



Government of **Western Australia**  
Department of **Health**

# WA Health Expanded Scope of Practice Physiotherapy Project

## A Literature Overview

## CONTENTS

|                                                                                                                                                        |    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| EXECUTIVE SUMMARY .....                                                                                                                                | 3  |
| 1. EXPANDED SCOPE OF PRACTICE IN CONTEXT .....                                                                                                         | 4  |
| 1.1 Definitions .....                                                                                                                                  | 4  |
| 1.2 Credentialing and Scope of Practice – Physiotherapy Regulation .....                                                                               | 4  |
| 1.3 Elements of Expanded Scope of Practice .....                                                                                                       | 5  |
| 2. Expanded Practice Physiotherapy Implementation in WA Health .....                                                                                   | 8  |
| 2.1. National and Western Australian Health Reform Drivers.....                                                                                        | 8  |
| 3. Expanded Practice Physiotherapy Impact on Consumers, the Health System and Professions... 12                                                        |    |
| 3.1 Systematic Review Summary .....                                                                                                                    | 13 |
| 3.2 Non-systematic Reviews .....                                                                                                                       | 17 |
| 3.3 Expanded Practice in Western Australia .....                                                                                                       | 19 |
| 3.4 Are Expanded Scope of Practice Physiotherapy Models of Care Safe for Patients? .....                                                               | 20 |
| 3.5 Safe Diagnosis .....                                                                                                                               | 20 |
| 3.6 Treatment duration.....                                                                                                                            | 21 |
| 3.7 Prescribing.....                                                                                                                                   | 21 |
| 4. BEST PRACTICE APPROACHES FOR EXPANDED SCOPE PHYSIOTHERAPY IMPLEMENTATION .....                                                                      | 22 |
| 4.1. Guiding Principles for Expanded Scope of Practice .....                                                                                           | 22 |
| 4.2. A National Review of Implementation Approaches.....                                                                                               | 23 |
| 5. Implementation Conclusions.....                                                                                                                     | 30 |
| <br>                                                                                                                                                   |    |
| APPENDIX 1: EXPANDED SCOPE OF PRACTICE DEFINITIONS NATIONALLY.....                                                                                     | 32 |
| <br>                                                                                                                                                   |    |
| APPENDIX 2 – NATIONAL SAFETY AND QUALITY HEALTHCARE STANDARDS: STANDARD 1 .....                                                                        | 33 |
| <br>                                                                                                                                                   |    |
| APPENDIX 3: PHYSIOTHERAPISTS IN THE ED SUB-PROJECT LIST OF PRECONDITIONS/ PREDICTORS<br>FOR SUCCESSFUL ADVANCED SCOPE OF PRACTICE IMPLEMENTATION ..... | 34 |
| <br>                                                                                                                                                   |    |
| APPENDIX 4: PRIORITY AREAS FOR PHYSIOTHERAPIST EXPANDED SCOPE OF PRACTICE MODELS OF<br>CARE.....                                                       | 36 |

## EXECUTIVE SUMMARY

The literature review objectives were to scope and review:

1. Definitions for expanded, advanced and extended scope of practice as applicable to physiotherapists;
2. The case for implementing expanded scope of practice physiotherapy models of care in WA Health, examining:
  - A. National and Western Australian drivers for reform; and
  - B. The impact of expanded scope of practice physiotherapy on consumers, health systems and professions.
3. Best practice approaches to implementing physiotherapy expanded scope of practice models of care and roles in clinical settings.

This literature review informs and provides an evidence based foundation for the WA Health Expanded Scope of Practice Physiotherapy Project, being undertaken by the Chief Health Professions Office (CHPO) with support from the Department of Health Allied Health Council (DoHAHC).

The CHPO review of published systematic reviews since 2000 in Science Direct (using the search terms *Physiotherapist* and *extended, advanced, expanded,*) identified 716 publications on this subject. Of these, six systematic reviews were included in this review with others excluded due to duplication or lack of relevance based on title and abstract. The review also included position papers, policies, frameworks and reports published nationally. This paper is not intended to provide an exhaustive review, rather a comprehensive scoping of best practice expanded scope models of care/roles and implementation approaches.

The starting point for decision-making around wider implementation of any innovation is the extent and quality of the available evidence of effectiveness (Thompson et al., 2014). The findings of this literature review support the case for the further implementation of physiotherapist expanded scope of practice models of care in WA Health. The review identified a substantial body of evidence demonstrating positive consumer and health system benefits associated with the implementation of expanded scope physiotherapy roles and models of care. In none of the reviewed literature were there negative patient outcomes as a result of expanded scope of practice physiotherapist care. As Kersten et al. (2007) observe, there is always the possibility that this may be attributable to publication bias.

These roles are well developed nationally with expanded practice physiotherapists working in Australia since 2000 and internationally, with extended scope physiotherapists employed in the UK from the late 1990s.

Nor are advanced scope roles new to Western Australia with Advanced Scope Physiotherapists employed in Sir Charles Gairdner Hospital's (SCGH) orthopaedic and neurosurgical departments formally recognised by the Western Australian Industrial Relations Commission (WAIRC) at a Health Practitioner Level 4 classification in 2014. More recently, in July 2014, such positions were introduced to the staffing establishment of the Fiona Stanley Hospital (FSH) emergency department and will commence in February 2015.

The literature review findings have also informed the development of the project consultation paper. Inter-professional consultation across WA Health, peak physiotherapy bodies and the university sector will identify any preferred models of care/roles for implementation across a range of clinical settings, where appropriate.

## 1. EXPANDED SCOPE OF PRACTICE IN CONTEXT

### 1.1 Definitions

This project has adopted the definitions of the *Australian Health Workforce Advisory Committee (supported by the Australian Physiotherapy Association [APA])*:

**Expanded scope/practice:** An umbrella term that refers to both full scope/advanced and extended scope of practice.

**Advanced practice/scope:** A role that is within currently recognised scope of practice for that profession, but that through custom and practice has been performed by other professions. The advanced role may require additional training, competency development as well as significant clinical experience and formal peer recognition. This role describes the depth of practice.

**Extended practice/scope:** A role that is currently outside the currently recognised scope of practice and requires some method of credentialing following additional training, competency development and significant clinical experience. Examples include prescribing, injecting and surgery. This role describes the breadth of practice.

*The definition for 'Delegation' is adopted from the Queensland Taskforce Consultation Paper (Queensland Health, 2014: pp 100-104):*

**Delegation:** Delegation of tasks occurs when practitioners authorise another healthcare worker to provide treatment or care on their behalf. In making the decision to delegate, practitioners make the judgement that the person to whom they are delegating tasks has the appropriate education, knowledge and skills to undertake the activity. The delegating practitioner remains responsible for the overall management of the client and the decision to delegate. The person to whom responsibility has been delegated is accountable for their own decisions and actions.

For the purposes of this literature review, the terms *scope, practice and scope of practice* are used interchangeably. Although expanded scope of practice definitions vary nationally, there is overall consistency within the literature.

### 1.2 Credentialing and Scope of Practice – Physiotherapy Regulation

Improved outcomes for consumers are the primary goal of any workforce reform and redesign, especially with regards to safety and quality. With this in mind, the implementation of expanded scope of practice models must comply with WA Health's clinical governance context. Credentialing and defining scope of practice are key corporate and clinical governance requirements, aiming to maximise quality of care and minimise clinical risk (Australian Council for Safety and Quality in Health Care [ACSQHC], 2004).

Scope of practice is defined as the full spectrum of roles, functions, responsibilities, activities and decision making capacity that individuals within the profession are educated, competent and authorised to perform (ACSQHC, 2004). Credentialing is the process used to make a determination about the individual's competence, performance and professional suitability to practice safely (Queensland Health, 2011).

An individual's scope of practice is more specifically defined than the scope of their profession, and varies according to clinical context; patient need; individual experience, training, qualifications and competence; professional standards; the professional skill mix available in a clinical setting; available supervision and support; service policies; service culture and legislation (Queensland Health, 2011).

The ACSQHC definition has been adopted by WA Health's Chief Nursing and Midwifery Office's *Credentiailling and Defining the Scope of Practice for Health Professionals (Nurses and Midwifery) in WA Health Services – A Policy Handbook*. The Chief Health Professions Office (CHPO) is currently developing a similar policy for the allied health and health science professions in WA Health.

The Physiotherapy Board of Australia (PBA), through the National Health Practitioner Regulation Law (the National Law) supports the credentialing and accreditation of physiotherapists through the registration of suitably qualified and competent persons and the development or approval of standards, codes and guidelines. Demonstration of core competencies enables a physiotherapist to practice within the PBA's code of conduct and registration standard.

Although Section 38 of the National Law permits the PBA to determine the scope of practice, the PBA has not exercised this prerogative. Instead, the PBA states in its registration standard that practicing physiotherapists must participate in continuing professional development (CPD) activities that contribute to their chosen scope of practice. The PBA recognises that practitioners have a responsibility to recognise and work within the limits of their competence and therefore, scope of practice.

Organisational rules, regulations, policies and practice are also relevant to determining a profession's scope of practice and individual practitioner's scope (APA, 2009; ACSQHC, 2004). This includes National and State legislation (Acts of Parliament) such as the Poisons and Radiation Safety Acts and others relating to funding under the Pharmaceutical Benefits Scheme (PBS) and Medical Benefits Schedule (MBS).

### **1.3 Elements of Expanded Scope of Practice**

Scope of practice is unanimously regarded as dynamic in the literature. The overall scope of practice for the physiotherapy profession, set out by the Australian Physiotherapy Council's (ACP) 2006 Standards for Physiotherapy and supported by the APA is *a holistic approach to the prevention, diagnosis, and therapeutic management of disorders of movement or optimisation of function to enhance the health and welfare of the community from an individual or population perspective*.

Some physiotherapy roles currently considered advanced or extended may evolve into full scope of practice, defined by Queensland Health (2014) as roles that individuals within the profession are qualified, competent and authorised to perform. For example, limited prescribing for a specified set of conditions by optometrists is now part of their entry level scope of practice.

In addition to these mutable boundaries, the range of activities and roles within each 'level' of expanded practice varies by location and setting. A systematic review by Desmeules et al. (2012) showed variation in the specific tasks and activities characterising advanced practice physiotherapy roles across location and clinical settings, covering communicating a medical diagnosis; triaging patients to be seen by physicians or specialists for consultation or surgery; ordering diagnostic tests (imaging or laboratory); treatment recommendations that may include medication prescription and/or injection; and, referral to other health care providers including private physiotherapists. In other systematic reviews (Stanhope et al., 2012; Kersten et al., 2012; McPherson et al., 2006; Lowe et al., 2011), some of these roles (mainly medication prescription and injection, and the ordering of

certain diagnostic tests) were defined as extended scope of practice. Given this variability, the APA (2009) advised against the specification of tasks to define a particular scope of practice – a position unanimously reflected in the literature.

The APA (2009) emphasizes the importance of the extended scope roles building on advanced practice, requiring the skills and attributes of an experienced practitioner. This is apparently contrary to *Queensland Health’s Advanced Clinical Practice Framework* reference to extended scope of practice as independent of level or depth of practice (or advanced scope), once above a minimum competency threshold (Health Practitioner level 3 (HP3) (Queensland Department of Health, 2014). Queensland Health’s specification of a minimum competency threshold supports the APA notion of extended scope building on the skills of an experienced practitioner without being a precondition of advanced scope of practice. This overall position is consistent with the AHWAC definitions of expanded scope and with other national definitions (Appendix 1).

There is general agreement across the reviewed literature that the characteristics of expanded scope of practice include a high level of experience and knowledge applied in complex contexts and/or for clients with complex needs. Despite this consensus, the definitional emphasis varies. Of all the identified frameworks, the *Queensland Advanced Practice Clinical Framework* provides the most detailed definition of advanced scope of practice, covering clinical practice, clinical leadership, applied clinical research, and evaluation and facilitation of clinical learning domains. The *Governance Framework for Advanced Scope of Practice and Extended Scope of Practice Roles in SA Health Policy Directive (2013)* Advanced Scope definition addresses clinical practice and specific features of the role relative to ‘standard’ or ‘full’ practice – namely, complexity and autonomy.

**Table 1: National Comparison of Advanced Practice Definition Elements**

| Element                                                                                            | Definition Source |                                  |                                        |                                       |
|----------------------------------------------------------------------------------------------------|-------------------|----------------------------------|----------------------------------------|---------------------------------------|
|                                                                                                    | AHWAC             | Queensland Ministerial Taskforce | Queensland Clinical Practice Framework | South Australian Governance Framework |
| Within/outside recognised scope of practice                                                        | ×                 |                                  |                                        | ×                                     |
| Context (clinical, geographical, profession and client specific settings)                          |                   | ×                                | ×                                      |                                       |
| Skill Domains:                                                                                     |                   |                                  |                                        |                                       |
| Clinical practice – skills, knowledge, experience                                                  | ×                 | ×                                | ×                                      | ×                                     |
| Specific features of role relative to standard practice (eg. Complexity, autonomy, accountability) |                   |                                  |                                        | ×                                     |
| Clinical leadership/peer recognition                                                               | ×                 | ×                                | ×                                      |                                       |
| Research                                                                                           |                   | ×                                | ×                                      |                                       |
| Facilitating education                                                                             |                   | ×                                | ×                                      |                                       |

In defining advanced practice, the Queensland framework distinguishes between *level* (eg. *graduate to consultant/specialised practice*) and *scope* of practice, where advanced clinical practice covers full scope of clinical leadership (scope) at depth (level); and, extended scope of practice covers greater breadth building on recognised knowledge/skill base (scope) independent of depth.

According to the Queensland definitions, advanced (clinical) practice is a subset of full scope of practice, conditional on a practitioner having capacities equivalent to those of a Masters level, as defined at Level 9 by the Australian Qualifications Framework [AQF] (Australian Qualifications Framework Council, 2011). The AQF level descriptors provide benchmarks against which expanded scope of practice capabilities can be mapped. An entry level/graduate Masters degree would not qualify for the advanced practice level practice. There is no evidence of such mapping for extended scope of practice.

Queensland Health's *Advanced Clinical Practice Framework* emphasises the insufficiency of education and training alone to fulfil the requirements of advanced practice. The skills and attributes also require a certain degree of experience, reflection and ongoing development. This is consistent with Australian Nursing and Midwifery Council (2006) Nurse Practitioner pathway to endorsement (Bryce and Foley, 2014). Nurse Practitioners are expected to have completed three years' advanced practice in their specific area of practice before applying for endorsement.

The tasks and activities that comprise expanded scope of practice roles for physiotherapists vary according to the model of care. Models of care are policy guides for delivering best practice care for a broad range of health conditions and populations. A model of care represents contemporary evidence within a framework to meet the current and projected community need, in the context of local operational requirements (Briggs et al., 2014).

For example, Desmeules et al. (2012) defined advanced practice physiotherapy as role enhancement or substitution related to traditionally performed medical or controlled acts. The same authors also noted that advanced practice roles varied across locations and clinical settings and could include: communicating a medical diagnosis; triaging patients to be seen by physicians or specialists for consultation or surgery; ordering of diagnostic tests (imaging or laboratory); conservative treatment recommendations that may include medication prescription and/or injection; and, autonomous discharge and referral to other health care providers including private physiotherapists (Richardson et al., 2005; Anaf and Sheppard, 2007).

The following roles/activities were described as advanced practice in models of care implemented as part of Health Workforce Australia's (HWA) *Physiotherapists in the ED Project* (part of the Expanded Scope of Practice program): prescribing, imaging and radiology (x-ray, CT scans and ultrasound), pathology, plastering, providing pain relief, injections of local anaesthesia, sick leave and work cover certification, autonomous discharge and referral. The implementation issues for each of these elements showed the variation across sites depending on the existing scope of practice.

None of the reviewed national expanded scope of practice frameworks provided an analysis extended scope elements. As detailed in Section 4.2.2 of this overview, an online resource to guide healthcare providers and managers on the processes for introducing allied health *extended* scope practice roles was developed by ACT Health and the International Centre for Allied Health Evidence (iCAHE) in 2007. This resource adopted the following definition of extended scope: "... a clinical specialist, who has the opportunity to develop and demonstrate expertise beyond the currently recognised scope of practice, including some aspect of job enhancement or expansion, involving the areas of extended therapeutics, diagnostics and practice consultation" (p16). This definition is echoed by Lowe et al. (2011) who, in their systematic review, concluded there was general agreement that extended practice involved an expansion of traditional physiotherapeutic roles, in terms of diagnostics, management, and consultation.

Defining expanded practice is not straightforward due to the variety and overlap of titles, definitions and practice within individual roles. Healthcare education and practice has developed in such a way

that there is an overlap in most professions' skill mix and procedures. It is no longer reasonable to expect each profession to have a completely unique scope of practice (Queensland Health, 2014).

## 2. Expanded Practice Physiotherapy Implementation in WA Health

### 2.1. National and Western Australian Health Reform Drivers

#### National Drivers

The case for workforce reform as part of healthcare reform, including the further implementation of expanded scope of practice models of care in WA Health, is primarily driven by the need to sustain or improve the quality and safety of care provided to consumers. Challenges to healthcare reform are increasing service demand for services, escalating Health spending and Government strategic reform, a growing prevalence of chronic disease, evolving models of care and funding models (Gilmore et al., 2011), diminishing workforce availability, and changing community expectations (Robertson et al., 2003; Stanhope et al., 2012).

The number of people on waiting lists for Australian public hospital orthopedic out-patient clinics, and waiting times, have steadily increased over recent years (Australian Institute of Health and Welfare, 2005). The reasons are complex including public hospital budgets and allocations, the increased prevalence of joint disease such as osteoarthritis and rheumatoid arthritis (WA Department of Health, 2013), the complexity of orthopaedic problems affecting the generally aging population, the affordability of private health insurance, and the availability of private specialist care (Osborne et al., 2011). In an Australian study, Morris et al. (2011) observed that once on a waiting list, patients' needs were rarely reviewed, nor were they offered alternative treatment as an interim measure, resulting in lengthy and often unnecessary waiting times. Moreover, without interim assessment and advice whilst waiting, physical function and community independence is likely to deteriorate.

Internationally, expanded scope of practice for physiotherapists is well established, especially in the UK. Redefinition of professional boundaries in the UK through the 1990s culminated in the Labour Government, in 2007, requiring the National Health Service (NHS) to empower appropriately trained clinical staff to undertake a wider range of clinical tasks, which included expanded scope roles (Hattam, 2004). Up until this point, boundary changes were influenced by complex factors summarised by Dowling et al. (1995) as new technologies and treatments, changing models of care and healthcare purchasing, increased emphasis on cost effectiveness and reduced working hours of junior doctors under the New Deal European Working Time Directive (Department of Health, 2004).

The NHS directive required employers to empower appropriately trained and credentialed non-medical clinicians (including 'therapists') to expand the scope of their practice to include making and receiving referrals, admitting and discharging patients, ordering investigations and diagnostic tests, running clinics and prescribing drugs (Hattam, 2004). As summarised in Section 2C of this literature review, there is significant evidence of positive consumer and health system outcomes as a result of the NHS policy to formally introduce expanded scope of practice roles.

Extended scope physiotherapy is a relatively new workforce model in Australia, adapted from international, particularly UK, experiences to address local needs (Morris et al., 2014). Implementation of Australia's first extended scope physiotherapy roles started in orthopaedic outpatients in November 2010 and the emergency department (ED) in October 2011.

Workforce reform and redesign is occurring through a combination of local initiatives nationally via co-ordinated programs funded by the former HWA. These reforms have emphasised a patient focussed approach to health care while reducing inefficiencies in service delivery and have included initiative implementation, pilot evaluation and research, as well as systematic review, as reflected in the *National Health Workforce Innovation and Reform Strategic Framework for Action (2011-15)*.

Expanded scope workforce reform also aligns with the 2006 Australian Allied Health Workforce (AHWAC) report, *An Overview of Workforce Planning Issues* and the *National Partnership Agreement on Hospital and Health Workforce Reform 2009-13*, both of which recommended investigating allied health workforce reform to promote sustainable services and viable models for service delivery.

Implementing new models of care is a promising approach to achieving the large-scale workforce reform necessary to meet Australia's future healthcare needs (AHWAC, 2005). The *Australia's Health Workforce Report* (Australian Government Productivity Commission, 2005) recognised that simply expanding the workforce would be an inadequate response to these challenges. The report identified the importance of achieving improvements in the efficiency and effectiveness of health workforce arrangements, including broader scope of practice for allied health professionals and delegation to the assistant workforce. It was identified that there was a need for 'a realignment of existing health workforce roles, or the creation of new roles, to make optimal use of skills and ensure best health outcomes'.

The Grattan Institute report (Duckett et al., 2014), *Unlocking Skills in Hospitals: Better Care, More Jobs*, recommended a quarter of the physiotherapy workload be shifted to Allied Health Assistants (AHAs) (with supervision of delegated tasks) over the next five years. This report advances that expanded scope physiotherapists can free up medical staff to work to their full scope of practice with AHAs freeing up physiotherapists (and other health professionals) to work to their full scope.

The need for health professional expanded practice roles was supported by numerous HWA-led workforce reform initiatives, including:

- The 2012 *Health Workforce 2025* reports on doctors, nurses, midwives, and medical specialists, which predicted nursing and medical workforce shortages, particularly in the areas of ophthalmology, psychiatry, diagnostic radiology and radiation oncology. Without change, the reports predicted an uneven distribution of the medical workforce across Australia affecting rural and regional communities by 2025;
- The *National Rural and Remote Health Workforce Innovation and Reform Strategy (2013)* — including a commitment to develop national workforce models for generalist roles in all relevant medical disciplines and allied health professions;
- The Health Professionals Prescribing Pathway Project (HPPPP) - establishing a national approach to prescribing by health professionals other than doctors, including an implementation plan for a national prescribing pathway. This project concluded in June 2013 and the pathway was signed off by the Australian Health Ministers Advisory Council (AHMAC).

*The National Health Workforce Innovation and Reform Strategic Framework for Action (2011-15)*, approved by the AHMAC in August 2011, defined five key domains for action:

1. Health workforce reform for more effective, efficient and accessible service delivery;
2. Health workforce capacity and skills development;
3. Leadership for sustainability of the health system;
4. Health workforce planning; and
5. Health workforce policy, funding and regulation.

This strategic framework was underpinned by a comprehensive review of national and international health workforce literature, as detailed in the *National Health Workforce Innovation and Reform Strategic Framework For Action 2011–2015 Background Paper*. This background paper recognises that skill set mix in patient care has challenged traditional occupational roles and boundaries between medical, nursing and allied health practitioners, leading to reviews of established care plans, clinical pathways and procedures.

Following the approval of this framework by AHMAC, the HWA's Expanded Scopes of Practice program was initiated. One of HWA's two health workforce reform projects targeted physiotherapy. The *Physiotherapists in the ED* project commenced in February 2012 as part of the broader HWA strategy to increase workforce productivity, recruitment and retention by:

- Identifying those workforce changes that have potential for national adoption.
- Providing information on the necessary funding, regulatory and policy changes required for national application.
- Identifying and implement models of expanded work that demonstrate improved productivity by decreasing waiting times for patients in emergency departments.
- Allowing increased medical time for more acutely ill patients.
- Developing guidelines and training to support take-up of these roles across Australia.

WA Health did not apply for HWA funds and was therefore not an implementation site in the HWA program.

### **Western Australian Drivers**

In WA, the Health reform agenda has been guided by WA Health strategic and operational frameworks including *WA Health's Strategic Intent 2010-2015*, the *WA Health Operational Plan 2013-2014*, the *WA Health Clinical Services Framework 2010-2020*, the *Activity Based Funding and Management Framework 2013-14*, the *Healthy Workforce Strategic Framework 2006-16*, and the State Health Executive Forum (SHEF) endorsed Models of Care produced by WA Health Networks Branch. HWA-funded networks (including the Greater Northern Territory and Regional Training Network [GNARTN] and the WA Clinical Training Network [WACTN]) have also guided workforce reform.

Inherent in the above frameworks is recognition of the need to improve demand management in non-inpatient (ambulatory and community) care settings. Suggested initial workforce reform efforts should include redesigning roles for physiotherapists to maximise patient access to care.

The incorporation of expanded practice roles in the WA Health workforce is part of a broader strategy to address changing workforce requirements as per the national Health reform drivers - population growth and increasing expectations, escalating health care costs, diminishing workforce availability, increasing incidence of complex chronic disease and higher acuity and new technologies. Additional local drivers for these roles are changes to best practice as reflected in emerging Models of Care, service reconfiguration and expanding infrastructure (such as the new Fiona Stanley Hospital and Perth Children's Hospital) and the State Government's budget allocations.

Expanded scope of practice is included as a workforce innovation strategy in WA Health's *Strategic Intent 2010-2015*, and is consistent with the four pillars of:

- Caring for individuals and the community;
- Caring for those who need it most;
- Making best use of funds and resources, and

- Supporting our team (an aspect of which is searching for new and innovative work practices to enable our staff to spend more time doing what they do best).

The roles are also consistent with the Health Reform and Implementation Taskforce's (2007) *Ambulatory and Community Based Framework for Non-Inpatient Care*, which refers to physiotherapist roles in the assessment, triage and treatment of back pain in outpatient clinics.

An emphasis on effectiveness and efficiency as detailed in WA Health's *Activity Based Funding/Activity Based Management Framework 2014-15* and the *WA Health Clinical Services Framework 2010-2020* has referred to the development of expanded practice roles to assist demand management, especially in the more costly hospital setting.

Besides the data contained in the four HWA workforce series papers, health professions workforce modelling and projections are presently limited or unavailable in WA. WA Health's Workforce Directorate is developing a 10-year workforce plan, along with an ongoing workforce data improvement program which will provide better information to support workforce planning decisions. A modelled approach to identify future service gaps is limited in its application and was not applied during this project. The 10-year workforce plan is due to be completed by 30 June 2015.

Physiotherapy workforce totals were available from the Australian Health Practitioners Regulation Agency (AHPRA), which reports on registered professions, and revealed 3,207 physiotherapists registered in WA in June 2014. WA Health's Human Resources Data Warehouse data was provided by the WA Health Workforce Branch to identify the number of physiotherapists employed in WA Health. As at June 2014, there were 795 physiotherapists employed in WA Health (including casuals). Of these, 42% were employed in WA Health's South Metropolitan Health Service and 32% in the North Metropolitan Health Service.

Expanded scope of practice models and roles for physiotherapists are also integrated into the following State Health Executive Forum (SHEF) endorsed WA Health Health Networks Branch Models of Care as follows:

- The *WA Chronic Health Conditions Framework 2011-16*: Supporting the development of changes to the scope of practice for various health professionals such as nurse practitioners and specialist physiotherapists; and
- *Spinal Care Model of Care (2009)* – A key recommendation was the development of workforce capacity by encouraging integrated inter-professional practice for spinal pain management by assessment of alternative service delivery models, including extended scope practitioners, upskilling therapy assistants and service delivery models. The model advocated use of extended scope practitioners for screening and triage; and

These SHEF endorsed Models of Care provide an evidence-informed strategy for the optimal manner in which care for specific types or groups of conditions should be made available and delivered to consumers. As noted in Section 1.3, a model of care represents contemporary evidence within a framework to meet the current and projected community need, in the context of local operational requirements (Briggs et al, 2014). Importantly, the above Models of Care are not clinical practice guidelines, which grade evidence and develop specific clinical practice recommendations (Briggs et al., 2014).

Model of Care implementation should be considered in the context of the State's health priorities, resource availability, organisational capability, operational factors and local/community environments. Together with the strategic framework documents referred to earlier, these Models

of Care provide the foundation for service planning for specific care processes across the continuum of care.

Crucially, the SHEF endorsed Models of Care were intended to be dynamic and seek to identify early, those factors, influences and innovations that may necessitate their revision. These may include new technologies, diagnostic techniques and pharmaceuticals.

Whereas policies, frameworks and other tools support the development and implementation of expanded practice roles in other States and Territories, there is currently no such formal strategy for WA Health. The pending WA Health Practitioner Scope of Practice and Credentialing Policy will provide further direction within the broader WA Health clinical governance context.

### **3. Expanded Practice Physiotherapy Impact on Consumers, the Health System and Professions**

This review of the published and grey literature identifies a growing volume of evidence supporting expanded scope of practice physiotherapist models of care and role integration in public health. These include studies spanning National Health and Medical Research Council (NHMRC) evidence quality categories II-IV): randomised control trials, systematic reviews, meta-analyses, cost effectiveness and benefit studies. This review concentrated on international and national systematic reviews of expanded scope of practice published since 2000.

As noted by Desmeules et al., (2012) and Queensland Health (2014), systematic and high quality evaluation of expanded practice physiotherapy implementation is sparse. The expanded scope of practice models of care are ultimately aimed at improving access to care, with equal or better effectiveness, while containing costs and retaining patient and other health care provider satisfaction (Desmeules et al., 2012).

This examination of the literature found the majority of both expanded and advanced scope initiatives have been implemented in the emergency department and orthopaedic and neurosurgical settings, associated with the treatment of patients with common musculoskeletal disorders and associated pain.

The HWA's (2014) *Advanced Musculoskeletal Operational Framework* claimed that advanced musculoskeletal physiotherapy roles have been steadily expanding into other medical service delivery streams, including hip and knee osteoarthritis, arthroplasty review and rheumatology screening. Other priority areas identified in the literature include, but are not limited to, obstetrics, gynaecology and developmental delay/disability (University of South Australia, 2008), cardio-respiratory, paediatrics and aged care practices (Morris and Grimmer, 2014). In their comprehensive review of Australian Models of Care for musculoskeletal conditions, Speerin et al. (2014) identified advanced practice as a workforce reform need in the osteoarthritis area.

In Australia, physiotherapists have the credentials to assess, diagnose and provide treatment to patients in broad clinical areas. Advanced scope of practice for physiotherapists in musculoskeletal clinical settings involves conducting a thorough clinical assessment, providing a working diagnosis and comprehensive management plan for patients presenting with musculoskeletal conditions. When necessary, they may also interpret investigations such as plain film imaging, liaise and refer to specialist medical teams, general practitioners and other health professionals (HWA, 2014).

While process measures, including waiting times, access and practitioner competencies (including inter-professional comparison) form the bulk of the reported evidence, other have been reported addressing consumer/patient, health system and other cross-professional outcomes. Although distinctions between patient and health system outcomes assist the categorisation of results, they are not mutually exclusive. For instance, a reduction in waiting times is both a health system and patient benefit. All systematic reviews included in this overview cited evidence of improved patient outcomes such as expedited recovery and improved function and increased patient satisfaction with expanded scope physiotherapist roles, as well as reduced health system costs and better service access.

### 3.1 Systematic Review Summary

Of the systematic reviews identified and presented below, one represented advanced scope of practice and five, extended scope of practice.

#### 1. ***Stanhope et al. (2012) - Extended scope physiotherapy roles for orthopedic outpatients: an updated systematic review of the literature***

*Research review criteria:* Studies were allocated to NHMRC hierarchy of evidence, although only studies in levels I, II, or III -1 were critically appraised using a purpose-built critical appraisal tool. The NHMRC guidelines provide a means of assessing evidence across a hierarchy of levels, based on the effectiveness of the design to assess the research question and to reduce or eliminate bias.

*Number of studies reviewed:* Of 1071 studies identified, 12 were met the selection criteria (diagnostic, intervention and evaluative). Almost all the other studies were excluded due to duplication or lack of relevance based on title and abstract. Only two studies (Gardiner and Turner, 2002; Dickens et al., 2003) met the criteria for critical appraisal (non-biased subject selection) and only the latter was compared with a gold standard process/outcome, arthroscopy.

*Information extracted:* Country of origin, ESP tasks, relevant training, patient types, health, process, and cost measures.

*Extended scope of practice tasks:* injection therapy, removing k-wires, and requesting investigations.

*Extended scope of practice physiotherapist education level:* Wide variation including formal and informal training.

*Reported positive outcomes:* Diagnostic ability, reduced costs and waiting times, and improved health outcomes.

*Conclusions:* Clarity around extended scope of practice definitions (sufficient to distinguish them from full scope or advanced practice) was lacking, and the available research was of lower hierarchy, threatened by bias and single site design. The lack of standardised training underpinning extended scope physiotherapy practice was evident, despite the country of origin of the research, and there was large variation in decision-making autonomy. The literature suggests that extended scope physiotherapists may be comparable with medical doctors in terms of clinical decision-making pertaining to patients with orthopedic conditions, and there are indications that ESP physiotherapy services may improve the efficiency of outpatient management pathways for orthopedic patients.

## **2. Desmeules et al. (2012) - Advanced practice physiotherapy in patients with musculoskeletal disorders: a systematic review**

*Research review criteria:* Studies limited to advanced scope physiotherapists with outcomes covering patients, other allied health professionals and health services delivery. Also limited to patients with musculoskeletal disorders and studies presenting quantitative original data where advanced practice physiotherapist care is compared to full scope non-advanced physiotherapist care or diagnostics are compared to another reference standard (eg. imaging modality or another practitioner diagnostic). Descriptive studies were excluded. Strength of evidence was assessed using three different methodological appraisal tools.

*Number of studies reviewed:* 16 studies were identified, of which seven had already been appraised in other systematic reviews. Only nine studies were therefore evaluated. Two studies were randomized controlled trials (Daker-White et al., 1999, Richardson et al., 2005), one was a non-randomized controlled trial (Taylor et al., 2011), one was a prospective quasi-experimental study (McClellan et al., 2006), one was a prospective observational study (Sephton et al., 2010) and two were retrospective observational studies (Ball et al., 2007, Hockin and Bannister, 1994). An additional two cross sectional studies were specifically designed to evaluate satisfaction of services provided by APPs as their sole objective (Campos-Ayling, 2002, Kennedy et al., 2010).

*Locations:* UK, Canada, Australia and Ireland.

*Clinical settings:* Orthopaedic and musculoskeletal outpatient clinics, ED, military hospital, physical (physio) therapy department and paediatric rheumatology clinic.

*Information extracted:* Outcomes measures were: Medical diagnostic agreement, triaging agreement of potential orthopaedic surgical candidates or clinical recommendations between advanced scope physiotherapist and physicians; The effectiveness of treatment provided by advanced scope physiotherapists; Economic evaluations of treatments provided by advanced scope physiotherapists; and, patients satisfaction with services.

*Advanced scope of practice tasks:* The roles described varied depending on the clinical setting and country and included: Communicating a medical diagnosis; Triaging patients to be seen by physicians or specialists for consultation or surgery; Ordering diagnostic tests (imaging or laboratory); Conservative treatment recommendations that may have included medication prescription and/or injection; Referral to other health care providers including other physiotherapists.

*Reported positive outcomes:* Agreement between advanced scope physiotherapists and orthopaedic surgeons regarding medical diagnosis, and triage of patients for conservative care or review by surgeons for potential surgical candidates was found to range from good to excellent (range  $\kappa = 0.69$  to 1.00). Treatment recommendations agreement ranged from fair to very good (range  $\kappa = 0.52$  to 0.70). Four studies evaluated the diagnostic accuracy of these roles where the gold standard was diagnostic imaging or surgery, with one study reporting the accuracy of advanced scope physiotherapists as good relative to MRI and three studies reporting the accuracy as good and comparable to the diagnostic accuracy of orthopaedic surgeons. In another study, diagnostic accuracy was found to be similar to that of the orthopaedic surgeons, and significantly better than that of other healthcare providers including physicians, podiatrists, nurse practitioners and physician assistants (Moore et al., 2005).

*Conclusions:* The emerging evidence suggests that advanced scope physiotherapists provide equal or better than usual care in comparison to physicians in terms of diagnostic accuracy, treatment

effectiveness, use of healthcare resources, economic costs and patient satisfaction. There is a need for more methodologically sound studies to evaluate the effectiveness APP care.

### **3. Kersten et al. (2012) - *Physiotherapy extended scope of practice - Who is doing what and why?***

Kersten et al. (2007) systematically reviewed the range, drivers and perspectives of expanded scope physiotherapy roles in the UK.

*Research review criteria:* Resources were included if they discussed extended scope of practice in physiotherapy and outcome (for patients, other health professionals, and health services delivery). All resources were screened against formal inclusion criteria for relevance. All studies included in the earlier 2006 systematic review by McPherson et al. were included.

*Number of studies reviewed:* 152 physiotherapy-related resources were identified, including seven which met appropriate quality standards (using Cochrane methodology). A meta-analysis was not performed due to the paucity of randomised controlled trials.

*Clinical setting:* UK, USA, Australia

*Results:* 89% of resources identified described initiatives or developments in the UK. 66% of papers concerned patients with musculoskeletal or orthopaedic disorders. Drivers for the roles were mainly local or national service demands (34%). Most extended scope of practice roles included a form of non-invasive assessment (47%) or non-invasive treatment (37%) of patients that was more traditionally carried out by medical colleagues. None of the resources including data was (a) unsupportive of extended scope of practice or (b) mainly expressing concerns. No resources (containing data) did not supporting or raising concerns about expanded practice physiotherapy were identified.

*Conclusions:* This review has demonstrated overwhelming support for extended scope of practice; the vast majority of resources were supportive despite being largely descriptive or discursive in nature (76%). There is an urgent need for robust research in order to evaluate the expansion of extended scope of practice roles, underpin further development of those roles, and strengthen the evidence base of extended scope of practice in physiotherapy. The development of extended practice physiotherapy roles will need to be underpinned by formal training.

### **4. McPherson et al. (2006) - *A systematic review of evidence about extended roles for allied health professionals.***

*Objective:* Extending the role of allied health professionals has been promoted as a key component of developing a flexible health workforce. This review aimed to synthesize the evidence about the impact of these roles.

*Methods:* A systematic review of extended scope of practice in five groups: paramedics, physiotherapists, occupational therapists, radiographers, and speech and language therapists. The nature and effect of these roles on patients, health professionals and health services were examined. An inclusive approach to searching was used to maximize potential sources of interest including multiple databases, 'grey' literature and subject area experts. An expanded Cochrane Collaboration method was used in view of the anticipated lack of randomized controlled trials and heterogeneity of designs. Papers were only excluded after the search stage for lack of relevance.

*Results:* A total of 355 papers were identified as meeting relevance criteria and 21 studies progressed to full review and data extraction. The primary reason for exclusion from data extraction was that the study included neither qualitative nor quantitative data or because methodological flaws compromised data quality. It was not possible to evaluate any pooled effects as patient health outcomes were rarely considered.

*Conclusions:* A range of extended practice roles for allied health professionals have been promoted and are being undertaken, but their health outcomes have rarely been evaluated. There is also little evidence as to how best to introduce such roles, or how best to educate, support and mentor these practitioners.

##### **5. Joseph et al (2014) – Musculoskeletal triage – a mixed methods study, integrating systematic review with expert and patient perspectives**

*Research review criteria:* Included any peer-reviewed original study with adults (over 18 years inclusive) involving musculoskeletal triage from any health care profession/al. Triage types included paper based, face to face, telephone and online. Two focus groups were also conducted (experts [N=7] and patients [N=4]). Clinicians needed to be suitably experienced with a minimum five years relevant experience in the public or private sector. Focus group patients had experienced health care in either sector as a result of musculoskeletal injury or condition. Triage functions are generally considered an advanced practice role (see definitions).

*Outcome measures:* Outpatient waiting times, appropriate referrals, healthcare costs, patient outcomes.

*Number of studies reviewed:* From an initial 5416 citations, 34 studies remained following removal of duplicates and application of the review criteria. Two were randomised controlled trials, one was a non-randomised controlled trial and the remainder, observational studies.

*Information extracted:* The reviewed literature was graded for quality according to the 1998 Downs and Black Quality Index. Focus group themes and sub-themes were extracted using a framework approach for interview data analysis.

*Clinical Settings:* Outpatient clinic, GP practice, multi-disciplinary team, walk-in clinic, workplace assessment.

*Results: Focus groups* - Three main themes were identified in the expert focus groups. The review found expert general perceptions of triage care were: healthcare costs means changes to triage are needed; there is a lack of evidence regarding best triage type; conflict between best triage and cost; cohort of patients different between public sector and private health insurance and information disconnect between these sectors. Important elements of triage were cited as cohort of patients affecting triage ability; awareness of private health insurer policy and patients self-diagnosing; need for fast, appropriate, accurate triaging with adequately qualified and competent staff. **Systematic review** – Evidence suggests that triage clinics should be staffed predominantly by physiotherapists, but should also have the support of other clinicians. 22 of the 34 studies employed physiotherapists or extended scope physiotherapists, finding they were accurate in diagnosis of arthritis, hip and knee pain; with post-graduate training improving appropriate triage to orthopaedic clinics, and diagnostic and treatment accuracy. Physiotherapist led triage of orthopaedic patients reduced waiting times for specialist appointment and hospital costs. Positive patient satisfaction and outcome measures were also identified for orthopaedic patients, of up to 6 months post-treatment.

*Conclusions:* Physiotherapists performing face to face triage of orthopaedic patients were the predominant mode of triage and were delivered with high patient and General Practitioner satisfaction. Physiotherapist led triage improves patient function and symptoms, reduces costs and waiting times and leads to acceptable levels of referral and diagnostic agreement. Both experts and patients nominated physiotherapists as the most suitable clinicians to triage patients with musculoskeletal conditions. There was insufficient evidence to determine the most effective triage system due to the low quality of the included studies.

#### **6. Lowe et al (2011) – A Systematic Review of the Literature on Extended Scope of Practice Physiotherapy: Physiotherapy Extended Scope of Practice Project**

*Objective:* A commissioned systematic review of the literature was undertaken to assist in determining the feasibility of introducing extended practice roles in physiotherapy within the Australian Capital Territory (ACT) Government Health Directorate and the ACT Department of Disability, Housing and Community Services.

*Review criteria:* Peer-reviewed and non-peer reviewed publications, and grey literature of extended practice physiotherapy roles in emergency departments (EDs) and orthopedic outpatient clinics.

*Results:* This review found a lack of consensus regarding the definition of extended scope practice, although there was general agreement that it involved an expansion of traditional physiotherapeutic roles, in terms of diagnostics, management, and consultation. This review presented a working definition of extended practice in physiotherapy: “An extended practice physiotherapist is a clinical specialist, who has the opportunity to develop and demonstrate expertise beyond the currently recognized scope of practice, including some aspect of job enhancement or expansion, involving the areas of extended therapeutics, diagnostics and practice consultation.”

*Conclusions:* A lack of quality information on quantifiable outcomes, particularly in terms of clinical efficacy, safety, and cost reductions or benefits. The potential for expanded practice in cardiorespiratory, obstetrics and gynecology, and neurology settings.

### **3.2 Non-systematic Reviews**

There are many examples, outside of the above systematic reviews, that demonstrate patient, health system and inter-professional benefits of expanded practice physiotherapy. Analysis of pilot studies, implementation reports and other publications are worthy of examination, and are presented below.

Although not a systematic review, McClellan et al. (2006) reviewed the international evidence for clinical effectiveness and cost efficiencies for expanded practice physiotherapists independently managing a case load of patients with 'minor injuries', from arrival to discharge in the ED setting. In a comparison of the UK, Canada and NZ, the authors found that only the reviewed evidence from the UK demonstrated clinical effectiveness and cost efficiencies, with equivalence to doctors of all grades. Patient satisfaction was also found to be higher than other professional groups, possibly correlated with the extra amount of time spent with patients.

McClellan et al.'s (2006) literature review findings were supported by their own single site pilot study evaluating the effect of introducing an extended scope of practice physiotherapist model of care in the ED. Specifically, the study measured patient satisfaction for treatment of soft tissue injury and fractures within one week of attending the ED. The extended scope physiotherapist service

operated for four days each week in an urban adult ED in the UK. The role included autonomously managing new patient presentations of soft tissue injuries and associated fractures, requesting radiographs, prescribing limited medications and referring to other services as required. Although spending additional time with patients, overall length of ED stay treated by an extended scope physiotherapist was reduced.

HWA's Expanded Scope of Practice (ESoP) program supported 26 projects across health and ambulance services to expand the roles of health professionals to improve the productivity, retention, accessibility, efficiency and effectiveness of healthcare services. A sub-project of this program, the *Physiotherapists in the ED project* commenced in 2012 and aimed to:

- Identify and implement ESP models demonstrating improved productivity by decreasing waiting times for patients in EDs (in response to the now outdated National Emergency Access Target [NEAT]);
- Allow increased medical time for more acutely ill patients; and
- Develop guidelines and training to support adoption of these roles across Australia.

The model of care was Primary Contact Physiotherapists, also known as Advanced Practice Physiotherapists, targeting musculoskeletal patients in triage categories 3-5. These roles were implemented across nine implementation sites nationally (except WA and Tasmania), led by sites with existing ESP models in place in Victoria and the ACT. This model drew on innovative models of expanded scope of practice physiotherapy developed by State and Territory health authorities (Productivity Commission, 2005; ACT Health, 2008; Victorian Department of Health, 2010; Kilner and Sheppard, 2010; Queensland Department of Health, 2014).

The two lead sites each had an established model of care involving musculoskeletal physiotherapists working in the ED with an expanded scope of practice which included tasks such as:

- Assessment, diagnosis and treatment of the patient
- Independent management of simple fractures and joint reductions
- Independent ordering and interpretation of X-rays and imaging
- Limited prescribing (dependent upon the legislative requirements of the State / Territory)
- Provision of local anaesthetic joint injections for relocation of small joints (dependent on legislative requirements in each jurisdiction)
- Direct onward referral or discharge of the patient.

The Centre for Health Service Development undertook a national evaluation of this program, addressing the impact and experience for consumers, providers and the health system covering: workforce capacity; effectiveness, including, including safety and quality outcomes; economic measures including cost and efficiency; workforce productivity; sustainability; and the scalability of the implemented models. The Physiotherapists in the ED project involved evaluation against 14 KPIs.

Important elements of the evaluation framework aimed to:

- Facilitate the redesign of the workforce to match the changing needs of the service and not the determination of professional boundaries;
- Implement innovative roles that operate as stand-alone practitioners in the ED environment, with the scope to assess, order diagnostics, treat and discharge patients without intervention from a medical practitioner;
- Identify models of extended scope of practice for physiotherapists in EDs that demonstrated improved productivity by improving patient flow, decreasing waiting time for patients and meeting KPIs for triage times against the NEAT ; and
- Support medical staff acknowledging recruitment and shortage issues.

The evaluation findings, published in July 2014, showed:

- Advanced practice physiotherapists were more efficient than other practitioners - Averaged across all sites, almost 93% of eligible patients treated by APPs were discharged within 4 hours, compared to 74.5% of similar patients seen by other practitioners during the implementation period (relative to baseline period);
- The waiting time and length of stay for MSK patients treated by PCPs were shorter than for patients treated by other practitioners;
- Based on limited data, re-presentations to the same ED for the same health condition within 96 hours and 28 days were similar for PCPs and other practitioners;
- Patients were extremely positive about their experiences of care, time taken to be seen by the physiotherapist, and the overall ED experience; and
- The PCP role was strongly endorsed by other staff. The PCPs' skills and knowledge in providing patient care and education, ordering imaging and referring for further treatment were extremely highly regarded. An overwhelming majority of stakeholders responding to a survey agreed that the model improved the quality of ED care and made the ED team more effective.

In addition to the systematic review of more than 50 allied health (including physiotherapy) expanded scope models trialled in Queensland by Nancarrow et al. (2013) described in Section 4.2.2, a Ministerial Taskforce on Expanded Scope of Practice (the Taskforce) was established in Queensland Health on 23 October 2012. The Taskforce was commissioned to identify expanded scope of practice implementation opportunities in Queensland Health across a broad range of allied health professions. The following principles were established to guide the development and implementation of any expanded scope of practice roles across Queensland Health: delivering patient centred care; ensuring quality and safety; providing cost-effective services; and providing collaborative care within a team environment.

In addition to delivering a contextually responsive framework to support the implementation of these roles (adopted as the WA Health Expanded Scope of Practice Physiotherapy Project's main objective), the Taskforce reviewed evidence based, patient centred expanded scope models/roles. The final report highlights a range of models across allied health professions where the literature supports consistent evidence of improving patient and health system outcomes without compromising the safety or quality of care. Priority areas for physiotherapy expanded roles are detailed as the emergency department and musculoskeletal services (including neurosurgical and orthopaedic screening clinics).

The Taskforce implementation recommendations are addressed in section 4.2.2.

Physiotherapy specific models of care identified by the Taskforce for all States and Territories are shown in Appendix 4. As such, this review does not individually address the models of care implemented in each State/Territory.

### **3.3 Expanded Practice in Western Australia**

Physiotherapists employed across WA Health are increasingly performing roles that include advanced scope of practice elements. These roles are now formally recognised by position title and WAIRC classification (see Section 2.1).

Hamer and Timms' (2010) 4-month trial of an advanced practice physiotherapist in the Rockingham General Hospital ED found 95% of the 298 patients who completed a patient satisfaction survey rated the care received as excellent (72%), very good (20%) or good (2.5%). A 6 month follow-up survey of 57 patients found all still satisfied with the service and only two indicated that they would

rather have been seen by a doctor. The advance practice physiotherapist assessed and treated closed musculoskeletal trauma.

The authors noted the impact of this initiative was limited as a result of being a formal research project and required a strict opt-in recruitment strategy of subjects. The other limitations were the skilled workforce was available for a relatively short period during the intervention period, including rostering to weekends, as well as changing well established processes in the ED setting. The positive patient outcomes were report despite the short time period.

Another innovation to improve long waiting lists for spinal pain assessment at SCGH and Royal Perth Hospital (Shenton Park Campus) was a physiotherapy triage program, which aimed to help manage the waitlists for surgical review of back pain patients through the use of Physiotherapy screening and assessment. In February 2009, more than 1000 new patients were waiting for an appointment and surgical waiting times exceeded two years for patients classified as "non-urgent". Two advanced practice physiotherapy-led models of care were established - the Neurosurgery Spinal Pain Triage Clinic and the Orthopaedic Triage Clinic.

To address this issue, the waitlist patients were triaged by Advanced Practice Physiotherapists for the orthopaedic, neurosurgery and pain management outpatient clinics. This involved assessment by an APP who then referred the patient to the appropriate stream of treatment (on to non-invasive management), back to the referring doctor with a management plan or for a surgical review. Patients deemed appropriate for surgical review were fast-tracked to see a surgeon.

Only 19% of patients assessed by the physiotherapist needed referral to the surgeon. The remaining patients were offered either pain management (14%) or referral to Medicare covered physiotherapy services where possible. Significant improvements across a range of indicators as a result of the advanced scope of practice physiotherapist roles were demonstrated.

At Fremantle Hospital and Health Service, triage focussed on reviewing referrals that were on an orthopaedic surgical list for spinal pain for over four years. The Pain Management team at Fremantle Hospital & Health Service received a State Health Research Grant to trial a new model of implementing a multidisciplinary assessment, for clients that had been referred to their unit. The introduction of patient triage questionnaires and implementation of Self-Training Educative Pain Sessions (STEPS), an 8-hour pre-clinic inter-professional group sessions program, was shown to significantly reduce the two-year waitlist for people with persistent pain.

### **3.4 Are Expanded Scope of Practice Physiotherapy Models of Care Safe for Patients?**

Perhaps the most important question for consumers and health system managers is whether expanding the scope of physiotherapists could impact safety and quality. Of equal importance is identification of the conditions for the safe, effective and sustainable implementation of these roles.

Effective and efficient care across a range of clinical settings can be delivered by expanded scope physiotherapists, particularly when care is inclusive of interdisciplinary team involvement (Speerin et al., 2014). Having established the effectiveness of these roles across a range of clinical settings, it is imperative to assess their safety. The recent Queensland Health *Ministerial Taskforce on Expanded Scope of Practice Final Report (2014)* cites potential compromise to patient safety as a concern raised by medical officers as a result of the statewide consultation.

### **3.5 Safe Diagnosis**

A large body of research demonstrates equivalence in diagnostic and treatment concordance and effectiveness between expanded scope physiotherapists and physicians or other providers (McClellan et al., 2006; Daker-White et al., 1999; Taylor et al., 2011; Aiken and McColl, 2008; Stanhope et al., 2012).

Aiken and McColl (2008) measured diagnostic concordance and accuracy, and treatment concordance between advanced practice physiotherapists and orthopaedic surgeons (N=25) in an orthopaedic clinic. Diagnosis and treatment recommendations were made by each separately. These were compared for concordance between professionals and diagnostic accuracy. The physiotherapist and the orthopaedic surgeon had 90% concordance in diagnoses of knee and shoulder impairments, and 75% accuracy when compared to definitive diagnostic methods. Concordance for treatment recommendations was 87%, although the physiotherapist gave three treatment recommendations per patient where the surgeon gave two. In a collaborative care context therefore, this study suggests, that physiotherapists have similar diagnostic capabilities to orthopaedic surgeons, and they will enhance the conservative treatment options offered to orthopaedic

Relative to physicians, advanced scope physiotherapists have been shown to give significantly more advice to patients (Ball et al., 2007; Daker-White et al., 1999), and prescribe less medication and injections (Daker-White et al., 1999), and fewer assistive devices (Ball et al., 2007). They have also been shown to refer fewer patients to surgery than physicians (Daker-White et al., 1999).

In terms of ordering tests, Daker-White et al. (1999) reported that advanced scope physiotherapists working in an orthopaedic clinic ordered significantly fewer diagnostic tests (laboratory and imaging) than junior doctors. In another study by Ball et al. (2007), there were no significant differences in the number of X-rays ordered between advanced practice physiotherapists and physicians.

### **3.6 Treatment duration**

With respect to treatment duration, McClellan et al. (2010) did not find any significant differences in treatment times for advanced practice physiotherapist care relative to a physician or nurse practitioner. Another researcher (Taylor et al., 2011) found that total length of stay (wait time and treatment time) for advanced scope physiotherapist care in emergency departments was significantly shorter than care provided by a physician in this setting.

### **3.7 Prescribing**

The grey literature indicates the greatest challenge to accepting expanded scope of practice is associated with the area of greatest change – extended practice. This is perhaps most controversial in relation to prescribing. Despite variation in definitions, prescribing by physiotherapists is generally considered extended scope of practice, which generally requires legislative change.

Prescribing was defined by Health Workforce Australia (2013), for the purposes of the Health Professionals Prescribing Pathway (HPPP) project, as an iterative process involving the steps of information gathering, clinical decision making, communication and evaluation, resulting in the initiation, continuation or cessation of a medicine. This is consistent with the Prescribing Competencies Framework definition, developed by National Prescribing Service (2012). The extent of physiotherapy prescribing varies in the literature with general consensus around non-steroidal anti-inflammatory drugs (Holdsworth et al., 2008).

The increasing prevalence of chronic disease noted previously brings an increased demand for pharmaceuticals. Non-medical prescribing (NMP) has existed in the UK since 1989 (Drug and Therapeutic Bulletin, 2006). Morris and Grimmer (2014) noted the lack of published evidence relating the role and effectiveness of physiotherapists' prescribing, administering medication or injecting. Based on their review of six peer reviewed articles and three government reports, Morris and Grimmer (2014) concluded that prescribing by physiotherapists has been shown to safe overseas.

Critically, any implementation of expanded practice physiotherapy roles must always uphold and align with existing clinical governance frameworks and be delivered with a consumer focus (Queensland Health, 2014).

One such clinical governance framework developed by Health Workforce Australia (2013) is the Health Professionals Prescribing Pathway (HPPP), a national framework for consistently safe and competent prescribing by health professionals, across the following areas:

1. Complete education and training;
2. Obtaining recognition from the National Board (of competence) to prescribe;
3. Ensuring authorisation to prescribe;
4. Prescribing medicines within scope of practice; and
5. Maintaining and enhancing competence to prescribe.

Any expanded practice role implementation would need to be cognizant of patients' right to decline treatment by a non-medical healthcare professional, including prescribing (Hoskins, 2010). Albeit a small sample, Joseph et al.'s (2014) patient perspective focus groups confirmed that patients have mixed opinions on the optimal healthcare professional to provide musculoskeletal triage.

The positive benchmarking against medical and nursing professions supports the view that expanded scope of practice physiotherapists are as safe and competent within their scope of practice as these other professions, if not more effective on certain tasks. There is no evidence to suggest specific elements of care traditionally provided by medical consultants and/or nurse practitioners cannot be safely provided by ESP physiotherapists, practicing within scope of practice and within an appropriate clinical governance framework.

## **4. BEST PRACTICE APPROACHES FOR EXPANDED SCOPE PHYSIOTHERAPY IMPLEMENTATION**

### **4.1. Guiding Principles for Expanded Scope of Practice**

The following principles are derived from *A Healthy Future for Western Australians: Report of the Health Reform Committee* (2004), the *WA Health Clinical Services Framework 2005 – 2015*, the *Australian Commission on Safety and Quality in Health Care (ACSQHC) National Quality and Safety Healthcare Standards* (2011), the *Queensland Ministerial Taskforce on Health Practitioner Expanded Scope of Practice Consultation Paper* and *Health Workforce Australia's (HWA) National Health Workforce Innovation and Reform Strategic Framework for Action 2011–2015*:

- A patient centred continuum of care;
- Safe, ethical, high quality and evidence based health care;
- Equitable, accessible and timely services;
- Cost effective;
- Sustainable;
- Improving the balance of preventative, primary and acute care;
- Compliance with legislation and regulation;

- Relevant to the demographic and clinical context;
- Responsive to the multi-disciplinary context; and
- Supportive of a highly skilled and dedicated workforce.

The APA (2009) nominates similar principles for practice regulation: A system that is standardised; flexible; accountable; effective; consumer centric; competency based; acknowledging that differently educated health professionals can deliver the same services; innovative with close collaboration between health professionals for efficacious and evidence based care; improving access to care; enhancing the patient journey and ultimately improving health outcomes.

HWA's *National Health Workforce Innovation and Reform Strategic Framework For Action 2011–2015 Background Paper* cautioned against reform based exclusively on the interests, skill demarcations and responsibilities of existing professions, that is not primarily patient centred.

Importantly, any strategic framework and supporting resources developed to guide the implementation of expanded scope of practice physiotherapy roles should not result in a practitioner being able to work outside their legislative and regulatory scope of practice (ACT Health, 2008).

#### **4.2. A National Review of Implementation Approaches**

The codification of the processes and practices around expanded scope of practice implementation is crucial to consistent and sustainable workforce reform for the benefit of Western Australians. The overall project objective is to develop a contextually responsive strategic framework recommending an approach for the coordinated and effective implementation of physiotherapy expanded practice models of care in WA Health. Any expanded practice implementation will need to comply with the Australian Commission on Safety and Quality's Care *National Safety and Quality Health Service Standards* (2011) – in particular, the "Performance and Skills Management" criterion of Standard 1 - Governance for Safety and Quality in Health Service Organisations (see Appendix 2).

Innovative models and work roles have largely arisen at the local level in response to perceived needs at the frontline. Indeed, introducing models using processes that have been tested and proven elsewhere is an important factor for success, provided there is some room for local involvement in development and local adaptation.

Broadly, the implementation of these roles will need to address the legislative, regulatory, organisational (models of care, delegation, funding, industrial arrangements, culture and customs) contexts in place in WA Health.

The following review of implementation approaches commences with a look at the national experience, followed by implementation guidance from Queensland, South Australia, the ACT and Western Australia.

##### **4.2.1 Nationally**

The HWA Background Paper recommends that national policy instruments to support local level innovation would need to include the development of remuneration and rewards, registration standards and scope of practice frameworks that reflect levels of competence, regardless of professional group (see Domains 1 and 2).

The HWA ESP Program Evaluation Framework identified evaluation issues and KPIs associated with the 'ESP – Physiotherapists in the ED' program. Model of care implementation involved the development of two training pathways – an in house competency-based training pathway based on adult learning principles, supported by external learning modules and supervised practice; and, a Graduate Diploma of Extended Scope Physiotherapy (through the University of Canberra), with a credentialing component involving supervised practice and completion of a competency log book. Thompson et al (2014) concluded the competency based training appeared to offer the most flexibility.

An Inventory of Innovation published on the HWA website in 2012, currently includes 43 ESP initiatives related to AH/HS professions. A review of these initiatives and other literature and practice by HWA identified a higher likelihood of successful reform when time and support were provided for planning, change management and rigorous evaluation prior to implementation. This includes consideration of barriers and enablers to implementation (University of South Australia, 2008). Other factors affecting reform success identified in this review include:

- Connecting local initiatives;
- Reducing duplication of effort;
- Developing a coherent and consistent approach to funding evidence-based, sustainable, long-term workforce reform activities;
- Representation of the implementation strategy in infrastructure such staffing numbers, equipment, facilities, policies, procedures and communication systems;
- Strong local commitment to overcome change and cultural resistance (Hamer and Timms, 2010).

In their evaluation of the HWA's ESP – Physiotherapists in the ED program, Thompson et al. (2014) reported that junior doctors and nurses highlighted a need for better communication about the model and scope of practice, and more information regarding rosters and availability. Furthermore, some respondents, mainly senior medical staff, expressed concerns about the efficiency and safety of the model, suggesting that undifferentiated patients would be better assessed by doctors before being treated by physiotherapists. Although the impact evaluation did not support these concerns, such opposition is nonetheless an important consideration in any implementation approach.

The ED Program's sustainability was evaluated according to Stirman et al.'s (2012) model of sustainability which was broadly categorised by Thompson et al. (2014) into:

- Characteristics of the innovation (its fit, adaptability, effectiveness and ability to maintain fidelity);
- Organisational context (including external factors like the climate of the health system and legislation and internal factors such as organisational culture and leadership);
- The capacity to sustain the innovation (including external factors like funding and internal factors such as access to champions and workforce availability); and
- Processes that facilitate sustainability (such as stakeholder engagement, collaboration and partnership development and integration of policies and procedure).

To successfully implement and sustain this ED model, Thompson et al. (2014) extensively listed preconditions/predictors (see Appendix 4 for full list), including:

- Clearly documenting the model and supporting guidelines (covering the full patient episode of care) to maximise knowledge and understanding across professions;
- The availability of additional funding was the single most important determinant of sustainability for most project teams;
- A receptive context for change, particularly the support of local managers and medical staff, and the availability of staff with the necessary skills;

- Physiotherapist supervision by an ED physician and/or physiotherapy clinical lead until having completed necessary training and deemed competent;
- Incorporating the model into a service's clinical governance framework - Whilst the lead sites developed specific protocols or clinical practice guidelines, implementation sites were able to integrate these guidelines into their organisation's existing clinical governance framework;
- Linking ESP evaluation data to organisational KPIs;
- The ability to adapt and modify aspects of the ED model of care (eg. for workload sustainability, local infrastructure and resources, recognition of prior learning to reduce costs associated with additional training); and
- Flexibility in the rate of implementation.

Additional pre-conditions, presented as themes, were identified by Morris et al. (2014) in their review of key stakeholder perceptions of guiding principles for extended scope of practice implementation in an unidentified Australian hospital. These comprised: the importance of service marketing; proactively addressing barriers; using readily understood nomenclature; demonstrating service quality and safety, monitoring adverse events, measuring health and cost outcomes; addressing legislative issues and registration; promoting viable career pathways; and, developing, accrediting, and delivering a curriculum supporting physiotherapists to work outside of the usual scope.

As argued internationally by Lowe et al. (2011), most national reviews (Morris et al. (2014); Nancarrow et al., 2012) also recommended establishing a business case prior to introducing expanded scope roles. The business case should demonstrate that the proposed expanded practice model/role can be provided, is of sound and demonstrable quality, fills a recognized gap, is self-supporting, and benefits patient care by providing better access to the right health care (usually without inflating costs) (Pencheon, 2013).

The above 'success factors' are well represented in the national HWA Advanced Musculoskeletal Physiotherapy Operational Framework (AMPOP), which was the only framework, identified nationally, addressing a particular expanded scope of practice physiotherapy model of care/clinical setting. Other implementation frameworks have been developed at local State/Territory level, covering roles, responsibilities, processes and/or systems to varying extents.

The AMPOP is an implementation guide covering operational policies and procedures; Clinical and educational training pathways for physiotherapists; Competency and credentialing for these roles; Clinical governance of these services; and a process for monitoring, evaluating and reporting service delivery. The framework encourages a model of care that supports high quality care and transferability of physiotherapists working between AMP roles and promotes sustainability of these services into the future.

HWA also developed the Advanced Musculoskeletal Physiotherapy Clinical Education Framework and the Advanced Musculoskeletal Physiotherapy Evaluation Framework to support the implementation of advanced musculoskeletal physiotherapy roles. The Clinical Education Framework provides a pathway to competence in the workplace and a competency standard and assessment.

Although nationally applicable, these three frameworks provide the components for clinical governance of advanced musculoskeletal physiotherapy services in the Victorian Department of Health Clinical Governance Policy framework (and therefore apply, but are not repeated, in the summary of statewide frameworks below).

The introduction of any non-medical practitioner prescribing (addressed in section XX) as part of extended practice would perhaps require the most considered approach given patient safety implications. Morris and Grimmer (2014) caution that this would require policy and legislation (Western Australia Poisons Act 1964) change, promotion of contextually specific NMP models, contextually relevant training and credentialing, informed medical profession support and the development of formal evaluation criteria to ensure safe practice. They recommend a nationally recognized, accredited training program for undergraduate physiotherapists, and credentialing model include supervision from a registered prescriber and continuing professional development/skill maintenance within an appropriate clinical context.

While most States and Territories appear to have well established strategic and governance frameworks for Allied Health Assistants, this review identified such frameworks for expanded scope of practice roles in only South Australia, Queensland and the ACT (presented below). Compliance with the framework is mandatory in South Australia, as supported by a policy directive. A search of the Victoria Health website located an Allied Health Credentialing, Competency and Capability Resource Kit, but this could not be opened.

#### **4.2.2. Other Jurisdictions**

##### **Queensland**

###### **1. *Queensland Allied Health Advanced Clinical Practice Framework***

This framework provides an excellent structural template for developing the WA ESP Strategic Framework. In addition to specifying purpose, principles, and a rationale for ESP, the Queensland Framework:

- Links advanced practice definitions to the Queensland industrial award context;
- Provides assumptions that help inform the scope of advanced clinical practice (adopted in “Phase 1 Scoping Statement);
- Provides a tool to define ESP along the continuum of depth/level of practice (developing to expert) and breadth of practice (broad to focussed);
- Provides a tool that differentiates between the various types of ESP against level of practice (with correlating industrial award arrangements), scope (breadth) of practice, complexity (of context and/or client need), training, credentialing, supervision and impact of legislation; and;
- Provides a list of prerequisite knowledge, skills and attributes for advanced clinical practice in Queensland Health:
  - Working with high levels of autonomy;
  - Asserting authority and influence
  - Facilitating high level problem solving
  - Applying and guiding critical thinking
  - Managing complexity
  - Advancing clinical practice
  - Modelling collaborative team work and clinical leadership

###### **2. *The Queensland Health Practitioners’ Models of Care Program and Workforce change checklist - An Evidence Based Practice Guide for Implementing Successful Workforce Change***

The single largest workforce redesign project in Australia, this project sought to promote sustainable clinical workforce redesign and reform across health services, aligned with Queensland Health and national strategic directions. The models of care trialled included expanded scope of practice

(including utilisation of professionals to their full scope of practice) and delegation to allied health assistants.

A review of Queensland Health's implementation of a large scale 5-year workforce redesign program across more than 13 health-care disciplines by Nancarrow et al. (2013) identified three overarching principles that optimized successful workforce redesign/models of workforce change: (1) drivers for change need to be close to practice; (2) contexts need to be supportive both at the local levels and legislatively; and (3) mechanisms should include appropriate engagement, resources to facilitate change management, governance, and support structures.

Attendance to these factors was uniformly associated with the success of individual projects. The aim of this workforce change project was to find the most effective way to implement a new model of care to enhance delivery of patient centred care while optimising impact and sustainability. Using a logic model, the contexts, mechanisms, outputs and outcomes of 55 Queensland Health models of are expanded scope of practice demonstration projects implemented between 2009 and 2013 (for up to two years) were analysed.

The resulting Workforce Change Checklist draws together the data developed in the logic model, propositions and principles in a tool to support workforce change. This Checklist was based on the following principles: (1) Drivers for change need to be closely linked to clinical practice and patient care. Workforce change needs to be driven by perceived or potential benefits to patients, staff, and/or services at a local level; (2) The context for workforce change must be supportive at all levels. This includes a supportive legislative and industrial environment, a supportive professional environment, and supportive leadership and champions; (3) Mechanisms for workforce change should include the engagement of key stakeholders, access to resources to support the implementation and performance of the role, a facilitated change management process, and appropriate governance and support structures.

More specifically, findings applicable to the development of the WA Strategic framework were that:

- A. Clinicians and patients were more likely to engage in implementing ESP roles where the MoC was relevant to their practice.
- B. Sustainability was strongly associated with: full engagement of all key stakeholders; bottom-up drivers as opposed to top-down; top-down support (including legislative and industrial support with award and pay structures ratified at highest possible levels of government to avoid undermining by professional boundary arguments); codification of the processes, practices, and training used to implement the role; powerful allies; and contextual appropriateness.
- C. More efficient use of health practitioner roles was associated with: clearly defined roles; clearly defined, understood, and unambiguous delegatory or allocatory models; delegating practitioners understanding the roles, training, and competencies of the practitioners to whom they are delegating; trust, derived from time and exposure to the new model and structures supporting appropriate delegation/collaboration/referring practices allowing practitioners to work to their full scope of practice.
- D. Greater staff satisfaction is associated with: better career development opportunities; appreciating the value of the role; and appropriate support for development and implementation.
- E. Better patient outcomes are associated with: greater engagement of patients in the decision making associated with their care delivery; putting the patient at the centre of the approach, rather than the practitioner; and providing any care or service where the alternative is no service, or a long waiting list.

### 3. *Queensland Health Ministerial Taskforce on Health Practitioner Expanded Scopes of Practice*

The Queensland Health Ministerial Taskforce's (the Taskforce) final report, released in May 2014, made six recommendations to facilitate the delivery of patient centred, cost-effective services through allied health professional expanded scope of practice. These recommendations identify the parties responsible for enacting each recommended action, connecting and involving the both central and area health services:

*Recommendation 1*

Hospital and Health Boards to lead the implementation of models of care that include allied health professionals expanding their scope of practice.

*Recommendation 2*

Service agreements between the Department of Health and each Hospital and Health Service to require the implementation of models of care that include allied health professionals expanding their scope of practice, and to report annually.

*Recommendation 3*

Allied Health Professions' Office of Queensland to showcase to Hospital and Health Services, the Queensland Clinical Senate and clinical networks opportunities to enhance patient experiences and provide cost-effective services through allied health professionals expanding their scope of practice.

*Recommendation 4*

The Department of Health to support redesign of models of care to improve the patient journey and deliver cost-effective services in outpatient clinics, emergency departments and mental health services by allied health professionals expanding their scope of practice.

*Recommendation 5*

The Department of Health to address barriers to allied health professionals expanding their scope of practice by: Identifying and implementing alternative funding models and incentives with relevant partners; amending regulation, legislation and policy; and, developing measures and facilitating research into the outcomes of full scope of practice and extended scope.

*Recommendation 6*

Allied Health Professions' Office of Queensland, in partnership with education providers, accreditation bodies and professional associations, to develop and facilitate access to education, training and tools to support allied health professionals to expand their scope of practice.

The change management process described in the final report aligns with Nancarrow et al.'s (2012) Workforce Change Checklist and Thompson et al.'s (2014) predictors of successful change, covering:

- The clinical care team's -
  - Commitment to change;
  - Understanding of how the change will impact patients, other team members, and clinical and administrative processes; and
  - Understanding of what the expanded scope role can achieve for patients.
- The allied health professional must be clinically competent to perform these tasks;
- In most situations, there must be a critical mass of patients that the change is relevant to so the allied health professional can develop and maintain skills that ensure safe practice; and
- There must be support from management to pursue the change.

## **South Australia**

*South Australia Health's Governance Framework for Advanced and Extended Scope of Practice Roles (2013) and Expanded Scope Decision Making Tool (2012)*

The SA governance framework establishes the roles, responsibilities, processes and systems to be used by health services and across all professional groups when reviewing or considering advanced or extended scope of practice roles in SA Health. This framework provides a consistent approach to the evidence based assessment of need, planning, implementation and evaluation of ESP roles provides an excellent foundation for structuring the WA framework. Governance influences how strategic directions are set and achieved, safety and quality is maintained and risks monitored and managed for optimal outcomes.

The South Australian framework is mandated in a policy directive to ensure there is a consistent approach to determining the need, planning, implementation and evaluation of non-medical ESP roles in SA. As noted under “ESP Governance and Practice Frameworks”, the framework articulates the roles and responsibilities of SA Health executive leaders by specifying principles, a clear process to facilitate role development and integration and by ensuring effectiveness, efficiency and sustainability of these roles through monitoring, review and evaluation.

The *South Australian Allied Health Scope of Practice Tool* embeds a decision making tree around enabling and expanding scope of practice within a clinical governance context. The tool aims to assist the implementation of practicing to full or expanded scope of practice. The basis for all activity under this tool is the improvement of health outcomes for the patient. While the above frameworks are similarly patient centric, they recognise other drivers for reform given no harm to the patient as a result. The flowchart then proceeds to address, in order, decision making in terms of regulatory, professional, organisational and individual levels.

This tool has been adopted in South Australia and by Services for Australian Rural and Remote Allied Health (SARRAH) for promoting consideration of scope of practice by individuals and health services.

The SA and Queensland frameworks highlight the need for scope of practice decision making to sit within a sound clinical governance/practice framework. It is proposed that the Phase 1 strategic framework draws on the above frameworks and tools to provide a high level approach within the agreed scope. This will require consideration of the impact of the following areas: industrial, regulatory, legislative, clinical governance, policy, education and training, culture, supervision and delegation and costing issues at the regulatory, professional, organisational and individual levels.

## **ACT**

Commencing in 2007, ACT Health and the International Centre for Allied Health Evidence (iCAHE) developed an online resource to guide healthcare providers and managers on the processes for introducing allied health extended scope practice roles. The five modules in this Starter Pack cover Workforce Redesign; Implementation and Barrier Analysis; Education, Training and Credentialing; Research and Evaluation; and Data Collection Examples.

In July 2012, ACT Health was appointed as a lead organisation for the HWA expanded scope practice Physiotherapy in ED project, supporting three implementation sites.

In partnership with the International Centre for Allied Health Evidence (iCAHE) at the University of South Australia, ACT Health reviewed the feasibility of extended scope of practice physiotherapy roles (‘extended’ corresponded with this project’s definition of ‘expanded’ scope of practice). Trials, extensive consultation and literature reviews culminated in a model which allows the expanded scope of practice physiotherapist to assess, treat and diagnose musculoskeletal presentations to the ED, as well as provide limited prescribing services, manage simple fractures and interpret X-rays.

### 4.2.3 Western Australia

No statewide ESP framework has been developed in WA, although a *WA Health Allied Health Scope of Practice Position Statement* was drafted by the CHPO in 2009. This draft position statement was developed to guide evaluation of the effective governance of allied health practitioners working in advanced and extended scope of practice roles along with issues around delegation to the allied health assistant worker. The draft position statement limited the decision making approach to that proposed in the *South Australian Expanded Scope Decision Making Tool (2012)*, described below.

WA Health's *Credentiailling and Scope of Clinical Practice for Medical Practitioners Policy (2008)* is undergoing review. The Nursing and Midwifery equivalent policy has been recently revised and implemented with an operational directive. An equivalent policy for allied health and health science Health Professionals will be developed by the CHPO by December 2014. Any advanced or extended scope of practice will require articulation in this policy, which will comply with the 2004 National *Standard for Credentiailling and Defining the Scope of Clinical Practice*, developed by the former Australian Council for Safety and Quality in Health Care.

Local research by Hamer and Timms (2010) identified barriers to the successful implementation of an advanced practice physiotherapy trial in the ED as:

- Having to adhere to clinical practice guidelines already implemented within the ED for Nurse Practitioners;
- Maintaining a medically oriented care pathway, with a requirement for medical sign off for radiological investigations and any mild pain relief; and
- The requirement for radiological investigations for soft tissue injuries to exclude any likelihood of bony injury.

Hamer and Timms (2010) developed Clinical Parameters and Clinical Pathway guidelines for use by the Advanced Practice Physiotherapist in the ED. The study found that where not overriding the clinical practice guidelines used by Nurse Practitioners in the ED, these guidelines were consistently applied. The authors also found that as the advanced practice ED physiotherapists became recognised by other staff, referral to physiotherapists with the ED became more common.

## 5. Implementation Conclusions

Based on a review of the above approaches and peer reviewed studies in the literature, best practice indicates the WA Health expanded scope of practice strategic framework should address the following elements:

1. Identifying and adopting principles for developing ESP roles;
2. Defining expanded scope of practice (advanced and extended practice) for WA Health, specifying domains and prerequisite knowledge, skills, tasks and attributes (eg. working with high levels of autonomy) and ensuring roles engaging patients and clinicians by defining specific roles relevant to practice and patient outcomes;
3. Determining priority areas/clinical settings of need for implementation and assessment of opportunities, barriers and enablers across these areas;
4. Linking expanded scope of practice definitions to the WA Health industrial award context (HP levels);

5. Identifying any legislative changes required to sustainably support these roles. Many of the reported ESP physiotherapy initiatives described in this review include prescribing rights not permissible under current WA legislation;
6. Identifying the roles and responsibilities, processes and systems for delegating authority for expanded scope of practice roles, including delegation functions;
7. Providing a pathway for advanced practice education, training and development, including appropriate levels of support and service design including policies and procedures and other relevant resources;
8. Identifying clinical governance requirements in terms of WA Health policy for credentialing and scope of practice and alignment with professional and competency guidelines and standards, and management practices;
9. Aligning with WA Health strategic intent, policies/frameworks and models of care (including WA Health Networks Branch's Models of Care);
10. Developing communication and education strategies for the existing workforce and relevant stakeholders in relation to expanded scope of practice role implementation;
11. Exploring funding options; and
12. Ensuring evaluation and monitoring of implementation (determining process, output and impact KPIs).

As aptly observed by Morris et al. (2014), early consideration of these matters in the planning phase will assist with the development of successful, sustainable, transferable, measurable, and innovative expanded scope of practice initiatives. The applicability of the state specific frameworks and lessons to WA Health would need to recognise the differences in organisational structures, policies and procedures.

## **APPENDIX 1: EXPANDED SCOPE OF PRACTICE DEFINITIONS NATIONALLY**

No formal definitions were located for NSW, Tasmania or the Northern Territory.

### **Queensland**

*QLD Ministerial Taskforce Definitions:*

**Expanded Scope of Practice:** Any role or task that would result in an expansion to the current scope of a profession's practice within a particular context in Queensland Health. Expanded scope can include a number of elements including undertaking full scope tasks, advanced practice and extended scope. In some instances, there will be overlap between these elements.

**Full scope/advanced practice** - A role that is within currently recognised scope of practice for that profession, but that through custom and practice has been performed by other professions. The advanced role would require additional training, competency development as well as significant clinical experience and formal peer recognition. This role describes the depth of practice.

**Extended Scope of Practice:** A discrete knowledge and skill base additional to the recognised scope of a profession and/or regulatory context of a particular jurisdiction. These would be tasks usually undertaken by other professions. Examples include prescribing, injecting and surgery. This role describes the breadth of practice.

*Queensland Allied Health Advanced Clinical Practice Framework (advanced clinical practice adapted for the Queensland public health system context)*

**Advanced Clinical Practice:** At its core, advanced clinical practice (ACP) involves high levels of clinical skill, knowledge and practice. This advanced clinical capacity is reinforced and enhanced by its close integration with clinical leadership skills, applied clinical research and evidence based practice capacities, and competence in facilitating the education and learning of others. ACP is relevant to generalist and focussed clinical contexts, as well as profession-specific situations and situations relating to specific client groups or geographical settings.

### **South Australia**

*South Australia Health's Governance Framework for Advanced and Extended Scope of Practice Roles (2013)*

**Advanced Scope of Practice:** A level of practice characterised by an increase in clinical skills, reasoning, critical thinking, knowledge and experience so that the practitioner is an expert working within the scope of established contemporary practice.

**Extended Scope of Practice:** A level of practice which incorporates practice beyond the established contemporary scope of practice of the health profession.

### **ACT – same as AHWAC definitions**

### **VIC**

**Advanced Scope of Practice:** Roles that are outside the scope of what is considered normal practice, but within legislative scope.

**Extended Scope of Practice:** Roles that are currently outside legislative scope.

## APPENDIX 2 – National Safety and Quality Healthcare Standards: Standard 1

### Standard 1 – Governance for Safety and Quality in Health Service Organisations

#### Performance and skills management

Managers and the clinical workforce have the right qualifications, skills and approach to provide safe, high quality health care.

| This criterion will be achieved by:                                                                                                                                       | Actions required:                                                                                                                                                                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1.10</b> Implementing a system that determines and regularly reviews the roles, responsibilities, accountabilities and scope of practice for the clinical workforce    | <b>1.10.1</b> A system is in place to define and regularly review the scope of practice for the clinical workforce                                                                   |
|                                                                                                                                                                           | <b>1.10.2</b> Mechanisms are in place to monitor that the clinical workforce are working within their agreed scope of practice                                                       |
|                                                                                                                                                                           | <b>1.10.3</b> Organisational clinical service capability, planning and scope of practice is directly linked to the clinical service roles of the organisation                        |
|                                                                                                                                                                           | <b>1.10.4</b> The system for defining the scope of practice is used whenever a new clinical service, procedure or other technology is introduced                                     |
|                                                                                                                                                                           | <b>1.10.5</b> Supervision of the clinical workforce is provided whenever it is necessary for individuals to fulfil their designated role                                             |
| <b>1.11</b> Implementing a performance development system for the clinical workforce that supports performance improvement within their scope of practice                 | <b>1.11.1</b> A valid and reliable performance review process is in place for the clinical workforce                                                                                 |
|                                                                                                                                                                           | <b>1.11.2</b> The clinical workforce participates in regular performance reviews that support individual development and improvement                                                 |
| <b>1.12</b> Ensuring that systems are in place for ongoing safety and quality education and training                                                                      | <b>1.12.1</b> The clinical and relevant non-clinical workforce have access to ongoing safety and quality education and training for identified professional and personal development |
| <b>1.13</b> Seeking regular feedback from the workforce to assess their level of engagement with, and understanding of, the safety and quality system of the organisation | <b>1.13.1</b> Analyse feedback from the workforce on their understanding and use of safety and quality systems                                                                       |
|                                                                                                                                                                           | <b>1.13.2</b> Action is taken to increase workforce understanding                                                                                                                    |

### **APPENDIX 3: Physiotherapists in the Emergency Department Sub-Project List of Preconditions/ Predictors For Successful Advanced Scope of Practice Implementation (Thompson et al., 2014, p97-98).**

- The good fit of the ESOP initiative within most organisations strongly promoted sustainability, with the models of care addressing identified demand or service gaps (e.g. increased demand and stringent performance targets in the ED).
- The ability to adapt and modify aspects of the ESOP-PED models of care facilitated acceptance, improved outcomes and ensured alignment with the local health services and their varying demand and supply issues.
- The modular approach linked to competency based assessment appeared to have greater flexibility for training and implementation and modifications to training programs ensured applicability of information to different jurisdictions.
- A significant investment of resources was required to complete the University of Canberra's Graduate Diploma of Extended Scope Physiotherapy (compulsory in the PED7 model's training pathway) and this may not be sustainable considering course costs and issues backfilling and maintaining service delivery.
- There is a need for strong leadership for new models of care to achieve sustainability, from the project team including PCPs themselves as well as clinical lead physiotherapists.
- Medical champions were pivotal to sustaining project activities through advocating for the project and providing practical assistance and mentoring to the PCP. Change champions who supported innovation and change were identified from a variety of disciplines and included Heads of Emergency Services and directors of ED and physiotherapy.
- The leadership and support of the two lead sites was also important to ensuring sustainability of the model of care at implementation sites. Implementation sites were allocated to lead sites by HWA; a more sustainable option may be linking implementation sites with a lead site in their own jurisdiction so that support in addressing implementation barriers that may be unique to that State or Territory could be effectively provided.
- Different barriers and challenges (professional and legislative) were faced in implementing certain elements of the ESOP role, including barriers to prescribing and administering medication, injecting, ordering pathology, providing work cover certificates and issues of credentialing and professional recognition of the ESOP role. These barriers posed a risk not only to implementation but also sustainability.
- Lead sites worked collaboratively to address barriers as they emerged and pre-existing relationships with State Department of Health officers were invaluable in assisting lead sites to progress some of these barriers.
- Project teams that consistently communicated achievements were better able to sustain interest in their initiative. Presenting data aligned to organisational KPIs (including effectiveness, efficiencies through relieving medical personnel from treating low acuity MSK presentations, patient safety and satisfaction, improved ED performance in relation to the national four-hour target etc.) garnered support and demonstrated the viability of the model.
- If benefits of the model are evident to key staff the PCP is more highly valued. Nonetheless, demonstrating early wins is difficult and usually requires sustained implementation.
- Hospitals' finite resources and budgetary considerations threatened sustainability of the PED initiative, as other innovations and priorities continually competed with the initiative. This climate of limited resources also led to managers having to balance the implementation of the initiative with multiple organisational demands.

- Project teams that maintained a high level of investment in project management best positioned their projects for sustainability. Sustainability was dependent on selecting the right implementation locations.
- Project teams understood their local area's demographics and demand for ED services. Demand for PCP appropriate cases (lower acuity MSK presentations) provided an adequate caseload in most localities, ensuring full utilisation of the PCP capability and positively influencing sustainability of the role.
- A receptive environment for the new model of care was essential to successful implementation and sustainability. A receptive context for change within organisations includes factors such as a need for change, a supportive culture conducive to innovation, managerial support, leadership, appropriate infrastructure and resources, and engagement of key stakeholders.
- Several project teams had prior experience with PCP services in both the ED and outpatient setting. Services that develop a critical mass of PCPs appear better placed to sustain the role as they have the capacity to cover leave and the resources to train other physiotherapists in the ESOP model of care.
- Project teams pursued a strategy of recruiting highly experienced PCPs. Several had previous experience in a similar role and many had previously worked in the organisation prior to commencing the ESOP role, which appeared to assist with transitioning into the role and increasing acceptance and credibility among other ED staff. PCPs were highly regarded for their expertise and skill and ED personnel were enthusiastic supporters of the role and focus on the MSK patient cohort.
- Staff retention was highly associated with sustainability and is influenced by factors such as job satisfaction, professional recognition, career pathways, maintaining treatment skills and impact of shift patterns on the individual. A range of strategies are needed to sustain PCPs in their new role. The intentions of most PCPs to continue in the role should it be maintained was a significant factor in the sustainability of the projects.
- Disseminating information about the PED initiative was an essential component of managing the change both within and outside organisations and for raising awareness of the initiative and building support for sustainability of the models of care within communities and the organisation.

## APPENDIX 4: PRIORITY AREAS FOR PHYSIOTHERAPIST EXPANDED SCOPE OF PRACTICE MODELS OF CARE

Examples extracted from *Queensland Health (2014) Ministerial Taskforce's Final Report* Appendix A and identified from independent review.

### EMERGENCY DEPARTMENT

#### *Reduced Waiting Time, Better Access to Services, Improved Patient Flow and Reduced Length of Stay*

| Initiative                                                                                                                                                                                                                                                                                                                                                    | Approach                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Outcomes                                                                                                                                                                                                                                                                                            | Extended scope? | Delegation? |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------|
| <p>Physiotherapy in the ED</p> <p><b>Location</b><br/>Cairns Hospital<br/>Cairns and Hinterland Hospital and Health Service, Queensland Robina Hospital, Gold Coast Hospital and Health Service, Queensland</p> <p><b>Model</b><br/>Multi-centre study</p> <p><b>Reference</b><br/>Physiotherapy Department, Cairns Base Hospital and Gold Coast Hospital</p> | <p>As part of the HWA Expanding the role of physiotherapist in emergency department, category 3–5 patients presenting with an appropriate musculoskeletal injury/disorder are assessed, treated and discharged directly by the physiotherapist from triage.</p> <p>Tasks include fracture diagnosis, simple fracture management, joint relocation, sick certification, plastering, radiology referral and interpretation.</p> <p>The addition to the role of ordering of radiology, injecting of local anaesthetic and limited prescribing of analgesia is being explored.</p> | <p>Expected outcomes:</p> <p>Reduced time in emergency department</p> <p>Released capacity/availability of medical officer and nursing resources for higher acuity patients (especially triage category 1–3).</p>                                                                                   | Y               | N           |
| <p>Primary contact musculoskeletal physiotherapy in the ED</p> <p><b>Location</b><br/>Alfred Hospital, Victoria</p> <p><b>Model</b><br/>Single centre study</p>                                                                                                                                                                                               | <p>Physiotherapists who completed training in radiology, pharmacology and specific tasks (e.g. plastering) managed patients allocated to fast-track in the emergency department.</p>                                                                                                                                                                                                                                                                                                                                                                                           | <p>Consistent improvement in NEAT 4-hour waiting time for non-admitted patients.</p> <p>Patients with back pain seen by physiotherapists were 14.5 times less likely to be admitted. More timely and appropriate treatment.</p> <p>Released capacity of medical staff to manage other patients.</p> | Y               | N           |

|                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                   |                                                      |   |   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|---|---|
| <b>Reference</b><br>www.hwainventory.net.au                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                   |                                                      |   |   |
| Soft tissue injury management by physiotherapists in emergency department<br><br><b>Location</b><br>University Hospitals Bristol NHS Foundation Trust, UK<br><br><b>Model</b><br>Single centre study<br><br><b>Reference</b><br>McClellan, C. et al. (2012). A randomised trial comparing the clinical effectiveness of different emergency department healthcare professionals in soft tissue injury management. BMJ Open, 2: e001092 | Adults presenting to the emergency department with peripheral soft tissue injury were randomly assigned to/and managed by physiotherapist, emergency nurse practitioner or doctor.<br><br>Measures taken: upper and lower limb functional scores, quality of life, days off work. | All three groups had clinically equivalent outcomes. | N | N |

## OUTPATIENT CLINICAL SETTINGS

### *Reduced Waiting Times for Elective Surgery and Specialist Outpatient Clinics, Improved Patient Flow*

| Initiative                                                                             | Approach                                                                                                                                                                                                                                                                                     | Outcomes                                                                                                                                                                                                   | Extended scope? | Delegation? |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------|
| Physiotherapy Lead Neurosurgery Spinal Pain Triage<br><br><b>Location</b><br>WA (SCGH) | Since 2006, advanced practice physiotherapists have been assessing patients referred to the SCGH Department of Neurosurgery with spinal pain. This has facilitated quicker assessment and reduced the number of patients needing to see the neurosurgeon. Previously, waiting times exceeded | Fewer patients needing an appointment in the outpatient neurosurgery clinics.<br><br>Improving surgical capacity as only one appointment is needed with the surgeon prior to a decision on suitability for | N               | N           |

|                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                        |   |   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|
| <b>Model</b><br>Single centre study                                                                                                                                                           | two years for 'non-urgent' patients to access a surgeon. Suitable imaging is arranged prior to the appointment with the surgeon.                                                                                                                                                                                                                                                                                                                                                                                                        | surgery. Outpatient clinic is used more efficiently.                                                                                                                                                                                                                                                                                                                                                   |   |   |
| Physiotherapy Musculoskeletal Pathway with Prescribing<br><br><b>Location</b><br>Gold Coast Hospital and Health Service, Queensland<br><br><b>Model</b><br>Single centre study                | Research project investigating prescribing and/or injecting by physiotherapist clinical leader in the orthopaedic physiotherapy screening clinic setting.<br><br>Appropriately trained allied health professionals being able to (and accepted by others as able to) autonomously manage non-surgical musculoskeletal care, including medicines.                                                                                                                                                                                        | Legislative approval under the Health (Drugs and Poisons) Regulation 1996, for a physiotherapist to prescribe within the research trial.<br><br>Integration of new extended scope practice into services including requesting of ultrasound-guided corticosteroid and local anaesthetic injections and blood tests.<br><br>Expected outcome: reduced wait time for access to musculoskeletal services. | Y | N |
| Neurosurgery Outpatient Screening Clinic<br><br><b>Location</b><br>Northern Health, Victoria<br><br><b>Model</b><br>Single centre study                                                       | Physiotherapists provided screening assessment for patients with back and neck pain on the neurosurgical wait list.<br><br>Conservative management arranged as appropriate.<br><br>Patients requiring consultant review were referred to the neurosurgery clinic.                                                                                                                                                                                                                                                                       | Reduced demand on neurosurgery outpatient clinic.<br><br>Effective use of neurosurgical consultants' time.                                                                                                                                                                                                                                                                                             | N | N |
| Advanced practice physiotherapy for musculoskeletal disorders<br><br><b>Location</b><br>Review of global current practice<br><br><b>Model</b><br>Established practice<br><br><b>Reference</b> | The advanced practice roles described varied depending on the clinical setting and country and included: <ul style="list-style-type: none"> <li>• communicating a medical diagnosis</li> <li>• triaging patients to be seen by physicians or specialists for consultation or surgery</li> <li>• ordering of diagnostic tests (imaging or laboratory)</li> <li>• conservative treatment recommendations that may include medication prescription and/or injection</li> <li>• referral to other healthcare providers including</li> </ul> | Physiotherapists in advanced practice roles provided equal or better than usual care in comparison to physicians in terms of diagnostic accuracy, treatment effectiveness, use of healthcare resources, economic costs and patient satisfaction.<br><br>Reduced cost of services.<br><br>Enhanced patient outcomes.                                                                                    | Y | N |

|                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                               |   |   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|
| Desmeules, F. et al. (2012). Advanced practice physiotherapy in patients with musculoskeletal disorders: a systematic review. BMC Musculoskeletal Disorders, 13:107                                                                                                                                                                                                                              | other physiotherapists.                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                               |   |   |
| <p>Direct listing for total hip replacement by primary care physiotherapists</p> <p><b>Location</b><br/>Northern Devon Healthcare NHS Trust, UK</p> <p><b>Model</b><br/>Established practice</p> <p><b>Reference</b><br/>Parfitt, N. et al. (2012). Direct listing for total hip replacement (THR) by primary care physiotherapists. Clinical Governance: an International Journal, 17:210-6</p> | <p>Primary care-based extended scope physiotherapist-led service places patients directly onto surgical wait list of secondary care orthopaedic surgeons.</p>                                                                                                                                                                                           | <p>Over a 2-year period, 130 referrals for direct listing were made and 98% required total hip replacement.</p> <p>Patients did not require orthopaedic outpatient appointment until pre-assessment clinic.</p> <p>Approximate saving of £145 per patient.</p>                                                                                                                                                | Y | N |
| <p>Physiotherapy musculoskeletal pathway with prescribing</p> <p><b>Location</b><br/>Gold Coast Hospital and Health Service, Queensland</p> <p><b>Model</b><br/>Single centre study</p> <p><b>Reference</b><br/><a href="http://www.health.qld.gov.au">www.health.qld.gov.au</a></p>                                                                                                             | <p>Research project investigating prescribing and/or injecting by physiotherapist clinical leader in the orthopaedic physiotherapy screening clinic setting.</p> <p>Appropriately trained allied health professionals being able to (and accepted by others as able to) autonomously manage non-surgical musculoskeletal care, including medicines.</p> | <p>Legislative approval under the Health (Drugs and Poisons) Regulation 1996, for a physiotherapist to prescribe within the research trial.</p> <p>Integration of new extended scope practice into services including requesting of ultrasound-guided corticosteroid and local anaesthetic injections and blood tests.</p> <p>Expected outcome: reduced wait time for access to musculoskeletal services.</p> | Y | N |

|                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |   |   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|
| <p>Neurosurgical physiotherapy post-operative review clinic</p> <p><b>Location</b><br/>The Alfred Hospital , Victoria</p> <p><b>Model</b><br/>Established practice</p> <p><b>Reference</b><br/><a href="http://www.alfredhealth.org.au/physiotherapy/">www.alfredhealth.org.au/physiotherapy/</a></p>                                                                                            | <p>Experienced musculoskeletal physiotherapists conduct the routine 6-week post-operative review of patients following uncomplicated neurosurgical procedures such as laminectomy and discectomy instead of the orthopaedic surgeon.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <p>Decreased waiting times for post-operative review appointments.</p> <p>Decreased waiting time on the day of appointment.</p> <p>Increased patient satisfaction and experience.</p> <p>Increased capacity for neurosurgeons to see new patients.</p> <p>Increased education and access to rehabilitation/advice for patients.</p>                                                                                                                                                                                                                                                                                                                                                                                       | Y | N |
| <p>Neurosurgical physiotherapy screening clinics (NPSC)</p> <p><b>Location</b><br/>Princess Alexandra Hospital, Gold Coast Hospital, Royal Brisbane and Women’s Hospital, Townsville Hospital, Queensland</p> <p><b>Model</b><br/>Established practice</p> <p><b>Reference</b><br/>Service delivery models, patient flow, Health Systems Innovation Branch, Department of Health, Queensland</p> | <p>Selected category 2 and 3 patients referred to specialist outpatients (neurosurgery) are screened by a physiotherapist who undertakes assessment, further investigation as required and differential diagnosis.</p> <p>Patients with non-musculoskeletal conditions or for whom surgical management is indicated are re-prioritised or returned to wait list.</p> <p>Appropriate patients are offered tailored multidisciplinary non-surgical management.</p> <p>Patients are discharged from specialist outpatient wait list if non-surgical treatment successful or further medical consultant review not indicated.</p> <p>In 2011–12, 901 new cases seen statewide in neurosurgical physiotherapy screening clinics.</p> | <p>Statewide:</p> <ul style="list-style-type: none"> <li>• 65% of patients screened in neurosurgical physiotherapy screening clinics provided with multidisciplinary non-surgical management</li> <li>• 66% of patients discharged in 2011–12 were removed from specialist outpatients wait list without requiring medical consultant review</li> <li>• of those patients requiring further medical consultant review, 25% were identified as requiring more urgent review than originally categorised, demonstrating an effective safety net for patients with previously unidentified significant or non-musculoskeletal pathology</li> <li>• better prepared for surgery where patient proceeds to surgery.</li> </ul> | N | N |
| <p>Arthroplasty management by physiotherapists</p>                                                                                                                                                                                                                                                                                                                                               | <p>Physiotherapists in primary contact capacity carried out post-surgical outpatient reviews following hip and knee</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <p>Improved outpatient access and flow.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | N | N |

|                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |          |          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|
| <p><b>Location</b><br/>Northern Health, Victoria</p> <p><b>Model</b><br/>Single centre study</p> <p><b>Reference</b><br/><a href="http://www.hwainventory.net.au">www.hwainventory.net.au</a></p>                                                                                                                                   | <p>replacement, as an alternative to orthopaedic reviews.</p> <p>Evaluated recovery with respect to desired outcomes and facilitated appropriate referral for rehabilitation.</p>                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |          |          |
| <p>Orthopaedic physiotherapy screening clinic (OPSC)</p> <p><b>Location</b><br/>Multiple sites across Queensland Hospital and Health Services</p> <p><b>Model</b><br/>Established practice</p> <p><b>Reference</b><br/>Service delivery models, patient flow Health Systems Innovation Branch, Department of Health, Queensland</p> | <p>Screening process to manage patients with musculoskeletal conditions referred by GPs for orthopaedic opinion but unlikely to require surgical management.</p> <p>Selected patients re-directed to the OPSC where musculoskeletal physiotherapists undertake assessment, diagnosis and case management.</p> <p>Non-operative care provided by multidisciplinary allied health team.</p> <p>Stakeholder satisfaction survey outcomes 'highly satisfactory' across all indicators.</p> | <p>Statewide outcomes:</p> <ul style="list-style-type: none"> <li>• 4431 new cases seen in 2011–12</li> <li>• 72% of patients screened provided with multi-disciplinary non-surgical management</li> <li>• of those patients requiring further medical consultant review, 32% were identified as requiring more urgent review than originally categorised, demonstrating an effective safety net for patients with previously unidentified significant or non-musculoskeletal pathology</li> <li>• clinical outcome measures statistically significant across all measures</li> <li>• wait time reduced (e.g. at Cairns Hospital, in the month of February 2013, the time to initial consultation in OPSC for category 2 and 3 patients was 75 and 90 days respectively. Whereas for initial orthopaedic consultation the waiting time for category 2 and 3 patients was 193 and 433 days respectively).</li> </ul> | <p>N</p> | <p>N</p> |

|                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                           |   |   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|
| <p>Physiotherapy orthopaedic screening clinics</p> <p><b>Location</b><br/>The Alfred Hospital, Victoria</p> <p><b>Model</b><br/>Established practice</p> <p><b>Reference</b><br/><a href="http://www.hwainventory.net.au">www.hwainventory.net.au</a></p>                 | <p>Physiotherapists triaged patients referred to the osteoarthritis hip and knee service to determine the need for surgical or conservative intervention with 6-monthly monitoring.</p> <p>Patients were fast-tracked for surgical consult as appropriate.</p> | <p>Reduced waiting time from 18 months to 3 months.</p> <p>40% of patients seen by physiotherapist fast-tracked to surgeon, with imaging to facilitate consultation.</p> <p>Most patients seen by physiotherapist managed conservatively and discharged without having to see a surgeon.</p> <p>Freed up surgeons' consultation time.</p> | N | N |
| <p>Physiotherapy orthopaedic outpatient screening clinic</p> <p><b>Location</b><br/>Northern Health, Victoria</p> <p><b>Model</b><br/>Established practice</p> <p><b>Reference</b><br/><a href="http://www.hwainventory.net.au">www.hwainventory.net.au</a> Location</p>  | <p>Physiotherapists screened patients on orthopaedic wait list with shoulder and knee pain.</p> <p>Conservative management arranged as appropriate.</p> <p>Referred to orthopaedic clinic as required.</p>                                                     | <p>Decreased wait times for orthopaedic clinic.</p> <p>Approximately 78% of screening clinic patients managed entirely by physiotherapists and do not require orthopaedic review.</p> <p>More than 85% referred to consultant go on to have orthopaedic surgery/intervention.</p> <p>Reduced demand on orthopaedic consultants.</p>       | N | N |
| <p>Physiotherapy-led osteoarthritis hip and knee services</p> <p><b>Location</b><br/>14 sites across Victoria</p> <p><b>Model</b><br/>Established practice</p> <p><b>Reference</b><br/><a href="http://www.health.vic.gov.au/oahks/">www.health.vic.gov.au/oahks/</a></p> | <p>Physiotherapists assess patient's severity of disease, initiate appropriate conservative management and refer to surgeon and fast-track as appropriate.</p>                                                                                                 | <p>Statewide outcomes:</p> <ul style="list-style-type: none"> <li>• more appropriate use of specialist orthopaedic services</li> <li>• patient satisfaction with the service and the care received.</li> </ul>                                                                                                                            |   |   |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                       |   |   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|
| <p>Osteoarthritis hip and knee physiotherapy service</p> <p><b>Location</b><br/>Northern Health, Victoria</p> <p><b>Model</b><br/>Single centre study</p> <p><b>Reference</b><br/><a href="http://www.hwainventory.net.au">www.hwainventory.net.au</a></p>                                                                                                                                                                                                                                                                                                                                                                                                                                      | <p>Physiotherapists screened osteoarthritic hip and knee referrals from an orthopaedic waitlist.</p> <p>Conservative management as appropriate.</p> <p>Referral for orthopaedic consultant assessment.</p> <p>Prioritisation on need, not chronology.</p> | <p>Reduced wait time for surgical assessment.</p> <p>Increased conversion rate to surgery for arthroplasty from initial orthopaedic assessment (approximately 70%).</p> <p>Reduced wait for orthopaedic assessment from GP referral (down from 2.5 years to 2–6 months).</p> <p>Effective use of consultant time.</p> | N | N |
| <p>Phenol block and botox injections by physiotherapists</p> <p><b>Location</b><br/>Glasgow, Scotland, UK</p> <p><b>Model</b><br/>Established practice</p> <p><b>Reference</b><br/>Royal College of Physicians, British Society of Rehabilitation Medicine, Chartered Society of Physiotherapy, Association of Chartered Physiotherapists Interested in Neurology (2009). Spasticity in adults: management using botulinum toxin. National guidelines.<br/><a href="http://www.rcplondon.ac.uk/sites/default/files/documents/spasticity-in-adults-management-botulinum-toxin.pdf">www.rcplondon.ac.uk/sites/default/files/documents/spasticity-in-adults-management-botulinum-toxin.pdf</a></p> | <p>Phenol block and botox injections are performed by physiotherapists in a spasticity clinic.</p> <p>Physiotherapists administer botox under direction in conjunction with a physiotherapy program for spasticity.</p>                                   | Improved patient flow.                                                                                                                                                                                                                                                                                                | Y | N |
| Physiotherapist-led shoulder clinic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Comparison of physiotherapy-led and surgeon-led shoulder clinics.                                                                                                                                                                                         | Wait time for physiotherapist was shorter than for surgeons.                                                                                                                                                                                                                                                          | Y | N |

|                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                            |   |   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|
| <p><b>Location</b><br/>Holland Orthopaedic and Arthritic Centre Ontario, Canada</p> <p><b>Model</b><br/>Established practice</p> <p><b>Reference</b><br/>Razmjou, H. (2013). Evaluation of an advanced-practice physical therapist in a specialty shoulder clinic: diagnostic agreement and effect on wait times. <i>Physiotherapy Canada</i>, 65:46-55</p> | <p>Agreement on major diagnostic categories varied from good to excellent and indication for surgery—good.</p>                                                                                                                      | <p>Surgeons' wait time reduced over a three year period.</p>                                                                                                                                                                               |   |   |
| <p>Physiotherapist musculoskeletal screening clinic</p> <p><b>Location</b><br/>Northern Hospital, Melbourne, Victoria</p> <p><b>Model</b><br/>Single centre study</p> <p><b>Reference</b><br/>Oldmeadow, L. et al. (2007) Experienced physiotherapists as gatekeepers to hospital orthopaedic outpatient care. <i>Med J Aust</i>, 186:625-8</p>             | <p>Patients with non-urgent musculoskeletal conditions were assessed by physiotherapists and subsequently by an orthopaedic surgeon.</p>                                                                                            | <p>Nearly two-thirds of patients with non-urgent musculoskeletal conditions did not need to see a surgeon at the time of referral.</p> <p>Patients were appropriately assessed and managed by experienced, qualified physiotherapists.</p> | N | N |
| <p>Physiotherapist neurosurgery screening and post-operative review clinics</p>                                                                                                                                                                                                                                                                             | <p>Physiotherapists triaged neurosurgery outpatients to determine need for surgical or conservative intervention.</p> <p>Physiotherapists reviewed post-operatively—wound checks, neurological status, bony healing, documented</p> | <p>Initial appointment wait reduced from 12 months to 4 months.</p> <p>20% of patients seen by physiotherapist fast-tracked to surgeon, with imaging to</p>                                                                                | N | N |

|                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                            |   |   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|
| <p><b>Location</b><br/>The Alfred Hospital, Victoria</p> <p><b>Model</b><br/>Single centre study</p> <p><b>Reference</b><br/><a href="http://www.hwainventory.net.au">www.hwainventory.net.au</a></p>                                                                                                                                    | <p>outcomes, and provided recommendations.</p>                                                                                                                                 | <p>facilitate consultation.</p> <p>Most patients seen by physiotherapist managed conservatively and discharged without having to see a surgeon.</p> <p>Freed up surgeons' consultation time.</p>                                                                                                                                                           |   |   |
| <p>Physiotherapy in fracture clinic</p> <p><b>Location</b><br/>Cork University Hospital, Ireland</p> <p><b>Model</b><br/>Single centre study</p> <p><b>Reference</b><br/>Moloney, A. et al. (2009). A 6-month evaluation of a clinical specialist physiotherapist's role in a fracture clinic. <i>Physiotherapy Ireland</i>, 30:8-15</p> | <p>The clinical specialist physiotherapist reviewed a caseload of 403 patients with uncomplicated fractures and soft tissue injuries in fracture clinic.</p>                   | <p>Patient caseload increased over 4-month treatment period.</p> <p>Specialist registrar hours decreased due to review by physiotherapist.</p>                                                                                                                                                                                                             | Y | N |
| <p>Physiotherapy in orthopaedic clinic</p> <p><b>Location</b><br/>Multiple sites across Canada</p> <p><b>Model</b><br/>Established practice</p> <p><b>Reference</b><br/>Aiken, A. et al. (2009). Role of the advanced practice physiotherapist in decreasing surgical wait times. <i>Healthcare Quarterly</i>, 12: 80-3</p>              | <p>Physiotherapist screens patients pre- and post-operatively, triages patients for surgery, prescribes conservative management and monitors patients on an ongoing basis.</p> | <p>Reduce wait times for hip and knee replacement surgeries.</p> <p>Physiotherapist can effectively manage more than 30% of the patients referred to a surgeon for hip or knee replacement surgery because these patients do not require surgery; rather, they require conservative management.</p> <p>Improve patient access to timely surgical care.</p> | N | N |

|                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                        |   |   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|
| <p>Physiotherapy in orthopaedic outpatient clinic</p> <p><b>Location</b><br/>Sacré-Coeur Hospital, Canada</p> <p><b>Model</b><br/>Single centre study</p> <p><b>Reference</b><br/>Desmeules, F. et al. (2013). Validation of advanced practice physiotherapy model of care in an orthopaedic outpatient clinic. BMC Musculoskeletal Disorders, 14:162</p> | <p>Orthopaedics outpatient clinic for hip or knee complaints—diagnosis and triage to conservative or surgical management by physiotherapist or orthopaedic surgeon.</p> <p>120 patients; 91% for knee complaint.</p> <p>Agreement for diagnosis was very high; for triage recommendation—high.</p> <p>No differences for imaging tests ordered.</p> | <p>Physiotherapist gave more education and prescribed more nonsteroidal anti-inflammatory drugs (NSAIDs), joint injections, exercises and supervised physiotherapy.</p> <p>Patient satisfaction was higher for physiotherapy care.</p> | Y | N |
| <p>Physiotherapy joint arthroplasty review</p> <p><b>Location</b><br/>St Vincent’s Hospital, Victoria</p> <p><b>Model</b><br/>Single centre study</p> <p><b>Reference</b><br/><a href="http://www.hwainventory.net.au">www.hwainventory.net.au</a></p>                                                                                                    | <p>Physiotherapists reviewed and managed non-complex patients following joint replacements, at usual post-operative intervals instead of orthopaedic surgeons.</p> <p>Divergences from normal post-operative pathway were referred to orthopaedic surgeon.</p>                                                                                      | <p>High levels of patient satisfaction.</p> <p>Targeted use of orthopaedic surgeons’ time for new and complex cases.</p>                                                                                                               | N | N |
| <p>Physiotherapy orthopaedic triage</p> <p><b>Location</b><br/>Goulburn Valley Health, Victoria</p> <p><b>Model</b><br/>Single centre study</p>                                                                                                                                                                                                           | <p>Physiotherapists triaged all patients on elective surgery waiting lists for total/partial hip or knee joint replacement in order to prioritise referrals for orthopaedic consultant review.</p>                                                                                                                                                  | <p>More efficient, streamlined service delivery for specialist consultants and health service wait list management.</p>                                                                                                                | N | N |

|                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                 |   |   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|
| <b>Reference</b><br><a href="http://www.hwainventory.net.au">www.hwainventory.net.au</a>                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                 |   |   |
| <p>Physiotherapy telephone orthopaedic triage</p> <p><b>Location</b><br/>The Canberra Hospital, ACT</p> <p><b>Model</b><br/>Single centre study</p> <p><b>Reference</b><br/>Morris, J. et al. (2011). Effectiveness of a physiotherapy-initiated telephone triage of orthopaedic waitlist patients. <i>Patient Relat Outcome Meas</i>, 2:151-9</p> | <p>Physiotherapists conducted a telephone triage using a standard instrument for all new patients on the orthopaedic waiting list.</p> <p>Patients were offered primary treatment options of retaining their appointment, being discharged, referral to a new model of assessment (multidisciplinary specialist clinic), or referral to physiotherapy.</p> | <p>The telephone triage process released 21 booked appointments on the outpatient clinic waiting list over three months.</p> <p>26% of patients were referred directly to physiotherapy.</p> <p>The waiting time for an appointment for patients who remained on the waiting list was significantly shorter.</p> <p>There were significantly lower rates of failure to attend appointments.</p> | Y | N |

### ***Improving Health Services for Regional, Rural and Remote Communities***

| <b>Initiative</b>                                                                                                                                                                                                                                                           | <b>Approach</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Outcomes</b>                                                                           | <b>Extended scope?</b> | <b>Delegation?</b> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|------------------------|--------------------|
| <p>The Sir Charles Gairdner Hospital (SCGH) in Perth established a Telehealth initial assessment clinic for regional patients referred to the Neurosurgery Clinic with spinal pain.</p> <p><b>Location</b><br/>SCGH, Perth</p> <p><b>Model</b><br/>Established practice</p> | <p>Using Telehealth, an advanced physiotherapist guides a regional physiotherapist to perform a physical examination of patients referred to a neurosurgery clinic with spinal pain in real time. The initial assessment enables determination of the need for imaging and specialist assessment. Imaging can then be scheduled for the same visit as the specialist appointment, halving both the number of trips to the city and the number of specialist appointments.</p> | <p>Reduced costs for patients and reduced patient stress</p> <p>Improved patient flow</p> | N                      | N                  |

## References

ACT Health (2008). Physiotherapy extended scope practice: Phase 1. Final report. Canberra, Australian Government. Prepared by the Centre for Allied Health Evidence, University of South Australia.

Australian Institute of Health and Welfare (2013). Australian hospital statistics 2012-13: emergency department care. Health services series 52. Cat. no. HSE 142. Canberra: AIHW.

Anaf, S. and Sheppard L.A. (2007). Describing physiotherapy interventions in an emergency department setting: an observational pilot study. *Accident and Emergency Nursing*, 15 (1): 34-9.

Anaf, S. and Sheppard L.A. (2010). Lost in translation? How patients perceive the extended scope of physiotherapy in the emergency department. *Physiotherapy*, 96 (2): 160-8.

Anaf, S. & Sheppard, L.A (2007). Physiotherapy as a clinical service in emergency departments: a narrative review. *Physiotherapy*: 93:243–52.

Australian Physiotherapy Association (2009). Position Statement: Scope of Practice. Australian Physiotherapy Association; Victoria: [http://physiotherapy.asn.au/images/Document\\_Library/Position\\_Statements/2014%20scope%20of%20practice.pdf](http://physiotherapy.asn.au/images/Document_Library/Position_Statements/2014%20scope%20of%20practice.pdf).

Australian Health Workforce Advisory Committee, Australian Medical Workforce Advisory Committee and Australian Health Workforce Officials' Committee (2005). A Models of Care Approach to Workforce Planning - Information Paper, Health Workforce Information Paper 1, Sydney.

Australian Health Workforce Advisory Committee (2004). The Australian Allied Health Workforce – An Overview of Workforce Planning Issues, AHWAC Report 2006.1, Sydney.

Australian Institute of Health and Welfare (2005). Australian Hospital Statistics 2003–2004, AIHW cat. No. HSE 37. Health Services Series no. 23.

Australian Physiotherapy Association (2009). Position statement: Scope of practice. Australian Physiotherapy Association, retrieved 5 June 2014: [http://www.physiotherapy.asn.au/DocumentsFolder/Advocacy\\_Position\\_Scope\\_of\\_Practice\\_2009.pdf](http://www.physiotherapy.asn.au/DocumentsFolder/Advocacy_Position_Scope_of_Practice_2009.pdf).

Australian Physiotherapy Association (2011). Legal and financial barriers to 'enhanced scope' physiotherapy. Available at: <http://www.physiotherapy.asn.au/DocumentsFolder/Advocacy/Australian%20Physiotherapy%20Association%20-%20Matrix.pdf>, dated 22 December, retrieved 5 June 2014.

Briggs, A.M., Bragge, P. & Slater, H. (2012). Applying a health network approach to translate evidence-informed policy into practice: a review and case study on musculoskeletal health. *BMC Health Services Research*: 12: 394.

Briggs, A.M., Towler, S.C.B., Speerin, R. & March, L.M. (2014). Models of care for musculoskeletal health in Australia: now more than ever to drive evidence into health policy and practice. *Australian Health Review*.

Department of Health Western Australia (2013). Service model for community-based musculoskeletal health in Western Australia. Perth: Health Networks Branch: <http://www.healthnetworks.health.wa.gov.au/network/musculoskeletal.cfm>.

Department of Health Western Australia (2004). A compendium of solutions to implementing the Working Time Directive for doctors in training. London: Department of Health.

Department of Health Western Australia (2010). WA Health Clinical Services Framework 2010–2020.

Department of Health Western Australia (2014). WA Health's Activity Based Funding/Activity Based Management Framework 2014-15.

Dickens, V., Ali, F., Gent, H. & Rees, A. (2003). Assessment and diagnosis of knee injuries: the value of an experienced physiotherapist. *Physiotherapy*: 89:417–422.

Drug and Therapeutic Bulletin. Non-medical Prescribing. *Drug and Therapeutic Bulletin* 2006; 44:33-6.

Duckett, S., Breadon, P. and Farmer, J. (2014). Unlocking skills in hospitals: better jobs, more care, Grattan Institute.

Gardiner, J. & Turner, P. (2002). Accuracy of clinical diagnosis of internal derangement of the knee by extended scope physiotherapists and orthopaedic doctors: retrospective audit. *Physiotherapy*: 88:153–157.

Gilmore, L.G, Morris, J.H, Murphy, K., Grimmer-Somers, K. & Kumar, S. (2011). Skills escalator in allied health: a time for reflection and refocus. *J Healthcare Leadership*: 3:53–58.

Hamer, P. & Timms, R. <State Health Research Advisory Committee [SHRAC]> (2010). Enhancing Musculoskeletal Triage in the Emergency Department by an Enhanced Multidisciplinary Model of Care. SHRAC Research Translation Projects.

Health Reform and Implementation Taskforce (2007). Ambulatory and Community Based Framework for Non-Inpatient Care.

Health Workforce Australia (2012). Health Workforce 2025 – Doctors, Nurses and Midwives – Volume 1.

Health Workforce Australia (2012). Health Workforce 2025 – Doctors, Nurses and Midwives – Volume 2.

Health Workforce Australia (2012). Health Workforce 2025 – Volume 3 – Medical Specialties.

Health Workforce Australia (2013). National Rural and Remote Workforce Innovation and Reform Strategy.

Health Workforce Australia (2013). Health Professionals Prescribing Pathway (HPPP) Project – Final Report

- Holdsworth, L.K, Webster, V.S., McFayden, A.K. (2008). The Scottish Physiotherapy Self-Referral Study Group. *Physiotherapy*: 94:236-43.
- Hoskins, R. (2010). Evaluating new roles within emergency care: A literature review. *International Emergency Nursing*: 19: 125-40.
- Kersten, P., McPherson, K., Lattimer, V., George, S., Breton, A. & Ellis B. (2007). Physiotherapy extended scope of practice — who is doing what and why? *Physiotherapy*: 93:235–242.
- Kilner, E. (2011). What evidence is there that a physiotherapy service in the emergency department improves health outcomes? A systematic review. *Journal of Health Services Research and Policy*, 16 (1): 51-58.
- Lowe, J., Prior, M.A. (2008). Systematic Review of the Literature on extended scope of practice physiotherapy: Physiotherapy extended scope of practice project. ACT Government Health Directorate: ACT Government.
- Mason, J. (2013). Review of Australian Government Health Workforce Programs.
- McClellan, C.M, Cramp, F., Powell, J. & Bengler, J.R. (2010). Extended scope physiotherapists in the emergency department: a literature review. *Physical Therapy Reviews*, 15 (2): 106-111.
- McPherson, K., Kersten, P., George, S., Lattimer, V., Breton, A., Ellis, B., Kaur, D. & Frampton, G. (2006). A systematic review of evidence about extended roles for allied health professionals. *Journal of Health Services Research Policy*: 11:240–247.
- Morris, J., Grimmer-Somers, K. & Kumar, S. (2011). Effectiveness of a physiotherapy-initiated telephone triage of orthopedic waitlist patients. *Patient Related Outcome Measures*: 2:151–159.
- Nancarrow, S., Roots, A., Grace, S., Moran, A., & Vanniekerk-Lyons, K. (2013). Implementing large-scale workforce change: learning from 55 pilot sites of allied health workforce redesign in Queensland, Australia. *Human Resources for Health*, 11:66.
- Nancarrow, S.A., Roots, A., Moran, A., Grace, S. & Lyons, K.J. (2012). Queensland Health Practitioners Models of Care Project: Evaluation, learning, and upscaling of results for a national audience. Phase 1: A systematic review of the literature. Southern Cross University and Health Workforce Australia.
- National Prescribing Service (2012). Better choices, Better health. Competencies required to prescribe medicines: putting quality use of medicines into practice. Sydney: National Prescribing Service Limited.
- NHMRC (2009). NHMRC levels of evidence and grades for recommendations for developers of guidelines National Health and Medical Research Council. Australian Government.
- Osborne, R., Haynes, K., Jones, C., Chubb, P., Robbins, D. & Graves, S. (2006). Orthopaedic Waiting List Project: summary report. Victoria: Department of Human Services, State of Victoria.
- Pencheon, D. (2013). Developing a sustainable health and care system: lessons for research and policy. *Journal of Health Services Research Policy*: Oct; 18(4):193-4.

Productivity Commission (2005). Australia's Health Workforce. Productivity Commission Research Report.

Productivity Commission (2010) Caring for Older Australians Issues Paper. Productivity Commission Research Report.

Productivity Commission (2005). Economic Implications of an Ageing Australia. Productivity Commission Research Report.

Queensland Department of Health (2014). Ministerial Taskforce on health practitioner expanded scope of practice: final report. Allied Health Professions' Office of Queensland, Brisbane.

Richardson, B., Shepstone, L., Poland, F., Mugford, M., Finlayson, B. & Clemence, N. (2005). Randomised controlled trial and cost consequences study comparing initial physiotherapy assessment and management with routine medical practice for selected patients in an accident and emergency department of an acute hospital. *Emergency Medicine Journal* 2005: 22:87–92.

Speerin R, et al. (2014). Moving from evidence to practice: Models of care for the prevention and management of musculoskeletal conditions, *Best Practice & Research Clinical Rheumatology*.

Taylor, N.F., Norman, E., Roddy, L., Tang, C., Pagram, A. & Hearn, K. (2011). Primary contact physiotherapy in emergency departments can reduce length of stay for patients with peripheral musculoskeletal injuries compared with secondary contact physiotherapy: a prospective non-randomised controlled trial. *Physiotherapy*, 97 (2): 107-114.

Thompson, C., Quinsey, K., Gordon, R., Williams, K., Eckermann, S., Andersen, P., Snoek, M. & Eagar, K. (2012.) Health Workforce Australia Expanded Scopes of Practice Program – Evaluation Framework. Centre for Health Service Development, University of Wollongong.

Thompson, C., Quinsey, K., Morris, D., Gordon, R., Williams, K., Andersen, P., Snoek, M., Eckermann, S. & Eagar, K. (2012). Health Workforce Australia Expanded Scopes of Practice Program – Compendium of Data Requirements and Evaluation Tools. Centre for Health Service Development, University of Wollongong.

Thompson, C., Quinsey, K., Gordon, R., Williams, K., Tardif, H. & Morris, D. (2013). Health Workforce Australia Expanded Scopes of Practice Program – Evaluation Progress Report 2. Centre for Health Service Development, University of Wollongong.

Thompson, C., Williams, K., Morris, D., Bird, S., Kobel, C., Andersen, P., Eckermann, S., Quinsey, K. & Masso, M. (2014). HWA Expanded Scopes of Practice Program Evaluation: Physiotherapists in the Emergency Department Sub-Project Final Report. Centre for Health Service Development, Australian Health Services Research Institute, University of Wollongong.