

10 *Implementing skill-mix innovations: role of policy and financing*

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10.1 Introduction

This chapter analyses the role of policies and financing and their implications for the uptake of skill-mix changes in routine care. In particular, it addresses if and how regulatory or nonregulatory policies can facilitate the skill-mix innovation shift (and so act as a facilitator) or rather hinder the shift from taking place (and so act as a barrier). Further, this chapter addresses the role of financing and payment policies and identifies related common barriers and facilitators to skill-mix reforms. The chapter first presents the evidence from the overview of reviews, and then complements these findings by presenting trends and country examples from different sources.

According to the WHO, health policy refers to “decisions, plans, and actions that are undertaken to achieve specific health care goals within a society” (WHO website, n.d). Effective health policy is based on a vision, specific aims or targets, it involves stakeholders and the wider public and sets out an implementation plan to steer change.

When it comes to implementing skill-mix changes, there are several governance instruments that countries can consider in the process. These include policies and strategies, changes to regulation and nonregulatory mechanisms. Establishing specific policies on the health workforce or skill-mix can range from broad, comprehensive health workforce policies (for example, strengthening the primary care workforce in a country) to specific skill-mix policies or strategies (for example, policies on scopes-of-practice). With regard to health professionals and skill-mix, regulation is described as legally binding policy instruments, which limit entry to a profession or a practice (Maier, Aiken & Busse, 2017). The government itself can take charge of regulatory mechanisms, or it may delegate them to a professional body or association in accordance with set laws, thereby resulting in self-regulation (Baron, 2015; Bauchner, Fontanarosa & Thompson 2015; Maier, 2015).

Health financing refers to the “function of a health system concerned with the mobilization, accumulation and allocation of money to cover the health needs of the people” (WHO, 2000). Further, reimbursement for health services includes a number of payment mechanisms, for example fee-for-service, capitation, salary and global budget. In this chapter, the literature will be summarized as to the impact of financing and payment policies on the implementation of skill-mix reforms. To the extent possible, it will also address if and which countries have made available additional financial resources, such as start-up funding and financial incentives for skill-mix and outcomes (Struckmann et al., 2016).

10.2 Review of the evidence

Characteristics of included reviews

The overview of systematic reviews, the methodology of which is described in Chapter 1, resulted in seven articles which fit the inclusion criteria. The reviews were largely qualitative in nature, with a focus on Anglophone countries and Western Europe. Only two reviews specifically addressed health policy per se, whereas the other reviews covered health policy and other influencing contextual drivers, which limits the generalizability of the findings. Most reviews addressed several barriers and facilitators, of which some were of policy relevance. Several articles focused on challenges to skill-mix changes, rendering the conclusions skewed towards elements acting as potential barriers rather than potential facilitators to policy implementation.

One systematic review focused on pharmacists in expanded roles (Farris et al., 2010), two on nurses in expanded roles (Joo & Huber, 2017; Kroezen et al., 2011), one on midwives (Colvin et al., 2013), and one on task shifting from specialist physicians to primary care providers for HIV/AIDS services (Mapp, Hutchinson & Estcourt, 2015). Moreover, two reviews focused on multiprofessional, team-based care (Carter et al., 2016; Karam et al., 2018). An overview of the included systematic reviews is provided in Table 10.1.

Evidence on impact of policy interventions on skill-mix innovation

Four main themes emerged from the overview of reviews with regards to barriers and facilitators for policy implementation: (i) policies, laws

Table 10.1 *Characteristics of the seven systematic reviews on policy related to implementation*

Authors	Year	Skill-mix intervention	Description of intervention	Country coverage	No. of included studies
Farris et al.	2010	Pharmacists expanding their role in sexual and reproductive health services	Systematic review of the empirical literature focusing on US pharmacist practices in reducing unintended pregnancy	USA	38
Kroezen et al.	2011	Nurses taking on a prescribing role	124 documents (75 from the UK) examining views of nurses, doctors and other parties on nurse prescribing	UK, USA, NZ, NL, IE, SE, CA, AU	124
Joo & Huber	2017	Nurses becoming case managers	10 qualitative studies on barriers perceived by nurse case managers when implementing case management	USA, SE, UK, AU, DK, BE	10
Colvin et al.	2013	Task shifting to and from midwives	37 qualitative studies on task shifting between midwives and other health workers/other birth attendants/community-based health volunteers	AU, CA, USA, SE, UK, AO, DO, GT, JO, KE, ID, MX, ZA	37
Mapp et al.	2015	HIV care partly shifting from specialist to primary care providers	8 studies detailing 9 models of shared care from 5 countries	AU, CH, DE, CA, UK	8
Carter et al.	2016	Team-based primary care provider practices	14 studies looking at primary care reform towards team-based practices in Canada with its effects on (i) health service utilization (ii) processes of care, (iii) physician costs and productivity	CA	14
Karam et al.	2018	Interprofessional/interorganizational collaboration with emphasis on nurses	16 qualitative studies describing a conceptual framework of interprofessional or interorganizational collaboration in health care	USA, UK, DE, CA	16

Country abbreviations: AO: Angola; AU: Australia; BE: Belgium; CA: Canada; CH: Switzerland; DE: Germany; DK: Denmark; DO: Dominican Republic; GT: Guatemala; IE: Ireland; ID: Indonesia; JO: Jordan; KE: Kenya; MX: Mexico; NL: the Netherlands; NZ: New Zealand; SE: Sweden; UK: the United Kingdom; USA: the United States of America; ZA: South Africa.

Sources: Carter et al. (2016); Colvin et al. (2013); Farris et al. (2010); Joo & Huber (2017); Karam et al. (2018); Kroezen et al. (2011); Mapp, Hutchinson & Estcourt (2015).

and policy frameworks; (ii) professional regulation linked with education; (iii) professional legal and liability issues, and (iv) policy context and political force field. Additionally, some systematic reviews covered aspects of payment mechanisms. Table 10.2 provides an overview on the evidence about barriers and facilitators covered in the systematic reviews structured according to policy-related and financing/payment-related factors.

Theme 1: Policies, laws and policy frameworks

Despite country differences concerning legislative approaches, a clear policy and legal framework for new mix of health professional skills was cited in several reviews as facilitator to successful skill-mix implementation and as barrier, if not in place, or insufficiently in place (Farris et al., 2010; Joo & Huber, 2017; Karam et al., 2018; Kroezen et al., 2011) (see Table 10.2). If scope-of-practice laws did not take account of skill-mix changes, this was identified as an important bottleneck for implementation.

Farris et al. (2010) deplored the legal ambiguity for pharmacists to provide contraceptive counselling in several states in the USA where conscience clauses existed alongside patient rights legislation to access medication. They unequivocally stated that this controversy should be addressed through profession-targeted policy statements and in public in order to enable pharmacists to use their health counselling skills to increase patient access to sexual health services.

Kroezen et al. (2011) assessed nurse prescribing in Anglophone countries and showed that in those countries where nurse prescribing was introduced, there have often been (initial) legal restrictions on the new task, acting as barriers to implementation. After changes to laws and bylaws in line with the new prescribing skills of nurses, these barriers were transformed into enablers. Moreover, limited formularies as well as restrictions on the types of patients that nurses are allowed to prescribe to were barriers to implementation. Several Australian and US states, Canada and the Netherlands have used protocols to enable nurse prescribing. Similarly, Joo & Huber (2017) identified unclear scopes-of-practice as an important barrier for nurses to perform effective case management roles. Examples were uncertainty over the official tasks and responsibilities due to the nonregulation of the scope-of-practice, with implications for role clarity, the case managers' identity and

Table 10.2 *Overview of the evidence on policy implementation barriers and facilitators on skill-mix innovation*

Innovation	Countries	Barriers	Facilitators
Pharmacists in expanded roles (Farris et al., 2010)	USA	<p>Policy:</p> <ul style="list-style-type: none"> • Lack of adequate training • Lack of clarity on liability issue • Lack around the issue of conscience clauses and right to access legal medications reflecting political and public controversy, which needs to be addressed in policy and public arena <p>Financing:</p> <ul style="list-style-type: none"> • Lack of reimbursement model 	<p>Policy:</p> <ul style="list-style-type: none"> • To improve access and enable pharmacies to provide emergency contraceptives requires working together with state programmes • State-regulated collaborative practice agreements authorizing pharmacists to initiate and modify medication therapy <p>Financing:</p> <ul style="list-style-type: none"> • Partnerships with payers through coalitions of pharmacists, pharmacy organizations and faculties • Pharmacist reimbursement must be sufficient to meet time, costs and liability, and payment needs to go beyond contraceptive product
Nurse prescribing (Kroezen et al., 2011)	UK, US, NZ, NL, IE, SE, CA, AU	<p>Policy:</p> <ul style="list-style-type: none"> • Restrictions on the types of patients nurses can prescribe for • In Australia, Spain and the USA, professional medical organizations have mainly opposed nurse prescribing, explaining limited prescribing rights <p>Financing:</p> <ul style="list-style-type: none"> • Lack of payers covering nurse prescriptions in some US states 	<p>Policy:</p> <ul style="list-style-type: none"> • Formal responsibilities and accountabilities were widely used to establish clarity around the issue of liability • Prescriptive authority for nurses in Canada, New Zealand and the USA followed the development of advanced practice nurse roles, which clearly connects their prescribing privileges with internal developments within the nursing profession • The aim of task reallocation in the health care sector and more particularly the undesirable situation in which nurses prescribe medicines on an illegal basis, have been the main driving force behind the introduction of nurse prescribing in the Netherlands

Table 10.2 (cont.)

Innovation	Countries	Barriers	Facilitators
Nurses as case managers (Joo & Huber, 2017)	US, SE, UK, AU, DK, BE	Policy: <ul style="list-style-type: none"> • Unclear scope and boundaries of practice • Lack of clarity around the role of case managers • Lack of training, education and adequate skills • Challenges by contractual requirements • Influence of policies on case manager's practice 	Policy: <ul style="list-style-type: none"> • Clear practical guidelines with role clarification need to be provided by policy-makers • Practical training consistent with the case manager role
Task shifting (to/ from midwives) (Colvin et al., 2013)	AU, CA, USA, SE, UK, AO, DO, GT, JO, KE, ID, MX, ZA	Policy: <ul style="list-style-type: none"> • Midwives in one study who were not used to working in a team were slow to build trust, especially when individual versus group liability was unclear • Lack of adequate training and educational preparation for midwives • Unclear regulatory framework and policies for midwifery care and fear around liability • Pressure from medical professionals for midwives to do either more or less than the law allows • Lack of specificity around the role of midwives in nursing policies • Ambivalent role clarification between midwives and traditional birth attendants 	Policy: <ul style="list-style-type: none"> • Ongoing training, support and clinical supervision critical for the effectiveness of task shifting

Task shifting (from specialist to GP care for HIV)
(Mapp et al., 2015)

AU, CH,
DE, CA,
UK

Policy:

- Maintaining the skill set of the clinical workforce as a potential threat to the long-term feasibility of shared care
- Vulnerable political situation challenging the long-term feasibility of shared care

Financing:

- Funding and financially unsustainable programmes were a significant issue for services

Team-based primary care provider practices
(Carter et al., 2016)

CA

Policy:

- Small professional networks facilitated to coordinate care effectively and to build relationships
- Adequate training

Policy:

- Clear definition of roles, processes and activities intended by the changes need to be provided by policy-makers and researchers to inform future efforts

Financing:

- Blended capitation instead of enhanced fee-for-service may be favourable for team-based services
- Concerning pay-for-performance incentives, a reward system that avoids incentive for patient risk selection by physicians needs to be considered

Table 10.2 (cont.)

Innovation	Countries	Barriers	Facilitators
Interprofessional/ interorganizational collaboration (Karam et al., 2018)	USA, UK, DE, CA	<p>Policy:</p> <ul style="list-style-type: none"> Lack of clarification of one’s own professional role and those of others as a significant barrier to interorganizational collaboration Broader cultural, political, social and economic issues frame collaboration: private health care systems with high competition for profit, financial limitations and lack of reimbursement and the image of a profession can be a barrier to interprofessional collaboration Power struggles between professions and confusion due to lack of role clarification Infrastructural arrangements including governance structure, resources and information management systems <p>Financing:</p> <ul style="list-style-type: none"> Fee-per-service payment as barrier to collaboration 	<p>Policy:</p> <ul style="list-style-type: none"> Professional role and responsibility clarification, definition of task characteristics and practice parameters Formalizing collaboration through policies and procedures Formalization and professional role clarification are more difficult to achieve in interorganizational than in interprofessional collaboration and need to receive more attention when planning or implementing interorganizational collaboration For interprofessional collaboration, professional roles and the scope of practice should be clearly understood including clinical paradigms, education and training as well as of their own limitations Adequate resource allocation, education and training A formal collaborative leadership as a decision-making authority for interprofessional collaboration

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Sources: Carter et al. (2016); Colvin et al. (2013); Farris et al. (2010); Joo & Huber (2017); Karam et al. (2018); Kroezen et al. (2011); Mapp, Hutchinson & Estcourt (2015).

boundaries compared with other professions. Likewise, Karam et al. (2018) suggested to overcome the unclear legal ground on which health professionals who have re-skilled sometimes practice and to clarify the scope-of-practice of each actor and organization in a collaboration through formal legal instruments. They suggested that formalization of roles and scopes-of-practice of individuals is particularly crucial for interorganizational collaboration and needs to receive more attention from policy-makers.

Regulation can be a facilitator to role clarification. Joo & Huber (2017) in their examination, mainly of nurses taking on a new case manager job, noted that several of the studies they reviewed confirmed that case managers “struggled because there was lack of clarity over [...] roles”. The need for clear tasks, roles and responsibilities as well as clear regulatory and accountability frameworks seemed to be especially critical due to the novel nature of the case manager role for many, both for those taking on the new roles and those collaborating with them. Hence, the authors suggested that a clear policy or practical guideline clarifying the roles should be provided by policy-makers. Similarly, Carter et al. (2016), Colvin et al. (2013) and Karam et al. (2018) also identify a clear definition and understanding of roles, tasks and scopes-of-practice as an important measure to enable skill-mix changes (see Table 10.2).

Theme 2: Professional regulation and education

Four of the reviews demonstrated from a policy perspective the importance of training and educational preparation for the implementation of skill-mix changes (Colvin et al., 2013; Farris et al., 2010; Joo & Huber, 2017; Mapp, Hutchinson & Estcourt, 2015) (see Table 10.2). The lack of adequate training, education and skills for pharmacists to provide emergency contraception (Farris et al., 2010), for task shifting to/from midwives (Colvin et al., 2013) and for nurses as case managers (Joo & Huber, 2017) was considered an important barrier. Colvin et al. (2013) indicated that midwives were reluctant to undertake complex tasks for which they had received limited training. Mapp, Hutchinson & Estcourt (2015) considered maintaining the skill set of the clinical workforce as a potential threat to long-term feasibility of shared HIV care. Case managers in Joo & Huber (2017) reported insufficient training as a main barrier wherein nurses did not receive

the practical training that was consistent with their case manager role. Hence, adequate training and education were suggested as enabling factors for skill-mix interventions (Joo & Huber, 2017; Karam et al., 2018; Mapp, Hutchinson & Estcourt, 2015) (see Table 10.2). Legal and non-regulatory policies can support this process, for instance through the regulation of professions or roles and their education to ensure minimum educational standards.

When it comes to implementing skill-mix changes, it is important to align the education standards within and across the professions undertaking these new roles (see also Chapter 9). Policy processes and (minimum) regulation of education can support that process.

Theme 3: Legal and liability issues

Concerns around liability were also reported as a barrier to implementation (see Table 10.2) (Colvin et al., 2013; Farris et al., 2010; Kroezen et al., 2011). Colvin et al. (2013) refer to a lack of clarification in job descriptions, policy and legal frameworks. The authors underscored the fear of liability, which hindered health professionals from accepting new tasks. In addition, unclear individual versus group liability interfered negatively with relationship building and trust between health workers. The fear of liability stemmed from a blurry regulatory and legal environment where criteria for undertaking or not undertaking certain tasks were ambiguous and clear accountability frameworks were missing. In the case of nurse prescribing, Kroezen et al. (2011) showed that formal responsibilities and accountabilities were widely used to establish clarity around the issue of liability.

The review by Karam et al. (2018) suggested clarification of the scope-of-practice of each actor and organization through formal legal channels. While the reviews suggested the need to clarify liability and jurisdictional accountability when implementing skill-mix changes, they remained vague on the policy options of how to achieve this in practice.

Theme 4: Policy context and political forcefield

The policy contexts are highly country-specific and influence implementation as does the political forcefield in which policy-making occurs. Two systematic reviews (see Table 10.2) pointed out the influence of broader political environments on implementation (Karam et al., 2018; Mapp, Hutchinson & Estcourt, 2015). For instance, a vulnerable political

situation can challenge the long-term feasibility of the implementation of a skill-mix project, for example, shared care arrangements (Mapp, Hutchinson & Estcourt 2015). Moreover, the broader political contexts such as the governance structure next to cultural and economic issues were considered critical to the uptake of skill-mix changes (Karam et al., 2018).

One review (Karam et al., 2018) brought to the fore the dilemma of skill-mix interventions shaking up the established interprofessional hierarchy and power relations, reinforcing preconceived notions of each other's abilities, attitudes and tasks, and exposing differing views on patient care. As seen in how regulation can facilitate role clarification, an explicit description of team members' new and specific tasks, roles and lines of responsibilities was suggested. How this is being achieved in practice was largely dependent on the policy contexts and stakeholder engagements. The review on nurse prescribing (Kroezen et al., 2011) suggested that the role of medical associations was strong in opposing laws on nurse prescribing (for example, in Australia, Spain, USA) and, as the result of a compromise between the stakeholders, led to limited prescribing rights for the nurses. Conversely, in the United Kingdom, the involvement of the British Medical Association and their support for nurse prescribing has proved to be a facilitator in the policy process and its implementation (Kroezen et al., 2011) (see Table 10.2).

Evidence on financing and payment mechanisms

No reviews were found with a main focus on the impact of health financing on skill-mix. However, five systematic reviews on skill-mix touched partially on health financing or payment mechanisms and are dealt with in more detail in this section (see Table 10.2).

The systematic review by Karam et al. (2018) found fee-for-service payments to be a particular threat to collaboration. Therefore, adequate resource allocation was considered an essential aspect in the implementation of interprofessional and interorganizational collaboration. Carter et al. (2016) in their study about team-based primary care services and new payment models in Canada indicated that using blended capitation (that is, a mix of capitation payments based on the list of registered patients and fee-for-service-based on the services provided)

instead of fee-for-service, reduced the number of patients seen per day. They suggest that a blended capitation may be more efficient as it contributes to better quality of care. The review also assessed pay-for-performance payment schemes and demonstrates some positive findings; however, the overall evidence was mixed on its contribution to enabling team-based primary care services. The authors put forward that a reward system that avoids patient risk selection by physicians should be considered.

Another review (Kroezen et al., 2011) describes how the skill-mix intervention of nurse prescribing is not taken up in some states in the USA because payers do not cover nurse prescriptions (see Table 10.2). On the other hand, in the Netherlands, patients are reimbursed for a prescription written by a nurse, facilitating intervention uptake. Indeed, several studies emphasized the fundamental need for recognition by payers of the new roles, and an adequate level of reimbursement. Farris et al. (2010) in their study on pharmacists taking on additional sexual health counselling tasks reported the lack of reimbursement models as a barrier in the context of the USA and similar findings were reported by Karam et al. (2018). Farris et al. (2010) went so far as to say that “the single most critical aspect of these initiatives is payment for pharmacists’ services”. Moreover, they state that pharmacist reimbursement must also consider professionals’ time, costs and liability issues. Mapp, Hutchinson & Estcourt (2015) also mentioned insufficient funding and financially unsustainable programmes as a significant challenge to delivering primary care-based HIV care.

No evidence was found on countries in which staff are salaried, levels of salary, incentive structures and implications on skill-mix changes.

An important methodological challenge while reviewing the literature on health financing for skill-mix innovations is the impossibility of disentangling the contribution made by a single policy, for example, financing or payment policy vis-à-vis the cumulative effects of the various policy levers used together. This shows that focusing on a single (payment) policy or law is likely to be too short-sighted or result in unintended consequences. An integrated policy on skill-mix and the health workforce should revisit all relevant policies, laws, financing and payment mechanisms as to potential barriers and unintended consequences and adapted in a way that facilitates the implementation process at the policy level.

10.3 Policy and implementation: trends and country examples

This section complements the information from the overview of reviews with selected country examples from a broader literature search, including grey literature and mini case studies. Different countries were selected with the aim to portray examples from different financing schemes (for example, social health insurance, tax-based). Discerning trends was a challenge. The evidence from the reviews was not suitable for this purpose, and although while the country examples identified are important, they are by no means a systematic mapping exercise, and certainly cannot claim to identify trends. Nevertheless, these examples reveal that countries are trying to draw together the four themes described in the previous section, and that they aim to simultaneously or sequentially tackle all the complexities. The examples discussed in this section mirror the main trends in skill-mix change identified in the companion volume (Wismar, Glinos & Sagan, forthcoming), which include the strengthening of multiprofessional practices in primary care, nonmedical prescribing and the role of nurse practitioners¹ and other professions.

First, this section looks at examples in the context of policies, followed by examples on financing and payment mechanisms.

Policies to strengthen the health workforce and skill-mix for primary care

Several policies focusing on strengthening the health workforce in primary care were found in Europe, for example: Austria, with recent reforms on establishing 75 primary health care units by 2021 staffed with multiprofessional teams; Estonia, with strategies implemented to strengthen primary care practices with expanded roles for family nurses; Slovenia, with a focus on primary care and health promotion through nurses in advanced roles; and the United Kingdom, with new elements to improve capacity and care coordination.

In 2017, Austria established the foundations for a new primary health care system paradigm. With the aim to improve accessible, multiprofessional and interdisciplinary primary care, the government announced that a total of 75 new primary health care units will be established by

¹ Also referred to as advanced nurse practitioners in some countries

2021 and earmarked €200 million for this purpose. Six primary health care units were already operational at the beginning of 2018, and three more were in progress (BMASGK, 2019). The multiprofessional team consists of at least a core team of GPs and qualified nurses but also includes other health professionals. The reform aims to reinforce access to primary care by ensuring longer opening hours in an effort to reduce the burden on hospital outpatient departments (BMGF, 2017 in OECD/European Observatory on Health Systems and Policies, 2017).

Estonia is also taking steps to strengthen primary health care by setting up health centres. The traditional family doctor and nurse model moves towards a multidisciplinary collaboration to increase access and improve management of chronic diseases, in which family nurses play a key role. In 2016, after 5 years of consultation among interest groups, the Estonian Parliament adopted an amendment to the Health Service Organization Act enabling family nurses to prescribe a limited number of medicines, mainly for chronic conditions. Prescriptions by family nurses have to be regularly validated. Family nurses are required to attend a training in clinical pharmacology before being granted the right to prescribe medicine. Further, family nurses have also taken over responsibilities from GPs such as managing chronically ill patients, pregnant women and healthy newborns.

Similarly, in Slovenia in 2011 the Ministry of Health piloted a new approach to strengthen primary care and management of patients with chronic diseases through the GP model practices. The main innovation is adding a 0.5 full-time equivalent qualified nurse with specific training in noncommunicable disease prevention to the core team of the practice (traditionally a GP and a nurse). This nurse is responsible for assessing the condition of stable chronic patients and coordinating care, carrying out preventive counselling and screening for risk factors. Nurses undergo specific training consisting of eight modules (with a focus on prevention and chronic diseases) for carrying out protocols in the follow up of chronic patients. This new role is also meant to ease GPs' workload by undertaking the monitoring of patients with certain chronic diseases and preventive activities, supporting a multidisciplinary approach to patient care. The full conversion of GP practices into model practices was expected by 2018, but budgetary constraints postponed the deadline to mid-2020. In 2017, 75% of all GP practices nationwide employed an additional 0.5 full-time equivalent nurse (OECD/European Observatory on Health Systems and Policies, 2019c).

Another initiative to improve coordination of care in Slovenia is the integration of public health and primary health care through a network of health promotion centres within primary care. In these centres, multidisciplinary teams promote a healthy lifestyle and provide disease prevention programmes, among other services. Although originally health promotion centres focused on providing lifestyle interventions for patients at risk for noncommunicable diseases, the programme evolved to tackle inequalities, and extended its scope to include the healthy population across Slovenia (OECD/European Observatory on Health Systems and Policies, 2019c).

Against the backdrop of chronic workforce shortages in primary care in the United Kingdom, the National Health Service (NHS) introduced the long-term plan in 2019. The reform is aimed at improving capacity, coordination and integration of care. To this end, GPs are required to join Primary Care Networks of between 30 000 and 50 000 patients. Moreover, to reduce health inequalities the NHS Long-Term Plan promotes the use of digital solutions: so-called digital first general practices will be strengthened, where patients will have the right to online and video consultations by April 2021. Further, a component of the NHS Long-Term Plan's effort to strive towards universal personalized care, which has gained attention as an innovative skill-mix element, is social prescribing. Also known as community referral, social prescribing is a means for local agencies to refer people to a link worker. Link workers are also known as health advisors, social prescribing coordinators and community navigators, and are generally nonclinically trained individuals who work in a social prescribing service and receive people who have been referred to them (University of Westminster, n.d). Key responsibilities of the link workers are: to provide personalized support to individuals to take control of their well-being, live independently and improve their health outcomes; to co-produce a simple personalized care and support plan to improve health and well-being, introducing or reconnecting people to community groups and using local resources and statutory services to tackle loneliness; and to evaluate the individual impact of a person's wellness progress. Social prescribing can involve a number of activities, which are generally provided by voluntary and community sector organizations (Public Health England, 2019). The NHS estimates that by 2023–2024, social prescribers will be handling around 900 000 patient appointments a year, which will require new skills and (re-)training of existing health professionals to assess the

need for and issue social prescriptions (NHS England, 2019). Hence, the reform aims to improve the integration and coordination of care, and has added social prescribing to the health coverage basket, with available additional funding to make primary care more attractive and to kick-start new skill configurations among its workforce. Due to the recent introduction of reforms, it is too early to analyse the effects.

Having looked so far at large reforms (for example, for primary care) that entail changes in health service delivery and teams, Box 10.1 focuses on reforms of nonmedical prescribing, which although more limited in scope, have nevertheless important implications on health systems.

Overview of the regulation of health professionals: strategies to improve access and quality of health services and protect populations

The scope of regulation for certain health professionals varies among countries, and we now present some examples from nurse practitioners, physician assistants and other professions. As discussed in Section 10.2, regulation can facilitate role clarification and provide a frame of reference to deal with liability.

A number of countries, such as Ireland, the Netherlands, Australia, Canada and the USA, enforce national regulation of advanced nurse practitioner titles, practice and registration (Maier, 2015). The United Kingdom and Finland followed a different path and used local governance mechanisms of the advanced nurse practitioner's role, although prescriptive authority is regulated nationally (Maier, 2015). In the United Kingdom, the decision not to regulate nurse practitioners was taken on the basis of proportionality of risk, through an evaluation that concluded that additional regulation would not be necessary given the (limited) potential threat to public safety. However, it remains to be seen whether the lack of national role regulation for nurse practitioners in the United Kingdom has impacted discrepancy in practice, challenges in role clarity, and difficulties in tracking workforce data (Maier, 2015).

In Canada, physician assistants are regulated in Alberta, Manitoba and New Brunswick, but remain unregulated in Ontario. In 2012 the Ministry of Health and Long-Term Care decided against regulation of the physician assistant profession. This decision was based on the Health Professions Regulatory Advisory Council's recommendation that public safety and quality of care are sufficiently upheld at this

Box 10.1 Reforms on nonmedical prescribing with implications on health systems

As of 2019, there were 13 European countries with laws on nurse prescribing adopted, most of which have introduced laws over the past decade (Maier, in review). All countries adopted changes to pre-existing laws to officially and legally authorize nurses and other health professions (such as pharmacists, midwives, physiotherapists) to prescribe certain medications. Hence, adaptations to existing laws were the precondition to implementing change in routine care for this specific expanded role. Due to the highly country-specific nature, several country examples are provided below to highlight how policy processes were steered. All countries had in common that these policy processes were usually lengthy and controversial.

In Finland, successful pilots in nurse prescribing produced positive evidence accepted by all stakeholders, which led to legislation on nurse prescribing being implemented in 2010, followed by regulations on postgraduate education in 2011. Nurse prescribers receive this title after completing specific education and meeting other requirements. These nurses work in health centres in close collaboration with doctors, and perform routine visits for patients with chronic conditions. Since 2011, nurse prescribers are allowed to prescribe medications on a continued basis for patients with hypertension, type 2 diabetes and asthma (Maier et al., 2017).

In Ireland, nurse and midwife prescribing was successfully established after protracted advocacy efforts from health professional associations, providers and other groups, as well as pilots supporting the evidence of safety and effectiveness of nurse/midwife prescribing. In 2007 the government passed legislation that allowed licenced registered nurses and midwives (certified after successfully passing a 6-month postgraduate educational programme) to prescribe medications and other medicinal products that are specific to their clinical practice (Wilson et al., 2018).

Nonmedical prescribing is also established outside Europe. In New Zealand, nonmedical prescribing is legally granted to different categories of health professionals, ranging from dentists to midwives (Raghuandan, Tordoff & Smith, 2017). Instead, in the USA, pharmacists in the majority of states are allowed to perform dependent prescribing (that is, within a supervised setting), while fewer states allow collaborative prescribing of controlled medicines. In Canada, prescribing rights for pharmacists vary by jurisdiction, but legislation is in place in the majority of provinces and the legislated prescribing authority of pharmacists is expected to expand further (Faruquee & Guirguis, 2015).

time through the delegation model under the supervision of a licensed physician (Canadian Association of Physician Assistants website, n.d).

In the USA, regulation and licensure of health professionals are defined by state-based laws and subject to state-to-state variation. In some cases, health professionals are recognized only in certain states, like dental therapists who are licensed to practice in Minnesota, but are not recognized in neighbouring North Dakota (Dower, Moore & Langelier, 2013). Similarly, in the case of midwives the regulations and scopes-of-practice vary significantly across all states. For example, Alabama allows both direct entry midwives and nurse midwives to practice and be licensed; the same is allowed in Washington State, and additionally both are eligible for Medicaid reimbursement. However, in West Virginia and many other states direct-entry midwives are not regulated (Midwives Association of North America website, n.d). In Europe, midwifery is regulated in different ways, for example through an autonomous regulatory body, a joint ministerial and midwifery or nursing and midwifery regulatory body, or a joint responsibility of a ministry and a midwifery professional association (Nursing and Midwifery Council, 2010).

Financing and payment mechanisms: key contributors to facilitating or hindering skill-mix implementation

In addition to the discussion in Section 10.2 on the role of financing and payment mechanisms, this section will expand on the topic and further include examples from the USA, Australia, the United Kingdom, Estonia and Lithuania.

One article (Brooten et al., 2012) mentions lack of adequate funding as one of the principal limiting factors for nurse practitioners in the USA to “practice to the full scope of their education and training”. In Australia in 2010, nurse practitioners were granted legislated access to the Medical Benefits Scheme and Pharmaceutical Benefits Scheme, the federal schemes for third-party reimbursement for health care services and medications, as providers (Cashin, 2014). At the same time, physician assistants in Australia are not recognized under the Medical Benefits Scheme and Pharmaceutical Benefits Scheme, and as such, there are no rebates for patients who see a physician assistant and patients would pay more for medication prescribed by a physician assistant.

In the United Kingdom, the reform to strengthen primary care also makes available additional funds via a contract for GPs, which was introduced in January 2019. The contract seeks to increase capacity in primary care with more GPs and significant growth in other health professions. Overall, the aim is for general practice to employ 20 000 additional staff from a range of health care professions including pharmacists, physiotherapists and paramedics. It does this through increased capitation rates, makes available optional funding for new staff (£900 million), via an additional £2.8 billion funding to be used exclusively for primary care (Department of Health and Social Care, 2019).

Similarly, Estonia and Lithuania used financial incentives (increase in payments for GP practices employing a second family nurse) and disincentives (reduction in capitation payments for GP practices not employing at least one family nurse working in advanced roles) to promote the employment of nurses in primary care. This strategy also helps in addressing potential resistance from physicians. Further, since 2013 the Estonian Health Insurance Fund is paying for a second family nurse in a GP practice. From the experience in these two Baltic countries, financial incentives appear to help promote a greater integration of new nursing roles into primary care (OECD/European Observatory on Health Systems and Policies, 2019a, 2019b).

However, the caveat is that health financing reforms alone are not sufficient to ensure successful skill-mix implementation. Other policy levers, notably those designed to alter status quo organizational and governance arrangements, are key to facilitating the success of financing reforms. Pearce et al. (2011) underline this point, showing that the funding incentives given through the Enhanced Primary Care Programme to general practices in Australia had the greatest effect on skill-mix innovation if the leadership and climate of the general practice was collaborative and not hierarchical. Practices whose organizational arrangements did not fulfil these criteria “were unable to capitalize on the enhanced skill set of the nurse, because they continued to provide little opportunity for the nurse to have autonomy within the team”, which inherently leads to wrong (and wasteful) allocation of resources without the expected staffing change (Pearce et al., 2011).

One way to recognize and incentivize the novel skill-mix is through bundled payment mechanisms such as group practices or pay-for-coordination schemes. Bundled payments not only seem to incentivize

the uptake of new roles and professions, they can also stimulate a move towards care integration and teamwork, more so than fee-for-service payments. Indeed, payment systems focused on individual payments (rather than team payments) can disincentivize care integration and provider collaboration.

There is some evidence that when the reimbursement is too low, the attractiveness of the new roles may be reduced, leading to decreased uptake; when it is too high (*vis-à-vis* physicians especially), there may be reduced cost saving (Maier, Aiken & Busse, 2017). This is because the assumption is that care provided by a physician is more expensive than care provided by a nurse, but this might not be the case if financing mechanisms reimburse nurses at the same level as physicians and, especially in the case of the USA, if nurses need the same medical malpractice insurance to work independently. Hence, the level of reimbursement for a health service provided through a new skill-mix intervention matters, and must be crafted carefully to country context to avoid unintended consequences.

10.4 Conclusions

This chapter analysed several aspects of policy and financing that can facilitate or hinder the implementation of skill-mix changes. It should be noted that the reviews dealt with mostly high-income, Anglophone countries, hence transferability of findings may be limited.

The broader literature clearly shows that financing is potentially a powerful policy lever to incentivize or disincentivize uptake and integration of skill-mix innovation into routine health service delivery. It should be noted that different measures are necessary to address lack of reimbursement (especially in the context of some states in the USA), compared with actual funding for primary care practices, for example to employ more nurses. Further, payment mechanisms are an important policy instrument and can encourage multiple providers to work together and some will allow task delegation, while other mechanisms that pay individual providers separately (*fee-for-service*) can block effective collaboration and task shifts. At the same time, health financing reforms as stand-alone interventions may have limited impact, and country-specific context must be considered.

Five main factors emerged as critical to an effective policy process and reforms: (i) a clear vision and mandate for the reforms (such as in Austria, the Netherlands, Ireland and Finland); (ii) evidence of proven

effectiveness of the reforms (for example, through pilots – as in Finland and Ireland); (iii) early involvement and communication with all relevant stakeholders (such as in Austria, Finland and Ireland) and flexibility and readiness to address stakeholder concerns; (iv) leadership from the government (for example, Austria, Finland, Ireland); and (v) sufficient funding and financing mechanisms for implementation (for example, in Austria, Estonia, Slovenia and the United Kingdom).

In conclusion, the limited number of studies does not allow discussion of the impact of reforms at population level, and it is difficult to discern trends, despite some promising examples that emerge from experience in different countries. While more research is certainly necessary, there is an important need, when reforms are introduced, to consistently perform evaluation to inform future policy. More focus should be placed on identifying and fostering different types of evidence, for example from pilots and local innovations. Finally, the value brought by the overview of reviews should be highlighted as it identified some key themes and aggregated the available evidence. This is despite the limitations, since this chapter identifies and deals with barriers on an individual basis, which does not fully portray the complexity of multiple barriers co-existing and possibly interacting with each other. Limitations related to the latter are addressed in the companion volume (Wismar, Glinos & Sagan, forthcoming) with in-depth case studies by country.

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