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Ambulatory care sensitive conditions in Latvia

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Abstract

In the context of a multicounty study on ambulatory care sensitive conditions (ACSC) in the WHO European Region, this study seeks to contribute to strengthening health services delivery by identifying possible improvements to effectively prevent, diagnose and treat ACSCs in primary health care settings, and by deriving contextualized and actionable policy recommendations for health services delivery transformation.

This report contains the results of desk research, data analysis and a country stakeholder meeting aimed at identifying potential opportunities that enable ACSCs to be effectively prevented, diagnosed and treated in a primary health care setting in Latvia.

Keywords

AMBULATORY CARE
PRIMARY HEALTHCARE
HOSPITALIZATION
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Abbreviations

ACSCs	Ambulatory Care Sensitive Conditions
CDPC	Centre for Disease Prevention and Control
CTLD	Centre for Tuberculosis and Lung Diseases
ECDC	European Centre for Disease Prevention and Control
EU	European Union
GP	General Practitioner
ICD-10	International Statistical Classification of Diseases and Related Health Problems, 10th revision
NHS	National Health Service
OOP	Out-of-pocket
PHC	Primary Health Care
SHC	Secondary Health Care
TB	Tuberculosis

Executive summary

The aim of this study is to identify which elements of primary health care (PHC) need strengthening to successfully avoid unnecessary hospitalizations of ambulatory care sensitive conditions (ACSCs) in Latvia. ACSCs are health conditions for which hospitalization or emergency care can be avoided by addressing these conditions effectively in PHC. How the strengthening of PHC can be achieved is captured in a set of actionable policy recommendations. This assessment is part of a multicountry study on ACSCs in the WHO European Region.

After the literature review focusing on the current health care setting in Latvia, hospitalization rates of ACSCs were analysed. Based on this data, a survey among 24 medical experts (21 general practitioners (GPs) and three specialists) was conducted to identify which ACSCs were considered to be most relevant, and to retrieve estimations of the percentage of avoidable hospitalizations for the ACSCs. Survey results and data analysis were used as input for a stakeholder consultation with policy-makers, patient representatives, public health experts, nurses and medical professionals. During the workshop, three ACSCs were selected, and the barriers and opportunities to effectively prevent, diagnose and treat these ACSCs in PHC were identified. The ACSCs are diabetes complications, kidney/urinary infections and tuberculosis (TB). After the workshop, data on hospitalizations for these conditions were analysed to assess regional differences.

Data analysis showed that out of 45 146 ACSCs-related hospitalizations in Latvia in 2013, 6020 were due to diabetes complications; 3260 were due to kidney/urinary infections and 4757 were due to TB, a vaccine-preventable disease. According to survey respondents, at least 57% of TB hospitalizations, 47% of kidney/urinary

infections and 39% of hospitalizations due to diabetes complications could have been avoided by strengthening interventions at PHC level. The estimates of avoidable hospitalization for TB and kidney/urinary infections are conservative compared to similar research from Germany (75% and 86% respectively). Estimates of avoidable hospitalization for kidney/urinary infections remains within the range estimated for the United Kingdom (30–60%) and are similar to that estimated for Kazakhstan (44%). With regard to diabetes complications, the estimate is similar to that found in a similar study in the Republic of Moldova (40%).

Analysis showed that for conditions with the highest rates of hospitalizations in Latvia – perforated or bleeding ulcer, pneumonia, diabetes (in any field), dental conditions, angina and gastroenteritis – more hospitalizations take place in Riga (the capital city) than in the other four regions (Kurzeme, Latgale, Vidzeme and Zemgale). In these regions, the proportion of patients hospitalized is comparable. Differences exist within the ACSCs: hospitalizations for pneumonia are relatively frequent in Latgale and Vidzeme, as are hospitalizations for angina in Latgale.

Primary care providers in Latvia include GPs, physician's assistants, certified nurses, dentists, hygienists and midwives. In Latvia, 1368 GPs and more than 1850 nurses and GP assistants are currently registered. The average practice size is 1559 patients per practice, which is higher than the norm set for the Republic of Moldova, i.e. 1500. There are 68 GPs per 100 000 inhabitants in Latvia, which is low compared to other European countries. The average age of GPs is relatively high at 54 years (range: 29–80 years) compared to other European countries.

Overall, the following policy actions are recommended in order to reduce hospitalization rates.

First, the GP should act as the coordinator for all health problems, i.e. provide a navigation function in the health care system. This means that direct access to specialist doctors, such as endocrinologists (diabetes), gynaecologists and urologists (kidney/urinary infections), should be replaced by a referral system where patients first contact the GP. This also requires that GPs develop and improve their knowledge and skills in relation to these conditions. The direct access specialists should be avoided while access to emergency care should focus on real emergency cases.

Second, even though a legal provision regarding remuneration of GPs for ensuring health care services in rural areas exists, accessibility to health services and facilities in rural areas of Latvia remains a challenge. GP appointment hours do not satisfactorily cover the health needs of the population. In addition, rural GP practices are larger (in terms of number of patients) than urban ones. To improve accessibility of PHC in rural areas, additional GPs and nurses are needed. Moreover, (financial) incentives to relocate workforce in rural areas could be considered as a short-term solution.

Third, affordability of health care is critical for certain population groups. Latvians are exposed to higher out-of-pocket payments than neighbouring countries. Certain medical aids, such as diabetic tests strips, could be provided for free to those who are unable to pay for it.

Fourth, the current electronic record system could support the exchange of information not only between GPs, specialists, nurses and administrative staff but also across levels of care.

Fifth, patient education and self-management, promotion of health literacy and patient empowerment need to be improved. These affect a person's ability to navigate the health

care system, to share his/her history with health care providers, to engage in self-care and manage chronic disease, and to invest in preventative measures. Information campaigns could effectively improve the health literacy of the Latvian population in particular for ACSCs. Nurses could play a greater role especially in patient education.

1. Introduction

This study presents and discusses findings and policy recommendations about health conditions that could be effectively prevented, diagnosed and treated in PHC in Latvia. Hospitalization rates of ACSCs are a proxy for quality and models of care centred on people.

This report focus on three ACSCs – kidney/urinary infections, diabetes complications and TB – as tracers to identify opportunities and challenges for strengthening PHC in Latvia given the current provision of health services.

The assessment is part of the multicountry study on ACSCs in the WHO European Region. Other countries included in this initiative are Germany, Kazakhstan and the Republic of Moldova. The purpose of the multicountry study is to contribute to strengthening PHC by identifying opportunities and challenges to effectively prevent, diagnose and treat ACSCs, and by deriving contextualized and actionable policy recommendations for health service delivery transformation. A summary analytical framework for the study is presented in Annex 1.

According to Kringos (1), Latvia is, despite relatively low resources, among the 10 European countries (Bulgaria, Czech Republic, Denmark, Hungary, Latvia, Lithuania, Luxembourg, Poland, Sweden, Switzerland) that are relatively efficient in delivering PHC relative to other European countries. However, even though 98% of the Latvian population is registered to a GP, the proportion of patients who consult a GP before they visit a specialist or hospital is 35–46% (2). Some specialists are accessible to patients without requiring a GP's referral. The distribution of GPs in Latvia is characterized by low density of GPs in rural areas undermining the possibility for managing ACSCs. Changing this situation in the short and medium term from a health services delivery perspective requires

actions that tackle the root causes at health system level.

At the beginning of 2014, the Latvian Government approved the PHC Development Plan 2014–2016 that provides general improvements to health service availability, quality and safety (3).

This report is structured with a section on the methodology used for the study (section 2), including a survey sent to medical experts (Annex 2) and workshops with relevant stakeholders (see Annex 3 for the list of participants). The description of the selected ACSCs is provided in section 3. Section 4 discusses potential improvements that could successfully lead to prevent, diagnose and treat ACSCs at PHC level including opportunities and challenges. Section 5 provides actionable policy recommendations to effectively address ACSCs in PHC in Latvia.

2. Methods

An overview of the methodology applied to this type of study is provided in Annex 1. Briefly, the main steps consisted of a desk research, analysis of hospital admission data and a stakeholder consultation. These steps are further described below.

2.1 Desk research

The analytical framework was used to describe the current situation in Latvia using publicly available literature. A structured search strategy to retrieve the most recent and additional information available in the public domain was applied. Firstly, the WHO Country Office in Latvia provided relevant background documentation on the health system in Latvia, including official policy documents and/or sources regarding routine hospital admission or discharge data. Secondly, reports of the European Observatory on Health Systems and Policies (e.g. (4)) were gathered. Thirdly, literature index databases PubMed and Google Scholar were searched using search terms based on the different elements in the analytical framework. The literature used in this report is from 2004 to 2014. All searches were restricted to studies and reports published in English. Cross-references were accessed in Latvian.

2.2 Prevalence figures and hospital admission data

The National Health Service (NHS) of Latvia provided 2013 data on prevalence and hospital discharges¹ for a long list of pre-identified ACSCs derived from literature. Data were analysed by region (Kurzeme, Latgale, Riga,

Vidzeme and Zemgale), age group and gender. Hospital data were used to identify ACSCs with the highest hospital admission rate in Latvia. Hospitalization data were used as input for a survey among health professionals (see subsection 3.1). This constituted the background for stakeholders to select relevant ACSCs for Latvia (see subsection 2.3).

Regional variations in hospitalization rates for selected ACSCs were calculated (see subsection 3.2).

2.3 Selection of ACSCs

Two workshops were held on 11 and 12 September 2014 in Riga, Latvia with the support of the Latvian Ministry of Health and the NHS. The first workshop convened health providers, while the second targeted policy-makers. Participants included representatives of the Ministry of Health, NHS, the Patients' Ombud Office, the Health Inspectorate of Latvia, the State Emergency Medical Service and the national Centre for Disease Prevention and Control (CDPC), primary care doctors, medical specialists and nurses from professional organizations representing health care providers (see Annex 3).

The workshops aimed at selecting three ACSCs relevant for Latvia, identifying factors currently causing hospitalization for those selected ACSCs, identifying challenges and opportunities for strengthening PHC focusing on the three selected ACSCs and discussing possible actionable policy recommendations.

In each session, participants were assigned to three groups and asked to rank the suggestions made by the other groups, in order to identify those elements deemed most important by all groups.

¹ Hospital discharge data comprise the total number of hospitalized patients and the total number of hospitalized cases. Hospitalized cases represent the true count of the number of visits to the hospital.

Based on the outcomes of the workshops, the country profile was finalized, and actionable policy recommendations were formulated both in the short and long-term to overcome these challenges and move towards effectively addressing the specific ACSCs in the PHC setting in Latvia.

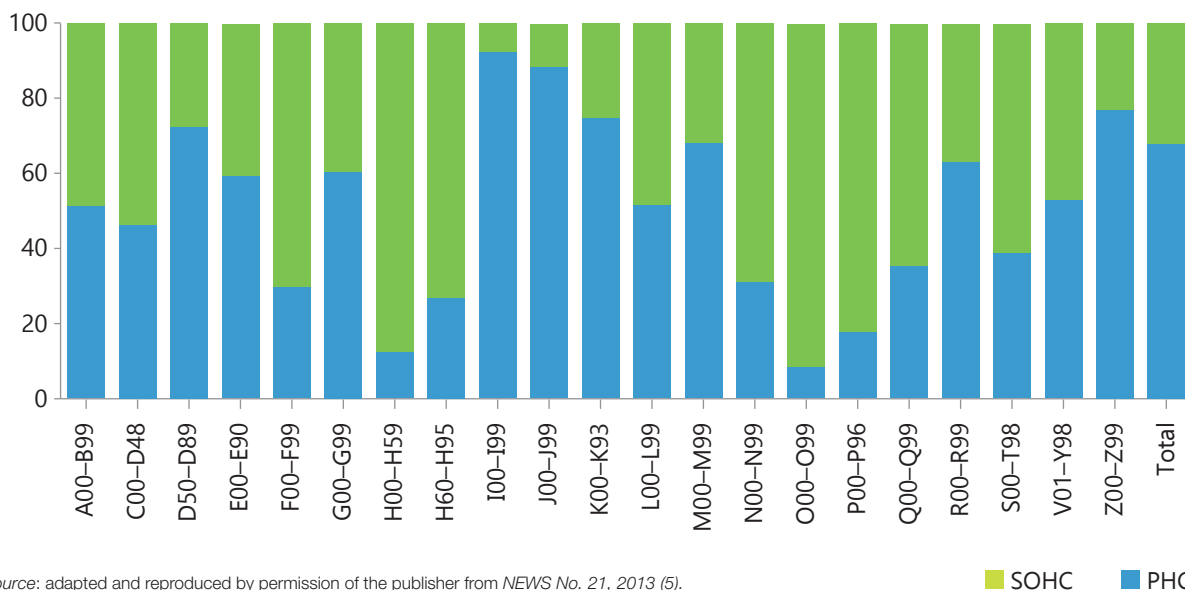
3. Building the case for focusing on ACSCs

In a recent publication, the Latvian NHS (5) provided information on outpatient visits to PHC and secondary health care (SHC) specialists according to the primary diagnosis for 2012 (Fig. 1). For all visits related to blood circulation system diseases and respiratory system diseases, 92.38% and 88.57% respectively were GP visits. Of patient visits to SHC specialists, 91.55% were during pregnancy, childbirth and the postpartum period; 87.63% were for eye and adnexal diseases; and 82.42% were for perinatal care. According to the NHS, these figures can be explained by the large number of patients with chronic blood diseases and respiratory

systems diseases who receive health services at the primary level. In highly specialized clinic groups, such as ophthalmology, otolaryngology and obstetrics, patients are mainly treated by SHC specialists.

The NHS provided 2013 data on prevalence and hospital discharges for a long list of ACSCs (Table 1). The population of Latvia in 2013 was slightly above 2 million (6). Table 1 shows the ACSCs with the highest rates of hospitalizations: perforated or bleeding ulcer, pneumonia, diabetes (in any field), dental conditions, angina and gastroenteritis. Riga had the highest number of hospitalizations for these six ACSCs.

Fig. 1. Percentage of outpatient visits to PHC and SHC specialists in 2012 according to basic diagnosis



Source: adapted and reproduced by permission of the publisher from NEWS No. 21, 2013 (5).

A00-B99 Infectious and parasitic diseases
C00-D48 Tumours
D50-D89 Immune system disorders determined by blood and haematopoietic organ diseases
E00-E90 Endocrine, dietary and metabolic diseases
F00-F99 Mental and behavioural disorders
G00-G99 Nervous system disorders
H00-H59 Eye and adnexal diseases
H60-H95 Ear and mastoid process diseases
I00-I99 Blood circulation system diseases
J00-J99 Respiratory system diseases
K00-K93 Digestive system disorders

L00-L99 Skin and subcutaneous tissue disorders
M00-M99 Musculoskeletal and connective tissue disorders
N00-N99 Diseases of genitourinary system
O00-O99 Pregnancy, childbirth and postpartum period
P00-P96 Perinatal conditions
Q00-Q99 Congenital malformations, deformities and chromosomal abnormalities
R00-R99 Unclassified symptoms, indications and abnormal clinical and laboratory findings
S00-T98 Injury, poisoning and other consequences of external causes
V01-Y98 External causes of morbidity and mortality
Z00-Z99 Factors influencing health and contact with health service staff

■ SOHC ■ PHC

Table 1. Hospitalization rates for ACSCs, adult population, 2013

ACSC ^a	ICD-10 code	Total no. of patients	Patients hospitalized	
			No. ^b	%
Angina	I20, I240, I248, I249	62 584	6 088	10
Asthma	J45, J46	62 769	2 508	4
Cellulitis	L03, L04, L08, L88, L980, L983	26 242	1 473	6
Chronic obstructive pulmonary disease	J20, J41–J44, J47	150 409	2 713	2
Congestive heart failure	I50, I110, J81	96 410	549	1
Convulsions and epilepsy	G40, G41, O15, R56	19 643	1 387	7
Dental conditions	A690, K02–K06, K08, K098, K099, K12, K13	7 128	793	11
Diabetes (in any field)	E10.5, E10.6, E10.9, E11.5, E11.6, E11.9	6 381	2 980	47
Diabetes complications	E100–E108, E110–E118, E120–E128, E130–E138, E140–E148	68 870	6 020	9
Gastroenteritis	K522, K528, K529	2 638	255	10
Hypertension	I10, I119	373 797	6 259	2
Immunization-preventable conditions	A15, A16, A19, A35–A37, A80, B05, B06, B26, B161, B169, B180, B181, G000, J10, J11, M014	86 861	4 757	5
Iron deficiency anaemia	D501, D508, D509	9 297	441	5
Kidney/urinary infection	N10, N11, N12, N136, N390	43 208	3 260	8
Nutritional deficiency	E40–E43, E55, E643	2 627	5	0
Pelvic inflammatory disease	N70, N73, N74	11 431	686	6
Perforated or bleeding ulcer	K250–K252, K254–K256, K260–K262, K264–K266, K270–K272, K274–K276, K280–K282, K284–K286	3 022	1 472	49
Pneumonia	J13, J14, J153, J154, J157, J159, J168, J181, J188	6 660	3 265	49

ICD-10: International Statistical Classification of Diseases and Related Health Problems, 10th revision.

a ACSCs defined by Bardsley et al. (7).

b Number of cases discharged by hospitals.

Source: CDPC (8)

Table 2 shows the percentage of hospitalizations in Riga.

Table 2. Percentage of hospitalizations in Riga for selected ACSCs, 2013

ACSC	Hospitalizations in Riga	
	No.	%
Perforated or bleeding ulcer	592	40.2
Pneumonia	1 962	60.1
Diabetes (in any field)	2 255	75.7
Dental conditions	630	79.4
Angina	3 708	61.0
Gastroenteritis	138	54.1

Source: CDPC (8)

The hospitalization rates in the remaining four regions (Kurzeme, Latgale, Vidzeme, and Zemgale) were comparable except for pneumonia, which was relatively high in

Latgale (439 hospitalizations) and Vidzeme (603 hospitalizations), and angina in Latgale (910 hospitalizations) (data not shown).

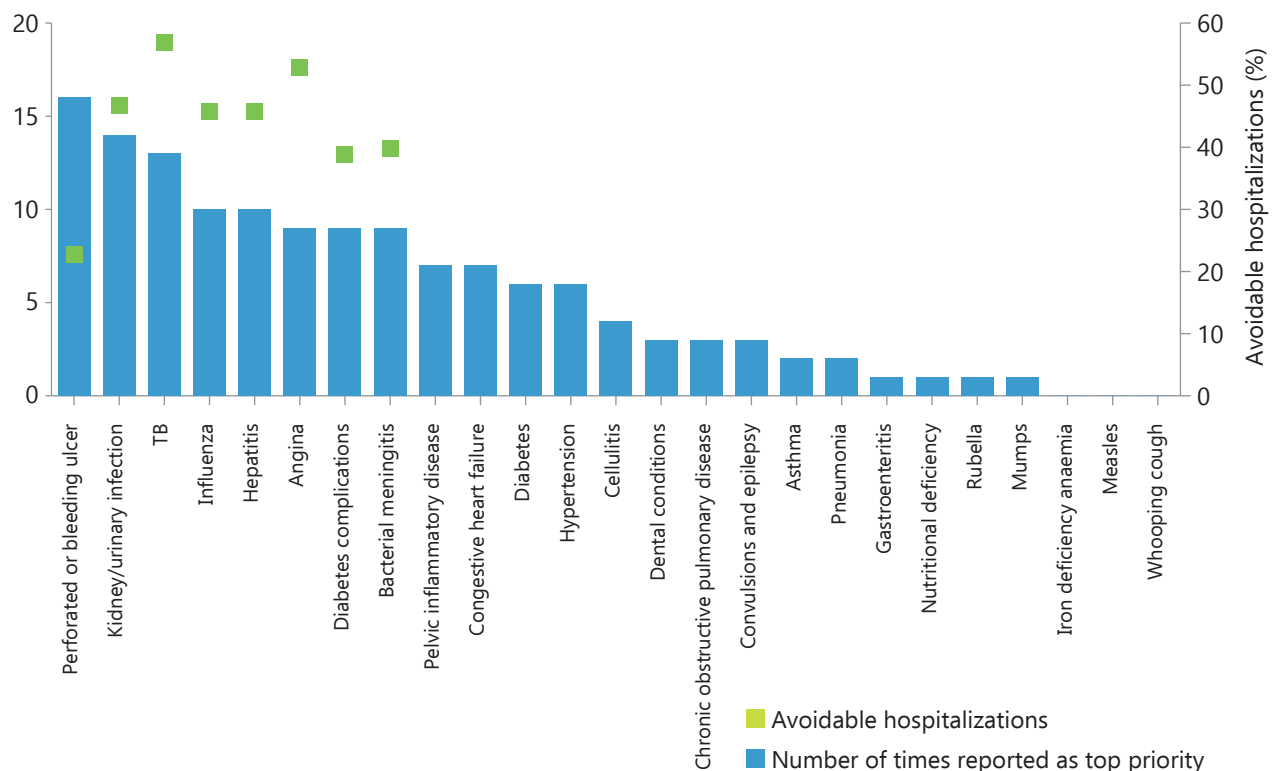
3.1 Selection of a limited number of ACSCs relevant for Latvia

3.1.1 Survey results

A survey was sent to health professionals through GP associations (urban and rural) and eight health associations. In total, 24 health professionals answered the survey, 21 GPs and three specialists.

In the survey, health professionals were asked to indicate which ACSCs listed in Table 1 should receive the most attention from this study. Respondents were asked to give an indication of the proportion of hospitalizations that could have been avoided, i.e. ACSCs that could be effectively treated in PHC.

Fig. 2. Ranking of ACSCs and percentage of avoidable hospitalizations



Based on the survey results, the ACSCs were ranked in terms of priority and the percentage of avoidable hospitalizations. Fig. 2 shows in descending order the number of times a condition was reported to be a top priority in Latvia. The top three ranked ACSCs are perforated or bleeding ulcer, kidney/urinary infection and TB with avoidable hospitalization rates estimated at 23%, 47% and 57% respectively.

3.1.2 Stakeholder consultation

Following the work of Sundmacher et al. (9) on survey results and data on hospitalizations, three ACSCs were proposed for further analysis: kidney/urinary infection (acute), angina (chronic) and TB (vaccine-preventable condition).

During the stakeholder consultation (see subsection 2.3), participants agreed with the choice of kidney/urinary infection and TB but proposed studying diabetes complications rather than angina, since more patients have diabetes complications than angina, but a similar number of hospitalizations.

Table 3 reports the three selected ACSCs and the motivation for this choice.

Table 3. Selected ACSCs

ACSC	Condition	Reasons for selection
Kidney/urinary infection	Acute	Stigmatization of male population Low accessibility to urologists Need for education programmes
TB	Preventable	Poor adherence to treatment Historically high prevalence
Diabetes complications	Chronic	Patient education provided only in the hospital, not at PHC level Low focus on prevention

Kidney/urinary infection and TB scored high in the survey among health professionals. Hospital discharge data for TB required gathering additional data that was provided by Centre for Tuberculosis and Lung Disease. It was estimated that 39% of hospitalizations for patients with diabetes complications could have been avoided.

3.2 Regional prevalence, incidence and (re)hospitalizations

This section shows data for the selected ACSCs: kidney/urinary infection, TB and diabetes complications. The data are complemented with the results of the stakeholder consultation.

Table 4. Prevalence and (re)hospitalization rates for kidney/urinary infection per region, 2013

Region	Prevalence	No. of patients hospitalized	No. of hospitalized cases including readmissions	Hospitalizations (%)	Hospital readmissions (%)
Vidzeme	3 900	469	489	12	4
Kurzeme	4 594	513	539	11	5
Latgale	4 002	437	470	11	7
Zemgale	4 165	451	460	11	2
Riga	26 547	1 390	1 512	5	8

Source: CDPC (8)

3.2.1 Kidney/urinary infections

The hospital discharge data for kidney/urinary infections show that in 2013, Riga had the highest prevalence of patients (26 547) and the lowest proportion of hospitalizations (only 5%). However, the percentage of hospital readmission was slightly higher than in the rest of Latvia. Table 4 reports the statistics per region.

The incidence of kidney/urinary infection was 44% in 2013 (data not shown) (Ministry of Health, unpublished 2013). Out of 43 208 registered patients, 19 210 patients acquired this disease for the first time in 2013. The greatest increase in the yearly incidence rate was recorded in Kurzeme (49%) and the lowest incidence rate (43%) was in Riga. More women were hospitalized (32 806) than men (10 382).

Patients aged 61–80 years had the highest prevalence of kidney/urinary infections (13 603 patients) in 2013. In this age range, Riga had the highest prevalence rate (approximately 61%). Equally noteworthy is the relatively high number of cases of kidney/urinary infections in Latvia for children (aged 0–10 years) with 4126 cases registered in 2013.

3.2.2 TB

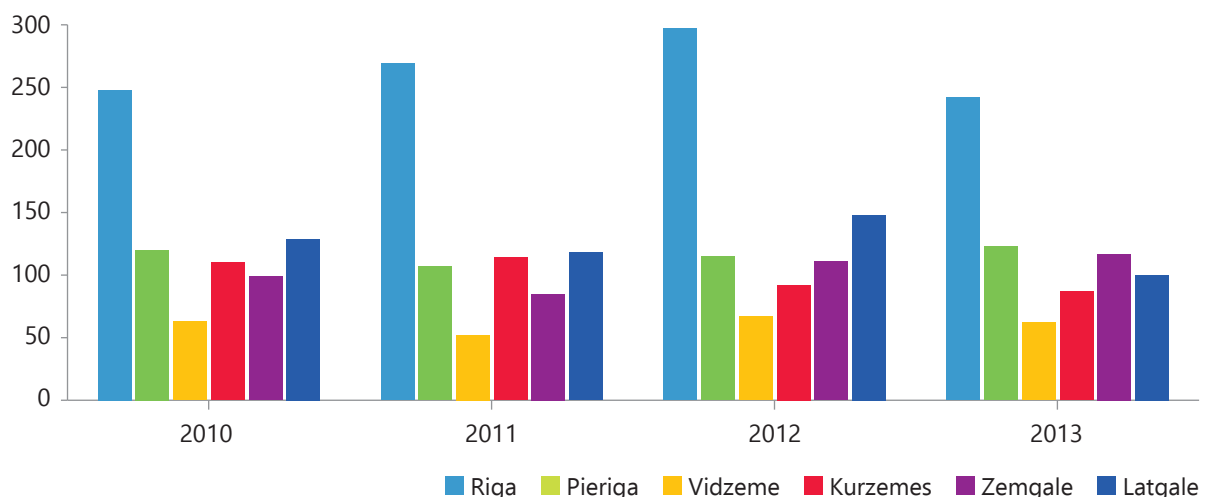
Latvia has made good progress in controlling TB since 2000, after this condition had re-emerged during the economic decline in the 1990s (4).

In Latvia, the TB control programme involves different institutions. CDPC is responsible for TB surveillance.² In 2011, the Latvian TB Registry (part of the Latvian CDPC – Human immunodeficiency virus (HIV)/acquired immune deficiency syndrome (AIDS), Sexually Transmitted Disease and TB Risk Analysis and Prevention Unit) reported 885 TB cases: 788 new cases (89%), 83 relapses (9%) and 14 previous defaulter cases (2%). This corresponds to a notification rate of 39.7 per 100 000 population. Of the TB patients, 67% were male. WHO estimates indicate a detection rate of 93% in 2011 (10). In 2013, the CTLD reported 776 new cases of all forms of TB in Latvia. Riga had the highest number of TB incidence, with 242 of new cases registered in the capital in 2013. Approximately 96% of TB cases were pulmonary TB (743 cases out of 776 in 2013).

Fig. 3 shows for each region the incidence of all forms of TB for 2010–2013.

² CDPC was created on 1 April 2012. Its responsibilities include epidemiological surveillance; monitoring of diseases; collection of statistical data on prevention of infectious diseases; measures taken in disease control; national immunization programmes; and cooperation with WHO, the European Commission and the European Centre for Disease Prevention and Control, as well as with other national public health institutions.

Fig. 3. Incidence of TB by region, 2010–2013



Age notification rates have been highest in middle-aged patients and younger adults, followed by children and the elderly. Rates were higher in males than females in all adult age groups (10).

According to the European Centre for Disease Prevention and Control (ECDC) (10), additional potential risk factors for TB identified in the TB Registry in 2011 included harmful alcohol use, former imprisonment, drug abuse, close contact of TB patient, unemployment and smoking. In 56% of cases, unemployment was the most important risk factor for acquiring TB, followed by smoking (51%) and close contact of TB patient (28%).

3.2.3 Diabetes complications

In 2013, approximately 3.5% of the Latvian population had diabetes complications. Riga had the highest prevalence of diabetes complications with 38 266 patients: Vidzeme had the lowest prevalence with 6 527 patients in 2013 (Table 5). About 0.4% of patients developed some complications in 2014. The greatest increase in the yearly incidence rate of diabetes complications was in Latgale (11.4%), while the lowest was in Zemgale (9.1%).

For Latvia, the average hospitalization rate was 9% and the average hospital readmission rate was 15%.

In 2013, more women (44 689) were hospitalized for diabetes complications than men (24 181). In the same year, 40 166 hospitalizations were patients aged 61–80 years old. Approximately 55% of these hospitalizations took place in the capital region of Riga.

Variation in hospitalizations can refer to valid treatment differences due to case mix, under treatment in areas where hospitalization is low, overtreatment in areas where hospitalization is high or differences in the registration practices at hospitals. It is not possible, without further study or corrections for case mix, to explain these results.

3.3 Estimated avoidable admissions for three ACSCs

Based on the conducted survey, an estimated 47% of hospitalizations due to kidney/urinary infections could have been avoided with appropriated treatment, diagnosis and management at the PHC level (Fig. 2). This figure is similar to the one estimated in Kazakhstan (44%) and the United Kingdom (30–60%) (11), and appears conservative

Table 5. Prevalence and (re)hospitalization rates of diabetes complications by region, 2013

Region	Prevalence	No. of hospitalized patients	No. of hospitalized cases including readmissions	Hospitalizations %	Hospital readmission %
Vidzeme	6 527	665	749	10	11
Riga	38 266	3 426	4 101	9	16
Zemgale	7 408	657	798	9	18
Kurzeme	8 590	669	765	8	13
Latgale	8 079	603	725	7	17

Source: CDCP (8).

compared to similar research conducted in Germany (86%) (9). During the stakeholder consultation, the lack of information and educational programmes available to the public was indicated as one of the main challenges in order to properly address kidney/urinary infections. The problem of stigmatization among men needs to be tackled, particularly in rural areas. The shortage of state-paid urologists is also one of the main challenges preventing the delivery of timely care.

Avoidable hospitalizations for TB were estimated at 57% according to the survey (Fig. 2). This percentage is also conservative compared to similar research from Germany (75%) (9). One of the main challenges indicated during the stakeholder consultation is the suboptimal focus on contact tracing investigation, and the development and dissemination of policies and information. Contact tracing mainly relies on information provided by the patient. The clinic/treating physician is responsible for contact tracing. Documentation showing that contact tracing is systematically performed is scarce. Moreover, active case finding of vulnerable groups could be improved. Recent statistics report that 76% of TB patients self-refer to a GP or pulmonologist (10).

The percentage of avoidable hospitalizations for diabetes complications is estimated at 39%. This percentage is similar to findings in the Republic of Moldova (40%) (12). This ACSC also has the highest hospital readmission rate among the conditions investigated in this study. The stakeholder consultation emphasized that patient education is crucial to improve treatment of diabetes complications in PHC. Different means such as information campaigns and physician education have been repeatedly mentioned as instruments to lower the hospital admission rates for this ACSC.

3.4 ACSCs in brief

In Latvia, among the 18 ACSCs studied, pneumonia and perforated or bleeding ulcer account for the highest number of hospitalizations. In 2013, 3 265 (i.e. 49% of) patients with pneumonia were hospitalized. An estimated 30% of these hospitalizations could have been avoided. Also in 2013, 1 472 (i.e. 49% of) patients with perforated or bleeding ulcers were hospitalized. According to the health professionals consulted, about 23% of these hospitalizations could have been avoided. Due to the relatively low numbers of avoidable hospitalizations for these two ACSCs, the study focuses on kidney/urinary infections, TB and diabetes complications.

In 2013, 3 260 (or 8% of) patients with kidney/urinary infections were hospitalized. About 47% of these hospitalizations could have been avoided. In the same year, 6 020 (or 9% of) patients with diabetes complications were hospitalized. Health professionals consulted estimated that about 39% of these hospitalizations could have been avoided.

With regards to TB, only data on yearly incidence were available. For 2013, the CTLD reported that 95% of TB patients were hospitalized, and the remaining 5% of TB patients started ambulatory therapy.

In summary, hospitalizations could have been avoided in at least 57% of TB cases, 47% of kidney/urinary infections and 39% of cases with diabetes complications by strengthening PHC. Estimations for TB and kidney/urinary infections are conservative compared to similar research in Germany (75% and 86% respectively) (9). The estimate of avoidable

hospitalization for kidney/urinary infections is similar to that of Kazakhstan (44%).³

In the following section, health service delivery challenges and opportunities that explain hospitalization of ACSCs in Latvia are analysed.

³ WHO Regional Office for Europe, Ambulatory care sensitive conditions in Kazakhstan. Survey data, forthcoming 2015.

4. A health services delivery perspective to ACSCs

In Latvia, health represents a low proportion of the gross domestic product compared to the other European Union (EU) countries; this figure was 3.38% in 2012 (13) and 3.21% in 2013 (5). This percentage is expected to further decrease in 2015 (13). However, important – and so far successful – reforms have taken place in ambulatory care and in protecting the poorest from catastrophic health care expenditures. In addition, as part of the PHC Development Plan 2014–2016 (3), the Ministry of Health seeks to strengthen PHC by increasing its role in prevention, diagnoses and treatment of certain conditions, as well as by improving the quality of care (13).

4.1 Governance and management of health services

4.1.1 Health insurance and coverage of services

The Latvian health system provides coverage to the entire population and pays for a basic service package. The NHS is the institution in charge of defining the benefits package and contracts health providers. Payments for health services are determined by the regulations of the Cabinet of Ministers, i.e. state budget. Health institutions receive payments for services provided, patients' fees and income for services delivered (13).

The providers can either be public or private institutions/health professionals. Providers tend to be predominantly private in PHC. Only contracted services – either public or private – are covered by the NHS (3).

As the majority of the Latvian population (approximately 75%) indicates to be not fully aware of their health care entitlements, this may lead to inaccurate health care demand and/or use. Therefore, it may be an important factor to consider when analysing the potential use of primary care in Latvia (4).

4.1.2 Access and out-of-pocket expenditures

The NHS is responsible for implementing state policies related to health care financing. Despite the existing coverage of services by the NHS, patients have to pay a substantial part of the health care services themselves. This concerns formal payments – user charges and direct payments for services not included in the basic benefit package – as well as informal out-of-pocket (OOP) payments (4).

According to the World Bank in 2012, about 86% of private expenditures on health were OOP payments (14). In 2010, 7% of Latvians had voluntary health insurance to complement services not covered by the NHS, which entitles patients to have priority access to health services (4). In 2010, OOP expenditures in Latvia concern 37.8% of the total health expenditures, a percentage considerably higher than its neighbouring countries (Lithuania: 26%, Estonia: 20%). The high OOP payments have prevented 14% of the Latvian population to seek health care when needed (in 2010) (4).

Co-payments are required for all health services both at primary and secondary levels (15). Apart from a few patient groups, each patient pays a fixed amount OOP per GP visit (3).

Patients with kidney/urinary diseases need GP referral to be reimbursed for a consultation and need to visit a state-paid urologist to be reimbursed for treatment. Due to the scarcity of state-paid urologists, most patients end up

with private providers. This latter group is not contracted by the NHS.

For TB patients, no OOP payment is required for treatment. Drugs are free of charge for inpatients. Outpatients need to pay a co-payment for the drugs to manage side effects (10). TB vaccination is provided free of charge as is direct observation of treatment. However, travel costs to TB services/GP for people suspected of having TB or TB patients are not reimbursed.

4.1.3 Availability of after-hour clinics

According to the Ministry of Health (13), the GP working time should be at least 20 hours per week if the practice has less than 2000 registered patients, and at least 25 hours per week if the practice has more than 2000 registered patients. GP practices are expected to be opened 40 hours per week. GP appointment hours are in the mornings and evenings. For pre-booked appointments, the visit should take place within five working days, while acute cases should be addressed on the same day. Studies have shown that the actual time at which patients visit their GP often deviates from the appointed time (3). This situation could be improved, compared to models of GP practices that exist in other European countries, having a work week of 40 hours with one GP per practice of 1500 registered patients.

GPs in Latvia are not required to provide after-hours care (16). Nevertheless, it is praxis in urban and rural areas of Latvia. In urban areas, after-hours care is mainly provided by doctors in hospital casualty wards. Some urban cities make use of GPs on duty. In that case, no more than one doctor should be on duty in a geographical area of 40 000 citizens. Rural areas do not have doctors on duty. Residents in rural areas often make use of an after-hours advisory telephone service. This service enables them to consult a doctor by telephone during evenings

and weekends (3–4). Both types of after-hours care possibly prevent avoidable emergency care visits during after-hours.

4.1.4 Availability and distribution of health workforce

One of the big challenges in Latvia is the shortage of PHC doctors in rural areas. This seems to be a general bottleneck and not related to the selected ACSCs. Another important challenge is how to attract young doctors to the profession of GP. In roughly 10 years, most GPs will retire and the combination of an ageing population, an increase in the percentage of the population with chronic conditions and the national policy to strengthen primary care might lead to serious problems in access to PHC in Latvia.

Despite the overall declining trend in physicians that took place during the last two decades, a great inflow of new GPs has occurred since 1990. At that time, the family doctor was introduced as a new specialty with the aim to improve PHC. However, 68 GPs per 100 000 population is low compared to other European countries (17) especially if combined with the average age of Latvian physicians (54 years) (4).

4.1.5 Patient management and information systems

In 2003, Latvia started the implementation of an e-health system across the country including e-receipts, e-health records, e-booking, e-referrals and an e-portal with the intention to support effective communication within and among health providers.

In 2010, the European eHealth Strategies study (18) concluded that patient data in Latvia for administrative, as well as medical purposes were stored and protected according to the legislation in Latvia. Twenty-five percent of GP

practices in Latvia stored administrative patient information, while 50% stored some medical patient data. In addition, 42% of GPs indicated that they stored radiological data. However, the use of computers during consultations appeared to be very limited in health institutions (3%). In 2010, the exchange of patient data between different health professionals appeared to be negligible (18). According to Mitenbergs et al. (4), Latvia piloted the e-health system in 2012, which needs to overcome barriers related to underdeveloped infrastructure between institutions. These shortcomings could be attributed to some institutions not yet having electronic patient records. According to the PHC Development Plan 2014–2016, specifications for the second stage of the e-health implementation were developed. However, additional funds are needed for its implementation (3).

Latvia introduced decision support systems for the electronic transmission of payment data to the Health Payment Centre. However, until 2010, only 1% of GP practices implemented this system (18). According to Mitenbergs et al. (4), more health institutions started implementation in 2012. These systems are used by doctors to register performed health services that are reimbursed by the NHS.

Investing in strengthening TB patient information management is needed. Contact tracing activities are suboptimal, because the completeness and timeliness of contact investigation is not systematically documented. An integration of epidemiological data is considered as one of the challenges to get a comprehensive picture of TB in Latvia (10).

A similar issue can be raised for patients with diabetes complications. A good communication tool between medical specialists and GPs is needed since GPs often do not receive any feedback from the medical specialist/endocrinologist. This problem becomes

particularly complicated when patients are hospitalized without a referral from the GP.

Patients with kidney/urinary infections – particularly men – often go to hospitals without a GP referral and usually with acute symptoms since they seek care very late. An electronic information system could help PHC to follow up patients and check treatment adherence, which is suboptimal.

4.1.6 Public-private partnerships

In Latvia, some outpatient clinics are managed by public-private partnerships, mainly between private owners and municipalities. Most outpatient health centres are still managed by public institutions (4).

During the stakeholder consultation, the scarcity of state-paid urologists in Latvia and an oversupply of private urologists were pointed out as key barriers to access.

ECDC (10) indicated that to control TB, a partnership among and between governmental organizations, nongovernmental organizations, civil-society and professional organizations should be established in Latvia. The nongovernmental organizations involved – mainly providing social care for the homeless and people living with HIV – seem to be cooperative and share their experience with other stakeholders.

4.2 Model of care

4.2.1 Co-location of services

Latvia has established health centres that provide primary and ambulatory care within the same building. The co-location of these services is expected to improve coordination between GPs and medical specialists, and may lead to

a reduction in avoidable hospital admissions. About 70–80% of these health centres are private (4).

4.2.2 Cooperation between primary and secondary levels

The number of hospitals in Latvia has decreased from 88 in 2008 to 67 in 2010. In the same period, 2008–2010, the number of acute care beds decreased to 3.4 per 1000 inhabitants, and the average length of stay is 6.2 days per patient; both are below the EU27⁴ average. As a result, day care services doubled, and outpatient care and home care have gained increased attention. The reform of the hospital sector has transformed small and regional hospitals into long-term care hospitals in charge of patients discharged from acute hospitals (multi- or single-speciality hospitals) (4). This may have a positive effect on the hospitalization rate and the outpatient treatment of ACSCs.

Patients with diabetes complications in Latvia have direct access to endocrinologists. Although the stakeholder consultation highlighted relatively good cooperation between primary and secondary levels of care for this condition, and the number of medical specialists seems to satisfy the current demand, the main issue is the lack of financial resources devoted to tackling diabetes complications. Another bottleneck signalled during the consultation is the role of pharmacists. They do not have guidelines or recommendations and often do not have an electronic database with patient information.

4.2.3 Home care

Developing home care is one of the aspects of the reorganization of services in Latvia. Home care is delivered to chronically ill patients by

a home care team consisting of GPs, nurses and carers. This type of care was developed to decrease the use of emergency services, to reduce hospitalization of patients with chronic conditions and to improve access to services (e.g. avoiding travel expenses) (4). Home care requires a referral from a GP after major surgery or for medical rehabilitation (e.g. stroke) (19).

The introduction of home care teams and rehabilitation plans, which are delivered in outpatient settings in cooperation with hospital specialists, are a good step towards reducing the use of hospital care. However, integrated care pathways are not yet the norm in Latvia (4).

4.2.4 Patients discharge

Discharge rates have been above the EU average of 178 per 1 000 population until 2008. Latvian patients needing help after discharge are often treated by rehabilitation specialists or family doctors via home care or in an alternative outpatient setting (4).

Although the total number of hospital discharges seems to decline, the size of the reduction seems to differ per disease. Hypertension seems to be the only ACSC that shows a decreasing number of hospital discharges. Hospitalizations related to diseases such as asthma and diabetes do not show a significant decline (4).

4.2.5 Clinical guidelines

In Latvia, medical specialists have been responsible for developing clinical guidelines until 2010 (4). The guidelines were often based on international guidelines, but sometimes doubts existed about their quality when adapted/tailored to the Latvian context (4).

Currently, the NHS is responsible for the development, evaluation and implementation of

4 Countries belonging to the EU after January 2007.

guidelines. From 2010 until 2012, 11 evidence-based guidelines with recommendations and best practices were developed by the NHS (4). These guidelines do not include PHC. Guidelines for PHC date back to 2001 (3).

Clinical guidelines for diabetes complications are available, but the focus is mainly treatment rather than management, prevention and patient education. Latvia has no national guidelines for TB; thus, international guidelines are followed. Guidelines for HIV-TB patients are not available. There is, thus, a strong need to develop national guidelines according to international recommendations for case finding and management of TB patients (10). For kidney/urinary infections, the available clinical guidelines do not specifically describe under which conditions a patient needs to be referred to the hospital, which then remains the decision of the GPs.

4.3 Organization of providers

4.3.1 PHC

PHC services are accessed by patients without referral and are provided by outpatient specialists, paid on a fee-for-service basis, and PHC centres. PHC includes GPs, physician assistants, certified nurses, dentists, hygienists and midwives (13). According to the regulations of the Cabinet of Ministers, each PHC practice should have certain facilities. The employment of a physician assistant and/or a nurse in PHC is mandatory. At the beginning of 2013, 99.5% of PHC practices included a nurse. The inclusion of a second nurse or a feldsher was made mandatory by 2014 (3). Physician assistants and midwives are mainly responsible for chronic care and preventive care. Internists and paediatricians are also PHC physicians, if they are contracted for those types of services (4). In February 2013, PHC in Latvia consisted of 1368

GPs, 1 818 nurses, 551 physician assistants and 6 midwives (3,13).

Almost all Latvians (97% in 2013, 98% in 2014) have a regular GP (13). People are free to choose their GP and can change at any time. Changes are facilitated in urban areas due to the high density of family doctors (20). In rural areas, patients' choice of GPs is limited, because each GP covers a large catchment area. The low density of GPs in rural areas is partly compensated by the presence of physician assistants and midwives delivering primary care (4).

Recently, the number of GPs has increased and constitutes 20% of the total number of doctors in Latvia but remains below the EU average (30%) (21). Currently, Latvia counts 6.8 GPs per 100 000 inhabitants, which is low compared to other European countries (17). However, regional variation exists. Each GP practice has on average 1559 inhabitants, which is higher than in the Republic of Moldova, i.e. 1 500 (22). In rural areas, GPs have over 2 000 inhabitants in their catchment area (3–4,19–20). In 2010, Latvia introduced physician assistant boards in rural and remote areas to compensate for the low density of GPs and ensure access to PHC. Physician assistant boards are financed by the municipalities and the NHS (3).

Compared to other European countries, the average age of GPs, ranging from 29–80 years, is relatively high in Latvia at 54 years, (13,23).

For the three selected ACSCs, the stakeholder consultation revealed a shortage of PHC physicians in rural areas. Shortage of GPs and low access to PHC in remote areas may increase hospital admissions.

4.3.2 Gatekeeping

A GP referral is required to make use of specialized care covered by the NHS. However,

in Latvia some specialists can be directly accessed (3,24). These include oncologists, gynaecologists, psychiatrists, TB specialists, endocrinologists, dermatologists, narcologists, ophthalmologists, paediatricians and paediatric surgeons, as well as emergency medical assistance. If patients are covered by private health insurance or pay for their own health care, specialist care can be accessed without referral. The number of specialists that can be directly accessed is relatively high in Latvia compared to other countries (3).

With regards to ACSCs from this study, patients with kidney/urinary infections can directly access gynaecologists. Children with these types of infections may be seen by a paediatrician without a referral from the GP. For diabetes complications, most patients are seen by the GP, who is usually supported by a nurse. In Latvia, despite a nursing workforce shortage, some nurses specialize in diabetes care, but they are often overburdened with the provision of other services. The number of patients with diabetes complications who seek treatment in hospital is not known. TB patients are usually seen by the GP, a pneumologist or a paediatrician. As TB is rarely diagnosed at the PHC level, TB treatment usually starts in the hospital where patients, particularly those with HIV and TB, usually stay for two months; afterwards, they continue their TB treatment as outpatients at one of the infectology centres (10).

4.3.3 Scope of practice

The current competencies of GPs would allow for the provision of a broad range of services, but this is currently not the case (3). GPs, for example, do not perform small surgical or therapeutic services on a frequent basis. One reason is that current tariffs for health services do not fully cover the costs for providing certain services making it unattractive. Furthermore,

infrastructures are limited and do not allow for expansion of services or are not affordable for GPs (3).

4.3.4 Multidisciplinary teams

Institutionalized multidisciplinary teams have provided palliative care at the Centre of Oncology at Riga East Hospital since 1977. The hospital unit has 25 palliative care beds for patients with cancer. The multidisciplinary teams include oncologists, nurses, nurse assistants, social workers, chaplains and voluntary care providers. Other hospital specialists are involved as needed (4).

Latvia introduced a multidisciplinary team for chronically ill patients, facilitating coordination between health professionals and social services delivered by the municipalities. The initiative uses active case management to monitor patients at regular intervals (4). Monitoring of the chronically ill only occurs on a limited basis. A study showed that 17.2% of respondents indicated not being intensively monitored by their GP. In these cases, the GP knows the patient has a chronic disease but does not monitor progress nor provide any treatment. In 7% of cases, the GP did not know about the patient's chronic disease (3).

4.3.5 Physicians' decision-making skills

A large proportion of GPs has more than 10 years of working experience, which could be interpreted as having developed sufficient decision-making skills. In addition, GP's are required to be certified by a professional organization every five years. Extensive working experience and continuing education are promising contributing factors for a strong PHC in Latvia and may possibly result in lower avoidable referral rates (4).

4.3.6 Task realignment

Latvia makes use of feldshers, which are nurses, physician assistants, midwives or in some cases even substitutes for physicians. Feldshers are active in territories where GP coverage is insufficient and access is difficult. In exceptional circumstances, feldshers can conclude a contract with the local municipality in order to provide PHC services. Feldshers have a mid-level medical education, allowing for more responsibilities than nurses. When feldshers consider more complex care to be necessary, they refer the patient to the GP (4). The function of feldshers is currently underused in Latvia. One study showed that the majority of feldshers only perform administrative tasks instead of health care services according to their actual expertise and competence (3).

4.3.7 Using technology to coordinate

Latvia introduced e-health initiatives in 2013, but underdeveloped infrastructure in health facilities poses challenges to its effective implementation. According to the PHC Development Plan 2014–2016, the second stage specification of the e-health implementation was developed. However, additional funding is needed for implementation (3).

4.4 Performance improvement

4.4.1 Waiting times

GPs work 20–25 hours a week, five days a week. As PHC services should be available eight hours a day, nurses and feldshers ensure the remaining day-to-day work (4). According to Cabinet of Ministers regulation no. 1529, GPs are required to visit patients within five days after the first contact but usually it takes 7 days (4) or more (see the FINBALT study in

the PHC Development Plan 2014–2016 (3)). Moreover, the actual time at which patients visit their GP often deviates from the appointed time (3).

4.4.2 PHC payments

Primary care providers in Latvia are paid by the NHS using a wide range of methods including capitation (37% of income), fixed payments for practice maintenance (10%), a compensation structure based on patients' age or for working in rural areas, fee-for-services, payments for nurses and physician assistants (27%), OOP (4) and a quality bonus system.

In 2011, Latvia implemented a new quality-based payment system for PHC, which should incentivize GPs to improve their quality of care, by broadening the scope of their services and paying special attention to health promotion, disease prevention (i.e. tackle the spread of infectious diseases), and chronic disease management (diabetes, hypertension and coronary heart disease, asthma) (13). However, GPs are currently dissatisfied with the chosen performance indicators on which the quality system is based (3,24).

With regards to the selected ACSCs, the stakeholder consultation pointed out that a system of financial bonuses for GPs could be beneficial in promoting early diagnosis of TB. Similarly, a bonus for those GPs who treat patients with kidney/urinary infections in PHC rather than referring to hospitals is needed.

4.5 Health services delivery for ACSCs in brief

This section summarizes the opportunities and challenges to strengthening PHC to adequately address ACSCs in Latvia.

4.5.1 Governance and management of health services

The majority of the Latvian population (approximately 75%) indicates to be not fully aware of their health entitlements; this may lead to inaccurate health care demand and/or use.

OOP payments and limited number of GPs available after hours pose barriers to access to health services.

A shortage of GPs exists, especially in rural areas. In addition, the average age of GPs is relatively high at 54 years. Maintaining and attracting the health workforce is a challenge.

An electronic patient information system is in place but not yet fully functional.

4.5.2 Model of care

Health centres provide secondary ambulatory care and usually employ different specialists and GPs. While such centres can promote integrated services, it is also important that GPs are better trained to treat patients.

A large set of clinical protocols are available but in most cases, are not targeted at the PHC level and often not focused on prevention (e.g. in the case of diabetes).

The current provision of health services is often fragmented.

4.5.3 Organization of providers

Access to specialist care can be done without referral of the GP.

Urban population attends the hospital more often than the rural population.

Patient education is often provided in the hospital.

The exchange of patient information is very limited among providers causing duplication of examinations. The electronic discharge system also does not include ex-ante or ex-post information on patient status from ambulatory setting.

Feldshers are currently not optimally used at PHC level.

4.5.4 Performance improvement

Quality-based payment system for PHC should incentivize GPs to improve their quality of care, by broadening the scope of their services and paying special attention to health promotion, disease prevention and chronic disease management.

The findings show that health service delivery in Latvia could be strengthening PHC to avoid unnecessary hospitalizations. To achieve this, recommendations are provided in section 5.

5. Policy recommendations

This section provides an overview of the main elements to strengthening PHC with focus on the prevention, diagnosis and treatment of kidney/urinary infections, diabetes complications and TB.

Actionable policy recommendations are complemented with an indicative timeline (short-, medium- or long-term) and suggestion of relevant stakeholder(s) to be engaged in the implementation in policy and practice.

5.1 Reinforce first contact point

Different medical specialties in Latvia can be accessed by patients without a referral from a GP. Direct and free accessibility to SHC – for example, access to an endocrinologist for diabetes complications and a gynaecologist for kidney/urinary infections – is costly and not always necessary.

It is recommended that the GP act as the coordinator of services at primary and community levels i.e. provide a so-called navigation-function for all medical conditions to avoid unnecessary visits to the hospital (Table 6).

5.2 Enhance accessibility to PHC in rural areas

Physical accessibility to PHC in rural areas remains of concern. Patients are confronted with substantial waiting lists and no choice for alternative providers, because of the unavailability of PHC providers. GPs in rural areas usually cover a large geographical area and population, and have 2000 patients or more; GPs in urban areas have on average 1000 patients or less (4). The current unequal distribution of GPs in Latvia – characterized by low density of GPs in rural areas – undermines an effective outpatient management for ACSCs. It is important to address this issue in the context of an ageing population, an increase in the prevalence of chronic diseases and the current average age of GPs (54 years) (Table 7).

Table 6. Policy recommendations to reinforce first contact point

Recommendation	Timeline	Relevant stakeholder
1. Make the GP the first contact point for patients and coordinator of services at primary and community levels.	Medium-term	Ministry of Health
2. Invest in improving GPs' knowledge, skills and competences to act as a gatekeeper on key ACSCs, e.g. ad hoc trainings to timely diagnose and treat conditions.	Short-term	Ministry of Health, Latvian Association of GPs

Table 7. Policy recommendations to enhance accessibility to PHC in rural areas

Recommendation	Timeline	Relevant stakeholder
3. Increase incentives – e.g. salaries and disbursements, benefits, peer reviews and regular clinical audits – for GPs to relocate to rural areas to help address the unequal distribution of GPs, to timely address ACSCs and improve the effectiveness of outpatient management, to shorten waiting lists and to limit the burden caused by large practices.	Short-term	Ministry of Health, Ministry of Finance

Table 7. Policy recommendations to enhance accessibility to PHC in rural areas cont.

Recommendation	Timeline	Relevant stakeholder
4. Train a higher number of GPs to properly address future health needs of the population focusing on integrated changes throughout the education and training period, including concrete practice, to increase the attractiveness of general practice. The increase in the number of GPs in rural areas facilitates early detection of TB, kidney/urinary infections and diabetes complications. Also, the number of pneumologists in rural areas should be increased to facilitate physical accessibility and improve drug dispensation for TB patients.	Long-term	Ministry of Health, Latvian Association of GPs, Government of Latvia
5. In order to tackle waiting lists, compliance to the Cabinet of Ministers regulation no. 1529 on accessibility to PHC services must increase. This regulation states that patients should be scheduled an appointment within five working days from the first contact. GPs may need to extend appointment hours. Although appointment hours are well described in the regulation, they are not always followed in practice. This needs further attention by the Ministry of Health and the Latvian Association of GPs.	Short-term	Ministry of Health, Latvian Association of GPs
6. Increase the number of facilities to enhance access to TB services – particularly in rural areas – to facilitate and enhance early detection of TB.	Long-term	Ministry of Health, Government of Latvia

5.3 Improve affordability of health services

Affordability of health care is an important element for the accessibility of health care

systems. The health system in Latvia provides limited financial protection, because it exposes certain groups of the population to considerable costs in the event of illness (Table 8).

Table 8. Policy recommendations to improve affordability of health services

Recommendation	Timeline	Relevant stakeholder
7. Guarantee the financial protection of the population, particularly of the poor, through an extension of the safety net to those who are indigent. E.g. waive OOP payments for medicines and medical aids such as diabetic test strips.	Short-term	Ministry of Health, Government of Latvia
8. Improve access to pharmaceuticals, e.g. develop guidelines or recommendations for pharmacists and enhance the availability and use of an electronic database with patient information.	Long-term	Ministry of Health, Government of Latvia

Table 9. Policy recommendations to align pay incentives

Recommendation	Timeline	Relevant stakeholder
9. Review and align the performance indicators currently used to address quality of care through a consultative process with GPs.	Long-term	Ministry of Health
10. Provide GPs with a financial bonus to promote early diagnostics and treatment of targeted ACSCs.	Medium-term	Ministry of Health

Table 9. Policy recommendations to align pay incentives cont.

Recommendation	Timeline	Relevant stakeholder
11. Link the quality bonus system with financial support to GPs who treat patients with kidney/urinary infections in the PHC setting rather than referring them to hospitals.	Short-term	Ministry of Health

5.4 Align incentives

In 2011, Latvia implemented a pay-for-performance system for GPs with many dimensions that lead to different outcomes (Table 9).

5.5 Empower population and engage patients

Involvement of patients and population in health improves outcomes, adherence to protocols and patient satisfaction (Table 10).

Table 10. Policy recommendations to empower the population and engage patients

Recommendation	Timeline	Relevant stakeholder
12. Increase patient engagement by providing adequate and understandable information and education. Patient education should be a full part of the agenda for developing a strong PHC system. Develop and disseminate health and safety information that is accurate, accessible and actionable.	Short-term	Ministry of Health, patients associations, professional associations, public news media, Latvian Association of GPs, GPs, nurses
13. Improve health education for TB in particular, to mainly address personal barriers concerning knowledge and understanding of treatment requirements. In addition, reimburse patients for transportation costs. Careful diabetes care can reduce the risk of serious – even life-threatening – complications. Circulate information on the negative effects of smoking and high cholesterol, the benefits of regular physicals and eye examinations, and the harmful use of alcohol.	Long-term	Ministry of Health, patients associations, professional associations, public news media, Latvian Association of GPs, GPs, nurses
14. Support and expand local efforts to provide adult and child education, and culturally and linguistically appropriate health information services in the community.	Short-term	Ministry of Health, patients associations, professional associations
15. Increase the dissemination and use of evidence-based health literacy practices and interventions.	Short-term	Ministry of Health, patients associations, professional associations
16. Develop further communication skills in nurses to support patients in chronic disease self-management. Train nurses to address diabetes (complications), TB and kidney/urinary infections.	Short-term	Ministry of Health, nurses
17. Address stigmatization of TB patients and men with kidney/urinary infections through public information campaigns and training of GPs and nurses.	Short-term	GPs, public news media, nurses

5.6 Improve quality of health services

High variations in practice are negatively associated with costs control and improvement in quality of care (Table 11).

Table 11. Policy recommendations to align pay incentives

Recommendation	Timeline	Relevant stakeholder
18. Update clinical guidelines and protocols for PHC, in particular for ACSCs.	Medium-term	NHS, professional associations
19. Address practice variations between rural and urban areas and between GPs and medical specialists (kidney/urinary infections in particular) linking doctors continuous medical education to quality bonuses.	Medium-term	NHS
20. Benchmark practices and engage in dialogue with professional associations to tackle root causes of practice variations.	Long-term	Ministry of Health, professional associations
21. Improve the patient management system by facilitating information exchange between primary and secondary levels. The system should facilitate patient management but also contact tracing for patients with TB.	Medium-term	Ministry of Health, GPs
22. Develop national guidelines for TB patients in general, and for patients with HIV and TB in particular.	Short-term	Ministry of Health, patient associations, Latvian Association of GPs, professional associations

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Annex 1. Summary of the analytical framework

The analytical framework draws from existing literature to identify those elements of a health system that are instrumental in strengthening health service delivery to better respond to the challenges of diagnosing and treating ACSCs. The analytical framework is intended as a tool for assessing opportunities and challenges of providing the right service in the right place for those patients with conditions that could be treated at ambulatory settings.

Forty-four features of health systems influence the hospitalization of patients with ACSCs as identified through literature research. These features have been depicted from a health service delivery perspective as: governance and management of services, model of care, organization of providers and improvement of performance.

The **governance and management of service delivery** refers to the oversight of operations in the delivery of care – ensuring that the desired outcomes are attained, that departments within a health facility are running smoothly, that the right people are in the right jobs, that people know what is expected of them, that resources are used efficiently and that all partners in the production of services are working together to achieve a common goal. The task of management comprises the thoughtful design and resourcing (encompassing all resources: human, financial, consumables and technologies) to best direct the provision of care, whether it be for an oblast-level tertiary hospital or a singular health house or a polyclinic in a rural area.

The second area of health service delivery calling for attention is the **model of care** – referring more specifically to *what* services are provided and *how* the provision of services is perceived and experienced by the individual. In articulating a pathway for clinical and social care, patient flows are made common and known, and referrals along the full continuum of service delivery can be clarified, for example, the foundation for more coordinated/integrated care that is people-centred rather than illness or disease-specific.

The **organization of providers** refers to the structure and arrangement of the so-called hardware of the system – the *who* and the *where* in the production of services – looking specifically to the mix of providers in the health sector, their scope of practice, and how they operate as a collective profession, in both the public and private sector. The organization of providers is a determining factor for ensuring models of care are actualized, and thus, the extent to which needed services are received at the right time and in the right way, optimizing health results and improving the patient experience. To treat a patient's full health care needs, numerous health care providers may be called upon, in different settings – such as primary, secondary and tertiary care – and in different capacities – for consultation in diagnosis, the development of a treatment plan, counselling or rehabilitation. To optimize this process, organizational strategies, like the introduction of multidisciplinary teams and group practices in PHC, or the expansion of provider profiles and their alignment for shared-care tasks may be called upon. Whichever means to designing the flow of services, these efforts share in their common objective to promote diversity in technical expertise – found in strong association with the ability of the system to respond to the population's increasingly complex health needs.

Mechanisms for **continuous performance improvement** refer to those efforts that aim to safeguard the delivery of services, creating a learning system through the standardized models of care, regular monitoring of the provision of care and feedback loops allowing a continuous critique of the provision of care, with opportunities and resources (skills, time, authority) for improvement. Creating a system of learning calls attention to the principles of collegiality and autonomy, fuelled by a sense of responsibility, peer pressure and a common transformative culture. Measures to cultivate this may include, for example, the standardization of training and retraining requirements, as well as (re)accreditation and certification schemes for health professionals, each providing systematic incentives for providers to adhere to certain standards of quality and regularly improve their practice.

Summary of the methodology

The study on ACSCs followed certain standard steps.

1. Conduct desk research to retrieve information regarding the indicators of the analytical framework and identify key stakeholders in each country for an online meeting or as survey participants.
2. Analyse hospital admission data to select high potential (i.e. top 10) ACSCs per country.
3. Organize online meeting or hold a survey to introduce the study to relevant stakeholders and invite them to select a limited number (2–4) of ACSCs per country.
4. Hold a local country stakeholder meeting in the form of a two-day workshop to identify challenges and opportunities for strengthening the PHC related to the selected ACSCs. Possibly follow-up with additional interviews if the stakeholder meeting in the form of a workshop does not yield sufficient information.
5. Depending on the availability of data, calculate potential savings for the selected ACSCs.
6. Draw relevant lessons and formulate actionable policy recommendations for each selected country.
7. Deliver country reports, including an interpretation of results and actionable policy recommendations for the relevant country.

Annex 2. Survey questionnaire

General information

Survey completed by:

Name/title (Professor, Dr, Mr, Mrs, Ms, etc.)

Function/position

Organization/department

Profession

- Family doctor
- Medical specialist, please specify your specialty

ACSCs in Latvia

Table A2.1 presents selected ACSCs used in international literature. For each of the ACSCs, the prevalence and hospitalization rate in Latvia are specified.

Table A2.1. Prevalence and hospitalization rate by ACSC, 2013

ACSC (ICD-10 code)	Prevalence	Patients hospitalized	
		No.	%
Angina (I20, I240, I248, I249)	62 584	6 088	10
Asthma (J45, J46)	62 769	2 508	4
Cellulitis (L03, L04, L08, L88, L980, L983)	26 242	1 473	6
Chronic obstructive pulmonary disease (J20, J41–J44, J47)	150 409	2 713	2
Congestive heart failure (I50, I110, J81)	96 410	549	1
Convulsions and epilepsy (G40, G41, O15, R56)	19 643	1 387	7
Dental conditions (A690, K02–K06, K08, K098, K099, K12, K13)	7 128	793	11
Diabetes (in any field) (E10.5, E10.6, E10.9, E11.5, E11.6, E11.9)	6 381	2 980	47
Diabetes complications (E100–E108, E110–E118, E120–E128, E130–E138, E140–E148)	68 870	6 020	9
Gastroenteritis (K522, K528, K529)	2 638	255	10
Hypertension (I10, I119)	373 797	6 259	2
Immunization-preventable conditions (A15, A16, A19, A35–A37, A80, B05, B06, B26, B161, B169, B180, B181, G000, J10, J11, M014)	86 861	4 757	5

Table A2.1. Prevalence and hospitalization rate by ACSC, 2013 cont.

ACSC (ICD-10 code)	Prevalence	Patients hospitalized	
		No.	%
Iron deficiency anaemia (D501, D508, D509)	9 297	441	5
Kidney/urinary infection (N10, N11, N12, N136, N390)	43 208	3 260	8
Nutritional deficiency (E40–E43, E55, E643)	2 627	5	0
Pelvic inflammatory disease (N70, N73, N74)	11 431	686	6
Perforated or bleeding ulcer (K250–K252, K254–K256, K260–K262, K264–K266, K270–K272, K274–K276, K280–K282, K284–K286)	3 022	1 472	49
Pneumonia (J13, J14, J153, J154, J157, J159, J168, J181, J188)	6 660	3 265	49

ICD-10: International Statistical Classification of Diseases and Related Health Problems, 10th revision.

Question 1. Is any ACSC that is of importance to Latvia missing in Table A2.1?

- No (please continue to question 2)
- Yes, this concerns the following condition(s) for which hospitalization could be prevented by effectively treating the condition(s) in the PHC setting in Latvia.

Additional ACSCs of importance to Latvia		

Question 2. Which ACSCs should receive the highest priority in Latvia?

Table A2.2 lists different types of ACSCs: acute, chronic and preventable conditions. Please select the two most important ACSCs of each type of ACSC, by putting an x in the box next to it. Hence, a total of six will be selected by you.

If you want to add a condition that is of importance, please add it to the relevant column.

Table A2.2. ACSCs by type of condition

Acute conditions		Chronic conditions		Immunization-preventable conditions	
Cellulitis	<input type="checkbox"/>	Angina	<input type="checkbox"/>	Influenza	<input type="checkbox"/>
Dental conditions	<input type="checkbox"/>	Asthma	<input type="checkbox"/>	TB	<input type="checkbox"/>
Gastroenteritis	<input type="checkbox"/>	Chronic obstructive pulmonary disease	<input type="checkbox"/>	Measles	<input type="checkbox"/>
Kidney/urinary infection	<input type="checkbox"/>	Congestive heart failure	<input type="checkbox"/>	Rubella	<input type="checkbox"/>
Pelvic inflammatory disease	<input type="checkbox"/>	Convulsions and epilepsy	<input type="checkbox"/>	Bacterial meningitis	<input type="checkbox"/>
Perforated or bleeding ulcer	<input type="checkbox"/>	Diabetes	<input type="checkbox"/>	Hepatitis	<input type="checkbox"/>
	<input type="checkbox"/>	Diabetes complications	<input type="checkbox"/>	Mumps	<input type="checkbox"/>
	<input type="checkbox"/>	Hypertension	<input type="checkbox"/>	Whooping cough	<input type="checkbox"/>
		Iron deficiency anaemia	<input type="checkbox"/>		<input type="checkbox"/>
		Nutritional deficiency	<input type="checkbox"/>		<input type="checkbox"/>
		Pneumonia	<input type="checkbox"/>		
			<input type="checkbox"/>		

Please explain *why* you selected the conditions above as the most important ACSCs in Latvia.

Question 3. Which percentage of hospitalizations could be avoided when an ACSC would be effectively treated in PHC?

Please specify for each of the six ACSCs that you selected in question 2: which percentage (0%–100%) of all hospitalizations for these conditions could have been avoided. If you are unsure, you can provide a rough estimate.

Acute condition	Avoidable hospitalization (%)	Chronic condition	Avoidable hospitalization (%)	Immunization-preventable condition	Avoidable hospitalization (%)

Question 4. What should happen in Latvia to effectively address the selected conditions in PHC?

Please provide your answer in the box below.

What should happen to effectively address each of the 6 selected conditions in PHC in Latvia?

- 1.
 - 2.
 - 3.
 - 4.
-

Comments

If you wish to make any further comments about your experiences with ACSC in your country and/or this survey, please use the space provided below

Thank you for your participation.

Annex 3. List of participants

This annex contains the participants to the stakeholder consultation on 11–12 September 2014 in Riga, Latvia.

Līga Ārente
Latvian Nurses Association

Elīna Briņķe
Ministry of Health

Inga Brokere
National Health Service

Ainars Čivčs
Health Inspectorate of Latvia

Māra Dīriņa
State Emergency Medical Service of Latvia

Gunta Freimane
Latvian Health Psychology Association

Guna Jermacāne
Ministry of Health

Elīna Kaktiņa
Ministry of Health

Silvija Kaugere
Ministry of Health

Līga Kozlovska
Rural Family Doctors Association of Latvia

Maija Kozlovska
Rural Family Doctors Association of Latvia

Dace Līkanse
Patients' Ombud Office

Indra Liniņa
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National Health Service

Andis Paeglītis
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Jana Plahotina
National Health Service

Kristīne Plahotina
Patients' Ombud Office

Egita Pole
Deputy Secretary of State on Health Policy Matters, Ministry of Health

Pauls Princis
Latvian Association of General Practitioners

Gunta Rozentāle
The Centre for Disease Prevention and Control, Latvia

Inga Stučēna
Latvian Medical Association of Tuberculosis and Lung Diseases

Edgars Tirāns
Latvian Association of General Practitioners

Sandra Titāne
National Health Service

Antra Valdmane
Ministry of Health

Helēna Vēvere
Latvian Physician Assistant Professional Organisation

Ludmila Vīksna
Latvian Association of Infectionologists and Hepatologists

Inga Zaikovska
ReReO4 Sia

World Health Organization

Regional Office for Europe

Aiga Rūrāne
Margrieta Langins

Consultants

Ecorys

Ilaria Mosca
Wija Oortwijn

The WHO Regional Office for Europe

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

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Denmark
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