 'phone this service. And, the thing that we lost with MATS was, if we got a GP referral we got their past medical history. We got their drug history. GPs would give us some good information so we were...we would already know what we were dealing with when we were due to see the patient. With MATS we lost the past medical history and their drug history so, it provided us with less information, which then made us...or, when we came to triage the referral, triaging the referral was more difficult. So, we'd normally paper triage, read it through the referral and either screen it as urgent or routine. So, that then became more difficult.

MSK_H_04

This was reported to have changed the way in which physiotherapists engaged with patients during appointments. The impacts of this were recognised by a key informant from NHS MATS who discussed feedback from participating health boards which reflected that the information “what we're sending down isn't as valuable as we, as we would like it to be, so to add to the next stage of the person's journey” (MSK_M_01). The outcome of this had been the setting up of a workshop with partners from the participating health boards to determine how MATS could better meet the needs of physiotherapists.

A different experience was reported in NHS Lothian where one GP reported not only a drop in workload as a response to the introduction of MATS, but also an increase in patient empowerment:

I think it gives responsibility for taking action back to patients because they then have to do something to access care ... rather than somebody else referring them and having to wait.

MSK_L_07

Moreover, the same GP reported that they were able to spend more time with more complex patients when they could direct less complex cases to MATS. Physiotherapists within NHS Lothian were also more open to the idea of MATS:

I think that's a great service that complements what we do 'cause we try and encourage patients to go to that first, and then the GP APPs may often say "Right, you know, check this website. Go on such and such a page." And, you know, they give them maybe one thing to do but, say, or a couple o' things to do, say "But, right, here's more additional information that you'll get here. Good, sound advice." And they use it in conjunction with their practice.

MSK_L_01

In their experience MATS worked well alongside both physiotherapy and the NHS Inform website to provide a more cohesive service for patients.

Outcomes and impacts for patients

GPs in both NHS Highland and NHS Lothian reported that the patient experience of MATS had been mixed, describing it as *"a bit of a marmite system"* (MSK_L_07). Negative experiences reported to physiotherapists have involved situations where patients had:

Phoned NHS 24 ... tried exercise online and didn't get any better so, ... phoned back and self-referred'. So, it was almost a little bit more of a negative start in it because, they would say, 'Oh, it was just that it didn't work for me'.

MSK_L_16

A physiotherapist in NHS Lothian believed that some negative experiences reported were due to patients preferring to see a clinician face-to-face rather than over the phone (MSK_L_02). A key informant from NHS MATS further suggested that patient expectation of the service could fall short when there were misunderstandings over what the service is able to offer:

They're [callers to the service] looking for a physio appointment, you know, an actual date and time where they could see a physio that sort of thing, which we are not in a position to be able to deliver currently.

MSK_M_01

One physiotherapist in NHS Highland reported that patients had presented to the service in tears because of their frustrations over trying to use a telephone triage system for self-referral in lieu of other pathways for self-referral. This was added to by a GP from NHS Lothian who stated that:

[Some people think] it's kind of been change for changes sake and I think that's kind of irked some folk ... it's just something else they've had to learn to use rather than what was there that was working and it's perhaps failing.

MSK_H_07

There had also been positive outcomes reported for patients who experienced acute episodes of MSK problems. One APP in NHS Lothian reported:

I now speak to people that who it [MATS] does work for... that, they are suffering from an acute episode of something, directed to exercise and that's it, it gets better and they

don't come back again. So, I'm seeing it....probably a more positive slant on it than what I've done beforehand.

MSK_L_16

Overall it was clear from the reports given above that experience of the impacts and outcome of the MATS service differed across NHS Highland and NHS Lothian. Within Highland MATS had replaced a paper self-referral system that was accessible to the population of the health board and preferred by the clinicians interviewed. The MATS service had been used differently within NHS Lothian and appeared to provide a service that worked in tandem with other changes to service delivery.

4.4.5 Evaluation

Evaluation of the service is undertaken through continuous real time performance monitoring and overseen by the MSK Expert Panel. This panel *"look at all MSK guidelines nationally and feed into professional groups as well as"* the MATS service, reviewing the online content and clinical triage tools used during calls (MSK_M_01). Moreover, this group ensures that complaints and feedback discussed locally can be brought to the attention of the service to action change. The expert panel was viewed as a positive for evaluation since:

It's got everyone together through the service and the development of the service and the management of it going forward that we get people together regularly and have those discussions and it has raised some questions where we've made changes and that's then implemented on local things to add a bit more consistency. So, that's been quite good, I think, but also recognising where difference is important.

MSK_M_01

While it was reported that forms of evaluation were robust, one key informant within NHS MATS suggested that the evaluation of the service could be furthered by including more measureable outcomes from the outset. This could help to *"demonstrate the value"* of implementing NHS MATS and give a better idea of how the service was being run locally (MSK_M_01).

Considering the evaluation process when a new board implements the MATS service one key informant said that within the first week of implementing the service there would be *"daily chats or daily calls and daily monitor"* alongside real time performance monitoring to ensure that the service was adequate from a technical perspective and that both patients and GPs were getting the service expected. This level of evaluation could continue for up to three weeks to ensure that both the health board and MATS felt comfortable that the service had been correctly implemented, after which it would be *"reporting and monitoring governance arrangements really"* (MSK_M_01). It was planned that evaluating the impacts of NHS Fife would be compared against that of Ayrshire and Arran:

We would anticipate things to happen, not exactly the same, but in alignment with Ayrshire and Arran, so that's what we're basing our estimations on and Fife are comfortable with that, that there's a comparison there. So, it's quite good, it gives us that model that if suddenly things are looking way off how Ayrshire and Arran are performing, or delivering, then that would give us an early touch point that something's

not quite working right there, so we need to just work a little bit harder and understand what's going on there.

MSK_M_01

Smaller-scale evaluation was also carried out by an internal partnership and engagement team who harmonised the data captured within the service with that captured within “*partner areas*”. This evaluation could consist of interviews and data analysis in order to capture how the service was working locally.

When asked about the evaluation of the use of the MATS service key informants within NHS Highland and NHS Lothian reported that very little evaluation was undertaken at a local level since the service itself had a continuous evaluation process.

In summary, MATS was reported as undertaking constant internal evaluation in the form of real time performance monitoring. This was supported by an MSK expert panel who acted as a liaison between health boards and the MATS service, reporting back faults and difficulties and advising on changes. Evaluation could be furthered by the inclusion of equal access monitoring to ensure that MATS continued to make changes in order to target larger cross-sections of the population. Small-scale local evaluations were also said to be carried out by an internal partnership and engagement team who conducted and analysed both qualitative and quantitative evaluation.

4.4.6 Deprivation and Equity of Access

A key informant from NHS MATS reported that there were “*definite improvements that we can make around equity of access.*” (MSK_M_01) and this was a concern shared by a number of key informants across NHS Highland in particular who reported that MATS “*blocks certain people getting access to physiotherapy: they have to go through their doctor*” (MSK_H_03) which was antithetical to the reasoning for the MATS service. One physiotherapist argued that:

We've got people over 65, without any internet access, who don't like making 'phone calls. In places like [names town within NHS Highland], you know, have got a very large population of older people because it's a place that people retire to: they like it up here. And so, your blocking them getting access to the service and, as I say, people who are hard of hearing.....well not just people who....I got someone the other day who said, 'You know what? I would've come to see you 6 months earlier but I tried MATS twice and I couldn't get through to see you'.

MSK_H_03

The complete replacement of previous self-referral systems within NHS Highland had negatively impacted on the way patients accessed healthcare, which was reported to fail to take into account the preferences of the aging population within that health board. One physiotherapist stated:

If you force people to use it, or if you force people into two choices, using a telephone service or going to see a GP, elderly people will go and see their GP, people who aren't confident of using the telephone will go and see their GP, anyone with hearing issues will

go and see their GP. So, it's actually a discriminatory process when you make it the only option.

MSK_H_40

Furthermore, this change in service delivery was said to have impacted on equity of access for those who do not speak English as a first language:

I had someone the other day whose English isn't good enough to 'phone up MATS: Spanish speaking, who can easily fill out a form and say, 'Can I have another knee injection, please?', but, when he needed another knee injection recently, he couldn't 'phone MATS: his English wasn't good enough so, he had to go and see his doctor to get a referral to physiotherapy to have an injection that he's been having every 4 months for the last 2 years.

MSK_H_03

Access for non-English speakers was discussed with a key informant within NHS MATS who described the use of a language line to combat just such situations. This language line allowed callers to immediately be put through to a translation service when it is recognised that their spoken English needed to be supported. It was clear from interviews with physiotherapists and GPs within NHS Highland that this option had not been made clear. There was also recognition by key informants within NHS MATS that changes needed to be made to service delivery in order for users who use non-standards forms of communication, such as British Sign Language, to use the service. Key informants found it more difficult to speak about the impact of MATS on deprivation, however, MSK_H_03 stated more widely that:

I think that MATS, if you're talking about deprived populations, lower levels of education, lack of ability to express themselves, something like that that's just really negative and would stop them accessing physiotherapy.

MSK_H_03

As such it was recognised that there needed to be improvements to the service in order to make it more equitable for all groups within the general population. A member of the expert panel stated that NHS MATS was in the process of making the service “*more patient [...] positive*” (MSK_H_04). One way in which this was being devised was to recognise what patient groups are using the MATS service by introducing equal opportunities monitoring questions to patient satisfaction surveys, so evidencing patient groups engaging with MATS and, conversely then, who was not (MSK_M_02). It had been noted throughout this section that the MATS service was less well viewed in NHS Highland, creating access and communication barriers for the elderly and those who do not speak English as a first language. There had been recognition of the need for more open and inclusive ways to engage with the service.

4.4.7 Summary

Overall, the intention of the MATS service had been to provide a service that was implemented from a bottom-up perspective but this had not always led to buy-in from physiotherapists. Within NHS

Highland it was reported that the implementation of the service had a negative effect on both patients and staff who had been left with no alternative form of self-referral. Key informants from NHS Lothian reported a more positive reaction to the implementation of the service and reported that patients either loved or hated the service. Within its existing form MATS was not sustainable financially and it was reported that it could do more to meet the needs of the patients groups it served and the clinicians upon which it impacted. While NHS Lothian had reported that MATS had empowered patients to take more control over their healthcare, NHS Highland argued that the service had, in many ways, blocked patients from accessing physiotherapy.

4.5 Documentary Evidence

NHS Lothian

East Lothian HSCP conducted a service evaluation of GP APP services in the months of October, November and December 2017 (East Lothian (2017a), East Lothian (2017b), and East Lothian (2017c)). They describe “*success stories*” including improved appointment availability, only a single secondary care referral, and appropriate medical escalation including particular cases of infected bursitis, UCL thumb rupture. Figures show a month-on-month decrease of patient referrals into physiotherapy (Figures 4.6-4.8). This may be related to introduction of the APP role in September 2017.

Figure 4.6. Figure from East Lothian (2017a) showing percentage of outcomes for patients following GP APP appointments.

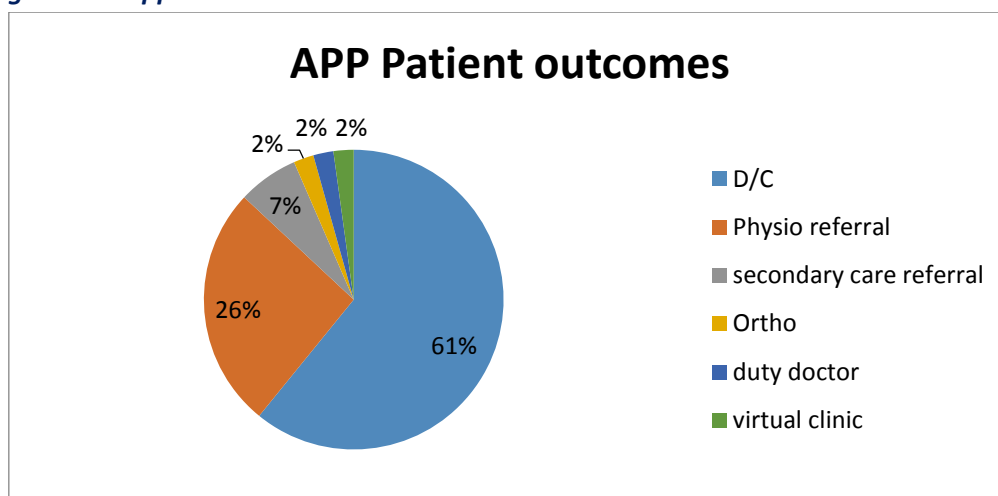


Figure 4.7. Figure from East Lothian (2017b) showing percentage of outcomes for patients following GP APP appointments.

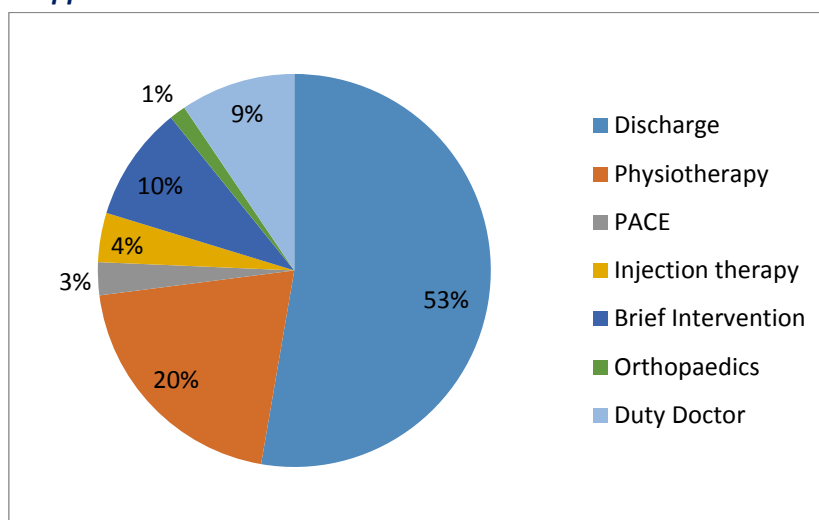
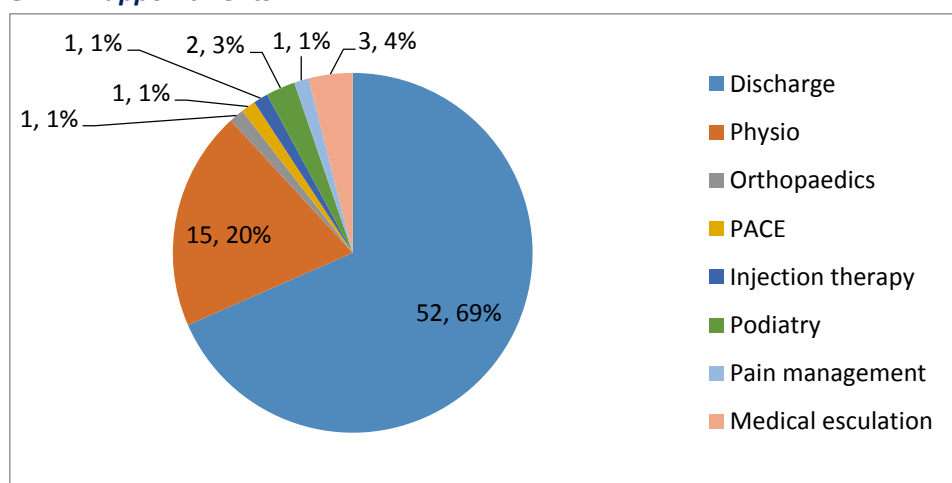


Figure 4.8. Figure from East Lothian (2017c) showing percentage of outcomes for patients following GP APP appointments.



The CWIC service was evaluated by a patient survey in October and November 2017. Twenty of 27 patients surveyed reported excellent overall patient experience (Figure 5.9). A more detailed questionnaire was carried out in March 2018 (Figure 5.10); in this case, 4 of 8 patients rated the service as excellent, 1 of 8 as good and 3 of 8 as fair. However, this survey only had 8 respondents and therefore caution should be taken with interpretation of figures.

Figure 4.9. Figure from East Lothian (2017d) showing overall patient experience ratings.

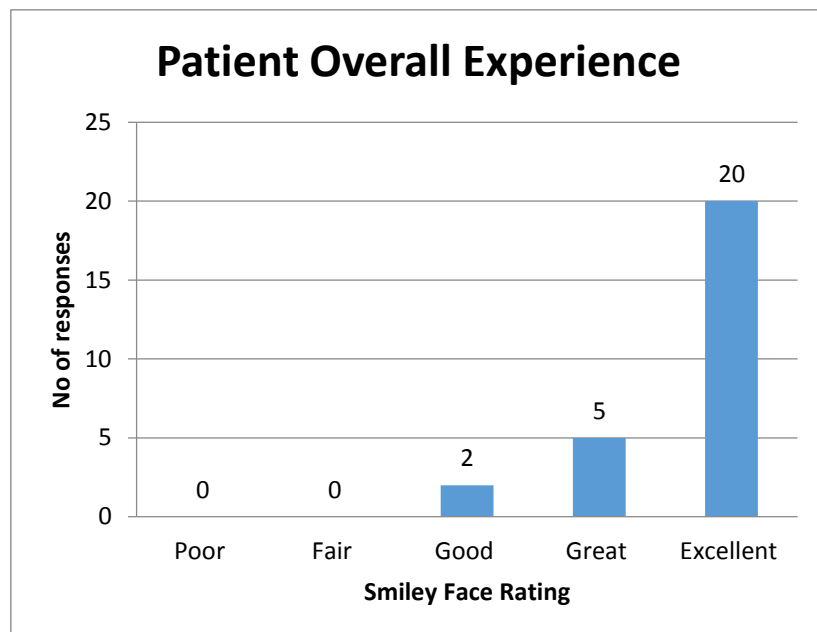
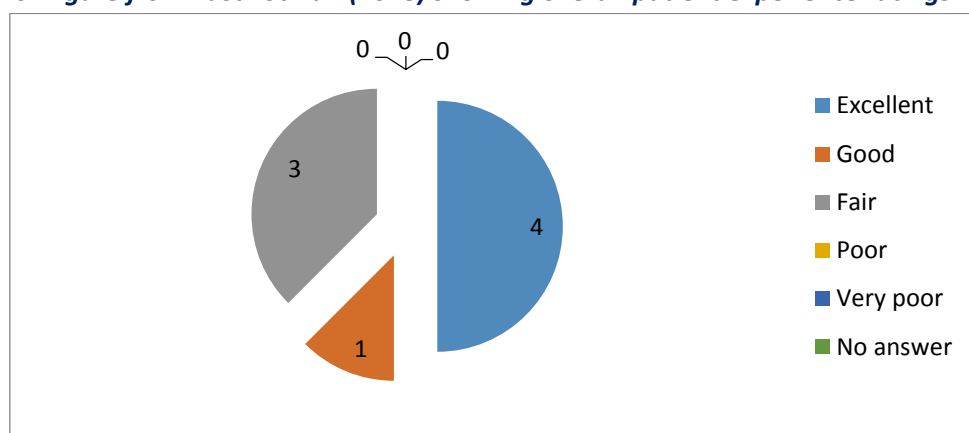


Figure 4.10. Figure from East Lothian (2018) showing overall patient experience ratings.



4.6 Summary of Phase 2 Findings

The findings were based on 24 semi-structured qualitative interviews with key informants and review of 10 documents relating to the implementation of MSK primary care in NHS Highland, NHS Lothian and NHS 24. Whilst the two regional health boards had a number of different new models of primary care, most were at an early stage of implementation and not at the stage to be evaluated. The exceptions were MSK AAPs in GP practices and NHS24 MATS.

1. MSK APPs in GP practice

Both NHS Highland and NHS Lothian had implemented services to allow MSK patients to visit an APP based within a GP practice for MSK issues. These services were developed to reduce the burden of MSK appointments on GPs, and to reduce the number of referrals into secondary care physiotherapy. Success of implementation of APPs in GP practices were driven by buy-in of existing patients and staff, support from management and clinicians, and appropriate training of staff. Consequently, there was a paucity of high quality documentary evidence to assess the actual impacts of the service developments. However, the results of audits that were available to the research team showed good patient satisfaction and a reduction in the number of onward referral. Perceived positive impacts were reported for services, staff and patients. Key informants stated that equity of access was improved for patients, particularly in rural communities where access to hospitals may be more difficult. Staff communicated that improvements in funding, recruitment and retention, accommodation, and IT services would be required for successful sustainability and expansion. Key informants stated that equity of access was improved for patients, particularly in rural communities where access to hospitals may be more difficult.

2. NHS 24 MATS

MATS is a single point of contact service run through NHS24. Callers are taken through a nationally endorsed triage and either given self-management advice or referred to local services. These services were intended to help reduce the number of MSK appointments seen by GPs and secondary care physiotherapists by “discharging” a number of patients after use of the service. Success of this service was largely driven by its method of implementation: in NHS Highland, the service was viewed negatively by patients, GPs and physiotherapists due to replacement of a well-liked system. In NHS Lothian, MATS was run alongside existing services and thus was received more favourably, particularly by GPs interviewed. The service was seen to negatively impact equity of access in NHS Highland due to having a larger population who are uncomfortable with using telephone systems, and a large proportion of people who didn’t speak English well.

5 DISCUSSION

This chapter brings together the findings from the literature review (shown in Appendix I) and the empirical research of both phases of the case in order to describe the status of transformation in MSK primary care across Scotland and to understand implementation processes and what learning can be gleaned to enable further development and expansion of MSK physiotherapy services in primary care across Scotland.

5.1 MSK physiotherapy services in primary care across Scotland (Phase 1)

Phase 1 identified that across the 14 regional health boards in NHS Scotland, 13 were implementing a form of MSK physiotherapy transformation within their primary care services. The predominant new models of care reported were APPs embedded in GP practice and NHS MATS (provided by NHS 24).

Development of APP services was driven by a need to both reduce secondary care waiting lists and to decrease appointment burden on GPs. The development was often facilitated by shared practices and discussion between health boards, whilst also making adaptations to suit local contexts. This meant that each health board implemented the service differently but despite varying stages of implementation across health boards, APP services were generally considered to be successful in terms of impact on GP workload, appropriateness of referrals to secondary care physiotherapy healthcare services, and patient satisfaction. However, a number of barriers to successful implementation of services were identified including uncertainties around financing, recruitment, and training and retention of staff.

NHS 24 MATS has now been incorporated into all Scottish regional health boards with the exception of NHS Orkney, NHS Shetland, NHS Western Isles and NHS GG&C. It was reported that the lack of participation from these Boards led to the inability to promote the service fully as a national campaign. Key informants working in this service described it as working successfully in most health boards, stating that approximately one third of patients were “taken out of the system” and managed satisfactorily without any work for physiotherapists. They conceded however, that the service was less well received in rural communities, where having to “phone the big city” was not taken well by patients who previously would have been able to access a bespoke service.

Phase 1 elucidated the context and a high-level overview of new models of care within primary care MSK physiotherapy services across Scotland, from which we were able to establish an outline logic model for each health board (Appendix H). Despite challenges, the implementation of tests of APPs in GP practices and the use of the MATS service was widespread across NHS Scotland. To fully understand the implementation process and expansion and sustainability potential of new models of care, more in-depth study of a small number of projects was required.

5.2 In-depth case studies of MSK primary care (Phase 2)

Three case-studies or deep dives were chosen for Phase 2 to cover the main tests identified in Phase 1: NHS Highland, NHS Lothian, and the NHS 24 MATS service. NHS Highland and NHS Lothian were chosen for closer examination in Phase 2 due to their ability to compare and contrast the implementation of MSK physiotherapy primary care new models of care in different settings: urban

and rural, single practice and cluster model, temporary PCTF and permanent funding, and a well-established and a newly implemented use of the MATS service.

5.2.1 APP service in GP practices

During the course of Phase 2, wide-ranging factors were shown to affect the development, implementation, sustainability, expansion, and impact of APP services examined, leading to unique barriers and facilitators to implementation, sustainability and expansion of services, yet there were also similarities between the findings from the two health boards, and certainly both Boards reported that the APP service they offered was successful.

The specific impetus for developing and testing an APP service across the two health boards studied was for different reasons: to minimise GP work load and reduce pressure on secondary care physiotherapy services, and to assist in a GP practice that had been taken over by the health board. Key to successful development and implementation was adapting services to the local patient context and collaboration between stakeholders, particularly GPs and physiotherapy staff, with buy-in from clinical staff crucial to running an effective service. However, buy-in at a higher level within the health board was also considered essential in order to secure funding for sustaining services and potential expansion of services across health boards. Effective communication with patients was also viewed as fundamental to successful embedding of the new services.

Without full formal evaluation and shared data at this stage, both NHS Highland and NHS Lothian described positive outcomes and impacts for the service, staff and patients following the introduction of APPs; and there was some documentary evidence to support this. It was reported that waiting times for secondary care physiotherapy were reduced, and a decreased burden on GP appointments resulted in either lower waiting times for patients to get a GP appointment (for non-MSK consultations) or increased GP appointment length. Patients, described as often being initially wary of the change, were reported to be almost universally in favour of the new APP roles. Patient satisfaction surveys for NHS Highland and NHS Lothian both described high approval on feedback from patients and highlight reduced waiting times, increased GP appointment lengths and reduced prescriptions as particular positives. However, maintaining these positive impacts is reliant on continued funding and resources to support the APP service. Key informants did not discuss whether they viewed outcomes to be short, medium or long-term in nature.

Funding was a major concern for most key informants and for reasons that spanned a number of different areas of planning, implementation, and sustainability of projects. In particular, there were major concerns about continued funding for current APP positions since much of the funding available was short-term with no guarantee of future financial support. A number of other concerns about workforce issues were raised. If the service were to be rolled out health board-wide this would result in increased pressure on secondary care physiotherapy services since APPs tend to come from the current community/ secondary care workforce, meaning that experienced staff leave the core service. Furthermore, there is no clear training programme or qualification for APPs and there is inconsistency in staff grading across health boards, making it difficult to recruit and retain staff in certain areas or for short-term positions. A final staffing issue related to supporting staff in APP positions so that they remain part of a team, something that may be more difficult in rural locations.

Practicalities such as appropriate accommodation and IT management systems, were also reported as a barrier (or challenge) to implementation and certainly to sustainability and expansion moving forward. These are fundamental to the everyday running of the service and to patient satisfaction. A lack of consistency in management systems used makes it difficult for staff to audit their service and to compare outcomes across health boards.

An important part of our Phase 2 work was to understand key informants perspectives on how the APP service impacts on patients from deprived communities and on equity in accessing care in general. Not all key informants had an opinion on this but others were vocal that an APP service within rural communities, or where transport options are limited, meant that patients could attend a physiotherapist appointment locally rather than at a hospital. Having APP appointments available on the same day or next day was viewed as important for patients from more deprived or vulnerable groups who may be at higher risk of missing appointments booked in advance or arranged by letter. However, it was also noted that traditionally physiotherapy is not accessed by these patient groups and there should be consideration given on how to change this, such as improving health literacy and communication. Interestingly, there were reports that the APP service not only improved access to physiotherapy services but also to GPs, since some appointment time has been freed up by not attending to consultations for MSK complaints

We have built on the initial logic model from the Phase 1 findings (Appendix H) to develop a logic model for an overall APP service in relation to embedding an APP service into GP practices (Figure 5.1). Table 5.1 acknowledges the barriers and facilitators that impact on this logic and in particular the ability to sustain and expand the APP service in the long-term; it is important to note that the impact of the barriers and facilitators reported will vary depending on health board or HSCP context.

Figure 5.1. Logic model for APP service embedded in GP practices

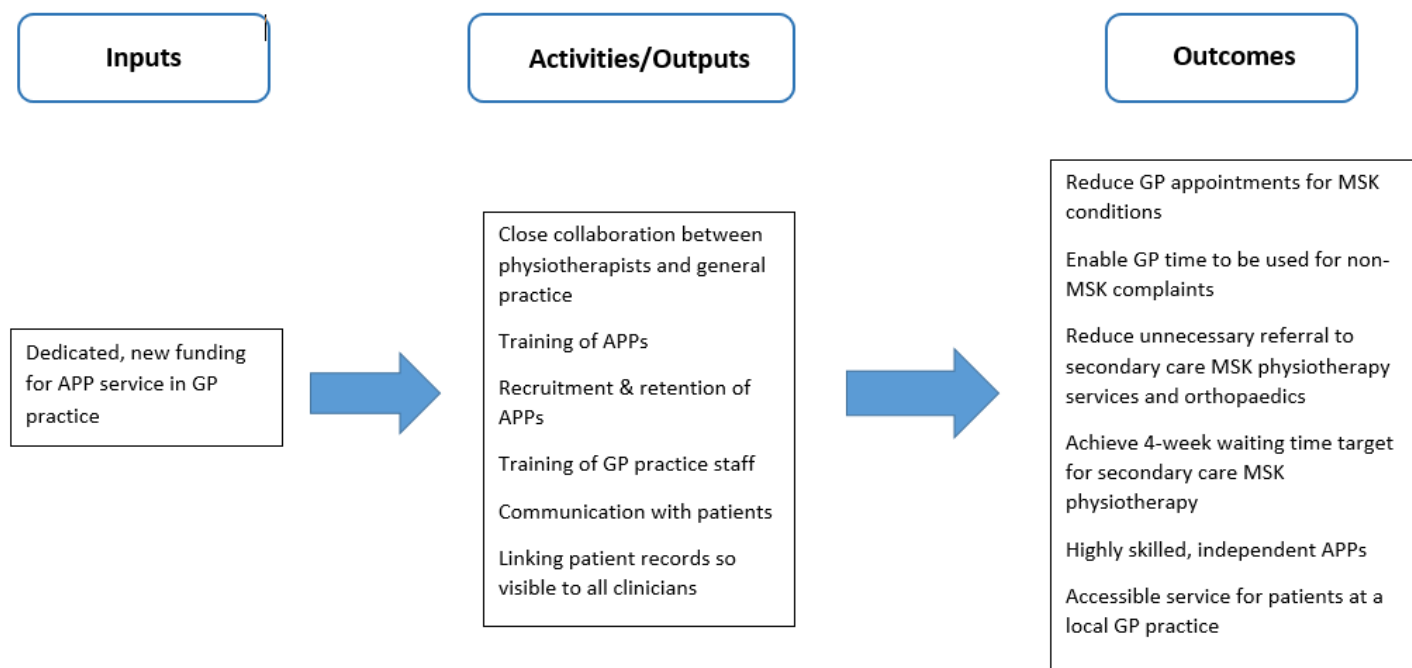


Table 5.1: Barriers and facilitators for embedding an APP service into GP practices

Factor from logic model	Facilitators	Barriers
Dedicated, new funding for APP service in GP practice	- Managerial buy-in of new models of care	- Lack of managerial/HSCP/IJB buy-in of new models of care - Evidence of impacts of funding may be limited in rural areas
Close collaboration between physiotherapists and general practice	- Buy-in and trust in the APP role from existing GPs and practice staff - Dedicated GP mentors within practice	- Lack of trust in APP role from GPs and practice staff - Time available to sustain working relationships and sharing of good practice
Training of APPs (initial & ongoing)	- GP without clinical caseload with specific role dedicated to training APPs and other clinical staff - Dedicated trainer within MSK physiotherapy teams - Time to share good practice for professional development	- Lack of dedicated APP training program such as ANP qualification - Lack of funding for dedicated APP training - Lack of primary care training during physiotherapy programmes at university
Recruitment and retention of APPs	- Continuation of funding, either by health board or individual GP surgeries	- Rurality makes recruitment difficult - If APP funding is temporary it is less attractive to recruit and retain staff - Lack of equality in the grading and pay scale of APP roles within and between health boards
Training of GP practice staff	- Good working relationship and communication with APPs	- Inadequate training and lead-in time to new way of working
Communication with patients	- Understanding of the APP service by GP practice staff - Appropriate training of GP practice staff to communicate and signpost patients - Word of mouth in rural areas	- Negative stories about APP role in local media - Poor distribution of information on APP availability or description of role - Patients fail to understand difference between GP APP and referred physiotherapy
Linking patient records so visible to	- Successful implementation of specialised Vision 360	- EMIS or Vision systems are often not accessible by

all clinicians	program	APPs working in GP practices - Lack of training for APPs in new IT systems - Lack of consistency in data recorded
Identification of appropriate accommodation within GP practices	- Dedicated rooms used solely for APP appointments with appropriate equipment, e.g. adjustable height beds, anatomical models	- Ad-hoc room usage with inappropriate equipment - Inadequate planning of room booking
Reduce GP appointments for MSK conditions	- APP staff based in general practice	- Admin staff unable to clearly delineate patients requiring MSK appointments leading to MSK appointments with GP instead of APP - Lack of trust of patients in new system leading to requests to see GP instead of APP
Enable GP time to be used for non-MSK complaints	- Dedicated APP based in practice - Signposting of MSK patients to APPs by GP practice staff	- GP practice staff unable to clearly delineate patients requiring MSK appointments leading to MSK appointments with GP instead of APP - Lack of trust of patients in new system leading to requests to see GP instead of APP
Reduce unnecessary referral to secondary care physiotherapy services and orthopaedics	- APP staff based in general practice are able to discharge patients more frequently than GPs due to MSK specialism - Patient trust in APP service	- Patients who still see GP are less likely to be discharged after appointment
Achieve 4-week waiting time target for secondary care physiotherapy	- APP staff based in general practice are able to discharge patients more frequently than GPs due to specialism. Patients are therefore referred less into secondary care, which reduces waiting times.	- Patients who still see GP are less likely to be discharged after appointment
Highly skilled, independent APPs	- Advanced training and skills development - APPs are able to learn by shadowing GPs - Working closely with APP lead managers	- Lack of dedicated APP training course - Lack of availability of physiotherapists - Available staff may be removed from secondary care MSK roles

		- Retention of APPs
Accessible service for patients at a local GP practice	- In rural areas, APPs in practice often mean less distance to travel for patients requiring MSK appointments, who previously had to travel to local hospital.	- Lack of health literacy leading to misunderstanding of available services

5.2.2 MATS service

We were particularly interested in identifying new and innovative new models of care with the MATS service and to understand how health boards currently use the service. Our Phase 1 findings were reflected in Phase 2 deep dives, where NHS 24 MATS received differing levels of support between key informants based on both location (due to the nature of the agreed MATS arrangement) and job role. NHS Highland reported that patients who previously were able to self-refer to physiotherapy now have to navigate the MATS system for all appointments, including routine appointments; and APPs in NHS Highland felt that with their new roles, the need for patients to access the MATS service would become obsolete. MATS was reportedly met with negativity from patients who reported it to be less effective than the previous system. This disapproval was conveyed by both GPs and APPs. The MATS service in NHS Lothian operates differently from NHS Highland, where it is used alongside existing referral routes without eliminating them. Here, it was used by patients on an ad-hoc basis. APPs in NHS Lothian found the service useful for more straightforward MSK complaints, but stated that they preferred face to face appointments where possible. NHS Lothian GPs responded positively to the service, stating that it reduced their workload, freed them to treat other conditions, and empowered the patients themselves to seek treatment when needed. However, no documentary evidence was provided to substantiate these reports.

Due to the nature of how MATS was implemented in NHS Highland there was concern that it actually reduced equity in access as not everyone will make a phone call to access physiotherapy because of a preference for face-to-face contact or confidence in expressing their problem, such as being hard of hearing, a particular issue in certain areas of NHS Highland with ageing populations. A further concern was for patients whose first language was not English and although MATS has an interpretation service, this did not appear to be well known to staff and was unlikely to be obvious to patients. The MATS service acknowledged that improvements could be made to making access more equitable.

NHS 24 MATS key informants stated that improvements and new models of care were being carried out on the service, including improved sharing of information for GPs and physiotherapists from the phone call triage assessment; adaptation to suit non-standard communicators e.g. British sign-language users; expansion of roles to allow call handlers to book secondary care appointments; and implementation of a web-based chat option to use alongside phone calls.

Figure 5.2 and Table 5.2 summarise a logic model and related barriers and facilitators to the successful implementation of the MATS service within health boards.

Figure 5.2. Logic model for MATS service in health boards

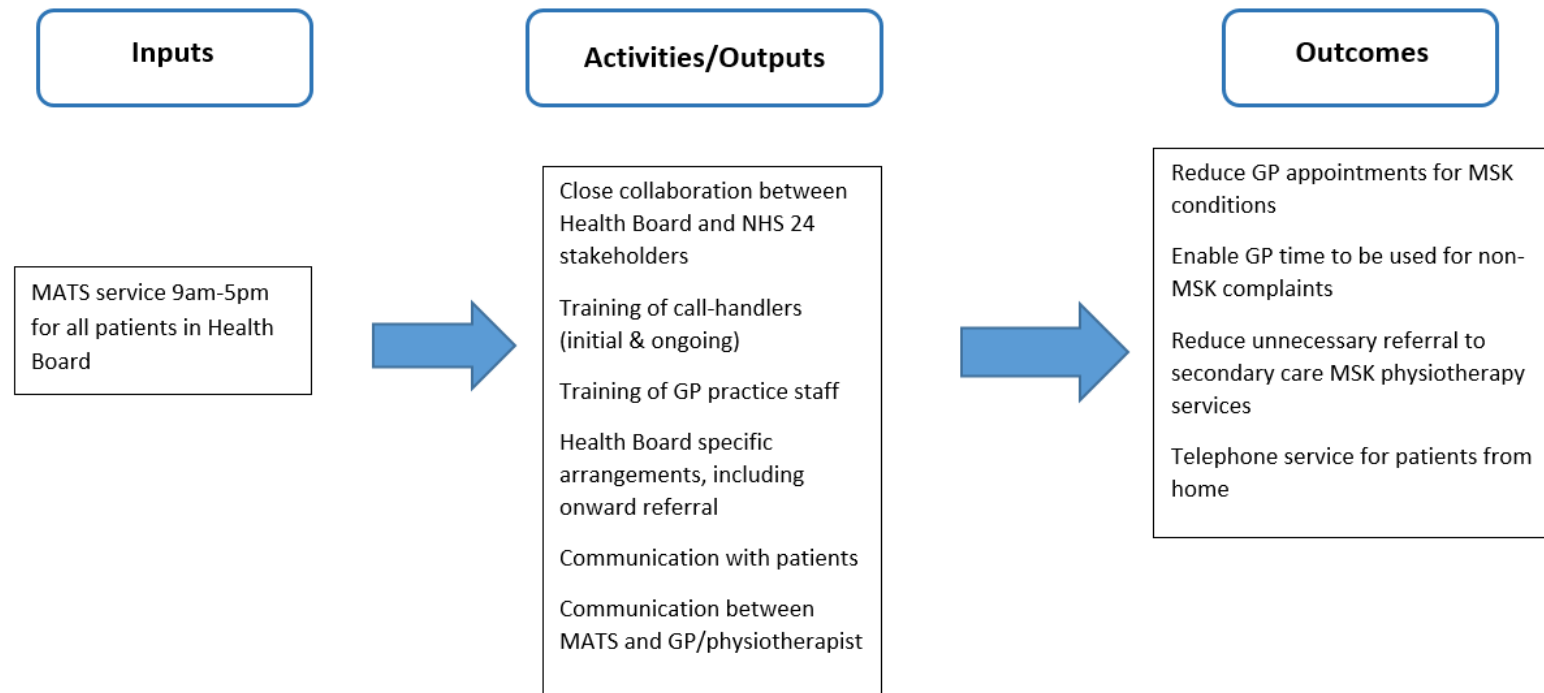


Table 5.2. Barriers and facilitators for successful implementation of the MATS service within health board

Factor from logic model	Facilitators	Barriers
MATS service 9am-5pm for all patients in health board	- Good NHS 24 MATS call-handler numbers for how the service runs currently	- Calls are only funded for 400 seconds but current call handling times are 6-700 seconds, leading to a funding gap - Sustained funding - Suitable number of physiotherapy staff working with NHS 24
Close collaboration between health board and NHS 24 stakeholders	- Expert panel comprised of physiotherapists across all health boards using MATS and the Scottish Government	- Lack of buy-in by some health boards - Some physiotherapists don't like the system arrangements with health board
Training of call-handlers (initial & ongoing)	- Only a 2 week training course so staff can be trained quickly by already experienced call handlers	- Only NHS 24 MATS staff in post for over 1 year are able to train new call handlers - Recruitment can be slow
Training of GP practice staff	- NHS 24 MATS provide materials (posters, leaflets) for practice staff use	- Lack of understanding by GP practice staff of how the service operates - NHS 24 MATS are not responsible for training of GP practice staff
health board specific arrangements, including onward referral	- Physiotherapy staff within MATS oversee call handlers	- Lack of flexibility in the implementation - Call-handlers can't book appointments for patients, they can only refer
Communication with patients	- Posters and leaflets provided to GP surgeries	- Lack of involvement by some health boards means there is no option for a national promotional campaign
Communication between MATS and GP/physiotherapist	- Notification of patient call to GP/physiotherapist	- No clear system to transfer full details of telephone call to patient's healthcare professionals
Reduce GP appointments for MSK conditions	- Patients phoning NHS 24 MATS are often discharged without need for onward referral or suggestion of attending GP	- Some patients prefer to be seen face to face by GP - Some patients don't like the service

		- Some patients refuse to undertake self-management
Enable GP time to be used for non-MSK complaints	- Patients phoning NHS 24 MATS often don't need to visit their GP afterwards	- Some patients prefer to be seen face to face by GP therefore they will still make GP appointments for MSK issues
Reduce unnecessary referral to secondary care physiotherapy services	- Patients phoning NHS 24 MATS are often discharged without need for onward referral	- Some patients don't like the service and therefore continue to use existing self-referral methods
Telephone service for patients from home	- Patients are empowered to self-manage	- Giving correct advice relies on reliability of information that patient provides

5.3 Synthesis from policy and literature review, Phase 1 and Phase 2

It has been highlighted by the literature and policy reviewed within this evaluation that clear challenges face primary care within Scotland and internationally. The announcement of the new Primary Care Transformation Fund in 2015 sought to establish a future whereby primary care would be delivered through multidisciplinary teams, of which MSK physiotherapy would be a key component. The scoping literature review undertaken by this evaluation (Appendix I) drew forth two models of care implemented in the UK, Republic of Ireland, Canada and Sweden: APPs and telephone triage systems. Similarly this evaluation identified 43 new models of care, the majority of which identified APPs and telephone triage systems as the foremost new models of care.

5.3.1 Barriers and Facilitators

The evaluation of the deep dives identified some important barriers and facilitators to the implementation of these new models of care. These mirrored the barriers and facilitators identified in the scoping review.

Dedicated Funding for new models of care was an important factor. As funding was predominantly short term, concerns were raised about continuation of funding in the longer term. In our interviews in particular, concerns were raised about differences in funding between health boards.

Collegiate approach to implementation and development. Many studies highlighted that peer support and buy-in was important for successful implementation of new models of care. Our study raised the issue of sharing of information and learning as a crucial issue.

Appropriate resourcing – both funding and accommodation was highlighted in both literature and our own evaluation. This included recruitment and retention of staff to advanced roles, and also in finding appropriate accommodation within primary care settings. In our study, accessibility of the new accommodation to patients was an important factor.

Continuing professional development/concerns about de-skilling was raised as a concern both in the literature and our evaluation. Key informants in both were cautious about the impact of new roles on professional development, isolation of staff, and de-skilling of the profession.

Support for evaluation. In both our evaluation and the wider literature, there was little longitudinal data collected to show the impacts on GP time and secondary care referral. Key informants often stated that appropriate evaluation must be carried out to support continued funding.

5.4 Strengths and limitations of evaluation

5.4.1 Strengths of the evaluation

- This evaluation adopted multiple methods including an analysis of the international literature on primary care transformation; and 42 qualitative interviews with key informants at three levels: health board programme managers; staff involved in the new models of care; and general practice staff.
- The evaluation process had good support and participation from key stakeholders across NHS Scotland with the majority of those approached taking part in the interview process.

5.4.2 Limitations of the evaluation

- Limitations include the ability to access all stakeholders within the services and in the poor availability of detailed local evaluation outputs. However, we did speak with leads in all health boards in Phase 1 and achieved representation from all key stakeholder groups in Phase 2.
- In qualitative research, findings are not always generalisable to wider settings but it is likely that much of the learning here will apply to similar contexts within NHS Scotland, particularly in relation to expansion of the APP role.
- Further in-depth perspectives of clinicians from health boards that do not currently use the MATS service would be useful to ensure that we have not missed any issues with implementation.
- We did not have the resources and permission to engage with patients, and hence we lack data on patient experience and perceived impacts of these new models of care.
- Changes to the service detailed here are often as experienced by key informants. Quantitative data was not yet available to confirm some statements made by key informants, such as changes to GP workload or onward referral to physiotherapy.

5.5 Key learning and recommendations

This report has brought together the findings from Phase 1 and Phase 2 of the evaluation into the transformation of MSK physiotherapy services in primary care across Scotland; with a particular emphasis on new models of care in two health boards and the NHS MATS service. This work has allowed us to better understand the context in which new models of MSK physiotherapy are working, to map out what type of transformational projects are implemented (how, where and by whom); and to explore their impact and sustainability.

In Phase 1 we highlighted that there is a vast amount of work being undertaken in this area and positive impacts were reported. In Phase 2 of the evaluation we explored the development, outcomes, and sustainability of such projects in more detail, including information from a much wider representation of key informants. APP services based in GP practices and NHS 24 MATS were identified as the main new models of care across health boards and were the focus of Phase 2 of this evaluation. Early reports of the impact on practitioner, patient and health service outcomes in the APP model were positive; further in-depth quantitative evaluation would be helpful to evaluate these outcomes, particularly in the longer-term. This new model of care, developed in context specific settings, has great potential across Scotland. However, we have identified a number of barriers or challenges to its success, particularly in relation to sustainability and expansion. The majority of barriers are linked to funding issues and the guarantee of longer-term funding to ensure a high standard of training, recruitment and retention of APPs, with further senior management buy-in required to support the expansion of such services. These findings are in broad agreement with studies that have shown the success of physiotherapists acting as FPOC in primary care (Marks, 2017 and Desmeules, 2012). However, full detailed evaluation of acceptable short, medium and long-term outcome measures are required to fully assess this from a patient, staff, healthcare system and cost perspective. The NHS MATS service appeared to receive mixed feedback depending on how the service was implemented in each health board, particularly in remote and rural settings. It is unclear whether a more coordinated service across all health boards would improve perceptions and allow further development of the service, particularly in relation to accessing harder to reach populations and in addressing issues raised around equity of access for those with communication difficulties.

It is clear that the physiotherapy leads and teams working on this endeavour across Scotland are eager, willing, and capable of achieving success with support to help overcome the challenges identified here. With senior NHS management support and funding, there are solutions available to fully develop and expand such new models of care to achieve more equal access to MSK physiotherapy services and reduce GP workload. Capturing data that explicitly examines whether there are inequalities in uptake or utilisation of APP and MATS services is important. Finally, determining key outcome variables for longer term evaluation of these services and integrating evaluation into service delivery would be useful going forward in order to ensure that service development in MSK physiotherapy in primary care is having the required positive impact on primary care as a whole.

Key Recommendations

- Advanced Physiotherapist Practitioners (APP) and the NHS 24 Musculoskeletal Advice and Triage Service (MATS) have been the **most widely implemented** tests of change, indicating that geographical coverage of tests of change is possible.
- **Support** and **buy-in** from patients, staff and management is required for successful Implementation of these tests of change.
- Appropriate resourcing, in terms of **funding** and **accommodation** is also required.
- **Robust IT systems** to support data collection, extraction and analysis are required to support future evaluation.
- Measurement of the **actual impacts, sustainability** and **spread** of tests of change will require further evaluation of primary care transformation journeys over the next five to ten years.

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Appendices

- A. SSPC Evaluation Framework (v.1.0, 25072016)
- B. Interview Schedule Phase 1
- C. Interview Schedule Phase 2
- D. Participant Information Sheet
- E. Participant Consent Form
- F. Ethical Approval Letter: University of Glasgow
- G. Example patient self-referral to physiotherapy form
- H. Phase 1 Logic model of NHS regional health board activity in relation to MSK physiotherapy services in primary care (not including MATS service)
- I. MSK Literature Review
- J. Summary of findings from MSK literature review

Appendix A

Scottish School of Primary Care National Evaluation Framework for New Models of Care Summary

The Primary Care Transformation Fund (PCTF) has £20 million designated to new models of care in primary care, which is part of a £60 million fund covering additional aspects of care such as mental health, community pharmacy, and out-of-hours care. The Scottish School of primary Care (SSPC) has been awarded £1.25 million to help evaluate these new models of primary care. Four health boards across Scotland have already received funding over the last 1-3 years for specific projects on new models of care, and these have recently also received an additional year of funding (as from April 2016); a larger number of new projects that will be funded to start later this year on the basis of new bids put in by all the health boards in Scotland. In addition, Inverclyde has received funding to pilot new models of care and the new GP Contract, including GP practice clusters, and this work is in progress.

Evaluation Framework

The evaluation framework proposed by SSPC consists of two phases; firstly the identification of the new models of primary care being funded by the Scottish Government (SG) across Scotland, what their components are, how they are expected to work (theory of change) and what the expected short, medium and long-term impacts or outcomes are. The second phase consists of identifying the impacts, learning, spread and sustainability.



The evaluation will be carried out at two levels, national and local. The **national** evaluation will include the Scottish Governments own theories of change and expectations of impact, and those of the funded projects at health board level. Evidence of Impact, learning, spread and sustainability will be mainly gathered through a limited number of selected **local** in-depth case studies ('deep dives') carried out by SSPC member Universities in different health board regions, together with rapid literature reviews of the best evidence for key aspects of the interventions. This will be

complemented with the available evidence from the other sites not selected for detailed case study. In this way, an integrated and detailed sharing of learning will be produced which will be of **national as well as local relevance**.

How it will work

SSPC works on a hub and spokes model. The small core SSPC team have already been scoping the remit of the renewed and new bids, drawing of evaluability assessment methodology. We will suggest to the SG sites for the 'deep dive' case studies, based on our assessment of evaluability. These will be distributed across Scotland, and we will ask our SSPC members in different regions to bid for the evaluation of these local sites. The senior researchers in each academic unit will then lead the evaluation of their site with their own chosen team. However, the core team will ensure close co-ordination with the SSPC hub and also between evaluation sites, so that learning is shared and all members will contribute to the integration of findings to inform the national picture. SSPC core staff will additionally continually collect information and learning from the non-case study sites during the course of the evaluation, to complement the case study findings. Thus a fully integrated final national report will be produced, as well as the detailed reports from the chosen local sites. In addition, SSPC will contribute to the evidence-base for the components of the interventions by carrying out a series of literature reviews.



SSPC will also work collaboratively with other key organisations on available national performance data on patient satisfaction and 'big data' (such as unplanned hospital admissions), working in partnership with other key organisation such as central analytical services, NHS Health Scotland, and so on.

Appendix B



Primary Care Transformation Fund Evaluation: MSK Physiotherapy in primary care

Phase 1 - Interview Schedule

Thank you for agreeing to meet with one of our researchers to discuss your views and experiences of the Primary Care Transformation Fund implementation in NHS Ayrshire and Arran.

This study is being conducted in two phases.

In Phase 1, we are interested in exploring what activities are taking place in the delivery of MSK physiotherapy in primary care across Scotland and how these fit with the on-going health systems within each health board.

In Phase 2, we will focus more on actual projects, examining their aims and objectives, milestones and achievements.

Phase 1: Intervention Theory and Expectations of Impact

- 1. Can you describe your role in NHS X**
 - a. generally
 - b. in relation to of MSK physiotherapy transformation in primary care?
- 2. How has this change in delivery been funded?**
- 3. Do you know about the primary care transformation fund and was this considered as a source of funding for this project/ these project(s)?**

- 4. (Regardless of funding:)**
 - who were the main drivers in developing the bid / projects?
 - how wide was the general support for the bid/projects?
- 5. Are you aware of the aims of Primary Care Transformation nationally?**
- 6. What is your relationship with national stakeholders?**
- 7. Are you aware of the aims of the Primary Care Transformation of MSK physiotherapy services locally?**
- 8. What projects have been developed and why were these chosen to be funded?**
 - why were these models/tests chosen?
 - do these projects build on previous work or are they entirely new ways of working?
- 9. What is your relationship with the local projects?**
 - do you have an overarching role across projects?
 - do you have a specific role in individual projects?
- 10. Who have you had to engage with in order to develop and deliver these projects?**
 - who were the drivers?
 - who else is involved, what are their roles and how were these determined, have their roles evolved/changed over time?
 - who is not really involved who you think should be?
 - was there any patient/public involvement in the choice or design of the new models of care?
- 11. What governance arrangements/structures are in place? Is this the same for all projects?**
- 12. What progress has been made so far?**
 - has the rate of progress been similar across the different projects?

- Have you tried/considered testing other models that have either not 'got off the ground' or which didn't work so well?

13. What are the expected overall outcomes/impacts of the MSK physiotherapy in primary care projects as a whole in NHS X? In what timescales:?

- short term (within the next year)?
- medium term (within the next two to three years)?
- long term (beyond three years)?

14. How will these outcomes/impacts be measured? Do they require existing or new data? How will the data be collected and by whom?

- Will support be required to collect data to inform the measurement of impact?
- Have quality standards/measures of success for this been agreed? What are these, how were they identified and by whom?

15. Are there plans for local evaluation and, if yes, by whom?

- can you describe the plans for the local evaluation?

16. Are there plans for identifying 'success' of projects?

17. Are there plans for identifying the 'sustainability' and expansion of projects?

- Facilitators / barriers to development / implementation?
- If appropriate: Any barriers to moving forward with sustaining or expanding project?

18. What are the resource implications of these projects? Now and in terms of sustainability?

19. Who are the key stakeholders in terms of future sustainability and spread?

20. What do you think has facilitated or hindered the development and/or implementation of projects? Has this been the same for all projects?

- 21. Are NHS X planning on trying out other 'new ways of working' in the area of MSK physio in primary care?**
- 22. Is there anything else relevant to this evaluation that you would like to tell us?**

Appendix C



Evaluation of New Models of Care: MSK Phase 2 - Interview Schedule

Thank you for agreeing to meet with one of our researchers to discuss your views and experiences of MSK primary care transformation implementation in your role.

We are now on phase 2 of the study.

In Phase 1, we were interested in exploring what activities are taking place in MSK transformation across Scotland.

In Phase 2, we will focus more on actual projects, examining their aims and objectives, milestones and achievements. Your practice/workplace/service has been chosen to be a site of this in depth study

Phase 2: Impacts, Learning, Spread and Sustainability

1. Can you describe your role?

- How long have you been in this role?
- Do you work as part of a cluster, or just within a single practice?
- Do you work closely with the health board?

2. Can you describe how your service operates in practice?

- What is your role in it?
- Do you work closely with other health professionals in your current role?
- Does it build on previous work or is it an entirely new way of working?
- Does this new way of working fit in with primary care transformation in the health board as a whole?

3. Can you describe how the project/service has been implemented?

- Did you receive (adequate) training for it?
- Do you feel confident working in this new way?
- Do you feel supported working in this new way?
- [APP Only] Do you continue to work directly with MSK Physiotherapy Services?
- [APP only] Is your management structure within physiotherapy or within general practice?
- Do you have a GP mentor within the practice?
- How do you think the changes (in your practice) fit with changes in the health board area?

4. Who have you engaged with in order to implement the service?

5. Who (in your practice/service) has been involved in implementing the change?

- who were the drivers?

- who else is involved, what are their roles and how were these determined, have their roles evolved/changed over time?
- what involvement did primary care practitioners (e.g. GPs) have?
- is there anyone or any roles not involved who you think should be?

6. What have you learned from implementing the service?

- What have the team/ your colleagues learned?
- Have you fed back any suggestions for improvements based on what you learned?
- Have you changed anything about the way the service/project/practice works?

7. What are the expected measureable outcomes of the service?

- short term (within the next year)?
- medium term (within the next two to three years)?
- long term (beyond three years)?

8. Have the outcomes so far varied much from the intentions at the start of the service?

9. What progress do you feel has been made so far?

- How many patients have used the new service/way of working?

10. What do you think have been and what do you expect the impacts to be as a result of the introduction of the service? What difference will it mean to staff? What difference will it mean to patients? In what timescales:

- short term (within the next year)?
- medium term (within the next two to three years)?
- long term (beyond three years)?

11. Have there been any unintended consequences from the rolling out of the service?

- Positive?
- Negative?

12. What were/are the facilitators / barriers to implementing the change?

13. What has changed in the service/practice because of the new way of working?

- Regarding staff?
- Staff education and training?
- Communication with staff about the new ways of working?

14. How is the change being communicated to patients?

- What materials (such as posters or leaflets) have you used?
- Are the changes explained verbally? By whom?
- Are different patient groups being targeted?

15. How do you/does your practice evaluate the new way of working?

- Do they require existing or new data?
- How will the data be collected and by whom?
- Will support be required to collect data to inform the measurement of impact?

- Have quality standards/measures of success for this been agreed? What are these, how were they identified and by whom?

16. Do you think this service is sustainable in the future? Will it keep going?

- What resources does the service need to make the change work?
- What resources does the service need to make the change sustainable?
- Real estate?
- IT?
- Who are the key stakeholders in terms of future sustainability?

17. Do you foresee any facilitators/barriers to the future sustainability of the service?

18. Do you think this new way of working will spread?

- Who are the key stakeholders in terms of future spread?
- Do you see any barriers/facilitators to the spread of the service?

19. Do you know of any plans for other new ways of working in PC MSK physio?

- Are plans being developed for any other new ways of working?
- are you directly involved in these? Can you tell us more about them?

20. Do you know how this service fits into the wider health system in your health board?

- Do you utilise the MATS service?
- In your opinion how does it fit with the new service?
- Are you using MATS in a new way?
- If not, are there any plans to use MATS?

21. Do you think this service has a particular effect on:

- Deprived populations?
- Equity of access to primary care services?

22. Is there anything else you would like to add about the service or MSK physio transformation?



PARTICIPANT INFORMATION SHEET

1. Study title

Evaluation of New Models of Care: MSK Physiotherapy Across Scotland

2. Invitation paragraph

You are being invited to take part in the MSK Physiotherapy case study, which is part of the Scottish School of Primary Care's national evaluation of Primary Care Transformation projects. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

3. What is the purpose of the study?

This study aims to identify the challenges and facilitators to implementing new models of care in the MSK Physiotherapy services. The study will involve two phases. The **first phase** aims to identify the range of transformation projects in MSK Physiotherapy in primary care, to understand where they are happening and who is involved, and also their intended impacts. The **second phase** of the study will identify a number of these projects or locations for an in-depth case study. We will focus on identifying any impacts; barriers and facilitators in implementation; lessons learned; and impacts for patients, practitioners and the wider health system of NHS Scotland. The study will last from June 2017 to September 2018.

4. Why have I been chosen?

You have been identified as a key stakeholder involved in new ways of working in primary care in MSK Physiotherapy. Your views will help us to better understand the development and implementation of new models of care and what lessons have been learned about establishing and sustaining them.

5. Do I have to take part?

It is up to you to decide whether or not to take part. If you do decide to take part, you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part, you are still free to withdraw at any time and without giving a reason.

6. What will happen to me if I take part?

If you do agree to take part, you will be asked to meet with a researcher for an interview at a time and location suitable to you. The interview is expected to last for around 60 minutes. You will be asked at the beginning of the interview if you have any questions about the study, and you will then be given a consent form to complete and sign (you will be given a copy of this information sheet and your consent form to keep). If a face-to-face interview isn't suitable, but you would like to take part, we can arrange a telephone interview instead. In this case we will send you a consent form and ask you to complete it and return it to us before the interview.

With your permission we will record the interview to ensure that we retain an accurate account of the discussion. If you do not wish the interview to be audio recorded please indicate this to the researcher and omit this part of the consent form. All recordings will be held on secure University of Glasgow servers and will be destroyed at the end of the study. Interviews will be transcribed and anonymised. Transcripts will be retained securely for 10 years. Your anonymised data will be stored for additional future research performed by approved researchers.

It is possible that you might be asked to take part in a second interview later in the project. This might happen if you are involved across a range of different projects being developed in the MSK Physiotherapy services, or to help us understand how the projects develop over time.

When you are asked to participate in the interview you will also be asked, if it is appropriate, whether you are willing to receive ongoing email prompts that aim to keep the research team informed of important changes or events in your local area (these might include larger stakeholder events or changes in key personnel or restructuring of local services). If you choose to take part in this then you will receive a structured email at intervals agreed between you and the research team, but not more than monthly. If we don't receive a response from you then you will receive only one reminder and if you decide that you no longer wish to take part then we will not send you any more prompts.

You will also be asked whether you are willing to complete two questionnaires. The first questionnaire, called NoMAD, will help us identify and understand barriers and facilitators of the new models of care being developed. The questionnaire will be sent to you by email or in paper format at the beginning of the study. We will ask you to complete this questionnaire a second time later on in the study. If we don't receive a response from you then you will receive only one reminder and if you decide that you no longer wish to take part then we will not send you any more questionnaires.

The second questionnaire called an outcomes rating scale will help us to understand the objectives of the work being carried out in the MSK Physiotherapy services and when these might be achieved. The questionnaire will be sent to you by email or in paper format at the beginning of the study. We will ask you to complete this questionnaire once. If we don't receive a response from you then you will receive only one reminder.

7. What are the possible disadvantages and risks of taking part?

Taking part in the evaluation will require you to give a modest amount of your time.

8. What are the possible benefits of taking part?

You will receive no direct benefit from taking part in this study. The information that is collected during this study will give us a better understanding of what new models of care are being developed and how they are being implemented. Additionally, your views will help us understand better what those charged with planning and implementing new models feel about their data and support needs.

9. Will my taking part in this study be kept confidential?

All information which is collected about you, or responses that you provide, during the course of the research will be kept strictly confidential. When we use the information provided by you, from the interviews, electronic prompts or questionnaires, it will be anonymized and depersonalized. No names or identifiable data will be mentioned if we quote something that you say in future reports or publications. You will be identified by an ID number, and any information about you will be removed so that you cannot be recognised from it.

However, some key informants may be easier to identify due to their unique or role or profile. In recognition of this, quotes that may be attributable to a participant due to their unique or key role will not have a role identifier attached, and if this is not sufficient to ensure anonymity then these quotes will not be used. Your anonymised data will be stored for additional future research performed by approved researchers.

Please note that assurances on confidentiality will be strictly adhered to unless evidence of serious harm, or risk of serious harm, is uncovered. In such cases the University may be obliged to contact relevant statutory bodies/agencies.

10. What will happen to the results of the research study?

The results from the interviews will be used by the research team to provide feedback to stakeholders and to our funders, the Scottish Government, via the Scottish School of Primary Care. We will also aim to publish our findings in academic journals and presentations at conferences.

11. Who is organising and funding the research?

The Scottish Government is funding this research and the funding is being administered by the Scottish School of Primary Care. The study is led by the University of Glasgow.

12. Who has reviewed the study?

This study has been reviewed by the University of Glasgow, College of Medical, Veterinary and Life Sciences Ethics Committee.

13. Contact for Further Information

If you would like further information about this study, please contact Dr Barbara Nicholl;
Barbara.Nicholl@glasgow.ac.uk; Tel 0141 330 8327.

Thank you for taking part in this study!

Appendix E



University of Glasgow | College of Medical,
Veterinary & Life Sciences

Participant Identification Number:

GU Project R&D No: 77014

CONSENT FORM

Title of Project: Evaluation of New Models of Care: MSK Physiotherapy Services Across Scotland

Name of Researcher(s):

Please initial box

I confirm that I have read and understand the information sheet dated _____
(version _____) for the above study and have had the opportunity to ask questions.

☐

I understand that my participation is voluntary and that I am free to withdraw at
any time, without giving any reason, without my legal rights being affected

☐

I agree to my anonymised data being archived and that electronic versions of these
will be stored on password protected University of Glasgow computers.

☐

I understand my information will be stored for additional future research and I will
not be able to be identified from any analyses performed by approved researchers.

☐

I understand that if some of my views are quoted in a report or published papers,
this will be done in a way that ensures that I cannot be identified.

☐

I understand that, subject to my permission, the interview will be audio recorded for the purpose of the study and that any recordings will be destroyed at the end of the study. Depersonalised transcripts of the recordings will be kept for a period of 10 years to ensure accurate reporting in any future publications.

☐

If appropriate, I agree to being sent electronic prompts and/or questionnaires to complete, and understand that I will be given the opportunity to withdraw from future surveys.

☐

I agree to take part in the above study.

☐

_____	_____	_____
Name of subject	Date	Signature

_____	_____	_____
Name of subject (if telephone interview)	Date	Print Name

_____	_____	_____
Researcher	Date	Signature

(1 copy for subject; 1 copy for researcher)

Appendix F



21st June 2017

Dear Professor O'Donnell.

MVLS College Ethics Committee

Project Title: Evaluation of New Models of Care: MSK Physiotherapy Across Scotland

Project No: 200160146

The College Ethics Committee has reviewed your application and has agreed that there is no objection on ethical grounds to the proposed study. It is happy therefore to approve the project, subject to the following conditions:

- Project end date: End January 2019
- The data should be held securely for a period of ten years after the completion of the research project, or for longer if specified by the research funder or sponsor, in accordance with the University's Code of Good Practice in Research: (http://www.gla.ac.uk/media/media_227599_en.pdf)
- The research should be carried out only on the sites, and/or with the groups defined in the application.
- Any proposed changes in the protocol should be submitted for reassessment, except when it is necessary to change the protocol to eliminate hazard to the subjects or where the change involves only the administrative aspects of the project. The Ethics Committee should be informed of any such changes.
- You should submit a short end of study report to the Ethics Committee within 3 months of completion.

Yours sincerely

Jesse Dawson

MD, BSc (Hons), FRCP, FESO

Clinical Reader / Honorary Consultant

NRS Stroke Research Champion / Clinical Lead for Scottish Stroke Research Network

Chair MVLS Research Ethics Committee

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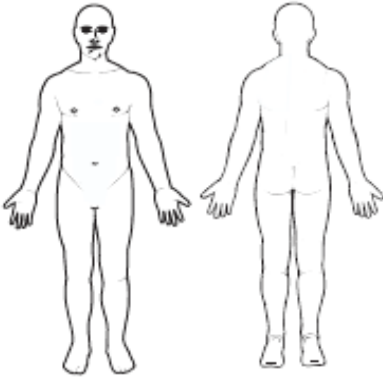
Appendix G

Adult Outpatient Musculoskeletal (MSK) Physiotherapy

Patient Completed Self Referral Form Date:



Please read and complete all parts of this form and hand in or send to local Physiotherapy department

Please consult your GP URGENTLY or NHS 24 on telephone number: 111 if you have <u>recently or suddenly</u> developed: <ul style="list-style-type: none"> • difficulty passing urine or controlling bladder / bowels • numbness or tingling around your back passage or genitals • numbness, pins and needles or weakness in both legs 		Please inform your GP of this referral if you: <ul style="list-style-type: none"> • have recently become unsteady on your feet • are feeling generally unwell / fever • have a history of cancer • have any unexplained weight loss 			
Name			Date of Birth:	<input type="text"/>	M <input type="checkbox"/> F <input type="checkbox"/>
Address					
Post Code			Occupation		
Telephone	(home) <input type="text"/>	(work) <input type="text"/>	(mobile) <input type="text"/>		
GP Name			GP Address		
Do you have any special requirements? (e.g. interpreter) No <input type="checkbox"/> Yes <input type="checkbox"/>					
Please describe:					
Please complete for your main problem only <div style="display: flex; align-items: flex-start;"> <div style="flex: 1;">  </div> <div style="flex: 2;"> <p>Please mark on the diagram the location of your main problem. Where is your pain?</p> <p>Is your pain / problem due to a recent fall or injury? No <input type="checkbox"/> Yes <input type="checkbox"/></p> <p>Please describe your current problem and symptoms below:</p> </div> </div>					
Tick one box only for each question How long have you had your current problem? (Please state how long if more than 12 weeks) Less than 2 weeks <input type="checkbox"/> 2 - 6 weeks <input type="checkbox"/> 7 -12 weeks <input type="checkbox"/> more than 12 weeks <input type="checkbox"/> _____ weeks					
Is your problem getting? Worse <input type="checkbox"/> Better <input type="checkbox"/> Not changing <input type="checkbox"/>					
If in pain, how would you describe it? Mild <input type="checkbox"/> Moderate <input type="checkbox"/> Severe <input type="checkbox"/>					
Is your pain constant (present ALL the time)? No <input type="checkbox"/> Yes <input type="checkbox"/>					
Is pain disturbing your sleep?					
No <input type="checkbox"/> Yes, difficulty getting to sleep <input type="checkbox"/> Yes, woken up from sleep <input type="checkbox"/> Yes, unable to sleep at all <input type="checkbox"/>					
Are you off work because of this problem? No <input type="checkbox"/> Yes <input type="checkbox"/> If yes how long:					
Are you unable to care for / look after someone because of this problem? No <input type="checkbox"/> Yes <input type="checkbox"/>					
Is your problem from an injury sustained during active military service? No <input type="checkbox"/> Yes <input type="checkbox"/>					
Are your day to day activities affected by your pain?					
Not at all <input type="checkbox"/> Mildly <input type="checkbox"/> Moderately <input type="checkbox"/> Severely <input type="checkbox"/>					

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Appendix H

Inputs	Activities/Outputs	Intended Outcomes	
		Short-term	Medium to Long-term
NHS Ayrshire and Arran			
Funded by* : <ul style="list-style-type: none">PCTF fundingOther funding stream (not disclosed) 3 Physiotherapists available across 9 GP practices. Staff working as part of a cluster model.	APPs as first point of contact for MSK related ailments. Direct route of access for patients.	Improved first point of contact rates. Appointments proven to be safe. Higher self-management rates.	Safe and acceptable alternative to GP appointment. GPs caseload change to more complex healthcare issues. Lower onward referral to secondary care physiotherapy.
NHS Borders			
Funded by: <ul style="list-style-type: none">Physiotherapy Services One APP in a Spinal MSK Role. Two APPs working in community care roles.	APP triaging referrals to secondary care.	Reducing orthopaedic waiting times.	NOTE: Key informant believed that no medium to long-term outcomes were possible without continued funding of MSK Services as a whole.
NHS Dumfries and Galloway			
Funded by: <ul style="list-style-type: none">Board top-slicingOrthopaedic funding Chronic pain pathway. AHP Triage.	Physiotherapy questionnaire about chronic pain. Physiotherapy workshops about chronic pain. AHP triaging orthopaedic patients	Improvement in patient experience. Reducing unneeded orthopaedic appointments.	Reduce orthopaedic waiting times. May be able to run more theatre spots as Orthopaedic time will be better spent.

	through MSK Physiotherapy.		
NHS Fife			
<p>Funded by:</p> <ul style="list-style-type: none"> • Board top-slicing • Individual practice funding <p>One APP in one GP Practice.</p> <p>Online advice tool for Physiotherapists and GPs.</p>	<p>APP as first point of contact for MSK related ailments.</p> <p>Direct route of access for patients.</p> <p>Potential for APP to prescribe and inject.</p> <p>Advice tool to increase confidence in GPs and physiotherapists.</p>	<p>Allowing the patient to see the right person at the right time.</p>	<p>Reduced needless referral to Orthopaedics.</p> <p>Reduced GP workload.</p> <p>Reduced referrals to secondary care.</p> <p>Reduced prescription costs.</p>
NHS Forth Valley			
<p>Funded by:</p> <ul style="list-style-type: none"> • Primary care funding (non-PCTF) • Board top-slicing <p>Extended scope practitioner in two 2C practices.</p> <p>MSK Hub</p>	<p>Extended scope practitioners within two practices.</p> <p>Hub streamlining referrals into secondary care.</p>	<p>Potentially negative short term impacts on the workforce related to job precarity and short-term funding.</p>	<p>Reduction in referrals for GPs and Orthopaedics.</p> <p>Increase in referrals to secondary care Physiotherapy.</p> <p>Reducing waiting times.</p>

NHS Grampian			
<p>Funded by (amounts not disclosed):</p> <ul style="list-style-type: none"> • HSPC funding <p>One APP in one practice</p> <p>Telephone Appointments</p>	<p>One APP in one practice</p> <p>FPOC triage by receptionist</p> <p>Return phone call from the physiotherapist.</p>	<p>Patient is seen by the correct person quickly.</p> <p>Reduced waiting list times.</p> <p>Reduced need for repeat appointments.</p>	<p>Bring down waiting times.</p> <p>Better resource management.</p>
NHS Greater Glasgow and Clyde			
<p>Funded by:</p> <ul style="list-style-type: none"> • PCTF funding • QOF funding <p>APP in GP practice</p> <p>SHIP project</p> <p>Physiotherapist in GP practice</p>	<p>One APP in cluster</p> <p>Community project bringing together clinicians from different fields to target specific local issues</p> <p>Physiotherapist within the same building blocking off time for 2 quick access patients per week.</p>	<p>Reduced time off work.</p> <p>Patient empowerment</p> <p>Reduction in GP appointments for chronic and persistent back pain.</p> <p>Patient being seen by the correct health professional at the correct time</p> <p>Faster route to physiotherapy.</p>	<p>NOTE: key informant (prior to GP contract change) discussed being in limbo currently; “[W]ell they're just going to have to do something and then if we get somewhere with it fine and if we don't then at least we've made a start.”</p>
NHS Highland			
<p>Funded by:</p> <ul style="list-style-type: none"> • Individual practice funding 			

APP in GP Practice	Hired by individual practice due to perceived need.	Improved patient experience	Reduction in MSK related GP appointments.
Telephone consultation	One APP serving one practice**.	Reduced onward referral to orthopaedics.	Reduction in needless prescription.
NHS 24 MATS	Physiotherapist calling patients.	Increased self-management.	
	Replaced self-referral.		
	FPOC for all MSK related issues.		
NHS Lanarkshire			
Funded by: <ul style="list-style-type: none"> PCTF funding APP in GP practice	One APP covering 3 practices as part of a cluster.	Decrease in numbers sent to physiotherapy services. Decrease in numbers sent to orthopaedics. Increase GP appointment time.	NOTE: short term funding of project made it difficult for the key informant to comment on long term outcomes.
NHS Lothian			
Funded by: <ul style="list-style-type: none"> PCTF funding health board pump-prime funding 	5 GP APPs in 3 HSCPs	Proof of suitability of new model of	NOTE: key informant did not feel

APP in GP Practice MSK Pathways APPs	APP specialising in triaging patients with spinal MSK complaints providing care for defined clinical areas e.g. low back pain. Funded by primary care	care. Proof of costing of new model of care. Supporting GP practice.	comfortable discussing long term goals when some projects were not full devised.
NHS Orkney			
Funded by: <ul style="list-style-type: none"> Healthboard funding APP in GP Practice	One APP covering 2 practices	Reduce waiting times for physiotherapy. Get closer to the 4-week orthopaedic target.	NOTE: long term outcomes not devised as the role was new.
NHS Shetland			
No new models of care reported.			
NHS Tayside			
Funded by: <ul style="list-style-type: none"> unknown APP in GP practice MSK solutions tool	One app in a failing practice. Online resource for GPs and AHPs	Reduced GP appointments for MSK related complaints. Reduced referrals to secondary care.	Increase speed on the patient pathway. Decrease lost working days for patients.

	Encouraging better knowledge sharing and communication between GPs and physiotherapists	Increase appropriate referral to secondary care physiotherapy. Increase patient satisfaction.	
NHS Western Isles			
Funded by: <ul style="list-style-type: none"> unknown APP in GP Practice	1 APP available for 2 sessions per week in a single practice.	Reduced GP appointments for MSK related complaints. Putting patients of the right pathway sooner. Increase appropriate referrals to secondary care.	Future outcomes include gaining funding and recruiting enough physiotherapy staff to roll the APP role out to more practices.

*NOTE: Funding amounts were not disclosed any of the health boards interviewed within this evaluation.

**The NHS Highland deep dive within phase 2 of the evaluation has uncovered more physiotherapists working on the APP role. This figure therefore represents what was known during phase 1.

APPENDIX I

LITERATURE REVIEW

Papers included in the literature review were centred on the implementation of new models of MSK primary care.

As a note on the terminology used within the literature review, advanced physiotherapist and advanced practice roles are used throughout to encompass all iterations of advanced practice working described within the identified papers. These include Advanced Physiotherapy Practitioners (APPs) working within primary care as a first point of patient contact, physiotherapists working within primary care receiving patient referrals from GPs, and physiotherapists involved in telephone triage of patient self-referrals. Moreover, this terminology has been chosen to reflect the differences within the APP role in terms of ability to prescribe, ability to inject and ability to refer on to secondary care for further testing.

Study Setting, Year of Publication and Study Design

This study literature search and screening strategies identified 18 peer-reviewed research publications (Appendix J). The publications were predominantly based on studies conducted in Europe: 11 in the UK (nine in England and two in Scotland), 3 in Sweden, 1 in the Republic of Ireland and, 1 in Canada (Table 3.1). The remaining 2 studies were systematic reviews of international evidence.

Table 3.1 Country of setting, year of publication and study design of identified literature

Country Setting	Number (%) of Publications
England	9 (50)
Sweden	3 (17)
Scotland	2 (11)
Republic of Ireland	1 (6)
Canada	1 (6)
International Evidence	2 (11)
Year of Publication	
2014 - 2017	9 (50)
2010 - 2013	6 (33)
2000 - 2008	3 (17)
Study Design	
Review/Systematic Review	2 (11)
Mixed Methods	5 (28)
Questionnaire/Survey	3 (17)
Observational	3 (17)
Qualitative	2 (11)
Randomised Controlled Trial	1 (6)
Routine Data Analysis	1 (6)

Fourteen studies were published from 2010 onwards, suggesting that new models of MSK primary care became a priority after this point in time.

In addition to the 2 systematic reviews, 5 were based on studies that used mixed methods (two of which included economic analysis), 3 on questionnaires/surveys, 3 on observational methods, 2 on qualitative methods only, 1 on a randomised controlled trial, 1 on analysis of routine data, and 1 economic analysis. A summary of the findings of each included study can be found in Appendix J.

In terms of quality, 4 papers (22.2%) matched “good” criteria, 7 papers (38.9%) matched “fair” criteria, and 7 papers (38.9%) matched “poor” criteria.

Implementation of New Models of MSK Primary Care

The work needed to bring about the implementation and setting up of new models of care was discussed by 17 of 18 identified papers. The barriers and facilitators to the implementation of new models of care identified can be arranged around three main themes: ‘staff’, ‘patients’, and ‘accommodation and resources’.

Staff

Luvdigsson and Enthoven (2012: 135) concluded that successful implementation of new models of care in Sweden occurred when there was “*well established cooperation*” between physiotherapists and GPs, however, Desmeules *et al.* (2012) reported that there remains disagreement within the profession regarding the benefits of advanced practice physiotherapy roles. Recognition of the role by GPs must also be reflected in the referrals that GPs make to physiotherapists with regards to MSK conditions. Holdsworth *et al.* (2008) noted that wide variation existed in the rate of GP referrals to physiotherapy both across the UK and in other countries, despite widespread belief in the competency of physiotherapists to manage MSK complaints. As such, Mallet *et al.* (2014) reiterated a need for a dedicated team of stakeholders to support and facilitate the implementation and sustainability of new models of care.

Staff buy-in which promotes the design, implementation, and promotion of new models of care was reported by French and Galvin (2017) to be an important element; particularly between physiotherapists and other clinicians such as GPs and orthopaedic consultants. Mallet *et al.* (2014) and French and Galvin (2017) further stressed the need for adequate support roles by highlighting the value of “*efficient administrative support*” for the success of self-referral pathways within primary care. A positive working relationship was also described by French and Galvin (2017) who found relationships between GPs and physiotherapists to be generally positive. However, French and Galvin (2017) also pointed out that, within their study, the GP role was also considered a barrier when GPs lacked adequate engagement with physiotherapists.

Minns Lowe and Bithell (2000) reported some positive support from physiotherapists and GPs alike, arguing that advanced practice roles extend the boundaries of the physiotherapy profession. Goodwin and Hendrick (2016) further claimed that new models of care have been facilitated by some physiotherapists in primary care having access to referral for diagnostics and secondary care. However, Minns Lowe and Bithell (2000) also warned that advanced practice roles could increase the fragmentation of physiotherapy services within the UK which are already at full capacity. This concern was echoed by Bishop *et al.* (2017) and Bornhoft (2014) who reported that an initial increase of referrals to secondary care physiotherapy as a result of new models of care, may overstretch core physiotherapy services. Hattam and Smeatham (2012) further added that the waiting times for subsequent hospital appointments were a weakness in the delivery of new models of care and called for the establishment of closer working links between primary care and secondary care.

Staff recruitment and retention was also highlighted as a potential barrier for the successful implementation of new models of care. Though Minns Lowe and Bithell (2000) reported that some physiotherapists relished the opportunity to grow their skillset, they also highlighted a concern regarding the ability of health boards to recruit experienced MSK physiotherapists into advanced practice roles. Moreover, they raised concerns with regards to professional isolation for those physiotherapists working in the primary care environment. One potential strategy highlighted by Minns Lowe and Bithell (2000) to mitigate against professional isolation, was to ensure that physiotherapists undertaking advanced practice roles continued to perform secondary care work; thus benefiting from the professional and pastoral support available within the core physiotherapy service.

Patient

Alongside support from clinicians, facilitators to the successful implementation of new models of care were reported to be patient trust and buy-in. Ludvigsson and Enthoven (2012) stated that patients within their study trusted physiotherapists to provide primary assessment, so adding weight to Desjardins-Charbonneau's (2016) contention that patient perceptions of new models of care could impact on the design of future health care delivery. The importance of public buy-in was evidenced by Pearson and Richardson (2016) who noted that new models of care, which included telephone consultation, were perceived to have less value than face-to-face consultation. As such, Samson *et al.* (2016) suggested that good communication and information regarding the role of the physiotherapist was key to alleviate patients concerns and increase patient confidence. Holdsworth *et al.* (2008) regarded GPs as having a pivotal role to play in facilitating patient awareness by firstly understanding the role of physiotherapists themselves, and by providing patients with information and treatment options which ensure that patients are aware of self-referral systems and their efficacy. This was supported by Pearson and Richardson (2016) who argued that communication was a key facilitator in the successful delivery of new models of care.

Accommodation and resources

Suitable accommodation within primary care practices, together with appropriate resource allocation were mentioned within the literature as being key to the successful delivery of new models of care. French and Galvin (2017) noted that barriers to the implementation of new models

of care included GPs and physiotherapists working in different buildings, thus impacting on perceived collegiate approaches to service delivery. Moreover, French and Galvin (2017:218) also noted that single room facilities and poor access were “*significant barriers*” to service delivery as sites were not specifically built to accommodate the needs of advanced practitioners. Lack of appropriate equipment and space was also reported to hinder “*potentially innovative treatment delivery methods*” which may have improved service delivery in primary care, for example a falls prevention programme (French and Galvin, 2017: 219), an argument supported by Minns Lowe and Bithell (2000).

Salisbury *et al.* (2013b) noted that one of the factors facilitating the successful implementation of a new model of care was to ensure that appropriate training is available. However, French and Galvin (2000) suggested that undertaking such professional development in the Republic of Ireland could incur personal costs in an environment of reduced funding. Aside from lack of funding, French and Galvin (2017) reported that spare time in which to do further training is often lacking and that support for such endeavours, such as study leave, are not standardised and so not necessarily widely available to all physiotherapists.

Summary

The literature identified a number of key requirements for the successful implementation of new model of MSK primary care including buy-in and support of key stakeholders within primary and secondary care. It was suggested that GPs have a pivotal role in informing patients of the safety and efficacy of consultation with a physiotherapist. A collegiate approach to advanced roles was heralded as essential for continued sustainability, but potential difficulties in recruiting physiotherapists for advanced primary care roles were highlighted. This coupled with the potential increased referrals was considered to a risk to overstretched MSK physiotherapy services. Concerns were also raised with regards to staff isolation and it was suggested that maintaining close ties to practice within secondary care physiotherapy would be a good model for the continued success of advanced roles. Finally, appropriate resources were highlighted as key to safeguarding the success of new models of care. These resources included staff, accommodation, funding, and supported training opportunities.

Delivering New models of MSK Primary Care

Of the 18 papers identified, 11 papers discussed changes in the delivery of MSK physiotherapy within primary care. These changes included the introduction of ‘APPs’, ‘Extended Scope Practitioners’ and ‘Advanced Practitioners’. These practitioners were involved in the triage and/or treatment of MSK conditions within the primary care setting, as opposed to within secondary care physiotherapy. Additionally, four papers discussed the effectiveness of patient self-referral to physiotherapy without a referral from the GP. These 15 papers described the impact on primary care and MSK physiotherapy services, the perceived ability of APPs to tackle a triage and treatment role within primary care and, the impact of new models of care on rates of onward referral to secondary care services.

The reported impacts in the reviewed papers included those that related to clinical effectiveness, patients, staff and cost-effectiveness.

Impact on clinical effectiveness

Desmeules *et al.* (2012) reported that, in comparison to treatment by a GP, physiotherapists were able to deliver effective treatment for MSK conditions in a primary care setting. This claim was supported by Marks *et al.* (2017) who also found that there was no significant difference in patient health outcomes between care delivered by a physiotherapist when compared to that of a GP. With regards to the safety of treatment by physiotherapists within primary care, Ludvigsson and Enthoven (2012) reported that physiotherapists within their study correctly referred patients with serious pathologies to the GP. This study was found to be of fair quality and included 532 participants. Holdsworth *et al.* (2008) reported that 74 of 117 GPs (63%) were confident in the abilities of physiotherapists to accurately diagnose and manage MSK conditions. These reports suggest that physiotherapists working within a primary care setting are potentially able to replace safely and competently the need for consultation by a GP for patients who present with MSK conditions.

A common thread throughout the literature was the ability of APPs to reduce re-consultation rates within primary care, as well as reducing the instance of needless onward referral into secondary care physiotherapy services and secondary care orthopaedics. In a comparative study between two practices, in which one practice provided an APP and the other did not, Goodwin and Hendrick (2016) reported that only 39 of 208 patients (19%) of() from the APP group returned to see a GP regarding the same condition, as opposed to 35 of 140 patients (25%) from the GP group. Similarly, Hattam and Smeatham (2012) found that only 4 of 76 patients (5.3%) =) needed to re-consult their GP within 12 months of being seen by an APP.

Moreover, the literature suggests that physiotherapists are effective at treating acute issues that do not then require onward referral. Samsson and Larsson's (2014) found that there was a "*significantly higher selection accuracy*" for orthopaedic intervention; 56 of 102 patients (55%) following physiotherapy triage compared to 25 of 101 (25%) who were referred by the GP without physiotherapy screening (25%). The proportion of patients referred for further investigations was also significantly lower in the patient group that had been screened by the physiotherapist. It was further reported by Hattam and Smeatham (2012) that 29 of 76 patients (38.2%) within their study, who were managed with appropriate advice and exercises, required no further intervention from secondary care physiotherapists nor GPs. These findings are pertinent to the present case study as it is estimated that around 20-30% of GP time is taken up by patients with MSK conditions that could be managed by a physiotherapist (NHS Scotland, 2014a; Cree, 2014).

Impact on patients

The new models of care described within the literature provided access to physiotherapy as a first point of contact, allowing patients to self-refer to a physiotherapist based in primary care. Bishop *et al.* (2017) reported that self-referrers were more likely to be female and less likely to be in paid work, while those in the most socioeconomically deprived group were less likely to use self-referral. Though the numbers in this particular trial were admittedly small, this finding is relevant to the present case study as it aims to explore the impact of new models of care on deprived populations

and equity of access for patients. Alongside primary care triage clinics, Sephton *et al* (2012) evaluated musculoskeletal clinical assessment. They found that patients managed through their direct access service showed modest, but statistically significant improvement in pain scores. Goodwin and Hendrick (2016) further reported that over their six month trial period, 91 of 130 patients (70%) (N=) reported improvement in symptoms after direct access to services within primary care.

The role of the direct access physiotherapists was generally well received by patients within the literature; Desjardins-Charbonneau *et al.* (2016) reported that 369 of 531 patients within their study (69%) described treatment by a first point of contact physiotherapist as equal to, if not better than a GP. Similarly, Goodwin and Hendrick (2016) reported 91 of 130 patients (70%) were satisfied with information received about their condition, advice and self-care information supplied, and patient confidence in the ability of a physiotherapist to assess their problem. On the other hand, Samsson and Larsson (2014) reported that some patients were hesitant about attending a physiotherapist-run triage clinic. Sephton *et al.* (2010) reported significant levels of perceived improvement and high levels of patient satisfaction. Marks *et al.* (2017) noted that in 7 of the 14 studies in their systematic review (50%), patient satisfaction with treatment by physiotherapists was significantly higher than those who had visited the GP, while the remaining studies reported no difference in satisfaction between attending the physiotherapist and the GP. In terms of how patients understood the role of the physiotherapist as a first point of contact practitioner, Desjardins-Charbonneau *et al.* (2016) found that physiotherapists were most likely to be consulted for tendinitis or muscle pain, whilst consultation with GPs were more likely to be sought for joint sprains and neck pain. This suggests that communication with patients about the capabilities and responsibilities of a first point of contact physiotherapist are vital to the successful implementation of new models of care.

The introduction of new models of care was shown in the literature to impact greatly on patient waiting times. Hattam and Smeatham (2012) noted that patients within their trial (number (N) = 76) waited on average 32 working days for an initial appointment as opposed to over 11 months to be treated by secondary care physiotherapy. Waiting times were also discussed by Mallet *et al.* (2014) and Samsson and Larsson (2014), both reported that self-referred patients (combined population = 102) waited on average 3.55 days and 19 days respectively, compared to patients referred to secondary care MSK physiotherapy by the GP (combined population =101 who waited 30.99 days and 28 days respectively).

Impact on staff

The direct access role of the physiotherapist would be relatively novel for most physiotherapists themselves and many of the papers sought the opinion of those involved in the delivery of new services. In a study exploring the views of 513 APPS, Desjardins-Charbonneau *et al.* (2016) found that 390 (76%) trusted the competence and skills of first point of contact physiotherapists to make a valid medical diagnosis, 436 (85%) trusted their ability to order medical tests, 298 (58%) their ability triage patients for surgical care, and 359 (70%) their ability to prescribe medication. Aside from confidence in performing the role, Holdsworth *et al.* (2008) also questioned the perceived impact of new services as felt by physiotherapists themselves. Sixty-four of 117 physiotherapists (including physiotherapy managers) (55%) reported a notable increase in referrals to physiotherapy as a result

of new models of care. GPs on the other hand reported low levels of perceived change, with only 13 (11%) reporting a “*minimal decrease*” in the number of MSK related consultations (Holdsworth *et al.* 2008: 239).

Flagged as essential for the sustainability and expansion of first point of contact roles was continued professional development (CPD). This was deemed to be important both for physiotherapist self-confidence and patient confidence in the competency of the physiotherapist (Ludvigsson and Enthoven, 2012). Conversely, a lack of opportunities for CPD within the work environment was identified by French and Galvin (2017) as a barrier to the success of new models of service delivery. The first point of contact role was said by Desmeules *et al.* (2012) to benefit physiotherapists by allowing them to learn and apply specific advanced skills outside their routine scope of practice, however, not all physiotherapists were comfortable with advanced practice roles as a route for professional development. Although it represents a small number of physiotherapy practitioners (N = 47), Holdsworth *et al.* (2008) reported that 6% of physiotherapists asked were not comfortable practicing in an advanced role and would prefer patients to have been seen by their GP first.

Some studies highlighted importance of clearly defined roles and networks of support in the development and sustainability of new models of care. There were some concerns raised by physiotherapists and service managers with regards to new models of care. Minns Lowe and Bithell (2000) reported that some clinicians viewed the advanced practice role as endangering professional development - de-skilling physiotherapists as opposed to providing opportunities for career development. Moreover, 64. of 184 physiotherapy managers (35%) surveyed by Minns Lowe and Bithell (2000: 482) were concerned about the professional isolation of those working in advanced practice roles outwith core physiotherapy services, which could potentially be detrimental to “*peer support, training, chaperoning [and] safety*”. Within this study, 69 respondents (38%) were also concerned that a lack of appropriate accommodation would impact on the quality of care received by patients, so potentially becoming a barrier to the safety, and sustainability of advanced practice roles.

Cost effectiveness

Seven of the 18 papers identified within this literature review sought to establish the cost-effectiveness of the implementation of new models of care (see Table 3.1). With regards to self-referral into physiotherapy within primary care, Holdsworth *et al.* (2007) concluded that self-referring patients were £23.68 cheaper per episode of care than those referred by their GP. Similarly, Goodwin and Hendrick (2016) found that over two GP practice sites evaluated during their study involving 343 patients, direct access physiotherapists were seen to cost £562.90 and £309.93 less per patient than those who consulted their GP as a first point of contact. This cost analysis was conducted using data from 100 of the 343 patients (50 from each practice) and was appraised as ‘good’ during quality appraisal, suggesting that these findings are robust. These cost savings were mirrored by Hattam and Smeatham (2012) who found that GPs who participated in a trial of physiotherapist-led triage reported cost savings directly related to physiotherapy triage clinics (6 partner practices). Desmeules *et al.* (2012) also concluded that APPs may cost less than GP care but

cautioned that studies within their evaluation were found to have poor methodological quality for the economic component analysis.

A number of reasons were suggested for the comparative cost effectiveness of physiotherapists within primary care. Bornhoft and Larsson's (2014) Swedish example notes that significantly fewer patients received referrals, recommendations for sick leave, prescriptions for analgesics, or attended multiple GP visits for the same MSK problem (Bornhoft *et al.* 2014). Similarly, Ludvigsson and Enthoven (2012) reported that consultations with physiotherapists were generally longer but did not require assistance from additional staff such as secretaries. Bishop *et al.*'s (2017) analysis in the UK elicited similar results, noting that mean NHS costs were slightly cheaper. Holdworth *et al.* (2007) posited that the savings made to the NHS by physiotherapy within primary care were due to a combination of the reduction in GP workload, lower prescribing and imaging costs, and reduced needless referral into secondary care services. Where self-referral to a physiotherapist was available, Holdworth *et al.* (2007) reported that there were lower overall costs to NHS Scotland regardless of geographical location.

Summary

Within the reviewed literature, physiotherapists were found to be a safe and efficient replacement for GPs as first point of contact for patients with MSK conditions. In terms of diagnosis and treatment validity, physiotherapists were found to correctly identify and refer those patients with more serious pathologies. As such, physiotherapists were shown to reduce re-consultation rates with GPs and reduce needless referrals to secondary care physiotherapy or orthopaedics. This had a clear impact on waiting times, reducing the time patients wait to see specialists within secondary care. The role of the physiotherapist within primary care was generally well received by patients and high patient satisfaction scores were reported within some studies. Physiotherapists undertaking new models of care were said mainly to be confident in their abilities to appropriately treat patients although concerns were raised about the need for appropriate continued training and support, without which, the role could be isolating and potentially lead to de-skilling. Overall, physiotherapists were found to be a cost-effective alternative to the GP via a reduction in contact time with clinicians, a reduction in prescription costs, lower imaging costs and reduced needless referral into secondary care.

MSK Telephone Triage

Four of the 18 reviewed papers discussed the plausibility of the introduction of MSK telephone triage systems. Three of these papers discussed PhysioDirect telephone triage system; one focussing on patient acceptability, one on clinical effectiveness, and one mixed method RCT with economic analysis. Both examples of telephone triage reported by Salisbury *et al.* (2013a), Pearson *et al.* (2016) and Mallet *et al.* (2014) were based in the UK. These telephone triage systems were designed to allow patients with MSK complaints to self-refer via telephone where they would be triaged by a physiotherapist and given advice and self-care without the need for face-to-face contact with a clinician. Within the trial of PhysioDirect, physiotherapists attended a 2-day training course in providing telephone assessment and using assessment tools, and were evaluated for competency after two weeks by a PhysioDirect trainer (Salisbury *et al.*, 2013a). The rolling out of telephone triage

as a new model of care had notable implications for both staff and patients, as well as impacting more widely on cost to the health board.

Impacts on staff

Salisbury *et al.* (2013a) concluded that an initial screening and assessment process carried out via telephone triage may be advantageous to physiotherapists working within secondary care physiotherapy services. In the PhysioDirect arm of their RCT involving 2249 patient participants had fewer face-to-face appointments than those within the usual care arms (mean 1.91 v 3.11) and fewer physiotherapy consultations of any type (mean 2.87 v 3.25). Moreover, patients allocated to PhysioDirect were reported to be less likely to fail to attend their face-to-face appointments (Salisbury *et al.*, 2013b) and more likely to complete the treatment pathway (Mallet *et al.*, 2014).

However, Salisbury *et al.* (2013a, 2013b) also highlighted ways in which telephone triage may increase staff workload despite initial hopes to the contrary. A combination of increased access to previously difficult to attain physiotherapy advice, and “*cautious triage algorithms*” in the telephone service itself, may result in patients being referred on for further investigation when they may not previously been seen by a physiotherapist (Salisbury *et al.*, 2013a). Additionally, Salisbury *et al.* (2013b) suggested that telephone triage may be more effective for physiotherapy staff if it were running alongside direct access physiotherapy in primary care to attend to those patients with acute MSK conditions. This would, according to Salisbury *et al.* (2013a, 2013b) reduce inappropriate referral into secondary care physiotherapy, so freeing up physiotherapist time for more complex cases.

Missing from the limited literature are the opinions and views of physiotherapists and GPs themselves on the impacts of using a telephone triage and assessment system.

Impacts on patients

A total of 1513 patients utilised the telephone triage systems in the study by Salisbury *et al.* (2013b:4) and were found to achieve faster access to physiotherapy advice and assessment than those going through their GP; around 7 days as opposed to 34 days. Reporting on the self-referral aspect of telephone triage specifically, Mallet *et al.* (2014) reported that patients were more likely to be directed for appropriate care more quickly, including onward referral for more serious pathologies such as knee derangements or serious spinal injury.

Despite reported positive outcomes in terms of treatment time, patient response to the efficacy and acceptability of telephone triage systems was not unilaterally positive. Pearson *et al.* (2016) reported in their study of 57 patients, that patients felt telephone consultation to be distant and detached, finding it difficult to communicate effectively their condition without being able to use bodily cues. As such, participants felt that telephone consultation impacted on the therapeutic relationship between patient and health practitioner (Pearson *et al.*, 2016). Misunderstanding with regards to the role of telephone triage also engendered negative feelings towards the system, especially when patients expected to see a physiotherapist face-to-face after calling as standard; these patients were more likely to rate telephone triage as ‘unacceptable’ (Pearson *et al.*, 2016).

Patient experience was not all negative and Pearson *et al.* (2016) reported that some patients who were initially sceptical of telephone triage consultation, were rated as 'happy' with the outcome following the phone call. While many patients also stated that they valued fast access to physiotherapy advice and self-help, Person *et al.* (2016) reported that this was viewed as a first step in accessing physiotherapy and would be followed up by face-to-face consultation by a physiotherapist.

Cost effectiveness

Salisbury *et al.* (2013a) argued that MSK telephone triage could potentially lower costs for the provision of physiotherapy at a level of cost effectiveness deemed justifiable for services within the NHS. However, the software used to carry out telephone triage was reported to need further investment and development to ensure stronger mechanisms for technical support should the system be rolled out nationally (Salisbury *et al.*, 2013a).

The running costs of telephone triage were reported to be more expensive than usual care within the trial of 2249 patient by Salisbury *et al.* (2013a). However, it was also argued this new model of care may be more cost-effective because of greater health gains within the cohort who used telephone triage, compared to those who were referred by the GP. Salisbury *et al.* (2013a) further reported that while the level of certainty about increased cost-effectiveness was only moderate, overall analysis proved that the trial of the PhysioDirect telephone triage system was robust. Additionally, compared to those entering physiotherapy through their GP, the PhysioDirect trial reduced the number of face-to-face physiotherapy consultations, decreased medication costs per patient (£10.25 vs £14.83) and lowered the costs associated with sick leave due to MSK conditions (£226.69 vs £262.47)(Salisbury *et al.*, 2013a). This was also evidenced by Mallet *et al.* (2014) who found in their trial of 194 patients that savings were made due to a reduction in non-attendance of face-to-face appointments coupled with decreased consultation by GPs and physiotherapists. Mallet *et al.* (2014) posited that a reduction in wasted appointments alone could equate to a saving of between 0.75 and 1.23 of a clinical post per year.

Summary

Overall, telephone triage was thought to be potentially advantageous to secondary care physiotherapy since the use of telephone triage systems was shown to reduce the number of face-to-face appointments. Moreover, patients were much more likely to attend face-to-face appointments after telephone triage resulting in less wasted appointments. It was also noted that there was a potential risk as over-cautiousness due to lack of face-to-face contact may in fact lead to needless referrals on to secondary care physiotherapy services. Utilising telephone triage systems was shown to provide faster access to physiotherapy advice and self-help, though patient still considered the system to be cold and impersonal. Moreover, there is a lack of understanding among patients with regards to the intended use of the service, with many viewing the telephone triage as a pre-cursor to a face-to-face appointment. Although the telephone triage systems were deemed to be more expensive than the usual care pathway, it was argued that it allowed for savings in medication, sick leave costs and wasted appointments which showed an overall reduction in costs.

APPENDIX J

Summary of the Systematic Scoping Literature Review

Changes to the way MSK physiotherapy was delivered within primary had been achieved in two main ways: the introduction of APPs and the use of telephone triage systems.

Successful implementation of new models of care were said to be facilitated by support and buy-in from staff and key stakeholders within both primary and secondary care. The ability of GPs to communicate the role of advanced practice to patients was also seen as a vital element during implementation. Barriers to implementation included concern over the ability of secondary care Physiotherapy services to manage increased referrals and maintain staffing levels. Appropriate resources were highlighted as key to safeguarding the success of new models of care. These resources included staff, accommodation, funding, and supported training opportunities.

Within the reviewed literature, physiotherapists were found to be a safe and efficient replacement for GPs as first point of contact for patients with MSK conditions. Physiotherapists were shown to reduce re-consultation GP rates and reduce needless referrals to secondary care physiotherapy or orthopaedics, so having a clear impact on waiting times. The role of physiotherapists within primary care was generally well received by patients and high patient satisfaction scores were reported by some studies.

Telephone triage was thought to be potentially advantageous to secondary care physiotherapy since the use of telephone triage systems was shown to reduce the number of face-to-face appointments. Although the telephone triage systems were deemed to be more expensive than the usual care pathway, it was argued that it allowed for savings in medication, sick leave costs and wasted appointments resulting in an overall reduction in costs. However, it should be noted that only a small number of papers (4) reported on telephone triage, two of which were rated 'poor' upon quality appraisal.

There was a lack of evidence around both the issue of sustainability and the use of data to monitor impact and effectiveness of these new models of care. Both need to be addressed if the initiatives are to be sustainable.

Study	Study Design	Country	New Model of Care	Aims	Results
Sephton, R., Hough, E., Roberts, S.A., and Oldham, J., 2010	Prospective observational cohort design	UK: England	Primary care musculoskeletal clinical assessment service (MCAS) – a triage and treatment service for the management of patients with MSK conditions.	To evaluate the clinical effectiveness of MCAS for the management of patients with MSK conditions, and to explore the potential predictors of effectiveness.	<p>Patients managed by the MCAS showed modest, but statistically significant improvement in both pain scores.</p> <p>Patients reported sizeable and significant levels of perceived improvement and high levels of patient satisfaction.</p> <p>The wide spread in results may be explained by chronicity and body region affected, such that those patients with chronic complex spinal pain do not do as well as those patients with less chronic peripheral pain.</p>

Study	Study Design	Country	New Model of Care	Aims	Results
Bishop, A., Ogollah, R., Jowett, S., Kigozi, J., Tooth, S., Protheroe, J., Hay, E., Salisbury C., Foster, N., 2017	Pragmatic, two-arm parallel, non-inferiority, cluster RCT	UK: England	Patient's direct access pathway into Physiotherapy.	To assess the feasibility of a future large trial to compare clinical and cost effectiveness of patient direct access to physiotherapy versus GP-led care for adults with MSK problems.	<p>90.3% of patients registered at the intervention practices used the direct access pathway- 74.5% recommended and 25.5% 'true' self-referrals.</p> <p>Of the patients using the pathway, triaging according to the pre-existing service criteria classified 23% of patients as urgent, 73% as routine, and 4% as unsuitable for physiotherapy.</p> <p>'True' self-referrers were more likely to be women and less likely to be in paid work. Those in the most socioeconomically deprived group were less likely to use 'true' self-referral but</p>

Study	Study Design	Country	New Model of Care	Aims	Results
					numbers were very small.
Ludvigsson, M.L., and Enthoven, P., 2012	Observational, retrospective cohort study	Sweden	Evaluation of primary physiotherapy assessment and management of patients with MSK problems in primary care.	To compare patient satisfaction with primary assessment by a physiotherapist or GP.	In 94% of patients the physiotherapist considered there to be no present need for the patient to be assessed by a GP. At 3-month follow-up, 85% of the patients who had initially been assessed at the PAC had not returned to see a GP for the same disorder. This suggests assessment by a physiotherapist was appropriate for the majority of patients. 6% of patients referred to GPs by physiotherapists were found to have serious pathologies, but these were not found
Study	Study Design	Country	New Model of Care	Aims	Results

among the 9% of

					patients who chose to return Professional development was deemed to be important for maintaining competence for both self-confidence and patient confidence. Lack of support for undertaking CPD within the work environment was deemed to be a barrier
Bornhoft, L., Larsson, M.E.H., and Thorn, J., 2014	Retrospective case-control study design.	Sweden	Primary care triage – a patient sorting system used in some primary health care clinics (PHCCs) in Sweden where patients with MSK problems are triaged directly to physiotherapists.	To investigate whether triaging patients directly to physiotherapy in primary care affects their utilization of medical services at the	Patients who were directly triaged to physiotherapists in primary care required fewer MSK related medical services during the year following the first visit compared to patients
Study	Study Design	Country	New Model of Care	Aims	Results
				clinic for the MSK problem. To determine whether the effects of the triaging system vary for different sub-	who were first assessed by GPs. Significantly fewer patients received referrals

groups of patients. recommendations for sick leave, prescriptions for analgesics, or multiple GP visits for the MSK problem among the triaged patients. All sub-group analyses show some reduced MSK related utilization of medical services at the PHCC for the triaged group regardless of where or how long the patients had the MSK problem.

Study	Study Design	Country	New Model of Care	Aims	Results
French, H.P., and Galvin, R., 2017	Qualitative	Republic of Ireland	Delivery of physiotherapy in primary care (shift from secondary care) and multidisciplinary team working.	<p>To explore physiotherapists' experiences of providing MSK physiotherapy in primary care.</p> <p>To gain an insight into physiotherapists changing roles,</p>	Relationships between GPs and physiotherapists were generally considered positive, but the role of GPs as team members was also considered a barrier due to poor engagement with the

				challenges in service delivery, and continuing professional development needs (CPD)	team in some sites. Physiotherapists identified a conflict between their role as generalist and specialist. Physiotherapists described their role as 'holistic' which entails treatment of the whole person rather than just the symptoms of a disease. Professional development was deemed to be.
Study	Study Design	Country	New Model of Care	Aims	Results
					important for maintaining competence for both self-confidence and patient confidence. Lack of support for undertaking CPD within the work environment was deemed to be a barrier
Pearson, J. and Richardson, J. <i>et al</i> ,	Qualitative study nested within an RCT	UK: England	Introduction of physiotherapy-led	To investigate how patients experienced	Participants valued fast access to

2016

telephone assessment and advice services – PhysioDirect. Patients can contact a physiotherapist who will then assess their MSK symptoms over the phone.

the PhysioDirect service.
To explore PhysioDirects acceptability from patients’ perspective.
To understand how the patient experience differed from those accessing usual physiotherapy care.

physiotherapy advice but viewed this as the first stage of accessing physiotherapy with talking on the phone as the first step of this process and consulting face-to-face as the second.

Some participants who were initially sceptical of PhysioDirect changed their mind after they experienced it.

Study	Study Design	Country	New Model of Care	Aims	Results
					Participants found the physiotherapists providing the service as helpful and were happy with treatment outcomes.
					Participants who expected to be seen by a physiotherapist were more likely to evaluate the service as unacceptable Some participants described the service as remote

					and impersonal, and some found it difficult to adequately describe their symptoms over the phone rather than physically show the physiotherapist. This exacerbated the difficult patients had describing their pain.
					Some participants felt the telephone consultation impacted the therapeutic
Study	Study Design	Country	New Model of Care	Aims	Results
					relationship with the physiotherapist.
Desjardins-Charbonneau, A., Roy, S-J., <i>et al</i> , 2016	Quantitative Cross sectional design	Canada	Perceptions of physiotherapists as primary care practitioners and advanced practice physiotherapists (APPs) for the treatment of patients with MSK problems.	To assess the perceptions of a university community sample about physiotherapists as primary care practitioners and advanced practice physiotherapists	Nearly three quarters (n = 369) of respondents reported that the ability of a physiotherapist in their usual role for the diagnosis of MSK problems is equivalent Family

				(APPs) for the treatment of patients with MSK problems.	physicians were the preferred first point of contact for joint sprains 47% and back or neck pain 31%. 76% (n=390) of APPs said they trusted the competence and skills of APPs to make a valid medical diagnosis, ordering medical tests 85% (n=436), triaging patients for surgical
Study	Study Design	Country	New Model of Care	Aims	Results
					care 58% (n=298) and prescribing medication 70% (n=359).
Goodwin, R.W., and Hendrick, P.A., 2016	Economic Evaluation	UK: England	Physiotherapy as a first point of contact, provided as an alternative to GP care.	To evaluate the clinical effectiveness, patient satisfaction and economic efficacy of the implementation of a '1st Line Physiotherapy Service'	25% of patients from the inner city practice re-presented with same complaint in the following six months, and just 19% in the university practice. Of those patients providing data at baseline and six

				which delivers first point of contact care, in a general practice setting, to patients with MSK complaints.	months over 70% reported an improvement when using the 1st Line Physiotherapy Service Both practices within this evaluation reported over 70%
Study	Study Design	Country	New Model of Care	Aims	Results
					complete satisfaction with the information they received about their problem, information about self-care, and their confidence in the physiotherapist's competency to assess their problems
Salisbury C., Foster, N.E. <i>et al</i> , 2013	Pragmatic individually randomised controlled trial, incorporating economic evaluation	UK: England	PhysioDirect - patients can telephone a physiotherapist for initial assessment and advice without waiting for a face-to-face appointment.	To assess the clinical effectiveness of PhysioDirect compared with usual models of care based on patients joining a waiting list for physiotherapy and eventually receiving face-to-face care.	47% assessed initially by telephone were managed entirely by telephone. Patients in the PhysioDirect arm had fewer face-to-face appointments than those in the usual care arm (mean 1.91 v 3.11), and fewer physiotherapy consultations of any

type (mean 2.87 v 3.25).

Study	Study Design	Country	New Model of Care	Aims	Results
					<p>Patients allocated to PhysioDirect had a shorter wait for physiotherapy treatment than those allocated to usual care (median 7 days v 34 days).</p> <p>Patients allocated to PhysioDirect were less likely to fail to attend face-to-face</p>
					<p>Physical component scores showed a slightly greater improvement in favour of PhysioDirect at six weeks follow-up (Mean 41.57 v 41.81), but no differences at six month follow-up (43.50 v 44.18).</p> <p>Differences at six weeks were small and could be clinically unimportant.</p>

Study	Study Design	Country	New Model of Care	Aims	Results
Desmeules, F., Roy, J-S. et al, 2012	Systematic review		Systematic review of the implementation of physiotherapists in what are called “advanced practice” or “extended scope practice” roles	Systematic review to update the evaluation of physiotherapists in APP roles in the management of patients with MSK disorders.	Overall results and conclusions made by the authors of the studies included in this review supported the role of APP in terms of treatment effectiveness and patients were as satisfied, or more satisfied, with this new model of care than usual care by physicians. The review suggests that physiotherapists can learn specific advanced skills outside their routine scope of practice and apply them In terms of diagnostic agreement and validity, the ability of APPs to communicate a diagnosis or triage patients was generally found to be
Study	Study Design	Country	New Model of Care	Aims	Results

Hattam, P., and Smeatham, A., 2012	Evaluation	UK: England	Orthopaedic screening service (OSS) in primary care setting prior to referral to secondary care, delivered by clinical physiotherapy specialists (CPS).	To monitor the management of patients attending the OSS.	<p>as good as orthopaedic surgeons.</p> <p>Patients waited an average of 32 working days for their initial appointment for the OSS in comparison to the waiting time for a hospital orthopaedic appointment which, at the time of this study,</p> <p>was in excess of 11 months.</p> <p>29 (38.2 per cent) of patients were managed with appropriate advice and exercises and no further intervention was necessary.</p>
Study	Study Design	Country	New Model of Care	Aims	Results
					A total of 55 (72.4 per cent) patients were therefore managed

successfully within the primary care environment with only four (5.3 per cent) needing to re-consult their GP with the same problem in the year of the study

Holdsworth, L.K., Webster, V.S. and McFadyen, A.K, 2007	Cost-minimisation analysis	UK: Scotland	Introduction of self-referral to physiotherapy in parallel with referral by a GP.	To establish the costs to NHS Scotland of differing modes of access to physiotherapy in primary care – self-referral, GP -suggested referral, and GP referral to physiotherapy.	The study found a lower average cost per episode of care for self-referring patients compared with patients referred at the suggestion of or by their GP (£66.31, £79.50 and £89.99, respectively).
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Study	Study Design	Country	New Model of Care	Aims	Results
Holdsworth, L.K., Webster, V.S. and McFadyen, A.K. 2008	Survey questionnaire	UK: Scotland	Introduction of self-referral to physiotherapy in	To establish the views of physiotherapists and GPs on self-referral to	Physiotherapists were asked if they were aware of any change.

parallel with referral by a GP.

physiotherapy, and the role that physiotherapists could play in the management of patients, particularly in prescribing, requesting X-rays and sickness certification.

in the overall number of patients being referred or referring themselves to physiotherapy. Over half felt that there had been a change (55%) 28% could not say and 15% thought there had been no change

Of the physiotherapists who reported a change, all reported a perceived increase in total referrals, with 30% reporting a significant increase and 25% reporting a minimal increase. GPs reported

Study	Study Design	Country	New Model of Care	Aims	Results
					low levels of perceived change, with the greatest reported change being a 'minimal decrease' (11%). Physiotherapists reported being more comfortable than GPs

(77% vs 70%), with nearly one-quarter of GPs reporting being uncomfortable (24%). Despite this discomfort, over 96% of all GPs reported they were confident, and 63% reported they were very confident in the ability of physiotherapists to accurately diagnose and appropriately manage MSK conditions.

Study	Study Design	Country	New Model of Care	Aims	Results
					Physiotherapists felt that they could very ably accept self-referrals (78%) without requiring additional training (84%). 47% felt that not all physiotherapists were sufficiently experienced to accept self-referrals. 6% of

					physiotherapists reported that they were not comfortable practising in this mode and preferred patients to be seen by their GP first.
Minns Lowe, C.J., and Bithell, C., 2000	Quantitative	UK: England	GP/health centre based MSK physiotherapy services	To determine the scale and nature of MSK physiotherapy services based in primary care in England, and to highlight issues which require further investigation.	The majority of physiotherapy service managers felt that there were issues arising for the profession to address from the growth of GP/HC-based MSK physiotherapy. The
Study	Study Design	Country	New Model of Care	Aims	Results
					main issues identified were professional isolation (64.67%), the endangering of professional development (53.26%) and the impact that limited site resources may have on the quality of patient care (38%).

Mallet, R., Bakker, E., and Burton, M., 2014	prospective cohort design	UK: England	MSK physiotherapy self-referral with telephone triage	To establish if physiotherapy self-referral is viable, cost-effective, and beneficial to MSK outpatients in a primary care setting when piloted in parallel to GP referral.	All self-referral patients were assessed within two weeks and had a mean waiting time of 3.55 days compared with 30.99 days in the GP referral group. 34.3% of all self-referral patients were managed without face-to-face contact, compared to GP referral patients (3.4%).
Study	Study Design	Country	New Model of Care	Aims	Results
					<p>All self-referral patients were less likely to be discharged owing to non-attendance resulting in a greater proportion (76.2%) completing the treatment pathway compared with their GP referral counterparts (68.6%).</p> <p>The triage aspect of the self-referral pathway led to a higher share of</p>

patients being identified who were unsuitable for treatment and needed onward referral for conditions such as knee derangements and serious spinal pathology.

Study	Study Design	Country	New Model of Care	Aims	Results
Samsson, K., and Larsson, M.E.H.,	RCT.	Sweden	Physiotherapist-led triage screening of patients in primary care referred for orthopaedic consultation.	To evaluate a screening by a physiotherapist of patients referred for orthopaedic consultation compared to standard practice in primary care	There was significantly higher selection accuracy for orthopaedic intervention in the physiotherapy screening group when compared with standard practice (55% vs 25%). The proportion of patients referred for further investigations was significantly lower in the physiotherapy screening group (17% vs 29%).

Waiting time was significantly shorter in the physiotherapy screening group. The physiotherapy screening group had a

Study	Study Design	Country	New Model of Care	Aims	Results
					mean score of 19 days compared to 28 days in the standard practice group. Of the 203 patients in the study, 162 completed the questionnaire (80% intervention, 78% control). A large proportion of patients reported a low grade of hesitation regarding attending the clinic for future care, with no significant difference found between the two groups.

Salisbury, C., Foster, N.E., Hopper C., Bishop A., Hollinghurst S., Coast J., et al. 2013	RCT	UK: England	provision of an easily accessible telephone assessment and advice service from an experienced physiotherapist, supported by a computerised assessment algorithm	To assess whether or not PhysioDirect is equally as effective as the usual models of physiotherapy based on patients going on to a waiting list and eventually receiving face-to-face care.	PhysioDirect provided faster access to an initial assessment and advice from a physiotherapist. Over the 6 month follow-up period, patients in the PhysioDirect arm had significantly fewer face-to-face consultations, and fewer consultations in total (including telephone and face-to-face consultations), compared with those in the usual-care arm.
Study	Study Design	Country	New Model of Care	Aims	Results
Marks, D., Comans, T. Bisset, L., and Scuffhamb, P.A., 2017	Systematic Review		Substitution of doctors with physiotherapists for the management of common MSK problems.	To establish the impact upon patients and health services, of substituting doctors with physiotherapists in the management of common musculoskeletal	Notwithstanding the lack of high quality data, it appears likely that physiotherapists provide a safe and effective service delivery alternative to doctors, but with

disorders.

some caveats that need further investigation.

Health outcomes were reported in 5

Study	Study Design	Country	New Model of Care	Aims	Results
					studies, and there were no reported significant or serious adverse events attributed to professional substitution. There was no overall significant difference in patient health outcomes between care delivery by a physiotherapist compared with the usual doctor. The only reported result favouring either profession was in a low-quality trial reporting a significant result in favour of physiotherapy on a post hoc analysis of one non-validated outcome measure.

Patient satisfaction outcomes were reported in 8 studies.

Study	Study Design	Country	New Model of Care	Aims	Results
					There was no significant difference in satisfaction with the physiotherapist and the usual doctor groups in four studies, while satisfaction with the physiotherapist was significantly higher in 4 other studies.
					In one study, which found in favour of the physiotherapist, the physiotherapist had a significantly longer consultation time with patients, potentially confounding this result. No studies reported patient satisfaction to be higher with the

doctor than the
physiotherapist.