1 Key findings

This chapter provides an overview of the publication *Realising the Potential of Primary Health Care*, as well as summarising the main findings. The chapter starts by presenting the evidence base that associates strong primary health care with more efficient, effective and equitable health care systems. The second section shows that primary health care is currently failing to deliver its full potential in many OECD countries, hampered by avoidable hospital admissions, inappropriate antibiotic prescriptions, insufficient preventive care or shortcomings in co-ordination. The third section identifies policy levers to tackle these challenges, and provides an overview of the report's findings on how primary health care could provide more efficient, effective and equitable care. The concluding section presents a summary table of the key policy ingredients that countries will need to address to realise the full potential of primary health care.

1.1. Strengthening primary health care offers opportunities to make health systems more efficient, effective and equitable

In October 2018, health experts and policy makers met in Astana (Kazakhstan) to celebrate the 40th anniversary of the Alma-Ata declaration which recognised the critical importance of quality primary health care in the creation of effective and responsive health systems (see Box 1.1).

The increased recognition of the primacy of strong primary health care is not new: strengthened primary health care systems have the potential to improve health outcomes across socio-economic levels, to make health systems more people-centred, and to improve health system efficiency in the 21st century. This is ever more needed, particularly in OECD countries, where citizen expectations of services are high, societies are ageing, complex cases are costly, and fiscal pressures make it difficult to expand overall allocation of resources to the health sector. The critical role of primary health care has become even clearer during the COVID-19 pandemic. As countries sought to cope with the surge in demand for patients acutely ill with a new, highly infectious disease, while needing to maintain care for chronic patients under difficult circumstances, this pandemic has stimulated many innovative practices at national and local level. Such innovations can be captured with a view to promoting their wider adoption as health systems adapt as they move into the pandemic recovery phase and beyond.

Across the OECD, citizen expectations are high, and a considerable share of the population believe better health services are needed. On average, across the 21 OECD countries surveyed, just over half of the population believe that becoming ill or disabled is one of the top-three social or economic risks facing them or their immediate family in the near future, and in 14 out of 21 countries, this was their top concern. Moreover, 48% of the population identified health care as one of the three top areas requiring additional support from the government to make them and their family feel more economically secure (OECD, 2019[1]).

In addition, populations are ageing and health needs are becoming more complex. The share of the population aged 65 years and over is expected to grow by more than 60% across OECD countries, rising from 17% in 2017 to 28% by 2050. Up to 40% of people in OECD countries live with multi-morbidities, with up to 25% of people suffering from three or more chronic diseases (OECD, 2019[2]). In addition, 20% of the adult population in EU countries is affected by chronic pain (PAE - Pain Alliance Europe, 2018[3]), and around 17% of people in Europe have a mental health problem, such as anxiety or depressive disorders (OECD/EU, 2018[4]). Multiple layers of health problems can accumulate in some people, who form the relatively small group of more complex patients, accounting for a disproportionally large share of health care costs. A recent systematic review found that the top 10%, 5%, and 1% of high-cost patients account for 68%, 55% and 24% of costs respectively within a given year (Wammes, van der Wees and Tanke, 2018[5]).

While needs are on the rise, fiscal space for growth in resources is limited. Many countries have already allowed health to take a larger share of their budgets over time, with health spending now averaging 15% of government spending in OECD countries (Lorenzoni et al., 2019[6]). Increased health spending in the past has been offset by lower public spending in other areas, such as defence and other public services. Continuing such reallocations to health in the future may be increasingly difficult in the face of competing demands for government resources.

In this context, OECD countries are considering strengthening primary health care as a way to address the challenges of the 21st century. However, is primary health care ready to deliver in light of these optimistic expectations? There are unrealised opportunities from better primary health care, however, to reap better efficiency and effectiveness from primary health care, certain things will need to be done differently. This chapter addresses these issues, identifying areas where policy makers need to act so as to better realise the potential of primary health care. This chapter defines primary health care as: the first and the main point of contact of the people with the health system, which provides community-based, continuous, comprehensive, and co-ordinated care (Box 1.2).

Box 1.1. The Astana declaration

In October 2018, health experts and policy makers met in Astana (Kazakhstan) to renew the commitment to comprehensive primary health care for all. The new Astana declaration reaffirms the commitment to the Alma-Ata core principles.

The new Declaration envisions "primary care and health services that are high quality, safe, comprehensive, integrated, accessible, available and affordable for everyone and everywhere, provided with compassion, respect and dignity by health professionals who are well-trained, skilled, motivated and committed". Priority is explicitly given to promotive, preventive, curative, rehabilitative and palliative care; and to the increasing importance of non-communicable diseases which lead to poor health and premature deaths, and to environmental factors such as natural disaster, climate change or other extreme weather events.

Source: Declaration of Astana – Global Conference on Primary Health Care (2018[7]), https://www.who.int/docs/default-source/primary-health/declaration/gcphc-declaration.pdf; Hirschhorn et al., (2019[8]), "What kind of evidence do we need to strengthen primary healthcare in the 21st century?", https://doi.org/10.1136/bmjgh-2019-001668.

Box 1.2. What is primary health care?

Primary health care is expected to be the first and main point of contact for most people with the health care system, focused on the people and their communities. It takes into account the whole person and is patient-focused, as opposed to disease or organ system-focused, and thus recognises not only physical, but also psychological and social dimensions of health and well-being. The most commonly used definitions of primary health care encompass the following characteristics:

- **People and community orientated** – primary health care operates in close proximity with where people live or work, and provides care that is focused on the needs of local people and their families.
- **Continuous care** – primary health care is the first point of contact with the health system, and the people who use it identify it as their main source of care over time.
- **Comprehensive** – primary health care addresses the majority of health problems of the people it serves, providing preventive, curative and rehabilitative services.
- **Co-ordinated** – primary health care helps patients navigate the health system, communicating effectively with the other levels of care. It goes beyond services provided solely by primary health care physicians and encompasses other health professionals such as nurses, pharmacists, auxiliaries and community health workers.

There is extensive discussion about the differences between "primary care" and "primary health care". While primary care has been defined as the more visible and service-oriented core of primary health care, these two definitions are intrinsically linked (Hone, Macinko and Millett, 2018[9]). Given that the concept of "primary health care" typically encompasses "primary care" and places stronger emphasis on health system responsiveness and community orientation, the former it is better aligned with the contents of this report.

1.1.1. Strong primary health care can reduce unnecessary use of more expensive health care resources and improve health system efficiency

There is strong evidence that associates better, more accessible primary health care with lower rates of hospitalisations (Wolters, Braspenning and Wensing, 2017[10]; Rosano et al., 2013[11]; van Loenen et al., 2014[12]) and emergency department use (Huntley et al., 2014[13]; Kirkland, Soleimani and Newton, 2018[14]; Berchet, 2015[15]). Primary health care can avoid unnecessary procedures and lower the need for the use of costly and scarce facilities, such as emergency rooms and hospitals, which contributes to better spending and improving health system efficiency.

The conditions for which primary health care can generally prevent the need for hospitalisation, or for which early intervention can reduce the risk of complications, or prevent a more severe disease from developing are ambulatory care sensitive conditions (ACSCs) (Agency for Healthcare Research and Quality, 2018[16]). Diabetes, chronic obstructive pulmonary disease (COPD), asthma, hypertension and congestive heart failure (CHF) are all ACSCs with an established evidence base that much of the treatment can be delivered by outpatient care at the primary or community care level. Treated early and appropriately, acute deterioration in people with these conditions and consequent hospital admissions could largely be avoided, therefore hospitalisations due to ACSCs are defined as “avoidable hospitalisations” (Purdy, 2010[17]; Nuffieldtrust, 2019[18]) (Starfield, Shi and Macinko, 2005[19]).

In addition to generating avoidable hospitalisations, delays in diagnosis and inappropriate therapeutic interventions in primary health care for these ACSCs are also key sources of patient harm, and can result in emergency department visits (Lin, Wu and Huang, 2015[20]; Sung, Choi and Lee, 2018[21]; Van den Berg, Van Loenen and Westert, 2016[22]; van Loenen et al., 2014[12]). Such emergency department visits are considered “inappropriate” or non-urgent visits, and are characterised by low urgency problems which could be better addressed by other health services than emergency admission including, for example, telephone-based services and primary or community health care services (McHale et al., 2013[23]). According to national definitions and estimates, “avoidable”, “inappropriate” or “non-urgent” visits to emergency departments account for nearly 9% of emergency department in Australia (Aihw, 2018[24]), 12% in the United States, between 11.7% and 15% in England, 20% in Italy, 25% in Canada, 31% in Portugal and 56% in Belgium (Berchet, 2015[15]).

As unit costs for treating patients with the same condition in primary health care are lower than those observed in emergency rooms and hospitals, health systems with strong primary health care may attain higher levels of allocative efficiency, which describes a situation where a different combination of inputs could bring better results. Therefore ACSCs are indicators of possible misallocation of resources across different types of goods and services or, in this case levels of care, when comparing primary health care with the alternatives of emergency rooms or hospitals (Cylus, Papanicolas and Smith, 2016[25]).

1.1.2. Strong primary health care can improve population health outcomes and health system responsiveness

The evidence base that associates good primary health care and health outcomes is robust and growing. In a seminal study, Macinko, Starfield and Shi (2003) show the positive contribution of primary health care on health outcomes in 18 OECD countries. The findings show that the stronger a country’s primary health care orientation (in terms of continuity of care, co-ordination and community orientation), the lower the mortality rates (Macinko, Starfield and Shi, 2003[26]). The relationship was confirmed for all-cause mortality rates, premature mortality, and cause-specific premature mortality (from asthma and bronchitis, emphysema and pneumonia, cardiovascular disease, and heart disease). The relationship between strong primary health care and decreased mortality rates has also been validated in low- and middle-income countries (Macinko, Starfield and Erinosho, 2009[27]).

More recently, several other studies have shown that countries with strong primary health care performed better on other major aspects of health, including outcomes for patients with chronic diseases. Kringos et. al. (2013[28]), for example, found that both the structure of primary health care (as measured by the governance, economic conditions and workforce development in the primary health care sector) and the co-ordination and comprehensiveness of primary health care were positively associated with the health of people with ischemic heart diseases, cerebrovascular diseases and other chronic conditions including asthma, bronchitis and emphysema. In addition, there is strong evidence that primary health care interventions have a positive impact on measures of mental health indicators, including depression and anxiety (Conejo-Cerón et al., 2017[29]; Trivedi, 2017[30]).

The main positive effect of good primary health care on health outcomes draws from the role it plays in supporting and facilitating the uptake of preventive activities (primary, secondary and tertiary prevention). Primary health care is well placed to carry out preventive interventions not related to any specific disease or organ system. In particular, this hypothesis has been supported in empirical work specific to:

- health counselling regarding smoking cessation (Shi and Starfield, 2005[31]; Saver, 2002[32])
- immunisation (Sans-Corrales et al., 2006[33]; Hartley, 2002[34])
- early detection of breast cancer, colon cancer and melanoma (Campbell et al., 2003[35]).

In addition to better population outcomes, there is evidence that strong primary health care also improves health system responsiveness and makes systems more patient-centred. For example, a study that included 12 OECD countries and 5 other countries in Latin America and the Caribbean found that, on average, patients who had a regular place of care, where there was familiarity with their medical history, where it was easy to communicate with the primary health care team, and where that team helped to co-ordinate care, were 12.1% less likely to say that their health system needs major changes and 29.2% more likely to perceive their usual provider as offering high quality care (controlling for health needs and overall health system characteristics) (Guanais et al., 2019[36]). Moreover, patients who had a physician who explained things in a way that was easy to understand and who spent enough time with them during consultations were 8.6% less likely to say that their health system needs major changes and 69.6% more likely to perceive their usual provider as offering high quality care.

Very recently, Levine, Landon and Linder (2019) have shown that primary health care can offer high value, responsive and patient-centred care. Compared to adults without primary health care, adults with primary health care were more likely to have routine preventive care, to receive high value-care (such as high-value cancer screening, recommended diagnostic and preventive testing, and high-value counselling), and to report better experience with care delivery (Levine, Landon and Linder, 2019[37]).

1.1.3. Strong primary health care can improve the equity of health systems

Primary health care has been described as well placed to support health equity for a number of reasons (Chetty et al., 2016[38]). By definition, it has a broader population coverage than any specialty, therefore it has a better platform for accessing a large number of people. It has direct contact with patients, and most patients will see their primary health care physician as the first point of contact with the health service. In 14 out of the 36 OECD countries that responded to the 2016 OECD Health System Characteristics Survey, patients are obliged to register with a primary health care physician.

Evidence indicates that inequalities in access to primary health care are lower than those of access to specialised care across OECD countries: there are greater opportunities for good primary health care to address the health needs of people, particularly those with chronic care needs, than in other levels of care. Across OECD and EU countries, and accounting for health needs, 67% of people in the lowest-income quintile have seen a general practitioner (GP) in the past 12 months, compared to 72% in the highest-income quintile, which is a rather small difference. Inequalities are significantly more pronounced when it comes to the probability of seeing a specialist: a person with low income is 12 percentage points less likely

than a person with high income to see a specialist (OECD, 2019[39]). Systematic reviews of published literature confirm the evidence base that associates strong primary health care and lower health inequalities (Kringos et al., 2010[40]; Salmi et al., 2017[41]).

Evidence also suggests that continuous and comprehensive care provided by the primary health care team can provide effective health education and prevention interventions based on the medical and social needs of the patients (Ruano, Furler and Shi, 2015[42]; Chetty et al., 2016[38]). This helps tackle risk factors and other social determinants of health, which in turn improves equity of health outcomes. In England, for example, strengthening primary health care in underserved areas, notably through the implementation of effective interventions for secondary prevention of cardio-vascular heart disease, diabetes and other chronic conditions, has helped to reduce the absolute socio-economic gaps in mortality amenable to health care from 2007 to 2011 (Cookson et al., 2017[43]).

1.2. Primary health care is currently failing to deliver its full potential in many OECD countries

Despite evidence demonstrating the contribution of primary health care to health systems in terms of improvements in health outcomes, efficiency, and people-centred care, primary health care is not achieving the expected results in many OECD countries. This section presents examples of shortcomings in primary health care performance in terms of:

- **poor efficiency**, as shown by high levels of avoidable hospitalisations and excessive prescriptions of antibiotics
- **ineffective and low responsiveness**, as indicated by low overall utilisation of recommended preventive care, and problems of co-ordination of care between primary health care, specialists, and hospitals
- **inequitable**, as evidenced by inequalities in access to screening tests across different income levels.

These international figures show that primary health care systems are not operating as effectively as they should, whether in terms of keeping people healthy, preventing costly hospitalisations, meeting peoples' expectations or ensuring equal access to quality health services. These shortcomings may partly relate to a shortage and mismatch of skills in primary health care practice, which leads to sub-optimal use of resources in primary health care.

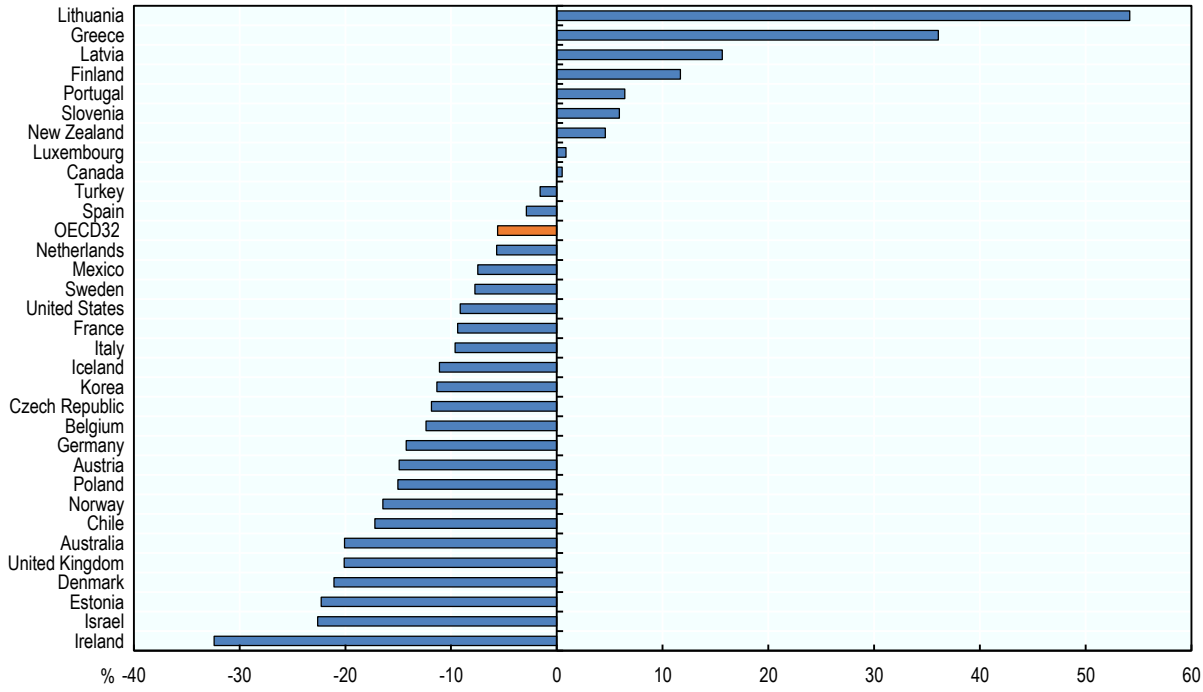
1.2.1. Workforce pressures in primary health care are high

Reductions in the share of generalist medical practitioners and new burdens in workload are putting strain on primary health care teams

While the overall number of doctors and nurses has largely increased, the share of generalist medical practitioners dropped between 2000 and 2017, in the majority of countries (see Figure 1.1). On average across OECD countries, generalists made up about 29% of all physicians in 2017. Between 2000 and 2017, the share of generalist medical practitioners decreased by more than 20% in Australia, the United Kingdom, Denmark, Israel, Estonia, and Ireland (Figure 1.1).

Figure 1.1. The share of generalist medical practitioners continues to drop across the majority of OECD countries, 2000-17

% changes between 2000 and 2017



Note: The category of generalist medical practitioners includes general practitioners, district medical doctors, family medical practitioners, primary health care physicians, general medical doctors, general medical officers, medical interns or residents specialising in general practice or without any area of specialisation yet. Generalist medical practitioners do not limit their practice to certain disease categories or methods of treatment, and may assume responsibility for the provision of continuing and comprehensive medical care to individuals, families and communities. There are many breaks in the series for Australia, Estonia, and Ireland over the period. In some countries (Ireland, Israel, Korea and Poland), the share of general practitioners among all doctors has increased over the same period.
Source: OECD Health Statistics 2019, https://doi.org/10.1787/health-data-en.

The reduction in the share of generalist medical practitioners is coupled with an upward trend in both the clinical and administrative workload of general practice. This is observed across several OECD countries, including the United Kingdom (Hobbs et al., 2016[44]; Thompson and Walter, 2016[45]), Australia (The Royal Australian College of General Practitioners, 2018[46]), and Canada. (Grava-Gubins, Safarov and Eriksson, 2012[47]; Medical Association, 2017[48]). In a similar vein, the current workload for primary health care physicians was found to be unreasonable and unsustainable over the longer term in 14 European Countries (Croatia, Hungary, Ireland, Lithuania, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovenia, Spain, Sweden, Turkey)[1]. This growing workload might adversely affect the quality of patient care, and is inadequate to meet patients' needs (Fisher et al., 2017[49]).

The current distribution of skills and tasks among primary health care teams is inefficient

Across OECD countries, there is a mismatch of skills and tasks within primary health care teams to population and patient needs (Frenk et al., 2010[50]; OECD, 2016[51]). Previous estimations show that more than three-quarters of doctors and nurses reported being overskilled for some of the tasks they have to do in their day-to-day work. Nurses having a master's level or equivalent are, for example, twice as likely to report being overskilled for some of the work they do than those qualified up to bachelor's degree level. The mismatch of skills and tasks represents a dramatic waste in human capital given the significant length

of training of doctors and nurses. In the United Kingdom, up to 77% of preventive care and 47% of chronic care could be delegated to non-physician team members (Shipman and Sinsky, 2013[52]), while in the United States the amount of administrative work doctors have to do is increasing. For example, for every hour physicians were seeing patients, they were spending nearly two additional hours on administrative work (including electronic health records [EHRs] and deskwork) (Sinsky et al., 2016[53]). Many primary health care systems aim to improve care co-ordination and it may be that the increase in paperwork and other administrative tasks relates to these increased responsibilities. This is not a bad thing per se, but such non-medical tasks should be delegated to appropriate staff, thereby reducing administrative workload for medical staff and improving time for patient care and communication.

At the same time as being overskilled for some tasks, physicians and nurses also report being underskilled for others. Across OECD countries, 51% of doctors and 43% of nurses reported being underskilled for some of the tasks they have to do. A systematic review found that, on average, clinicians have more than one question about patient care for every two patients (regarding drug treatment, symptoms or diagnostic results), and nearly half of these questions are not pursued (Del Fiol, Workman and Gorman, 2014[54]). Further, primary health care teams might not have important soft skills to deliver people-centred care, such as shared communication, collaboration and partnership (Ranjan, Kumari and Chakrawarty, 2015[55]). Primary health care teams seem ill-prepared to meet growing and complex health care needs given technological progress, new ways of delivering services and the rapid pace of medical knowledge development. The need for change in the training and development of primary health care teams is thereby evident.

1.2.2. There are several shortcomings in primary health care performance across OECD countries

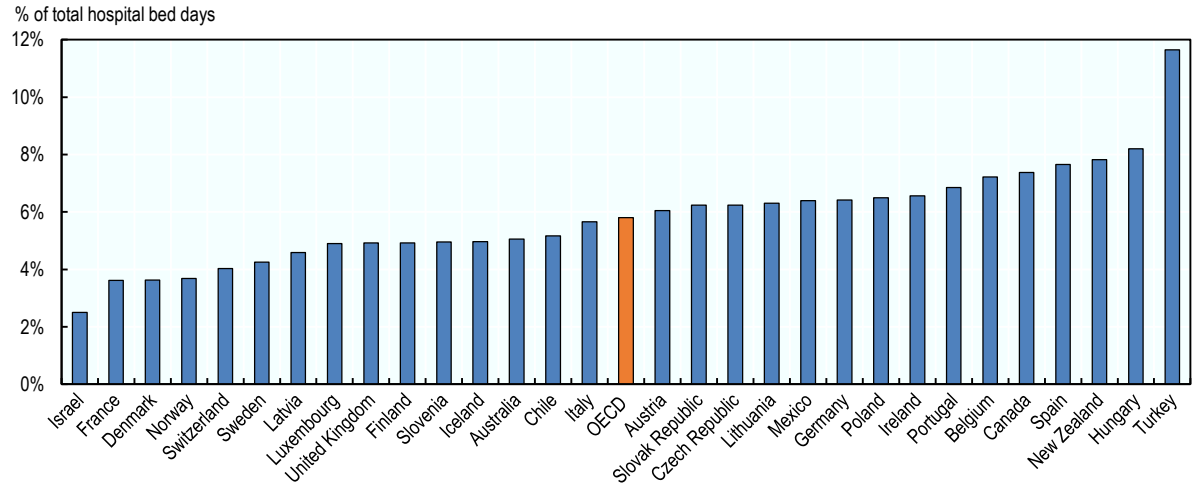
Avoidable hospitalisations for chronic conditions remain high

Avoidable hospitalisations are a prime example of inefficient use of resources at the health system level, and this indicator has been used for years across OECD countries (Auraaen, Slawomirski and Klazinga, 2018[56]). Analysis of hospital admission data for five chronic conditions (diabetes mellitus, hypertensive diseases, heart failure, COPD and asthma) across OECD countries for which data were available, shows that in 2016, just over 5.6 million hospitalisations with a principal diagnosis of one of these five conditions took place (see Chapter 2 for methodology). This suggests that primary health care is not always successful at keeping people out of hospitals. In total, in 2016, over 47.5 million bed days were consumed by admissions for these five chronic conditions alone across OECD countries, amounting to 5.8% of the total hospital bed day capacity (Figure 1.2).

Using the 2011 WHO CHOICE model, which estimates the “cost per hospital bed day”, it is possible to give a rough estimation of the opportunity cost associated with avoidable hospitalisation for ACSCs across OECD countries. Only the “hotel” component of hospital costs (including costs such as personnel, capital and food costs) is considered here, excluding the cost of drugs, treatment and diagnostic tests. This means that the opportunity cost related to avoidable hospitalisations for these five chronic conditions is largely underestimated. Moreover, several countries have developed lists of causes of hospitalisation that are potentially avoidable, including more conditions than the five listed in this estimation (for example angina, influenza and other vaccine preventable diseases, illnesses resulting from nutritional deficiencies, etc.) (Fleetcroft et al., 2018[57]). Therefore, the total number of avoidable hospitalisations is also significantly underestimated.

With these limitations in mind, on average, the cost generated by avoidable hospitalisations for these five chronic conditions is estimated to be USD 21.1 billion in 2016. With better organisation and focus, good primary health care can avoid many of these hospitalisations, increasing efficiency of health systems and improving people’s well-being.

Figure 1.2. Share of potentially avoidable hospital admissions due to five chronic conditions as a percentage of total hospital bed days, 2016



Note: The data includes only admissions with a minimum of one night's hospital stay. Not counted are 'same-day' admissions (e.g. a patient with acute on chronic conditions admitted for observation but discharged a few hours later). These "same-day" admissions consume hospital resources. In addition, the share of avoidable hospital admissions is also largely underestimated as there are more causes of hospitalisations that are potentially preventable. In Australia for example, potentially avoidable hospitalisations for 22 conditions accounted for 9% of all hospital bed days in 2016-17 (AIHW, 2019[58]). Cross-country comparisons of potentially avoidable hospital admissions should also be interpreted with caution, as many other factors, beyond better access to primary health care, can influence the statistics, including data comparability and the prevalence of these chronic conditions. These are crude data and are not age-standardised.
Source: OECD estimates based on OECD Health Statistics 2018, https://doi.org/10.1787/health-data-en.

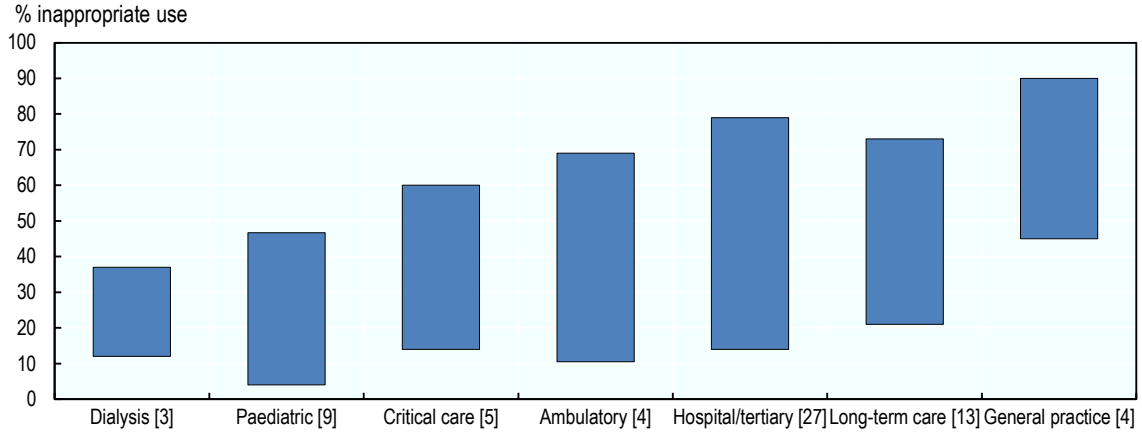
Inappropriate prescribing, such as for antibiotics, is excessive in general practice

Appropriate prescribing is a good marker of primary health care quality, but also of allocative efficiency, because it indicates inappropriate use of resources. One example is the appropriate use of antibiotics in primary health care. Antibiotics should be used only when there is evidence that they are needed to address infections. However, recent evidence shows that general practice services are an area of concern, as consistently high levels of inappropriate use are reported. The inappropriate use of antibiotics in general practice ranges between 45% and 90% (Figure 1.3). The volume of all antibiotics prescribed in primary health care in 2017 was 19 defined daily doses per 1 000 inhabitants per day across OECD countries, but ranged from 10 in Estonia and Sweden to 36 in Greece (OECD, 2019[59]).

Too many patients with chronic conditions still do not receive the recommended preventive care

Insufficient preventive care throughout the course of life increases the probability that old age will be marked by health problems and disabilities. This has the potential to create future financial liabilities for health systems, particularly in OECD countries, since societies are ageing and the burden of chronic disease is growing.

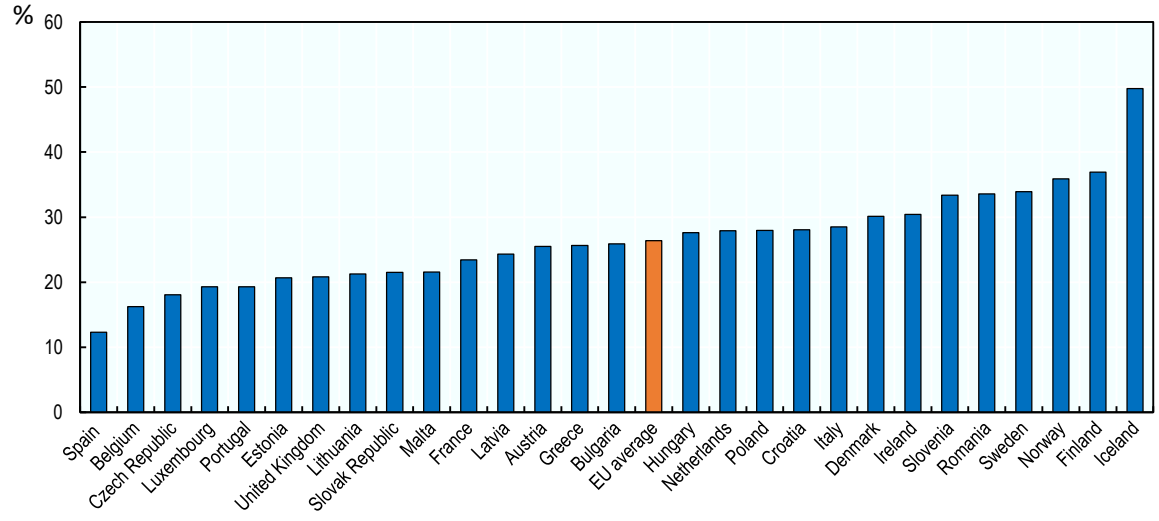
Figure 1.3. Inappropriate use of antibiotics in general practice is high



Note: Numbers in brackets indicate the number of studies used to determine the range of inappropriate use.
Source: OECD (2017[60]), *Tackling Wasteful Spending on Health*, https://doi.org/10.1787/9789264266414-en.

As the first point of contact with the health care system, and as a trusted source of information, primary health care teams are in a unique position to advise patients on healthy lifestyles and behaviour, to administer screening tests, and to manage and control the progress of chronic conditions. However, recent data shows that too many patients with chronic conditions do not receive the recommended preventive care. In 2014, across EU countries, 26% of patients suffering from certain chronic conditions did not receive any of the recommended preventive tests in the previous 12 months (Figure 1.4). This proportion reaches nearly 50% in Iceland, followed by Finland, Norway, Sweden, Romania, and Slovenia, where more than a third of people with chronic conditions did not receive the recommended tests in the previous 12 months. At the lower end of the scale, in Spain, Belgium, the Czech Republic, Luxembourg and Portugal, less than 20% of people with chronic conditions did not receive the recommended tests in the previous 12 months.

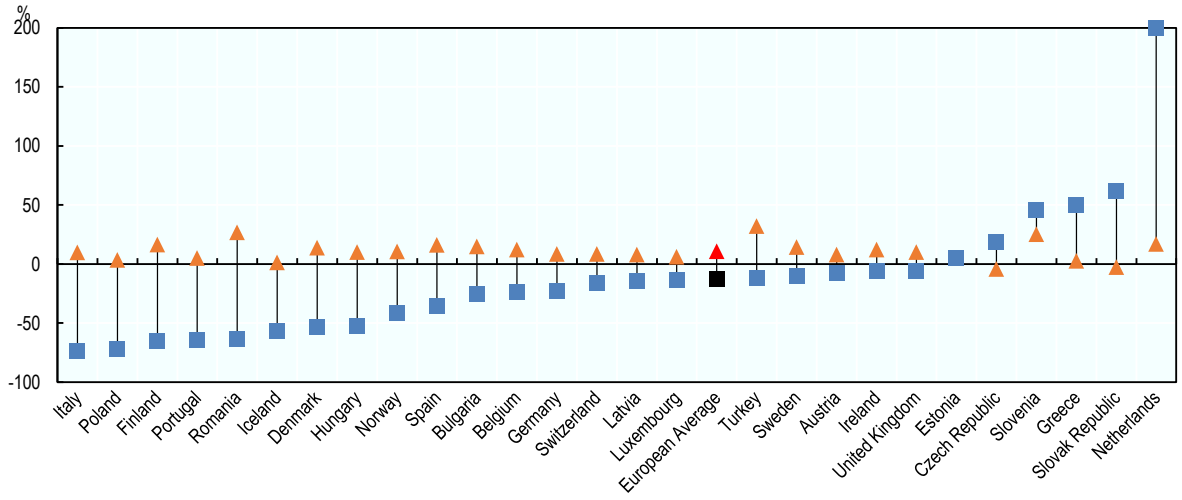
Figure 1.4. One-quarter of patients suffering from chronic conditions in EU Countries did not receive any preventive tests in the past 12 months, 2014



Note: The data refer to the proportion of people suffering from hypertension, myocardial infarction (or chronic consequences of myocardial infarction), stroke (or chronic consequences of stroke) or diabetes, who did not receive any blood pressure measurement, blood sugar measurement or blood cholesterol measurement in the previous 12 months. Data corresponds to the year 2014, in which the United Kingdom was member of the European Union and therefore part of the EU average.
Source: OECD estimates based on EHIS-2.

Figure 1.5. Involvement of primary health care practice in preventive activities has decreased by 13% over the past two decades

% relative change in disease treatment (▲) and in prevention (■) between 1993 and 2012



Note: Involvement in prevention includes the measurement of blood pressure, the measurement of cholesterol, and providing health education.
Source: Adapted from Schafer et. al., (2016[61]), "Two decades of change in European general practice service profiles: Conditions associated with the developments in 28 countries between 1993 and 2012", https://doi.org/10.3109/02813432.2015.1132887.

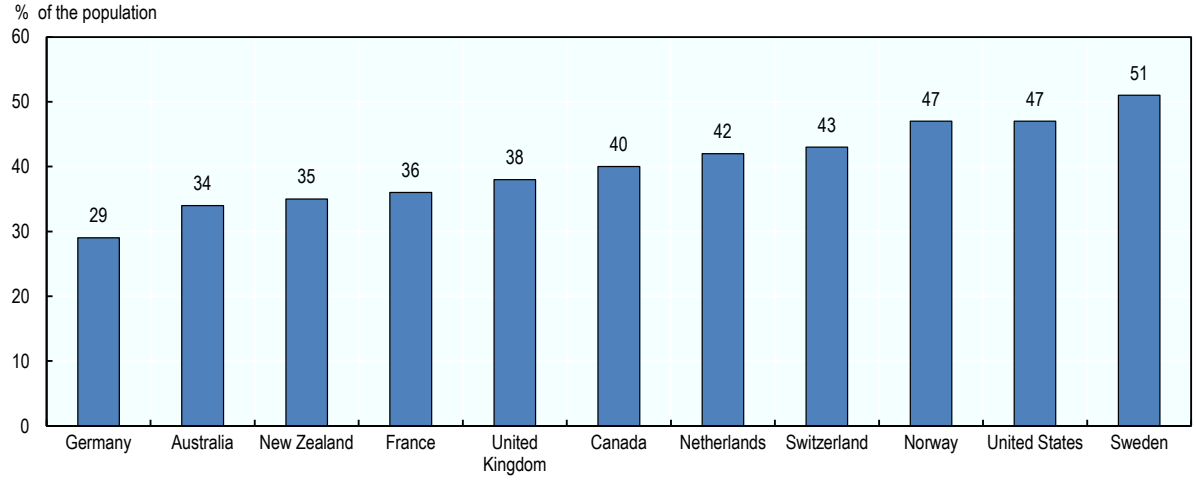
Previous work suggests a decrease in preventive care by primary health care teams (Figure 1.5) (Schäfer et al., 2016[61]). Involvement of primary health care practice in curative care has increased all over Europe over the past decade, while involvement in preventive activities has decreased by 13%, on average, over the same period (Schäfer et al., 2016[61]). Italy, Poland, Finland, Portugal, Romania, Iceland, Denmark and Hungary saw the most significant decreases of more than 50% (Figure 1.5). By contrast, the increase in primary health care practice involvement in treatment of disease is particularly marked in Turkey (+32%), Romania (+26.7%) and Slovenia (+25.2%). Increased participation in treatment may be one of the reasons why preventive care is not being delivered properly.

Patients report significant co-ordination problems between primary health care, specialists and hospitals

Integration and co-ordination of care correspond to an important dimension of patient-centred care (Santana et al., 2019[62]). This requires a good flow of information and consistency of decisions across the different levels of care in the health system, including primary health care settings, specialist settings and hospitals. When care is not co-ordinated, patients have to repeat information or diagnostic tests, conflicting instructions are given, and transitions between providers – for example at hospital discharge when patients are referred back to primary health care – may be associated with adverse effects (Couturier, Carrat and Hejblum, 2016[63]).

Evidence from patient-reported data indicates that there are high levels of care co-ordination problems between primary health care, specialists and hospitals. Figure 1.6 shows that between 29% and 51% of the people surveyed in 11 OECD countries in 2016, reported having experienced problems of care co-ordination. These co-ordination problems refer to: medical tests not being available at the time of appointment or that duplicate tests were made; specialist did not have basic information from GP or GP not informed about specialist care; or received conflicting information from different providers.

Figure 1.6. Problems with care co-ordination between different health care professionals is common across OECD countries, 2016



Note: Care co-ordination problem is defined as: test results/records not being available at appointment or duplicate tests ordered; specialist lacked medical history or regular doctor not informed about specialist care; and/or received conflicting information from different doctors or health care professionals in the past two years. The Swedish response rate in the Commonwealth Fund International Health Policy Survey is low, so cross-country comparability is low. The proportions are controlled for age, gender and health status.
Source: Commonwealth Fund International Health Policy Survey 2016.

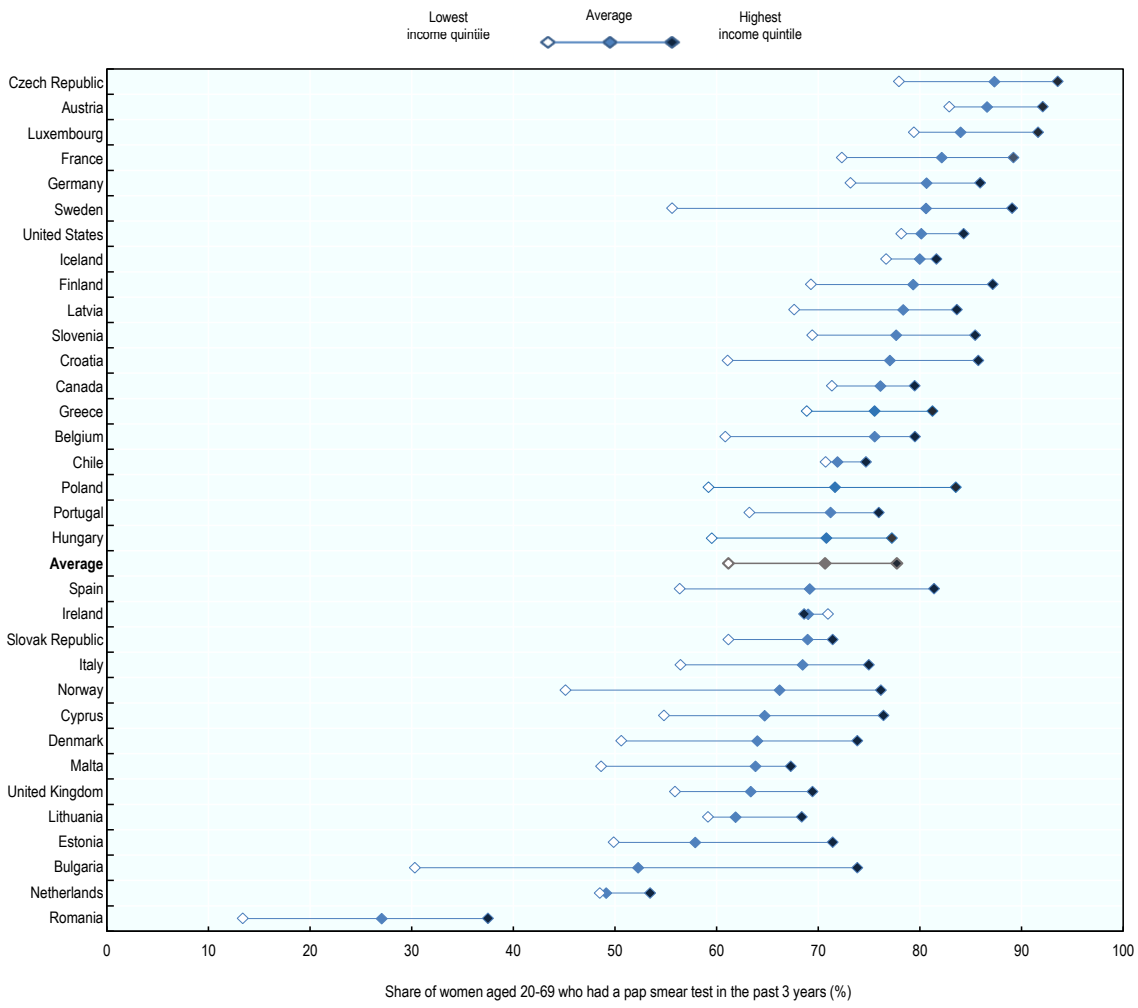
People with lower incomes have a lower probability of undergoing screening

Despite fairly low inequalities in access to a GP, people with a lower income consistently have lower utilisation rates of preventive services in virtually all EU and OECD countries (OECD, 2019[39]). This indicates that primary health care may not be succeeding in delivering recommended preventive care across different socio-economic levels.

For cervical, breast and colorectal cancers, the probability that those in the target population and in the lowest-income quintile will have undergone screening in the recommended period are significantly lower than that of people in the highest-income quintile. For instance, only 61% of women with a low income had cervical cancer screening, compared to 78% of women with high income. Figure 1.7 presents the rate of cervical cancer screening, showing large income-related inequalities in screening uptake in many EU and OECD countries.

Figure 1.7. Prevalence of cervical cancer screening, by income quintile, 2014 (or more recent data)

Share of women aged 20-69 years who had a pap smear test in the past 3 years in 32 European and OECD countries



Note: Small sample size in Bulgaria (about 300 individuals per income group for this analysis). Screening rates in the Netherlands are higher based on national surveys.
Source: OECD (2019[39]), *Health for Everyone?: Social Inequalities in Health and Health Systems*, https://dx.doi.org/10.1787/3c8385d0-en.

1.3. To strengthen primary health care in the 21st century it will be necessary to do things differently

There are many contributing factors that can help explain why primary health care is not delivering to its full potential.

In part, it may be linked to the fact that primary health care physicians are not doing the right things, for example, not doing enough preventive medicine, or not co-ordinating care to help avoid hospitalisation or unnecessary complications. Several countries have sought to encourage improved allocative efficiency of primary health care tasks through, for example, different payment schemes and non-financial incentives, or an improved matching of doctors' skills to tasks.

Another reason could be the lack of resources in primary health care relative to other sectors. More evidence is needed to fully assess whether reallocation of resources to primary health care would be a

way to improve the delivery of health care output. However, the declining share of GPs, due in part to the lower attractiveness of general practice relative to specialist care, mean that fewer primary health care physicians are asked to deliver care to a growing number of people with complex care needs. A number of countries have sought to counter the increasing trends towards specialisation through training and task delegation.

A third reason, could be that the organisational model of primary health care still mostly relies on face-to-face consultations with a physician who works in a solo practice. Better use of teamwork, inclusion of other health professionals and electronic communication could potentially increase the pool of patients that every primary health care physician oversees, while effectively improving the quality of services provided (Green, Savin and Lu, 2013[64]). Moreover, better integration of health and social care services could offer opportunities to better address social determinants of health and reduce the need for health care services.

Overcoming these problems will require new models for the delivery of primary health care, extensive use of digital tools and financing mechanisms that reward performance. This section discusses policy levers that can be used by OECD countries, in the 21st century, to improve the efficiency, effectiveness, responsiveness and equity of their health systems, through more effective and stronger primary health care.

1.3.1. Improving the efficiency of primary health care

New mechanisms for workforce recruitment and training are needed to improve allocative and technical efficiency

Changes in training are more important than ever, given the challenges and opportunities introduced by digital technologies and new ways of delivering services

With technological progress and new ways of delivering services, primary health care systems are changing rapidly. Professional education in primary health care may not be aligned with these changes, and may not match increasing citizen expectations and rising health care needs. As illustrated by Schafer et al (2016[61]), primary health care practices do not engage sufficiently in preventive care and mostly deliver care that focuses on disease treatment, often targeting one illness at a time (Schäfer et al., 2016[61]) (see also Chapter 3). Such an approach is not appropriate in today's climate and changes are needed to realise the required efficiency gains.

To improve technical efficiency, the primary health care team needs to have expertise on a wide range of areas, which go beyond treating infectious diseases, and include: nutrition, addiction, mental health and healthy ageing. Consistent with a people-centred approach, "soft" and transversal skills are also needed when engaging in prevention and disease management activities, such as behaviour counselling, shared communication, collaboration and partnership (Ranjan, Kumari and Chakrawarty, 2015[55]).

Providing initial and continuing training programmes in all these areas is critical in providing the tools and knowledge that allow primary health care teams to engage in these activities properly. Initial and continuing education should prepare primary health care teams to:

- Manage and control chronic diseases and associated risk factors. Screening assessment tools, individual counselling, and behavioural change programmes should be the main priority of training programmes in primary health care, at least to the same extent as diagnosis and treatment of diseases.
- Recognise the importance of environmental and social determinants of unhealthy behaviour and the factors that impact behavioural change.

- Use technological resources effectively. Primary health care teams need to learn how to use digital tools, such as technology-enabled consultation, clinical data coding and IT-based quality improvement.
- Achieve skills for person-centred communication. It is vital to expand attention to patients' personal and social situations in order to improve diagnosis and tailor care plans, and to practice shared decision making to address patients' goals and values.
- Achieve skills for effective teamwork and interprofessional collaboration, notably to break down professional silos and enable effective working both with, and through other health and social care professionals.

Several health care systems are working toward these goals. For example, to strengthen providers' competencies in IT-based quality improvement tools, England has developed the NHS Digital Academy. In a similar vein, Canada, Germany and the United States have introduced modules in the medical curricula to ensure health care professionals achieve skills for data-driven quality development, digital literacy and interprofessional collaboration. In France, the Ministry of Health, jointly with the Ministry of Education, recently announced that the primary health care workforce will have to perform a public health rotation (see Box 1.3).

Box 1.3. The public health rotation in France

The Ministry of Health, jointly with the Ministry of Education, recently announced that students in the health field will have to perform a public health rotation (called "*service sanitaire*"). The new curricula for medical doctor, nurse, pharmacist and physiotherapist students consists of going to public places, such as universities and high schools, to undertake prevention activities on four priority areas: diet, physical activity, addictions, and sexual health (see also Box 2.2). It is estimated that from 2019 around 50 000 students per year will undertake the public health rotation.

Source: OECD (2018[65]), Policy Survey on the Future of Primary Care.

The efficiency of primary health care in the future will also depend on the use of community-based teams

New support role for nurses, community pharmacists and community health agents have the potential to reduce the workload of primary health care physicians, without undermining the quality of care and patient satisfaction (Green, Savin and Lu, 2013[64]). Ensuring that the primary health care workforce has sufficient professionals with the right mix of skills will be key to making sure new models of primary health care delivery meet local health needs. Nurses, community pharmacists and community health agents frequently have all-important soft skills and relevant knowledge about their communities. OECD health care systems need to harness the full capacity of these community-based teams by setting up appropriate training and ensuring that legislation is adequate, whilst not being unnecessarily restrictive.

However, the majority of nurses or assistants independently provided immunisation, health promotion or routine checks for chronically ill patients in less than half of OECD countries in 2016 (OECD, 2016[66]), and only 19 OECD countries (OECD, 2018[65]) reported strategies to develop the primary health care workforce (see Chapter 2).

New roles of care co-ordinators, care planners and patient navigators, are progressively being introduced to focus on providing continuous care across different specialties. These co-ordination functions often extend beyond the traditional health care boundaries, and include close working relationships with social services and long-term care teams. Currently, many of these new functions are being carried out by

expanding the scope of practice of existing health professionals, for example, nurse practitioners taking the lead in patient planning and care co-ordination, whilst also promoting healthy living and preventing and managing disease. In Canada, registered nurses and nurse navigators have an important role in improving co-ordination and continuity of care in the MyHealthTeam model of primary health care. Nurses with a navigator role ensure that patients move swiftly through the system, and that they receive the appropriate care in the appropriate place. Australia, Estonia, Ireland, Latvia, Mexico, Sweden and the United Kingdom are increasing the role of nurses in primary health care.

In some OECD countries, notably Belgium, England, Finland, Italy and Switzerland, community pharmacists are taking a greater role in health promotion and prevention, thereby improving access to primary health care services in remote or underserved areas where there is a shortage of primary health care physicians (see Section 3.3.3). During the COVID-19 pandemic, several countries have made efforts to mobilise pharmacists and care assistants. In Austria, Canada, Ireland, Portugal and the United States, pharmacists have been allowed to extend prescriptions beyond what they were previously allowed to do and to prescribe certain medications to allow doctors to focus on the more important cases and minimise the number of medical consultations (PGEU, 2020[67]; OECD, 2020[68]). In France, community pharmacists were given an exceptional authorisation to renew prescriptions of drugs for chronic diseases. In the United Kingdom, there was a proposal to scale up and use community health workers to provide support for the elderly in the context of the COVID-19 crisis (Haines et al., 2020[69]).

Other health care systems are working towards the development of community health workers. In the United Kingdom, the GP contract five year framework provides funding to contribute towards an extra 20 000 non-GP roles in general practice including clinical pharmacists, social prescribing link workers, physician associates, first contact physiotherapists and first contact community paramedics. These roles have been chosen to meet strong practice demand, and because the tasks they perform can help reduce GP workload, improve practice efficiency and better meet health system objectives (NHS, 2019[70]).

As a greater use of community based workforce has all the potential to increase efficiency in primary health care practice, health care systems need to ensure that their community based workforce is able to take on different roles where it benefits a patient, such as person-centred communication, co-ordinator role, or involvement in prevention (Shipman and Sinsky, 2013[52]; Matthys, Remmen and Van Bogaert, 2017[71]; Green, Savin and Lu, 2013[64]). In the future, it would be vital to allow nurse practitioners and other primary health care staff to practice to the fullest extent of their training and ability, and remove restrictions that limit their scope of practice (Buerhaus Peter, 2018[72]; Maier and Aiken, 2016[73]). This would allow health systems to boost their health workforce capacity in case of future pandemic crises.

Better use of digital technology is key to improving efficiency in the delivery of primary health care services

An efficient primary health care system needs to leverage all the functionalities offered by digital technologies (also called eHealth) to support health outcomes and health-related activities. Key objectives shaping digital technologies include: improved efficiency, productivity and quality of care (OECD/IDB, 2016[74]; Shaw T, Hines and Kielly-Carroll, 2017[75]).

In Europe, a recent report found that in all of the 27 countries surveyed, eHealth adoption in primary health care has increased between 2013 to 2018, with the highest levels of implementation in Denmark, Estonia, Finland, Spain, Sweden and the United Kingdom, while in Greece, Luxembourg and the Slovak Republic uptake remains relatively low (Valverde-Albacete et al., 2019[76]). While full-scale use of digital technologies is still not the norm across all OECD countries, there are several important experiences that should be noted:

- **EHR systems**, particularly those that are well structured and portable (Australia, Canada, Israel and the United States), can generate clinical reminders to help physicians track preventive and

ongoing care services for patients with chronic diseases. EHRs can have major effects on patient safety and the overall quality of the care delivered, by increasing compliance with guidelines, lowering the number of medication errors and reducing the risk of adverse drug effects (Chaudhry et al., 2006[77]; Campanella et al., 2016[78]). In Finland, the POTKU model provides primary health care physicians with the locally developed Evidence-Based Medicine electronic Decision Support (EBMeDS) system, which is matched with patient records to provide personalised care guidance (Hujala Anneli et al., 2016[79]). The system also generates automated reminders and warnings. As a medical support tool, EHR has been associated with improved workflow, policy, communication and cultural practices, as recommended for safe patient care in primary health care settings (Tanner et al., 2015[80]).

- **Electronic prescription** (ePrescription) allows prescribers to write prescriptions that can be retrieved by a pharmacy electronically, to assess a patient's medication regimen at the point of care or to identify non-adherence. ePresciption, as implemented in Estonia and Sweden, can improve the accuracy and efficiency of pharmaceutical drug dispensing (Khan and Socha-Dietrich, 2018[81]). ePrescription programmes have been associated with a reduction in prescribing of potentially inappropriate medications (Iankowitz et al., 2012[82]) and efficiency gains have been found for prescribers and dispensers (Deetjen, 2016[83]).
- **Telemedicine**, which includes telemonitoring, store and forward[2], and interactive telemedicine, may contribute in several ways to providing care in the right place at the right time, for instance, by improving the process and appropriateness of referrals. Teleconsultations are one of the most used telemedicine interventions in primary health care, notably to improve access to care for people living in underserved areas. Such systems are already in use in Belgium, Canada, Costa Rica, Estonia, France, Germany, Korea, Norway, Switzerland and the United Kingdom. There should be careful oversight and regulation of digital services in order to maximise benefits and avoid harm, but used effectively, telemedicine makes health service delivery more efficient (Pecina and North, 2016[84]).
- **Home monitoring, ePatient portals and self-management applications** are key levers to improving care quality and the delivery of people-centred primary health care. There is an increasing body of evidence about the effectiveness and economic assessment of mobile health applications, otherwise known as mHealth. For example, three digital applications in the areas of diabetes, depression, and anxiety have been found to improve the management of chronic diseases (Kitsiou et al., 2017[85]). Patients have also been found to perceive greater awareness of their condition, to be better able to make health-related decisions and be considered as co-producers (Morton et al., 2017[86]). The use of digital health applications has also been shown to reduce acute care utilisation in the United States (IQVIA, 2017[87]). Such policy options already exist in Canada (miHealth), Denmark (telerehabilitation service), Finland (Oulu Self Care Service) or the United States (HealthConnect).
- **Clinical algorithms bringing external and patient-derived data** into the clinical decision-making process can create personalised predictions of disease status and generate more appropriate treatment, thereby increasing the efficiency of health service delivery (Bell, Gachuhi and Assefi, 2018[88]; Shaw T, Hines and Kielly-Carroll, 2017[75]). The data used could include social, environmental and behavioural patient information, as well as financial, clinical, and administrative records, as in the United States with Kaiser Permanente and HealthConnect, or the risk stratification model used in Spain. Models based on clinical algorithms could be used to identify relationships between multiple behavioural factors to enable the assessment of opportunities and risks associated with a particular set of conditions. This could, for example, be used to flag patients at risk of avoidable hospital (re)admission, or to conduct specific targeted preventive actions towards disadvantaged or high-risk populations.

The critical role of digital technology has become even clearer during the COVID-19 pandemic. Telehealth has been used to monitor the health and wellbeing of people who have been diagnosed with COVID-19, including both less severe patients who are able to stay at home and the more critical cases who need to be hospitalised. Korea and Israel use wearables and communication technologies to remotely monitor patients with COVID-19 at home, catching signs of possible deterioration, and adding to health researchers' understanding of how the disease develops (OECD, 2020[68]). Other than that, telehealth has many potential benefits in the context of COVID-19, as people with mild symptoms can consult from their homes – avoiding potentially infecting others and reserving physical capacity in health care units for critical cases and people with serious health conditions. England, France, Germany, Japan and the United States have relaxed regulatory barriers to encourage the use of teleconsultation (OECD, 2020[68]). In France for instance, patients are authorised to consult remotely with any doctor that uses telemedicine, whether or not they have consulted that doctor face-to-face in the past. In Germany, the Federal Joint Committee eased regulations outside of traditional face-to-face outpatient practice. In an effort to protect providers and patients from catching the virus while ensuring access to health care, a temporary provision was introduced to allow physicians to issue or renew prescriptions, referrals, or sick notes digitally or by phone, and to offer video consultations. Intensifying the implementation of digital technologies in primary health care practice will make primary health care teams more efficient to make smarter use of scarce health care resources and make health systems more resilient to health crises. In the aftermath of the pandemic, policy makers should ensure that these tools are made available to all primary health care teams, patients and communities.

In a modern and efficient primary health care system, primary health care teams would follow clinical reminders and guidelines produced by EHR to deliver high quality primary health care, and would proactively integrate targeted preventive action towards high-risk patients. Prescriptions would be automatically renewed. A patient could easily describe a condition via a health app, which in turn would recommend the most accessible primary health care team or organise an appointment. Patients could also benefit from mobile tools and apps to communicate with primary health care teams, and to achieve personalised prevention plans. Patients' medical histories could be instantly transferred from one care facility to another, removing the need for paper forms that previously passed through several hands and often went missing.

Shifting services from hospitals to new settings for the delivery of primary health care

At a time of great fiscal constraint, primary health care systems will have to assume a greater role in taking care of patients who no longer need acute care. Several health care systems are working towards these goals, by developing intermediate care facilities or home-based programmes to improve care continuity, and reduce the use of expensive hospital inputs.

Intermediate care facilities

Intermediate care facilities provide short-term care for patients who no longer require acute hospital care, but nevertheless require a level of support that they could not obtain if they were discharged directly home. Intermediate care facilities can also deliver non-urgent care and a mix of post-acute, rehabilitation and nursing care, 24 hours a day, 7 days a week. The overarching objective is to strengthen the role of the primary health care system, improving experiences with care for patients, while reducing hospital costs.

There is already a large body of evidence confirming that using intermediate care following a hospital admission may reduce the need for further hospital admissions, and reduces the number of emergency department visits. In Norway, for example, studies have shown that intermediate facilities significantly reduce the number of hospital readmissions for the same disease, increase the quality of life for patients, and did not result in an increased risk of mortality (Dahl, Steinsbekk and Johnsen, 2015[89]; Garåsen, Windspoll and Johnsen, 2007[90]). In the Netherlands, van der Brug (2017) found that the use intermediate

care facilities was associated with reduced hospital readmission rates (van der Brug, 2017[91]). Recently, intermediate care facilities have been established in four countries: Costa Rica (interdisciplinary outpatient units for people with mental health issues and health hostels for patients with chronic conditions), France (local hospitals), Ireland (community intervention teams) and Mexico (CESSAS).

Early discharge home-based programmes

Early discharge home-based programmes allow patients to return home when they might previously have stayed longer in hospital or been referred to a nursing home. Such programmes provide post-discharge care at home, but also associated with counselling and health education, and with support from social care and digital technologies (Zhu et al., 2015[92]).The overarching objective is to curb hospital costs and to reduce delays in hospital discharge due to a lack of primary health care options, while improving patient experience and health outcomes.

Previous empirical work show that discharge home-based programmes are associated with reduced length of hospital stays, a lower risk of readmission and good clinical outcomes (Zhu et al., 2015[92]; Hernández et al., 2018[93]). Some health care systems are increasingly providing post-discharge care at home as an alternative to hospital-based care, such as Canada and the United Kingdom with the use of virtual wards. Such systems have been developed to reduce hospital readmissions, by providing short-term transitional care to high-risk patients with complex needs who have recently been discharged from hospital. In Germany, since 2017, mental health care following discharge from psychiatric hospital can be delivered within the patient´s home.

Providing economic incentives can aid favourable developments in primary health care services

Adapting existing models of payment for primary health care is key to improving technical and allocative efficiency. When properly designed and implemented, add-on payments to remunerate specific activities and paying-for-performance (P4P) programmes can encourage desirable behaviours at specific points of the care continuum. Add-on payments can, for example, target the management of chronic diseases, care co-ordination or early discharge from hospitals, while P4P are expected to reward high quality and performance outcomes. Such economic incentives are designed to maximise health care outputs and health outcomes through better care processes, and to reduce the use of expensive inputs by moving care out of the hospital sector. They are useful ways to encourage primary health care teams to operate differently.

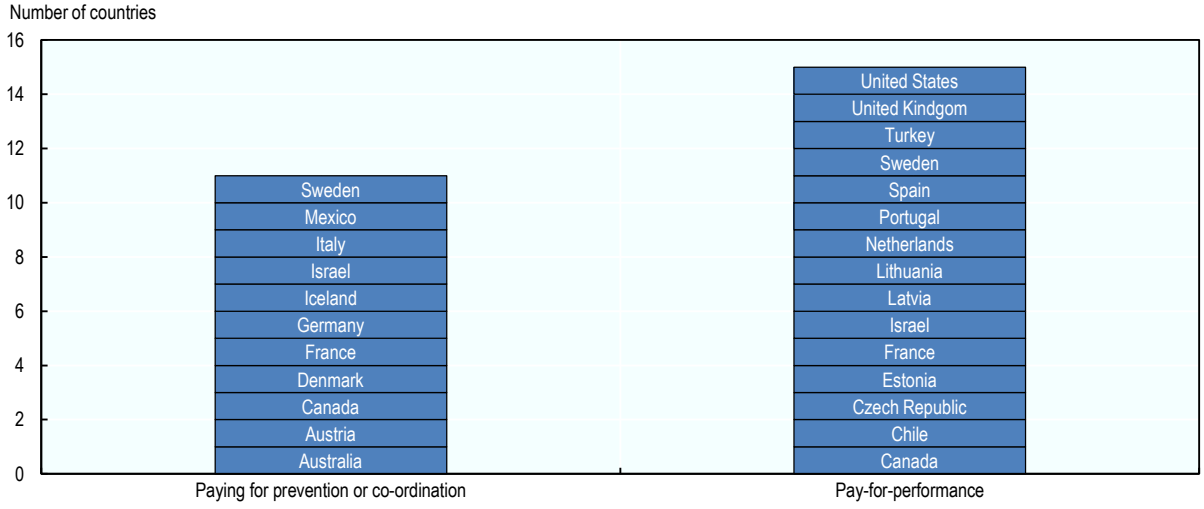
Across OECD countries, add-on payments are mainly used to incentivise care co-ordination, prevention activities or management of chronic disease. In 2018, 11 OECD countries used this type of payment (Figure 1.8). In Canada, additional fees are offered to physicians to compensate for time spent communicating with other health care providers involved in the patient's care and for sharing information with other providers to better manage complex needs. In Israel, the payment system rewards providers for taking care of chronic patients in multi-disciplinary teams. In Australia, the Practice Incentives Programme Quality improvement supports general practice activities that encourage continuing improvement, quality care, enhance capacity and improve upon access and health outcomes for patients, including improving health outcomes relating to chronic disease.

Economic incentives can also be employed to encourage reductions in delayed hospital discharge and to improve care transitions out of hospital. These often take the form of negative incentives[3], where hospitals or municipalities are fined for excessive delays in discharge from hospitals, as seen in the Czech Republic, Denmark, Norway, Sweden and the United Kingdom.

P4P programmes in primary health care are implemented in 15 countries (Figure 1.8), including for example Chile, the Czech Republic, Estonia, Sweden and the United Kingdom. New forms of P4P programmes are currently being developed to expand the role of community pharmacies in the delivery of primary health care services as seen in the United Kingdom and the United States (see Box 1.4)

To be effective, these economic incentives need to encourage the delivery of appropriate services in primary health care settings that can be directly influenced by the level of the primary health care team's efforts. However, and as shown by systemic reviews, evidence on the impact of P4P on health outcomes remains limited or inconclusive (OECD, 2016[94]). In the United Kingdom, for example, there is no evidence that P4P has a sustainable impact on health outcomes (Ryan et al., 2016[95]), and some researchers argue that P4P schemes go in the opposite direction of goal-oriented care (see Chapter 2) (De Maeseneer and Boeckxstaens, 2012[96]). P4P programmes and related quality and performance targets should therefore focus on outcomes that matter the most to patients, such as improving quality of life and daily life activities through better management of chronic conditions, and on patient-centred care processes, such as care co-ordination. P4P programmes, and value-based payments more generally, need to be properly designed and blended with other payment schemes. Appropriate information systems is also required to monitor and follow up process- and outcome-indicators.

Figure 1.8. Number of OECD countries using paying for prevention / co-ordination vs pay for performance incentives



Source: OECD (2018[65]), Policy Survey on the Future of Primary Care, and OECD (2016[66]), Health System Characteristics Survey, http://www.oecd.org/els/health-systems/characteristics.htm.

Box 1.4. Pay-for-performance programmes outside of GP practice

The Community Pharmacy Quality Payments Scheme in the **United Kingdom** was established in 2016. The scheme rewards community pharmacies for delivering quality criteria in three dimensions: clinical effectiveness, patient safety and patient experience. Among the defined criteria to be met are: public health, clinical efficacy for certain chronic conditions, and workforce development. As part of the new Community Pharmacy Contractual Framework for 2019/2024, a new Pharmacy Quality Scheme will be introduced to replace the Quality Payment Scheme.

In the **United States**, a pay-for-performance (P4P) programme for pharmacists is run by the Inland Empire Health Plan (IEHP), a non-profit Medicare and Medicaid health plan in Southern California. Among the quality measures that pharmacies must meet include proportion of days covered (PDC) for diabetes, PDC for hypertension, PDC for statins or use of high-risk medications in older people and the generic dispensing rate.

Source: Based on OECD (2018[65]), Policy Survey on the Future of Primary Care, (Bonner, 2016[97]), and (NHS, 2019[98]).

1.3.2. Improving the effectiveness and responsiveness of care

Reorganisation of primary health care based on teams and integrated networks can deliver more co-ordinated and comprehensive care

Developing new models of people-centred primary health care based on teams and networks is both a matter of striving for better health outcomes and an economic necessity:

- From a **population health perspective**, people-centred primary health care models based on teams and networks are expected to better meet population health needs by offering both medical and social services (Borgermans et al., 2018[99]). They have a higher capacity than traditional solo-practices to meet patient needs by offering a broad range of health care and social services. This is particularly important for people who have several risk factors or are suffering from more than one chronic condition.
- From an **economic perspective**, people-centred primary health care models based on teams and networks are found to offer economies of scale (Mousquès, 2011[100]). Integrating the primary health care workforce within a single organisation lowers transaction costs and reduces the health production cost because of shared use of inputs, such as equipment, human resources, and ICT.

The 2018 Policy Survey on the Future of Primary Care indicates that new models of primary health care based on teams or network of providers are being developed in 17 OECD countries (see Table 1.1). Such models of care steer patients from immediate access to primary health care services to a continuous relationship with the primary health care team when needs become more complex. Patients are stratified according to risk, so that services can be adapted to meet their particular social and medical needs.

These new models of organisation should be more widely adopted to move away from the traditional and reactive solo-practice model. While there is no one-size-fits-all model of organisation, an integrated model of primary health care often meets the following four characteristics:

- **Multi-disciplinary or inter-professional practices** with a various mix of primary health care professionals (including GPs or family physicians, registered and advanced nurses, community pharmacists, psychologists, nutritionists, health counsellors, and non-clinical support staff), different models of teamwork, and different target populations (for example as seen in Australia, Canada, the United Kingdom and the United States) (Socha-Dietrich, 2019[101]).
- **Comprehensive health services in the community,** (for example in Costa Rica), including disease prevention and health promotion, curative services, rehabilitation and management of chronic diseases. Care co-ordination between health professionals is key to enabling the early detection of disease, reducing the exacerbation of diseases, avoiding duplication of services, and increasing provider and patient satisfaction.
- **Population health management**, generally based on risk stratification using sophisticated IT systems (for example in Canada and Spain), is implemented to better understand the health and risk profiles of the community and to undertake proactive management of patients' needs. Patients are stratified to identify opportunities for intervention before the occurrence of any adverse outcomes for individual health status.
- **Engagement of patients in shared decision making,** (for example in Israel). The overarching objective is to incorporate patients' values, needs, and preferences.

Among the countries developing new models of primary health care delivery, the United States (with the patient-centred Medical Home, and the more recent Comprehensive Primary Care Plus), Australia (with the Health Care Home and Primary Health Network), and Canada (with My Health Team) appear to be at the leading edge of this practice. These models of primary health care are highly integrated, team-based practices and promote patient-centred care through patient engagement and better access to primary health care. This allows for a co-ordinated, whole system approach, spanning primary health care, community services, hospital

care and social care. The common denominator to achieving high levels of integration, across the care team and care continuum, is the extensive use of EHR, integrated with functionalities such as electronic scheduling of appointments, secure communication between patient and clinical team, reference information on self-management of chronic conditions, and electronic prescriptions and dispensing of drugs.

While it is too early to evaluate the impact of integrated primary health care teams in Australia and Canada, several studies in the United States show positive results. Primary health care medical homes have been found to improve care quality for a number of chronic conditions (Friedberg et al., 2015[102]; NCQA, 2017[103]; Schuchman, Fain and Cornwell, 2018[104]; Bates and Bitton, 2010[105]), improved patient experience and increased staff satisfaction (NCQA, 2017[103]). They have also been linked with reduced costs, lower emergency department visits and fewer hospitalisations for patients with chronic conditions (Schuchman, Fain and Cornwell, 2018[104]; Bates and Bitton, 2010[105]; NCQA, 2017[103]).

In line with these findings, a recent literature review of 20 studies shows that inter-professional practice was associated with improved health outcomes and quality of life (notably for patients suffering from chronic diseases and cancer), decreased length of stay and admission rates, and has demonstrated cost-effectiveness (NAP, 2019[106]).

There is also emerging evidence suggesting that advanced care teams in primary health care is more satisfying to clinicians and primary health care staff, when compared to more traditional single practice models (Sinsky and Bodenheimer, 2019[107]; AHRQ, 2016[108]). Reviewing evidence from four interventions, Sinsky and Bodenheimer (2019) for example show that implementation of primary health care teams has led to a reduction in the number of after-hours work for family physicians, has increased physician satisfaction and resulted in a drop in physician burnout (from 56% to 28% in one year of implementation). Therefore, a new model of organisation based on teams or networks of providers is an improvement for primary health care staff, since it may save time, improve care quality and physician satisfaction notably by decreasing stress and improving work-life balance.

Implementing team-based delivery of primary health care is not a simple undertaking given the traditional divisions of professional silos: it requires effective support from policy makers. This includes adjusting the training of health care professionals, changes in governance framework, in reimbursement practices and in the use of digital technologies (Socha-Dietrich, 2019[101]).

Table 1.1. New models of primary health care delivery have been established in 17 countries

Panel A. Name of primary health care organisations across OECD countries	
Countries	**Name of the primary health care organisation recently established**
Australia	Health Care Homes; Primary Health Networks
Austria	Primary care units
Canada	My Health Teams working with community health centres
Costa Rica	Basic Teams of Comprehensive Health Care (EBAIS)
Estonia	Primary care centres
France	Centres de Santé, Communautés Professionnelles Territoriales de Santé
Greece	Primary care facilities
Ireland	Primary care centres
Italy	Complex Primary Care Units (UCCPs)
Mexico	Health Centres with Extended Services
Norway	Intermediate care facilities
Slovak Republic	Integrated Primary care Centres
Slovenia	Primary care centres
Switzerland	Ambulatory Network
Sweden	Primary care centres
Turkey	Healthy Life Centres
United States	Patient-Centred Medical Home and Comprehensive Primary Care Plus

Panel B. Examples of services delivered and health professionals included	
Examples of services delivered	**Examples of health professionals included**
Prevention	General practitioners or family physicians
Health education	Registered or advanced nurses
Patient education	Community pharmacists
Self-management support	Psychologists
Curative services	Nutritionists
Disease management	Social workers
Specialist referral	Health counsellors
Care co-ordination	Other allied health professionals

Note: There is a lot of variation on the degree to which these health care services are delivered, and also a large heterogeneity in the combinations of health professionals included.
Source: OECD (2018[65]), Policy Survey on the Future of Primary Care.

Bundle payments and population-based payments have been effective in improving care co-ordination and care quality

Bundle payments and shared saving models have the potential to support new models of care that are better equipped to achieve people-centred care stretching across several health providers and different levels of care, including primary health care centres, specialist clinics and hospitals.

Bundled payments, which consist of one payment per patient, per chronic illness, covering the cost of all health care services provided by the full range of providers during a specific defined time period, are currently being implemented in six OECD countries (Australia, Belgium, Canada, France, Italy and the Netherlands). Bundled payment programmes have been found effective at: containing rising costs, increasing the quality of care, enabling higher patient satisfaction and better adherence to medication and treatment protocols (OECD, 2016[94]; Hussey et al., 2012[109]). This was particularly evident in the Netherlands, where bundle payments for diabetes showed improvements in care quality for most process indicators (HbA1c, BMI checked, blood pressure checked, improvement in kidney function and cholesterol tests). The bundle payment also led to more effective collaboration among health care providers and better adherence to care protocols (Struijs and Baan, 2011[110]; de Bakker et al., 2012[111]). Although the design and characteristics of bundled payments differ between these health care systems, the models developed in Australia and Canada are valuable initiatives that could guide other OECD countries. In these countries, the bundled payment accounts for patient complexity, which is an important prerequisite to encourage the participation of primary health care providers (Stokes et al., 2018[112]).

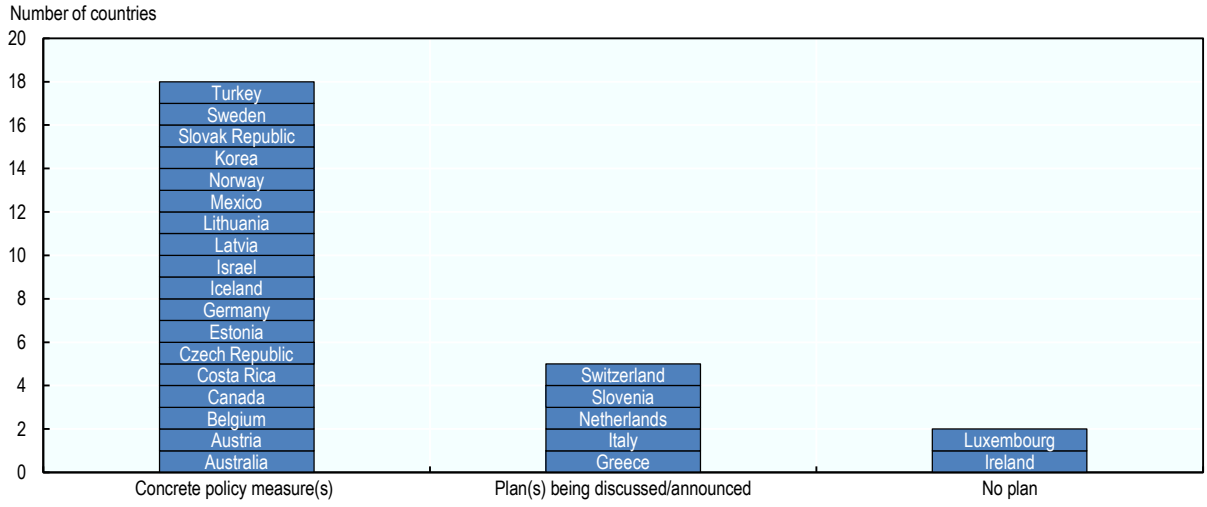
Population-based payments are made to groups of health providers, such as independent primary health care physicians, specialists, practice networks, hospitals, as well as management companies, and cover most health care services for a defined group of the population. The innovation with these schemes is the possibility for providers to share the savings generated if they are able to reduce treatment costs while still meeting pre-defined quality requirements. A prospective budget for a population is defined, and providers are financially rewarded if they can keep total costs below the benchmark value. This provides an incentive for providers to collaborate to reduce health care costs. As seen with bundled payments, population-based payments require sophisticated IT systems, and also add administrative burden to providers. Such innovative payment models are still uncommon across OECD countries. Several population-based payments with a shared saving approach have been operating in the United States since the 2010 Affordable Care Act, and in Germany with the introduction of the Gesundes Kinzigtal GmbH population-based integrated care model. Pimperl et al (2017), show that in 11 years, the integrated model of care in Germany resulted in sustained improvements in health outcomes (such as lower hospitalisation rates and higher life expectancy), increased patient satisfaction and cost reduction of 7% per insured person since 2014 (Pimperl et al., 2017[113]).

A good information system is vital to ensure that primary health care is effective

Compared to the hospital sector, health care systems know little about the quality and outcomes achieved within primary health care. The data generated in most health care systems remains concentrated on inputs and activities. Although nearly all OECD countries report structure indicators, such as the number of primary health care physicians and the number of consultations, only a handful of OECD countries systematically report primary health care quality measures at the national level. Robust reporting information systems are needed to detect, measure and learn from inappropriate and poor primary health care quality. A rich information system is a prerequisite to achieving a good understanding of how, where or why inappropriate and poor primary health care quality exists. These measurements will be developed into actions for quality improvement.

The 2018 OECD Policy Survey on the Future of Primary Care indicates that 18 OECD countries reported having implemented policy measures to collect nationwide performance metrics to monitor the performance of primary health care (Figure 1.9).

Figure 1.9. Eighteen OECD countries have implemented policy measures to collect nationwide performance metrics to monitor the performance of primary health care



Source: OECD (2018[65]), Policy Survey on the Future of Primary Care.

To ensure primary health care is effective, it is necessary to collect data on clinical performance and efficiency at individual provider level. This can then be used to provide feedback to providers, who may be able to compare themselves to their peers and access tools for performance improvement (OECD, 2017[114]).

Indicators could, for example, focus on:

- defined daily doses of antibiotic use in ambulatory care per 1 000 inhabitants
- prescription or referrals in accordance with guidelines
- percentage of individuals with COPD or asthma who have had a lung function measurement during the last 12 months
- percentage of diabetic population with blood pressure above 140/90 mmHg observed in the last 12 months.

Evidence shows that such clinical performance and efficiency indicators are available in only a limited number of OECD countries. Canada, Denmark, Estonia, Finland, France, Israel, Italy, Latvia, Lithuania, the Netherlands, Portugal, Slovenia, Spain, Sweden, the United Kingdom and the United States, are among these countries (Reynders et al., 2018[115]; OECD, 2017[114]; Chipman, 2019[116]). Ideally, the information collected should be used systematically to identify inappropriate or poor primary health care and undertake actions for quality improvement (as is already done in some regions of Italy and Spain**)**. In the region of Lazio, for example, primary health care quality indicators are systematically used by the Health Plan Directorate to evaluate clinical performance for chronic conditions, and to set clinical and organisational objectives for health care providers. Similarly, in Spain, performance indicators help to target strategic areas of improvement in health centres, which has resulted in slight improvements in some of the health problems which were prioritised (Reynders et al., 2018[115]).

Other than that, a strong health information infrastructure (notably though standardised national electronic health records) is required for disease surveillance, clinical trials and health system management which can help through the COVID-19 crisis and future public health crises. Effective use of such data would assist health professionals, researchers, and policy makers to understand the severity of pandemic disease, analyse trends and transmission patterns, and ensure preventive measures (Carinci, 2020[117]). Currently, only Finland, Estonia, Israel, Denmark, Austria, Canada, the Slovak Republic and the United Kingdom, as well as Singapore, have high technical and operational readiness to generate information from EHRs (Oderkirk, 2017[118]). To face future public health emergencies, there is a critical need to strengthen health information infrastructures and promote effective use of such data.

Collecting patient-reported measures at the primary health care level is an opportunity for monitoring and improving the effectiveness of issues that matter most to patients

Health care systems still know relatively little about how primary health care contributes to improve people's well-being and their ability to play an active role in society, as well as whether services meet people's expectations and needs. Patient-reported indicators can measure both health status and the experience of receiving health care from the patients' perspective. Such indicators are essential to ensure services are responsive to the needs and preferences of the people they serve, and to improve the quality and outcomes of primary health care. They are defined as:

- Patient-reported experience measures (PREMs), which capture the patient's view on health service delivery (e.g. communication with nurses and doctors, staff responsiveness, discharge and care co-ordination); whereas
- Patient-reported outcome measures (PROMs), provide the patient's perspective on their health status (e.g. symptom burden, side effects, mental health and social functioning).

It is vital to consult patients on the primary health care aspects that matter most to them. As primary health care is often the first point of contact with the health care system, taking into account patients' perspectives on their experiences with services, their values and perceptions, are all crucial elements for performance assessment. Yet, there is little effort nationally and internationally to survey patients' self-reported outcomes and experiences, which makes it very difficult to gauge what improvements are necessary from patients' perspectives. Very few countries survey PROMs within primary health care, while PREMs are collected in 18 OECD countries at national level. England and the United States are among the few OECD countries collecting PREMs at practice level. In 2017, the OECD launched the Patient-Reported Indicators Surveys (PaRIS) to address the need to understand the outcomes and experiences of people with chronic diseases; preparation for the survey instruments is ongoing (Box 1.5).

Box 1.5. The PaRIS survey

In 2017, the OECD launched the Patient-Reported Indicators Surveys (PaRIS) to address the need to understand the outcomes and experiences of people with chronic diseases. PaRIS offers an opportunity for gathering the evidence necessary to transform health care systems into patient-centred systems based on the needs of the people they serve.

The initiative includes:

- the collection of validated, standardised, internationally comparable patient-reported indicators in three areas: hip and knee replacements, breast cancer care and mental health care
- the collection of a new set of internationally comparable measures which focus on patients with one or more chronic conditions, who are living in the community, and who are largely treated in primary health care or other ambulatory care settings.

Counselling in primary health care and the use of mobile health apps have great potential to improve patient self-management

A range of services can be provided in primary health care that support individuals to gain access to necessary information, develop technical skills, such as techniques for self-administration of medication or to practice new exercises, and ultimately, ensure a high level of self-efficacy and behaviour change. There is a growing body of evidence showing that patients who are more involved in their care have better health outcomes and care experiences (Hibbard and Greene, 2013[119]). Clinical and non-clinical services to support self-management are varied. Such services include personalised care planning, one-on-one coaching and counselling in primary health care.

Health coaching or counselling offers self-management support enabling a patient to be an active participant in the self-management of a chronic condition. Evidence shows that such strategies, most often offered as part of combined lifestyle interventions, achieve sustained behavioural change, including improved nutrition, physical activity, weight management and medication adherence (DeJesus et al., 2018[120]). In the Netherlands, for example, the Coaching on Lifestyles (Cool) intervention and the SLIMMER diabetes prevention lifestyle intervention in Dutch primary health care have been effective in improving body weight, dietary intake, physical activity and quality of life over the long term (van Rinsum et al., 2018[121]; Duijzer et al., 2017[122]). Canada, the Czech Republic, Estonia, Germany, Italy and Japan are among the relatively few other OECD countries offering counselling in primary health care.

In addition, mobile health and technology-based platforms offer a wide range of smart modalities for self-management support and by which patients can interact with health professionals on health-related activities, ranging from prevention to diagnosis, treatment and monitoring (OECD, 2017[123]). Patient-provider portals (as developed in Estonia, Finland and Turkey), smartphone applications (as developed in Australia and the United Kingdom) and telehealth interventions to support self-management (as in Denmark) show promise for improving self-efficacy, health behaviours and clinical outcomes (Whitehead and Seaton, 2016[124]; Ormel et al., 2018[125]; Payne et al., 2018[126]; Chandrashekar, 2018[127]; Guo and Albright, 2018[128]; Hanlon et al., 2017[129]).

1.3.3. Improving access and equity through primary health care

Expanding coverage of primary health care services should be a priority

Financial barriers to primary health care, including co-payments or cost-sharing arrangements, are still too significant in some OECD countries. As of 2016, user charges or other types of cost sharing for using

primary health care exist in 12 out of 32 countries. In Finland, Iceland, Japan, Latvia, Norway, Portugal, Slovenia and Sweden patients pay user fees or co-payments, while in Belgium, France, Luxembourg and Switzerland patients have to pay the full cost and get reimbursed for covered services afterwards. For example, across OECD countries, co-payment per visit ranges from EUR 1 in France, EUR 1.42 in Latvia, to around EUR 14 in Norway (NOK 136) and Finland (FIM 82). In Australia, Medicare data show that patient out-of-pocket contributions continue to increase each year. Between 2016-17 and 2017-18, out-of-pocket costs to visit a GP increased from AUD 35.86 to AUD 37.39, and there has been a 20% increase in these costs since 2013-14 (The Royal Australian College of General Practitioners, 2018[46]).

Previous work shows that covering health care costs for populations not previously covered increases their use of health care services, which also improves health outcomes, particularly among the poorest populations and for children (Bourgueil, Jusot and Leleu Henri, 2012[130]). Several OECD countries are taking steps to remove financial barriers that impede access to primary health care. These strategies range from making primary health care free at the point of care (as seen in Greece in 2016), to reducing the amount of out-of-pocket payments or setting a ceiling (as seen in Belgium and Iceland in 2017). Specific measures associated with the response to the COVID-19 crisis were introduced to cover diagnostic testing for the disease and regulate their prices, for example, in the United States, Germany and France (OECD, 2020[68]). Efforts in this direction should be stepped up universally to ensure that no one is left behind.

New configurations for bringing health care delivery closer to communities can improve continuity of care and reduce health inequalities

Digital consultations can improve timely and geographical access to primary health care

Telemedicine, through digital consultations for example, makes primary health care services available to patients closer to their home or work. This allows communication between patients and medical staff, as well as the transmission of medical records and other data between different locations. Teleconsultation is a very promising way to improve access –- both in respect of time and geographic location – and to relieve pressure on primary health care physicians. Liddy et al (2019) show that patients were highly satisfied with teleconsultation in terms of met expectations and confidence, and patients rated the service “high” for quality of care, timeliness, improved access, and safety (Liddy et al., 2014[131]). Several other reviews show evidence associating telemedicine with improvements in access to care, reduced travelling costs and better equity for rural and indigenous populations (Caffery et al., 2017[132]; Atherton et al., 2018[133]; Caffery et al., 2017[132]; Atherton et al., 2018[133]; Cravo Oliveira Hashiguchi, 2020[134]).

In the majority of countries, digital consultations (set up either in the public or private sector) have been deployed to improve access to health care services for patients living in remote areas (Canada, Costa Rica, the Czech Republic, Finland, France, Korea, Norway and Sweden). The Saskatchewan region of Canada started a pilot programme in 2017 called Remote Presence Technology (RPT). Accordingly, a physician, nurse or pharmacist will be “present” in several Northern communities to give patients the ability to access these services without leaving their own community. The RPT initiative shows promise in reducing travel and time costs for patients. As demonstrated by the Ontario Telemedicine Network, patients in the Canadian Network avoided travelling 270 million kilometres in 2017 and the network saved CAD 71.9 million in travel grants (OTN, 2018[135]).

Mobile clinics provide high quality primary health care to high-risk populations

Low-income and minority groups often suffer with poorer health, have multiple risk factors for diseases and face a higher number of barriers in accessing health care services (OECD, 2019[39]). Transforming primary health care services to better reach out to vulnerable population groups is vital at a time when inequalities are persisting across OECD countries.

Developing mobile health clinics is a policy option with the potential to alleviate health disparities for the most vulnerable populations (Peritogiannis et al., 2017[136]; Yu et al., 2017[137]). Mobile health clinics provide a wide range of primary health care services (including preventive care, mental health or dental services) from a bus or a van equipped with all of the necessary technology to provide clinical services in underserved or disadvantaged areas. Such facilities provide community-tailored care to vulnerable populations, both in urban and rural areas, to overcome barriers of time, money, or distance, and are particularly effective in providing urgent or preventive health care, and for initiating chronic disease management.

International experience shows that mobile primary health care clinics are able to gain the trust of vulnerable populations. Moreover, they also contribute to better health outcomes through improved access to screening (as seen in Latvia), better management of chronic diseases such as mental health (as seen in France), and by addressing social determinants of health (as seen in Mexico and the United States). In Germany and Portugal, mobile health clinics are being implemented in some rural areas to guarantee adequate primary health care and help alleviate workforce shortages.

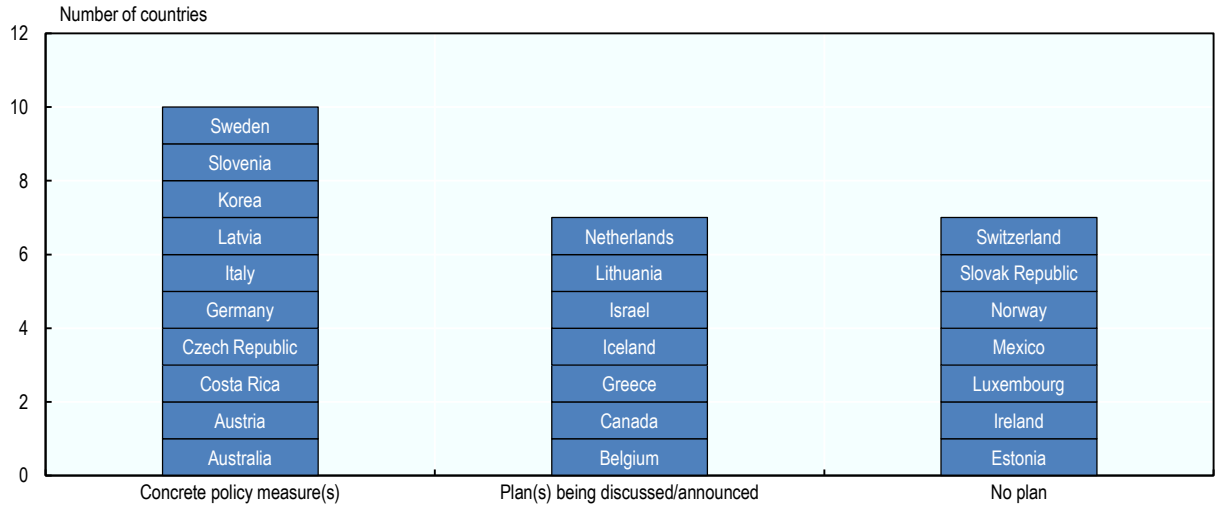
Engaging primary health care action in the workplace will promote more inclusive societies

Connecting primary health care and occupational health is critical for better prevention of chronic conditions (such as musculoskeletal or mental health disorders) that lead to absenteeism or early departure from the labour force (James, Devaux and Sassi, 2017[138]). In 2017, exposure at work to injuries, noise, carcinogenic agents, airborne particles and ergonomic risks accounted for a substantial share of the burden of chronic diseases at global level (for example 37% of all cases of back pain and 11% of asthma) (WHO, 2017[139]).

Through closer integration between primary health care and work, health policies can play an important role in reducing the detrimental labour market impact of ill-health, contributing to reducing social health inequalities for better lives and more inclusive economies (OECD, 2017[140]). Primary health care could take a more proactive role in this direction. However, in 2018, only 10 countries out of 24 implemented concrete measures aimed at strengthening the role of primary health care in protecting and improving workers health (Figure 1.10), this is despite evidence suggesting the effectiveness of such interventions (Nicholson and Gration, 2017[141]).

Among OECD countries, the few positive examples include Germany and Sweden, where plans focus on prevention of mental distress at work and on easing the return to work for people who have suffered a disabling experience. Sweden, for example, has recently developed a new function within primary health care called “the rehabilitation co-ordinator” to enhance return to work outcomes in patients with common mental disorders.

Figure 1.10. Less than half of OECD countries implemented concrete policy measures aimed at strengthening the role of primary health care in protecting and improving workers' health



Note: Countries were asked whether policy measures aimed at strengthening the role of primary health care in protecting and improving workers' health were introduced in recent years.
Source: OECD (2018[65]), Policy Survey on the Future of Primary Care.

Revisiting the roles of health care professionals to better serve needs in remote areas

Revisiting how health care professionals are utilised and changing their scope of practice can improve access to primary health care services in remote or underserved areas where there is a shortage of primary health care physicians. This is widely recommended to help manage the increasing demands for health care, while reducing geographical inequalities in access to care. A positive trend that is apparent in some OECD countries is the growing role of nurse practitioners, community pharmacists and community health workers to carry out patient education, prevention, chronic disease management and immunisations traditionally carried out only by doctors.

In France, for example, extending the roles of nurses and pharmacists is part of the National Plan Ma santé 2022 to improve access in underserved areas. The new decree, released in June 2018, established the profession of Advanced Nurse Practitioner (Infirmière en Pratique Avancée). The Advanced Nurse Practitioner will work within a primary health care team and is expected to manage patients with chronic conditions and take the lead in prevention and co-ordination. In addition, the role of community pharmacists is being gradually increased in France. They are allowed to undertake vaccination and perform three rapid diagnostic orientation tests: the capillary blood glucose test (diabetes screening), the oropharyngeal tests for influenza and the group A streptococcal tonsillitis test. In Switzerland, the Swiss Pharmacist's Association (pharmaSuisse) has developed the Netcare programme to face a relative shortage of GPs. Participant community pharmacists provide primary triage using a structure decision tree for 24 common conditions, and if exclusion criteria are not met, the community pharmacist can manage the care (see Box 1.6). Recent evaluation shows positive results (Erni et al., 2016[142]), with pharmacists able to resolve around three-quarters of the cases presented to them. The Netcare programme is now rolled-out nationally. In 2017, 309 pharmacies were enrolled in the NetCare project, and they are being progressively introduced in some health insurance schemes. In Australia, Belgium, Canada, Italy and the United States, community pharmacists also carry out patient education, disease prevention, chronic disease management and immunisations traditionally carried out only by doctors.

Box 1.6. Collaboration between physicians and pharmacists in primary health care in Switzerland: The NetCare programme

Assessment of a patient's medical condition consists of a two-step process. The first step consists of checking for the exclusion criteria, which relates to patients with severe co-morbidities, unclear clinical situations, or alarming symptoms. The second step consists of assessing the patient's medical condition with the specific decision tree, which can result in:

- Management by the pharmacist (counselling and dispensing of over the counter drugs), the pharmacist will also make a follow-up call to check the patient's condition three days after the assessment.
- Management by the pharmacist with physician backup via the telemedicine centre with a secure video consultation. If appropriate, a prescription is sent to the pharmacist.

  Referral to either an emergency room or GP for a face-to-face consultation.

Source: OECD (2018[65]), Policy Survey on the Future of Primary Care and Erni et al (2016[142])', "netCare, a new collaborative primary health care service based in Swiss community pharmacies", https://doi.org/10.1016/j.sapharm.2015.08.010.

Tools are needed to improve health information for underserved populations

Providing clear information about rules for access to care and about available services helps patients from different social and economic backgrounds access and use primary health care services in a more timely and appropriate way (OECD, 2018[143]). The provision of sufficient information about health care entitlements and available primary health care services is a key element in making primary health care services more approachable by improving health literacy skills. It is important that these initiatives reach their target audience, such as certain population groups (the migrant population for example) or people suffering from specific conditions, (such as mental health or other chronic conditions).

There are good examples across OECD countries of how to improve transparency on available primary health care services through online tools (for example, Symptom Checker or HealthDirect in Australia, *Santetresfacile* in France) and information sessions or education courses (as in Sweden which targets the migrant population, and Spain with the Network of Health Schools for Citizenship).

Developing specific training or tools for health professionals to best tailor information to high-risk or priority population groups is another key policy option. In Ireland, the ENGAGE initiative has worked to equip primary health care providers with the skills and resources to best engage and work with men (Jakab et al., 2018[144]). This initiative was launched in response to higher rates of poor lifestyle behaviours among men and low-utilisation of primary health care services. ENGAGE has been found to boost community outreach and uptake of primary health care prevention and health promotion services among this target group (Jakab et al., 2018[144]). In the Netherlands, to increase access and use of health information, PHAROS – the Dutch Centre of Expertise on Health Disparities – in co-ordination with other stakeholders, has developed specific tools for primary health care providers to optimise the delivery of primary health care services to migrant groups (EuroHealthNet, 2016[145]). Resources include a website for GPs with frequently asked questions on the provision of services to immigrant patients, a teaching toolkit for education in the prevention of girls' circumcision, and a programme for refugee children aged 10-12 years (EuroHealthNet, 2016[145]).

1.4. Conclusions: Summary of key policy ingredients to realise the full potential of primary health care

Table 1.2 summarises the findings of the report. For each chapter, the table highlights the main type of policy levers, which are organised around four categories: regulations to mandate changes in primary health care systems; organisational changes around for example the delivery model, the location or tools available for primary health care systems; economic incentives on the demand and supply sides, and patient empowerment policies including information support, patient's education or counselling. In the second columns of the table, many country examples of good practice are given.

Table 1.2. Summary of findings

Chapter 2. Improving efficiency	
Type of policy levers	**Country examples**
Regulation – Changes in training	**France**: Introduction of a public health rotation for students in the health sector. **Belgium:** Strengthening of initial and ongoing training on health promotion, disease prevention, shared communication.
	Canada, England, Germany and the United States: Strengthening competencies on the use of digital health technology.
Regulation – Develop new support roles for nurses, community pharmacists and other community health workers	**Australia:** Upskilling primary health care nurses in mental health literacy and clinical skills. **Latvia**: Introduction of second practice nurses in primary health care teams to deliver health checks and public health care. **Ireland:** Development of registered nurse prescribers to be able to prescribe a range of medicinal products. **Canada:** Development of nurse navigators to improve co-ordination and continuity of care
	Belgium: Introduction of pharmacist co-ordinators to take the lead in medication reviews. **United Kingdom**: Community Pharmacist Consultation Service is being introduced to develop the role of community pharmacy in primary health care. **Switzerland:** Development of the "No to Colorectal Cancer" campaign in community pharmacies. **Finland:** Diabetes programme for community pharmacists called "Apteenkkien Diabetesohjelma". **Italy**: The first national diabetes prevention campaign in pharmacies was organised in 2017.
	Canada: Development of primary health counsellor to provide mental health services. **United States**: Development of community health educator referral liaison to link patient with community-based services. **Costa Rica**: Introduction of health promotor to increase the focus on health promotion and disease prevention in primary health care settings. **United Kingdom**: Five different primary health care roles are being introduced (clinical pharmacists, social prescribing link workers, physician associates, first contact physiotherapists and first contact community paramedics) to provide clinical services, patient education and link patients with community-based services.
Organisational change – Use of digital technology (teleconsultation, EHR and ePrescription)	**Canada:** The Ontario Telehomecare project provides co-ordinated support from primary health care teams to people with complex chronic diseases. **Estonia**: eConsultation service in primary health care is implemented to allow primary health care physicians to consult with specialists on difficult cases online. **United Kingdom**: Babylon GP at Hand offers digital and face-to-face consultations to registered patients.
	Finland: POTKU model provides primary health care physicians with the locally developed Evidence-Based Medicine electronic Decision Support system, which is matched with EHR. **Spain**: EHR is integrated with a patient portal, an electronic prescription system and tele-monitoring service. **Israel:** Portable EHR in community care supports the sharing of information among physicians, laboratories, diagnostic centres, hospitals and patients.
	Estonia, Sweden, Australia, New Zealand, Lithuania: ePrescription service is well-developed in primary health care settings.

Organisational change – Availing primary and community care (intermediate care facilities and discharge home-based programmes)	**France**: More than 500 local hospitals will act as intermediate care facilities to provide primary health care services, rehabilitation and nursing care. **Norway, Netherlands:** Intermediate care facilities are well established to reduce the number of hospital admissions and emergency department visits. **Costa Rica**: Development of interdisciplinary outpatient units for people with mental health issues and of health hostels for patients with chronic conditions. **Ireland**: Introduction of community intervention teams to provide post-acute and nursing care. **Mexico**: Introduction of Health Centers with Extended Services (called *CESSAS*) as intermediate care facilities.
	Canada, the United Kingdom: Virtual wards provides short-term transitional care at home to high risk patients with complex needs who have recently been discharged from hospitals. **Germany**: Introduction of discharge home-based programmes for patients with mental health care issues.
Economic incentive – Design pay-for prevention, for co-ordination, for performance and other value-based payment	**Canada:** Additional fees are offered to primary health care physicians to compensate for communicating and sharing information with the care team. **Iceland, Italy, Israel:** Additional remuneration for primary health care physicians responsible for patient with chronic conditions. **Australia**: The Practice Incentives Program supports general practice activities that encourage continuing improvement and quality care including improving health outcomes relating to chronic diseases. **France**: *Experimentations de nouveaux modes de remuneration* entailed a lump-sum payment per patient for co-ordinating activities, provision of new services and inter-professional co-operation. **Austria, Denmark, Germany, Sweden, Netherlands**: Implementation of pay for co-ordination schemes. **United States:** The Comprehensive Primary Care Plus model allow providers to bill for care co-ordination and care transition services. **Czech Republic, Denmark, Norway, Sweden, the United Kingdom**: Hospitals or municipalities are fined for excessive delays in discharge from hospital. **Canada**: Primary health care physicians are provided with a financial incentive for a timely primary health care appointment post-hospital discharge.
	England: The Quality and Outcome Framework included 75 indicators in 2017-19. **France**: *Remunération sur Objectifs de Santé* Publique targeted management of chronic conditions, prevention activities and efficiency in 2018. **Estonia**: The Quality Bonus System targets prevention, monitoring of chronic diseases according to national guidelines and enhanced services. **Chile**: The P4P programme has two components: the health goals and the primary health care activity. **Czech Republic**: Each health insurance fund designs its own P4P programme **United States:** P4P programmes designed for community pharmacists to increase their role in the delivery of primary health care services.
Chapter 3 – A. More effective and patient-centred care through disease prevention and care co-ordination	
Type of policy levers	**Country examples**
Organisational change – Develop new models of primary health care delivery based on teams or networks	**United States**: Development of Patient-Centered Medical Homes, and recently the Comprehensive Primary Care Plus. **Australia**: Establishment of 31 Primary Health Networks, and 132 Health Care Homes. **Canada**: Development of the Physician Integrated Framework, which gave an impetus to the development of My Health Team in several provinces. **France**: Development of *Centres de Santé* and *Communautés Professionnelles Territoriales de Santé.* **Austria:** Establishment of primary health care units.
Organisational change – Implementing portable EHR	**Spain**: Use of risk stratification by unifying EHR with various data sources, including demographics, primary health care, hospital care and prescription data. **Israel:** All the health funds have comprehensive EHR in community care to support delivery of care processes. **United States:** HealthConnect, the largest EHR implemented by Kaiser Permanente, has many functionalities to support primary health care teams.

Economic incentive – Bundled payments, needs-based capitation and population-based payments	**Australia**: Funding for Health Care Homes is bundled into periodic payments (levels of payments linked to patient's level of complexity). **Canada:** Introduction of Comprehensive Care Management (CCM) in Manitoba for patients with chronic conditions (5 tariffs are available according to patient's level of complexity). **France**: Experimentation of bundled payments (*Paiement en Equipe des Professionnels de Santé)* for patients followed by a multi-disciplinary team. **Belgium:** Interprofessional Integrated Needs-based Capitation payment introduced to take into account patient's level of complexity and stimulate collaboration.
	United States: Implementation of several population-based payments with a shared saving approach in ACOs. **Germany:** Gesundes Kinzigtal GmbH is an integrated care model whith a shared saving approach. **France:** Implementation of a five-year pilot programme called *Incitation à une Prise en Charge Partagée*, which is similar to shared savings population-based financing.
Chapter 3 – B. More effective and patient-centred care through patient self-management and greater responsiveness	
Type of policy levers	**Country examples**
Patient empowerment – Collecting primary health care on clinical performance and undertake quality improvement actions	**Israel:** The Quality Indicators in Community Healthcare programme captures more than 35 measures of quality of primary health care. **Sweden**: Primary Care Quality Sweden is a quality improvement system comprising around 150 quality measures and technical methods for collecting data automatically. **Italy**: In the region of Lazio, primary health care quality indicators are systematically used by the Health Plan Directorate to evaluate clinical performance for chronic conditions. **Spain:** Performance indicators help to target strategic areas of improvement in health centres. **United States**: The CAHPS surveys collect PREMs indicators at practice level and for specific health conditions. **England:** The GP Patient Survey assesses patient's experience of health care services provided by GP practices within the NHS.
Patient empowerment – Individual and group-based services to support better self-management	**Netherlands**: Implementation of several Combined Lifestyle Intervention such as the Coaching on Lifestyles intervention and the SLIMMER diabetes prevention lifestyle intervention. **Canada, Czech Republic, Germany:** Implementation of brief alcohol intervention in primary health care settings and the workplace. **Italy, Japan, Estonia:** Implementation of health education and counselling in primary and community settings to improve diets, physical activity and screening uptake. **Australia, New Zealand, the United Kingdom and the United States**: Peer support groups used for mental health care to provide education, emotional support and practical problem-solving assistance. **Canada**: Your Way to Wellness programme in Nova Scotia is a self-management programme for those living with chronic diseases.
Organisational change – Use of digital technology (patient-provider portals, smartphones, internet-based monitoring)	**Finland**: The Oulu Self Care Service is an electronic platform providing self-care services. **Canada**: miHealth application is a secure platform for patients and physicians to communicate. **Estonia:** Patient portal allows access to personal health information, to relevant health information based on their health status and to treatment plans. **Turkey:** E-pulse is the personal health record system where people can share their medical records with their doctor, make medical appointments, and self-monitoring their condition.
	Australia: The Symptom Checker is an online tool to guide consumers to the most appropriate health care and to provide advice. **United Kingdom:** Babylon Health GP at Hand deliver personalised health assessments, treatment advice and face-to-face appointments.
	Denmark: TeleCare North is a telemonitoring programme for chronic conditions involving the North Denmark regional authority, its hospitals, GPs and 11 municipalities. **Austria:** The Health Dialogue Diabetes Mellitus campaign offers telemonitoring programme. **Czech Republic**: Telemonitoring programmes are offered for chronic heart failure and diabetes. **Ireland**: Telemonitoring programme are offered for epilepsy. **Lithuania**: Telemonitoring programme are offered for palliative care.

Economic incentive – Health care vouchers or coupons, personal health budgets and conditional cash transfers	**United States**: California's Medicaid programme introduced non-health-related incentives (movie tickets or gift certificates) to reward patients who keep up with scheduled well-child. **Germany:** Health care vouchers for accessing primary health care services was introduced for refugees.
	England: Personal health budgets are offered to people with long-term conditions to improve quality of life, well-being and encourage greater choice and control.
	United States: Conditional cash transfers are used to encourage greater use of preventive health services.
Chapter 4 – Less inequalities and more inclusive societies	
Type of policy levers	**Country examples**
Regulation – Readjust the role of health professionals to improve access to primary health care services in remote and under-served areas	**Australia:** The Allied Health Rural Generalist Program and the Rural Generalist Medical Programme for GPs to address requirements for training, development and ongoing support in rural or remote areas. **United States:** Community health aids provide primary health care services in remote areas (for example Alaskan villages) **France**: A new decree has established the profession of Advanced Nurse Practitioner in 2018, and the role of pharmacists is increasingly growing as part of *Ma Santé 2022*. **Switzerland:** Netcare programme offers opportunities to pharmacists to provide primary triage and non-urgent primary health care.
Organisational change – Use of digital consultation or tele-expertise	**Norway, Sweden, Finland, Costa Rica, Korea**: Video consultations are possible for people living in rural and remote areas. **Czech Republic:** Telemedicine services are possible in cardiology and diabetes care. **Canada (Saskatchewan):** Patients can receive primary health care by visiting the nearest telehealth site and meeting with a professional in a virtual exam room. The Remote Presence Technology pilot allows the primary health care team in the community to have access to expertise on demand. **Lithuania, Portugal**: Tele-expertise between primary health care teams and specialists is possible for dermatology consultation. **Ireland:** Pilot mental telehealth sites have being established. **France, United Kingdom, Germany, Switzerland, Belgium**: Several platforms (such as LIVI, Babylon GP at Hand, or Medlanes) offer fee-charging or non-fee charging video consultations with primary health care teams.
Organisational change – Development of mobile health clinics to reach the most vulnerable populations	**United States**: Mobile primary health care clinics provide screening, preventive care, and management of chronic diseases for deprived population. **Mexico**: Health Windows provide primary health care to localities that do not have access to health services due to their geographic dispersion or characteristics of the population. **Germany, Portugal**: Mobile health clinics are being implemented in some rural areas to guarantee adequate primary health care and to help alleviate workforce shortages. **Latvia:** Mobile primary health care facilities are specifically designed to perform screening, and physical health and dental checks in rural areas. **France:** Mobile health care units (*équipes mobiles psychiatrie précarité*) target mental health care needs for the most vulnerable population. **Greece**: Mobile Mental Health Units provide a range of health care services and educational programmes for the community in rural and remote areas.
Organisational change – Integrate primary health care and social care to address social health determinants	**Canada:** Access Centres and Community Health Centres provide primary health care and health promotion programmes for individuals, and work in close collaboration with the community to address social conditions. **United States:** Development of community partnerships aims at linking patients with community services to address health-related social needs.
Organisational change – Conduct primary health care actions in the workplace	**Sweden**: Rehabilitation coordinators work in primary health care to enhance return to work for patients with common mental disorders. **Belgium**: Prevention advisors give guidance to workplaces on psychological well-being, and support the preparation of risk assessment plans to minimise stress and violence at work. **Germany**: Occupational medical doctors work in collaboration with the primary health care team in order to promote people's health and employability.
Economic incentive – Expanding coverage for primary health care services and reducing out-of-pocket payments	**Greece**: Introduction of universal coverage with primary health care services in 2016. **Belgium**: Introduction of a bill to prevent patients from paying out-of-pocket payments above a certain threshold. **Iceland**: Introduction of a ceiling, and when the upper limit is reached, patients will only pay a low fixed sum every month.

Patient empowerment – Improving the availability of health information and health literacy skills for populations	**Australia:** Healthdirect provides every Australian with access to the trusted information and advice they need to manage their own health **France**: *Santetresfacile* provides information about health professionals to ease access to care, and provide friendly and understandable information to help people monitor their health. **Spain**: The Network of Health Schools for Citizenship offers a wide range of programmes, training tools and evidence-based health information to patients, relatives and caregivers.
	Sweden: Information sessions are organised to encourage discussion among immigrants about common problems with navigating the health care system. **United States**: Kaiser Permanente has telephone-based interpreter services that can be accessed at all times to provide instant translation for foreign-born population.
	Ireland: ENGAGE initiative to equip primary health care providers with the skills and resources to best work with some target population. **Netherlands**: PHAROS offers tools for primary health care providers to optimize the delivery of primary health care services to migrant population.

References

Agency for Healthcare Research and Quality (2018), *Potentially Avoidable Hospitalizations.*, http://www.ahrq.gov/research/findings/nhqrdr/chartbooks/carecoordination/measure3.html (accessed on 9 April 2019). [16]

AHRQ (2016), "Team-Based Primary Care: Convergence of Improving Engagement, Safety, and Enhanced Joy in Practice", *AHRQ Pub. No. 16-0035*, https://micmrc.org/system/files/BEllin%20teambased-1_0.pdf. [108]

AIHW (2019), *Potentially preventable hospitalisations in Australia by small geographic areas*, Web Report, Cat. no. HPF 36. Canberra: AIHW., https://www.aihw.gov.au/reports/primary-health-care/potentially-preventable-hospitalisations/contents/overview (accessed on 5 September 2019). [58]

Aihw (2018), *Emergency department care 2017-18 Australian hospital statistics*, http://www.aihw.gov.au. [24]

Atherton, H. et al. (2018), "Alternatives to the face-to-face consultation in general practice: Focused ethnographic case study", *British Journal of General Practice*, http://dx.doi.org/10.3399/bjgp18X694853. [133]

Auraaen, A., L. Slawomirski and N. Klazinga (2018), "The economics of patient safety in primary and ambulatory care: Flying blind", *OECD Health Working Papers*, No. 106, OECD Publishing, Paris, https://dx.doi.org/10.1787/baf425ad-en. [56]

Bates, D. and A. Bitton (2010), *The future of health information technology in the patient-centered medical home*, http://dx.doi.org/10.1377/hlthaff.2010.0007. [105]

Bell, D., N. Gachuhi and N. Assefi (2018), *Perspective Piece: Dynamic clinical algorithms: Digital technology can transform health care decision-making*, American Society of Tropical Medicine and Hygiene, http://dx.doi.org/10.4269/ajtmh.17-0477. [88]

Berchet, C. (2015), "Emergency Care Services: Trends, Drivers and Interventions to Manage the Demand", *OECD Health Working Papers*, No. 83, OECD Publishing, Paris, https://dx.doi.org/10.1787/5jrts344crns-en. [15]

Bonner, L. (2016), "As pay for performance grows, health plans work with pharmacies", *Pharmacy Today*, http://dx.doi.org/10.1016/j.ptdy.2016.02.024. [97]

Borgermans, L. et al. (2018), "How Leapfrogging in primary care can contribute to upscaling NCD core services", *Eurohealth*, Vol. 24/1. [99]

Bourgueil, Y., F. Jusot and Leleu Henri (2012), "In What Way Can Primary Care Contribute to Reducing Health Inequalities? A Review of Research Literature", *Question d'Economie de la Santé*, http://www.irdes.fr/EspaceAnglais/Publications/IrdesPublications/QES179.pdff. [130]

Buerhaus Peter (2018), *Nurse Practitioners: Nurse Practitioners: A solution to America's primary care crisis*, American Enterprise Institute. [72]

Caffery, L. et al. (2017), *Outcomes of using telehealth for the provision of healthcare to Aboriginal and Torres Strait Islander people: a systematic review*, http://dx.doi.org/10.1111/1753-6405.12600. [132]

Campanella, P. et al. (2016), *The impact of electronic health records on healthcare quality: A systematic review and meta-analysis*, http://dx.doi.org/10.1093/eurpub/ckv122. [78]

Campbell, R. et al. (2003), "Cervical cancer rates and the supply of primary care physicians in Florida", *Family Medicine*. [35]

Carinci, F. (2020), "Covid-19: preparedness, decentralisation, and the hunt for patient zero; Lessons from the Italian outbreak", *BMJ*, Vol. 368, http://dx.doi.org/10.1136/bmj.m799. [117]

Chandrashekar, P. (2018), "Do mental health mobile apps work: evidence and recommendations for designing high-efficacy mental health mobile apps", *mHealth*, http://dx.doi.org/10.21037/mhealth.2018.03.02. [127]

Chaudhry, B. et al. (2006), "Systematic review: impact of health information technology on quality, efficiency, and costs of medical care", *Annals of internal medicine*, http://dx.doi.org/10.7326/0003-4819-144-10-200605160-00125. [77]

Chetty, U. et al. (2016), "The role of primary care in improving health equity: Report of a workshop held by the WONCA Health Equity Special Interest Group at the 2015 WONCA Europe Conference in Istanbul, Turkey", *International Journal for Equity in Health*, http://dx.doi.org/10.1186/s12939-016-0415-8. [38]

Chipman, A. (2019), *Value-Based Healthcare In Sweden: Reaching the next level*, Economist Intelligence Unit Limited, https://eiuperspectives.economist.com/sites/default/files/value-basedhealthcareinswedenreachingthenextlevel.pdf. [116]

Conejo-Cerón, S. et al. (2017), *Effectiveness of psychological and educational interventions to prevent depression in primary care: A systematic review and meta-analysis*, Annals of Family Medicine, Inc, http://dx.doi.org/10.1370/afm.2031. [29]

Cookson, R. et al. (2017), "Primary care and health inequality: Difference-in-difference study comparing England and Ontario", *PLoS ONE*, http://dx.doi.org/10.1371/journal.pone.0188560. [43]

Couturier, B., F. Carrat and G. Hejblum (2016), "A systematic review on the effect of the organisation of hospital discharge on patient health outcomes", http://dx.doi.org/10.1136/bmjopen-2016. [63]

Cravo Oliveira Hashiguchi, T. (2020), "Bringing health care to the patient: An overview of the use of telemedicine in OECD countries", *OECD Health Working Papers*, No. 116, OECD Publishing, Paris, https://dx.doi.org/10.1787/8e56ede7-en. [134]

Cylus, J., I. Papanicolas and P. Smith (2016), *Health System Efficiency. How to make measurement matter for policy and management*, WHO Regional Office for Europe, Copenhagen, Denmark. [25]

Dahl, U., A. Steinsbekk and R. Johnsen (2015), "Effectiveness of an intermediate care hospital on readmissions, mortality, activities of daily living and use of health care services among hospitalized adults aged 60 years and older - A controlled observational study", *BMC Health Services Research*, http://dx.doi.org/10.1186/s12913-015-1022-x. [89]

de Bakker, D. et al. (2012), "Early results from Adoption of bundled payment for diabetes care in the Netherlands show improvement in care coordination", *Health Affairs*, http://dx.doi.org/10.1377/hlthaff.2011.0912. [111]

De Maeseneer, J. and P. Boeckxstaens (2012), *Debate & analysis James Mackenzie lecture 2011: Multimorbidity, goal-oriented care, and equity*, http://dx.doi.org/10.3399/bjgp12X652553. [96]

Declaration of Astana - Global Conference on Primary Health Care (2018), *Declaration of Astana*, https://www.who.int/docs/default-source/primary-health/declaration/gcphc-declaration.pdf. [7]

Deetjen, U. (2016), "European E-Prescriptions: Benefits and Success Factors", *Cyber Studies Programme*, No. 5, Oxford Internet Institute, University of Oxford, http://www.politics.ox.ac.uk/centre/cyber-studies-programme.html (accessed on 18 July 2019). [83]

DeJesus, R. et al. (2018), "Impact of a 12-week wellness coaching on self-care behaviors among primary care adult patients with prediabetes", *Preventive Medicine Reports*, http://dx.doi.org/10.1016/j.pmedr.2018.02.012. [120]

Del Fiol, G., T. Workman and P. Gorman (2014), *Clinical questions raised by clinicians at the point of care a systematic review*, http://dx.doi.org/10.1001/jamainternmed.2014.368. [54]

Duijzer, G. et al. (2017), "Effect and maintenance of the SLIMMER diabetes prevention lifestyle intervention in Dutch primary healthcare: A randomised controlled trial", *Nutrition and Diabetes*, http://dx.doi.org/10.1038/nutd.2017.21. [122]

East Melbourne, V. (ed.) (2018), *General Practice: Health of the Nation 2018*, http://www.racgp.org.au. [46]

Erni, P. et al. (2016), "netCare, a new collaborative primary health care service based in Swiss community pharmacies", *Research in Social and Administrative Pharmacy*, http://dx.doi.org/10.1016/j.sapharm.2015.08.010. [142]

EuroHealthNet (2016), *How the Netherlands and PHAROS are reducing health inequalities and improving health literacy*, http://eurohealthnet-magazine.eu/how-the-netherlands-is-reducing-health-disparities-and-ensuring-heath-and-good-quality-care-for-all-thanks-to-pharos (accessed on 6 June 2019). [145]

Fisher, R. et al. (2017), *GP views on strategies to cope with increasing workload: A qualitative interview study*, http://dx.doi.org/10.3399/bjgp17X688861. [49]

Fleetcroft, R. et al. (2018), "Does practice analysis agree with the ambulatory care sensitive conditions' list of avoidable unplanned admissions?: A cross-sectional study in the East of England", *BMJ Open*, http://dx.doi.org/10.1136/bmjopen-2017-020756. [57]

Frenk, J. et al. (2010), *Health professionals for a new century: Ttransforming education to strengthen health systems in an interdependent world*, http://dx.doi.org/10.1016/S0140-6736(10)61854-5. [50]

Friedberg, M. et al. (2015), "Effects of a medical home and shared savings intervention on quality and utilization of care", *JAMA Internal Medicine*, http://dx.doi.org/10.1001/jamainternmed.2015.2047. [102]

Garåsen, H., R. Windspoll and R. Johnsen (2007), "Intermediate care at a community hospital as an alternative to prolonged general hospital care for elderly patients: A randomised controlled trial", *BMC Public Health*, http://dx.doi.org/10.1186/1471-2458-7-68. [90]

Grava-Gubins, I., A. Safarov and J. Eriksson (2012), *2010 National Physician Survey : Workload patterns of Canadian Family Physicians*. [47]

Green, L., S. Savin and Y. Lu (2013), "Primary care physician shortages could be eliminated through use of teams, nonphysicians, and electronic communication", *Health Affairs*, http://dx.doi.org/10.1377/hlthaff.2012.1086. [64]

Guanais, F. et al. (2019), "Primary Health Care and Determinants of the Perception of the Health System and Quality of Care in 17 Countries in LAC and the OECD", in Guanais, F. et al. (eds.), *From the Patient's Perspective: Experiences with primary health care in Latin America and the Caribbean*, Inter-American Development Bank, Washington, DC. [36]

Guo, Y. and D. Albright (2018), "The effectiveness of telehealth on self-management for older adults with a chronic condition: A comprehensive narrative review of the literature", *Journal of Telemedicine and Telecare*, http://dx.doi.org/10.1177/1357633X17706285. [128]

Haines, A. et al. (2020), "National UK programme of community health workers for COVID-19 response", *The Lancet*, Vol. 395, https://doi.org/10.1016/S0140-6736(20)30735-2. [69]

Hanlon, P. et al. (2017), *Telehealth interventions to support self-management of long-term conditions: A systematic metareview of diabetes, heart failure, asthma, chronic obstructive pulmonary disease, and cancer*, http://dx.doi.org/10.2196/jmir.6688. [129]

Hartley, L. (2002), "Examination of primary care characteristics in a community-based clinic", *Journal of Nursing Scholarship*, Vol. 34/4, pp. 377-382, http://dx.doi.org/10.1111/j.1547-5069.2002.00377.x. [34]

Hernández, C. et al. (2018), "Implementation of Home Hospitalization and Early Discharge as an Integrated Care Service: A Ten Years Pragmatic Assessment", *International Journal of Integrated Care*, http://dx.doi.org/10.5334/ijic.3431. [93]

Hibbard, J. and J. Greene (2013), "What the evidence shows about patient activation: Better health outcomes and care experiences; fewer data on costs", *Health Affairs*, http://dx.doi.org/10.1377/hlthaff.2012.1061. [119]

Hirschhorn, L. et al. (2019), "What kind of evidence do we need to strengthen primary healthcare in the 21st century?", *BMJ Global Health*, Vol. 4/Suppl 8, p. e001668, http://dx.doi.org/10.1136/bmjgh-2019-001668. [8]

Hobbs, F. et al. (2016), "Clinical workload in UK primary care: a retrospective analysis of 100 million consultations in England, 2007–14", *The Lancet*, http://dx.doi.org/10.1016/S0140-6736(16)00620-6. [44]

Hone, T., J. Macinko and C. Millett (2018), "Revisiting Alma-Ata: what is the role of primary health care in achieving the Sustainable Development Goals?", *The Lancet*, Vol. 392/10156, pp. 1461-1472, http://dx.doi.org/10.1016/S0140-6736(18)31829-4. [9]

Hujala Anneli et al. (2016), *The POTKU project (Potilas kuljettajan paikalle, Putting the Patient in the Driver's Seat), Finland*, http://www.icare4eu.org/pdf/POTKU_Case_report.pdf (accessed on 20 May 2019). [79]

Huntley, A. et al. (2014), "Which features of primary care affect unscheduled secondary care use? A systematic review", *BMJ Open*, http://dx.doi.org/10.1136/bmjopen-2013-004746. [13]

Hussey, P. et al. (2012), "Closing the quality gap: revisiting the state of the science (vol. 1: bundled payment: effects on health care spending and quality).", *Evidence report/technology assessment*. [109]

Iankowitz, N. et al. (2012), "The effectiveness of computer system tools on potentially inappropriate medications ordered at discharge for adults older than 65 years of age: a systematic review.", *JBI library of systematic reviews*, Vol. 10/13, pp. 798-831, http://dx.doi.org/10.11124/jbisrir-2012-68. [82]

IQVIA (2017), *The Growing Value of Digital Health. Evidence and Impact on Human Health and the Healthcare System*, IQVIA Institute for Human Data Science, https://www.iqvia.com/-/media/iqvia/pdfs/institute-reports/the-growing-value-of-digital-health.pdf?_=1562314612052 (accessed on 5 July 2019). [87]

Jakab, M. et al. (2018), *Health systems respond to noncommunicable diseases: time for ambition*, WHO Regional Office for Europe, Copenhagen. [144]

James, C., M. Devaux and F. Sassi (2017), "Inclusive growth and health", *OECD Health Working Papers*, No. 103, OECD Publishing, Paris, https://dx.doi.org/10.1787/93d52bcd-en. [138]

Khan, R. and K. Socha-Dietrich (2018), "Investing in medication adherence improves health outcomes and health system efficiency: Adherence to medicines for diabetes, hypertension, and hyperlipidaemia", *OECD Health Working Papers*, No. 105, OECD Publishing, Paris, https://dx.doi.org/10.1787/8178962c-en. [81]

Kirkland, S., A. Soleimani and A. Newton (2018), "The impact of pediatric mental health care provided outpatient, primary care, community and school settings on emergency department use – a systematic review.", *Child Adolesc Ment Health* 23, pp. 4-13. [14]

Kitsiou, S. et al. (2017), "Effectiveness of mHealth interventions for patients with diabetes: An overview of systematic reviews", *PLOS ONE*, Vol. 12/3, p. e0173160, http://dx.doi.org/10.1371/journal.pone.0173160. [85]

Kringos, D. et al. (2010), "The breadth of primary care: a systematic literature review of its core dimensions.", *BMC health services research*, Vol. 10, p. 65, http://dx.doi.org/10.1186/1472-6963-10-65. [40]

Kringos, D. et al. (2013), "Europe's Strong Primary Care Systems Are Linked To Better Population Health But Also To Higher Health Spending", *Health Affairs*, Vol. 32/4, pp. 686-694, http://dx.doi.org/10.1377/hlthaff.2012.1242. [28]

Levine, D., B. Landon and J. Linder (2019), "Quality and Experience of Outpatient Care in the United States for Adults With or Without Primary Care", *JAMA Internal Medicine*, Vol. 179/3, p. 363, http://dx.doi.org/10.1001/jamainternmed.2018.6716. [37]

Liddy, C. et al. (2014), "Health coaching in primary care: A feasibility model for diabetes care", *BMC Family Practice*, http://dx.doi.org/10.1186/1471-2296-15-60. [131]

Lin, I., S. Wu and S. Huang (2015), "Continuity of Care and Avoidable Hospitalizations for Chronic Obstructive Pulmonary Disease (COPD)", *The Journal of the American Board of Family Medicine*, Vol. 28/2, pp. 222-230, http://dx.doi.org/10.3122/jabfm.2015.02.140141. [20]

Lorenzoni, L. et al. (2019), "Health Spending Projections to 2030: New results based on a revised OECD methodology", *OECD Health Working Papers*, No. 110, OECD Publishing, Paris, https://dx.doi.org/10.1787/5667f23d-en. [6]

Macinko, J., B. Starfield and T. Erinosho (2009), "The Impact of Primary Healthcare on Population Health in Low- and Middle-Income Countries", *Journal of Ambulatory Care Management*, Vol. 32/2, pp. 150-171, http://dx.doi.org/10.1097/jac.0b013e3181994221. [27]

Macinko, J., B. Starfield and L. Shi (2003), "The contribution of primary care systems to health outcomes within Organization for Economic Cooperation and Development (OECD) countries, 1970-1998", *Health Services Research*, http://dx.doi.org/10.1111/1475-6773.00149. [26]

Maier, C. and L. Aiken (2016), *Expanding clinical roles for nurses to realign the global health workforce with population needs: A commentary*, http://dx.doi.org/10.1186/s13584-016-0079-2. [73]

Matthys, E., R. Remmen and P. Van Bogaert (2017), "An overview of systematic reviews on the collaboration between physicians and nurses and the impact on patient outcomes: What can we learn in primary care?", *BMC Family Practice*, http://dx.doi.org/10.1186/s12875-017-0698-x. [71]

McHale, P. et al. (2013), "Who uses emergency departments inappropriately and when - a national cross-sectional study using a monitoring data system", *BMC Medicine*, Vol. 11/1, http://dx.doi.org/10.1186/1741-7015-11-258. [23]

Medical Association, C. (2017), *CMA Workforce Survey 2017*, http://www.cma.ca/pdc. [48]

Morton, K. et al. (2017), "Using digital interventions for self-management of chronic physical health conditions: A meta-ethnography review of published studies.", *Patient education and counseling*, http://dx.doi.org/10.1016/j.pec.2016.10.019. [86]

Mousquès, J. (2011), "Le regroupement des professionnels de santé de premiers recours : quelles perspectives économiques en termes de performance ?", *Revue française des affaires sociales*, Vol. 2-3, p. pages 253 à 275. [100]

NAP (2019), *State of the science: a synthesis of interprofessional collaborative practice research*, National Academies of Practice, Lexington, https://napractice.org/Portals/0/NAP%20State%20of%20the%20Science%20-%20Final%20for%20publication.pdf. [106]

NCQA (2017), *Patient-Centered Medical Home Recognition*. [103]

NHS (2019), *Investment and evolution: A five-year framework for GP contract reform to implement The NHS Long Term Plan*, NHS England. [70]

NHS (2019), *The Community Pharmacy Contractual Framework for 2019/20 to 2023/24: supporting delivery for the NHS Long Term Plan*, Depatment of Health and social care, NHS and PSNC, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/819601/cpcf-2019-to-2024.pdf. [98]

Nicholson, P. and J. Gration (2017), "What occupational medicine offers to primary care", *British Journal of General Practice*, Vol. 67/662, pp. 392-393, http://dx.doi.org/10.3399/bjgp17X692213. [141]

Nuffieldtrust (2019), *Potentially preventable emergency hospital admissions*, https://www.nuffieldtrust.org.uk/resource/potentially-preventable-emergency-hospital-admissions (accessed on 9 April 2019). [18]

Oderkirk, J. (2017), "Readiness of electronic health record systems to contribute to national health information and research", *OECD Health Working Papers*, No. 99, OECD Publishing, Paris, https://dx.doi.org/10.1787/9e296bf3-en. [118]

OECD (2020), *Beyond Containment: Health systems responses to COVID-19 in the OECD*, OECD Publishing, Paris, http://www.oecd.org/coronavirus/policy-responses/beyond-containment-health-systems-responses-to-covid-19-in-the-oecd-6ab740c0/. [68]

OECD (2019), *Health at a Glance 2019: OECD Indicators*, OECD Publishing, Paris, https://doi.org/10.1787/4dd50c09-en. [59]

OECD (2019), *Health for Everyone?: Social Inequalities in Health and Health Systems*, OECD Health Policy Studies, OECD Publishing, Paris, https://dx.doi.org/10.1787/3c8385d0-en. [39]

OECD (2019), *Health in the 21st Century: Putting Data to Work for Stronger Health Systems*, OECD Health Policy Studies, OECD Publishing, Paris, https://dx.doi.org/10.1787/e3b23f8e-en. [2]

OECD (2019), *Risks that Matter: Main Findings from the 2018 OECD Risks that Matter Survey*, OECD, Paris, http://www.oecd .org/social/risks-that-matter.htm. [1]

OECD (2018), "How resilient were OECD health care systems during the "refugee crisis"?", *Migration Policy Debates*, Vol. 17. [143]

OECD (2018), *Policy Survey on the Future of Primary Care*. [65]

OECD (2017), *Caring for Quality in Health: Lessons Learnt from 15 Reviews of Health Care Quality*, OECD Reviews of Health Care Quality, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264267787-en. [114]

OECD (2017), *OECD Digital Economy Outlook 2017*, OECD Publishing, Paris, https://doi.org/10.1787/9789264276284-en (accessed on 3 July 2019). [123]

OECD (2017), *Preventing Ageing Unequally*, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264279087-en. [140]

OECD (2017), *Tackling Wasteful Spending on Health*, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264266414-en. [60]

OECD (2016), *Better Ways to Pay for Health Care*, OECD Health Policy Studies, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264258211-en. [94]

OECD (2016), *Health System Characteristics Survey*, http://www.oecd.org/els/health-systems/characteristics.htm. [66]

OECD (2016), *Health Workforce Policies in OECD Countries: Right Jobs, Right Skills, Right Places*, OECD Health Policy Studies, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264239517-en. [51]

OECD/EU (2018), *Health at a Glance: Europe 2018: State of Health in the EU Cycle*, OECD Publishing, Paris/EU, Brussels, https://doi.org/10.1787/health_glance_eur-2018-en. [4]

OECD/IDB (2016), *Broadband Policies for Latin America and the Caribbean: A Digital Economy Toolkit*, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264251823-en. [74]

Ormel, H. et al. (2018), "Self-monitoring physical activity with a smartphone application in cancer patients: a randomized feasibility study (SMART-trial)", *Supportive Care in Cancer*, http://dx.doi.org/10.1007/s00520-018-4263-5. [125]

OTN (2018), *OTN Annual Report 2017/2018*, Ontario Telemedicine Network, https://otn.ca/wp-content/uploads/2017/11/otn-annual-report.pdf (accessed on 3 July 2019). [135]

PAE - Pain Alliance Europe (2018), *Survey on chronic pain and your work life: A survey in 14 EU countries.*, Pain Alliance Europe. [3]

Payne, J. et al. (2018), "Defining Adherence to Dietary Self-Monitoring Using a Mobile App: A Narrative Review", *Journal of the Academy of Nutrition and Dietetics*, http://dx.doi.org/10.1016/j.jand.2018.05.011. [126]

Pecina, J. and F. North (2016), "Early e-consultation face-to-face conversions", *Journal of Telemedicine and Telecare*, http://dx.doi.org/10.1177/1357633X15602634. [84]

Peritogiannis, V. et al. (2017), "Mental healthcare delivery in rural greece: A 10-year account of a mobile mental health unit", *Journal of Neurosciences in Rural Practice*, http://dx.doi.org/10.4103/jnrp.jnrp_142_17. [136]

PGEU (2020), *PGEU overview of the expansion of community pharmacy services/activities in relation to COVID-19*, PGEU. [67]

Pimperl, A. et al. (2017), "Case Study: Gesundes Kinzigtal, Germany - Accountable care in Practice: Global perspectives", *Research Gate - Technical Report*. [113]

Purdy, S. (2010), *Avoiding hospital admissions*, The King's Fund, London, https://www.kingsfund.org.uk/publications/avoiding-hospital-admissions. [17]

Ranjan, P., A. Kumari and A. Chakrawarty (2015), "How can doctors improve their communication skills?", *Journal of Clinical and Diagnostic Research*, http://dx.doi.org/10.7860/JCDR/2015/12072.5712. [55]

Reynders, D. et al. (2018), *A new drive for primary care in Europe rethinking the assessment tools and methodologies : report of the Expert Group on Health Systems Performance Assessment*, Publications Office of the European Union. [115]

Rosano, A. et al. (2013), "The relationship between avoidable hospitalization and accessibility to primary care: a systematic review.", *European journal of public health*, Vol. 23/3, pp. 356-60, http://dx.doi.org/10.1093/eurpub/cks053. [11]

Ruano, A., J. Furler and L. Shi (2015), "Interventions in Primary Care and their contributions to improving equity in health", *International Journal for Equity in Health*, http://dx.doi.org/10.1186/s12939-015-0284-6. [42]

Ryan, A. et al. (2016), "Long-term evidence for the effect of pay-for-performance in primary care on mortality in the UK: a population study", *The Lancet*, http://dx.doi.org/10.1016/S0140-6736(16)00276-2. [95]

Salmi, L. et al. (2017), "Interventions addressing health inequalities in European regions: the AIR project", http://dx.doi.org/10.1093/heapro/dav101. [41]

Sans-Corrales, M. et al. (2006), *Family medicine attributes related to satisfaction, health and costs.*, http://dx.doi.org/10.1093/fampra/cmi112. [33]

Santana, M. et al. (2019), *Measuring patient-centred system performance: A scoping review of patient-centred care quality indicators*, BMJ Publishing Group, http://dx.doi.org/10.1136/bmjopen-2018-023596. [62]

Saver, B. (2002), "Financing and Organization Findings Brief", *Academy for Research and Health Care Policy*, Vol. 5/1-2. [32]

Schäfer, W. et al. (2016), "Two decades of change in European general practice service profiles: Conditions associated with the developments in 28 countries between 1993 and 2012", *Scandinavian Journal of Primary Health Care*, Vol. 34/1, pp. 97-110, http://dx.doi.org/10.3109/02813432.2015.1132887. [61]

Schuchman, M., M. Fain and T. Cornwell (2018), "The Resurgence of Home-Based Primary Care Models in the United States", *Geriatrics*, http://dx.doi.org/10.3390/geriatrics3030041. [104]

Shaw T, M. Hines and C. Kielly-Carroll (2017), *Impact of Digital Health on the Safety and Quality of Health Care*, ACSQHC, Sydney. [75]

Shi, L. and B. Starfield (2005), "Primary Care, Income Inequality, and Self-Rated Health in the United States: A Mixed-Level Analysis", *International Journal of Health Services*, http://dx.doi.org/10.2190/n4m8-303m-72ua-p1k1. [31]

Shipman, S. and C. Sinsky (2013), "Expanding primary care capacity by reducing waste and improving the efficiency of care", *Health Affairs*, http://dx.doi.org/10.1377/hlthaff.2013.0539. [52]

Sinsky, C. and T. Bodenheimer (2019), "Powering-Up Primary Care Teams: Advanced Team Care With In-Room Support", *Ann Fam Med*, Vol. 17/4, pp. 367-371, http://dx.doi.org/10.1370/afm.2422. [107]

Sinsky, C. et al. (2016), "Allocation of physician time in ambulatory practice: A time and motion study in 4 specialties", *Annals of Internal Medicine*, http://dx.doi.org/10.7326/M16-0961. [53]

Socha-Dietrich, K. (2019), *Interprofessional Teams for Complex Patients in Primary Health Care: Patients' and health professionals' experience. Fast Track Paper presented at the 25th Session of the Health Committee*, OECD, Paris. [101]

Starfield, B., L. Shi and J. Macinko (2005), "Contribution of Primary Care to Health Systems and Health", *The Milbank Quarterly*, Vol. 83/3, pp. 457–502. [19]

Stokes, J. et al. (2018), *Towards incentivising integration: A typology of payments for integrated care*, http://dx.doi.org/10.1016/j.healthpol.2018.07.003. [112]

Struijs, J. and C. Baan (2011), "Integrating Care through Bundled Payments — Lessons from the Netherlands", *New England Journal of Medicine*, http://dx.doi.org/10.1056/nejmp1011849. [110]

Sung, N., Y. Choi and J. Lee (2018), "Primary care comprehensiveness can reduce emergency department visits and hospitalization in people with hypertension in South Korea", *International Journal of Environmental Research and Public Health*, Vol. 15/2, http://dx.doi.org/10.3390/ijerph15020272. [21]

Tanner, C. et al. (2015), "Electronic Health Records and Patient Safety Co-occurrence of early EHR implementation with patient safety practices in primary care settings", *APPLIED CLINICAL INFORMATICS*, http://dx.doi.org/10.4338/ACI-2014-11-RA-0099. [80]

Thompson, M. and F. Walter (2016), "Increases in general practice workload in England", *The Lancet*, http://dx.doi.org/10.1016/s0140-6736(16)00743-1. [45]

Trivedi, D. (2017), *Cochrane Review Summary: Interventions for improving outcomes in patients with multimorbidity in primary care and community settings*, Cambridge University Press, http://dx.doi.org/10.1017/S1463423616000426. [30]

Valverde-Albacete, J. et al. (2019), *Benchmarking deployment of eHealth among general practitioners (2018)*, European Commission, http://dx.doi.org/10.2759/511610. [76]

Van den Berg, M., T. Van Loenen and G. Westert (2016), "Accessible and continuous primary care may help reduce rates of emergency department use. An international survey in 34 countries", *Family Practice*, Vol. 33/1, pp. 42-50, http://dx.doi.org/10.1093/fampra/cmv082. [22]

van der Brug, F. (2017), "Readmission rates: what can we learn from the Netherlands?", *Nuffieldtrust*, https://www.nuffieldtrust.org.uk/news-item/readmission-rates-what-can-we-learn-from-the-netherlands. [91]

van Loenen, T. et al. (2014), "Organizational aspects of primary care related to avoidable hospitalization: a systematic review", *Family Practice*, Vol. 31/5, pp. 502-516, http://dx.doi.org/10.1093/fampra/cmu053. [12]

van Rinsum, C. et al. (2018), "The coaching on lifestyle (CooL) intervention for overweight and obesity: A longitudinal study into participants' lifestyle changes", *International Journal of Environmental Research and Public Health*, http://dx.doi.org/10.3390/ijerph15040680. [121]

Wammes, J., P. van der Wees and M. Tanke (2018), "Systematic review of high-cost patients' characteristics and healthcare utilization", *BMJ Open*, Vol. 8, p. e023113. [5]

Whitehead, L. and P. Seaton (2016), *The effectiveness of self-management mobile phone and tablet apps in long-term condition management: A systematic review*, http://dx.doi.org/10.2196/jmir.4883. [124]

WHO (2017), *Protecting workers' health Fact sheets*, https://www.who.int/news-room/fact-sheets/detail/protecting-workers'-health. [139]

Wolters, R., J. Braspenning and M. Wensing (2017), *Impact of primary care on hospital admission rates for diabetes patients: A systematic review*, Elsevier Ireland Ltd, http://dx.doi.org/10.1016/j.diabres.2017.05.001. [10]

Yu, S. et al. (2017), *The scope and impact of mobile health clinics in the United States: A literature review*, http://dx.doi.org/10.1186/s12939-017-0671-2. [137]

Zhu, Q. et al. (2015), "Effectiveness of nurse-led early discharge planning programmes for hospital inpatients with chronic disease or rehabilitation needs: A systematic review and meta-analysis", *Journal of Clinical Nursing*, http://dx.doi.org/10.1111/jocn.12895. [92]

Notes

[1] Data are taken from the UEMO questionnaire.

[2] Store and forward telemedicine collects clinical information (such as medical history, laboratory reports, images, or videos) and sends this information to another site for evaluation and for health care professionals to access.

[3] A negative incentive is an incentive that require individuals or organisations to perform in order to avoid a loss.