EUROPEAN COMMISSION
Structural Reform Support Service
“Hospital collaboration areas”

Hospital Collaboration Model

04.12.2019.

1 Assumptions and limitations

- This report does not define the final HCM or its national level implementation plan and the conclusions presented in this report may change during further phases of the project based on, for example, HCM piloting, study visits to European Union Member States (EU MS) and trainings.
- During the preparation of this report, Ernst & Young Baltic (EY) used multiple third-party sources of information (for example, research reports, government statistics, information provided in interviews and focus groups). EY assumed that the information provided was accurate and additional verification of information and data accuracy was not conducted.
- EY is not responsible for the implementation or supervision of implementation of the recommendations mentioned in this report outside of the scope mentioned in the Project Agreement.
- If this report or its parts are translated to other languages, the English version should be considered the primary version of this document.
- The Hospital Cooperation Model (HCM) aims to add instead of replicating the analysis performed by the World Bank Group as part of support to develop Health System Strategy for Priority Disease Areas in Latvia. This report does not aim to define the optimal structure of the hospital network or its division in collaboration areas. Instead the model aims to present a HCM that fits the current hospital network structure and is adaptable to future developments.
- The information collected during Phase 2 of this project was partially collected through focus groups and interviews, with a limited number of stakeholders represented. It is possible that the conclusions included in this report would differ based on the time period analyzed and/ or stakeholders engaged in Project activities.

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3 Glossary and abbreviations

Term	Abbreviation
Chronic obstructive pulmonary diseases	COPD
Computer tomography	CT
Cross-Sectoral Coordination Centre	CSCC
Diagnostic related grouping	DRG
District medical center	DMC
Electronic health record	EHR
Ernst & Young	EY
European Commission	EC
European Commission Structural Reform Support Service	SRSS
European Union	EU
European Union Member States	EU MS
European Social Fund	ESF
Full time equivalent	FTE
General Data Protection Regulation	GDPR
General physician	GP
General physician assistant	GPA
Gross domestic product	GDP
Health Inspectorate	HI
Hospital Cooperation Model	HCM
Hospital of Traumatology and Orthopedics	HTO

Term	Abbreviation
Human resources	HR
Information systems	IS
Information technologies	IT
International Classification of Diseases	ICD
Internet of things	IoT
Key performance indicators	KPIs
Latvian Association of Local and Regional Governments	LALRG
Latvian Doctors' Association	LDA
Latvian Nursing Association	LNA
Major medical equipment	MME
Ministry of Economics	MoE
Ministry of Finance	MoF
Ministry of Health	MoH
Ministry of Interior	MoI
Ministry of Welfare	MoW
National Health Service	NHS
Nordic Classification of Surgical Procedures	NCSP
Ordering office (Norway)	OO
Pauls Stradins Clinical University Hospital	PSCUH
Primary Healthcare Centre	PHCC
Regional Health Authorities	RHA
Riga East Clinical University Hospital	RECUH

Term	Abbreviation
Shared service center	SSC
Specialized Medical Center	SMC
Specific contract No SRSS/ SC2018/ 027 Lot 1 under the framework contract No SRSS/FWC2017/ 002 signed between Ernst & Young and the Structural Reform Support Service (SRSS) on August 8, 2018	Project agreement, agreement
State Emergency Medical Service	SEMS
Territorial hospital groups (France)	GHT
The International Bank of Reconstruction and Development	IBRD
The Organization for Economic Co-operation and Development	OECD
The Project “Hospital Collaboration Areas” realized according to the specific contract No SRSS/ SC2018/ 027 Lot 1 under the framework contract No SRSS/ FWC2017/ 002 signed between Ernst & Young and the SRSS on August 8, 2018	Project
World Health Organization	WHO

4 Executive summary

The aim of the executive summary is to summarize the main conclusions that are discussed in detail further in this report. The executive summary consists of three sections. In the first section describes the project context and how it relates to various planning documents and reforms. The next section discusses the concept of hospital cooperation, its objectives and current progress with the implementation of hospital cooperation in Latvia. Finally, the third section summarizes the main recommendations of the HCM (which are further elaborated in the main text of this report).

4.1 Project context

The Latvian healthcare system is characterized by a high degree of fragmentation and insufficient cooperation, especially in hospital care, between municipalities and providers of social care (World Bank, 2016; WHO, 2017). To tackle this the National Reform Plan calls for cooperation among hospitals of all levels, including by merging hospitals, creating subsidiaries of the IV or V level hospitals or by signing cooperation contracts that include at least some functional integration. **Therefore, the aim of the HCM is to be a supporting tool for the introduction of new forms of cooperation among hospitals in line with the National Reform Plan** (National Reform Programme, 2018).

The Latvian Healthcare Facilities Master Plan 2016-2025 created by the World Bank Group discusses in detail the shortcomings of the Latvian healthcare system and how these need to be tackled to establish a well-organized and sustainable health service network. The Master Plan aims to provide a long-term planning perspective for optimizing the capacity of the hospital network and to reduce mismatches between population needs and available capacity (World Bank, 2016). In addition to the Master Plan, in December 2016, the Cabinet of Ministers approved the “Informative Report on Systemically Important Healthcare Institution Mapping and Development Reform”, which was followed by the Conceptual report “On Healthcare System Reform” in 2017. Both reports reiterated the need for incentivizing closer cooperation among hospitals in hospital collaboration areas as defined by the World Bank (Cabinet of Ministers, 2017; National Reform Programme, 2018; MoH, 2016).

SRSS of the European Commission (EC) aims to provide support for the preparation and implementation of growth-enhancing administrative and structural reforms by mobilizing EU funds and technical expertise. Latvia requested support under Regulation (EU) 2017/ 825 on the establishment of the Structural Reform Support Program. The request was analyzed by the EC, following which the EC agreed to provide technical support to Latvia in the development of hospital collaboration areas. **This project is realized as part of the specific contract No SRSS/ SC2018/ 027 Lot 1 (Project) under the framework contract No SRSS/ FWC2017/ 002 signed between EY and the SRSS on August 8, 2018.**

The project is divided into four phases (see Figure 1) and the HCM is the main deliverable of Phase 2 “Development of a hospital cooperation model”. **The purpose of this report is to develop a HCM in alignment with previous policy planning documents and recommendations to promote successful and sustainable cooperation among healthcare providers in Latvia.**

Figure 1 Project phases and deliverables

4.2 Hospital cooperation

Hospital cooperation can take various forms, including hospital mergers, establishment of subsidiaries and branches, cooperation contracts or informal networks. **The purpose of defining a preferred model for cooperation is to define roles and responsibilities, as well as mechanisms for providing incentives for healthcare providers to tackle the existing fragmentation of care**.

While Latvia is small enough that informal networks of cooperation and limited information sharing may seem sufficient, a more systematic approach to cooperation through building both regional and national-level networks should be implemented (OECD, 2016). This is especially true due to the limited resources available in the Latvian healthcare system, as well as the recent efforts to pursue greater optimization of the network: a reform that is reliant on the ability of the Latvian healthcare sector to share both resources and information, as well as to effectively guide patients towards the most appropriate type of care. **Therefore, the aim of hospital cooperation is to use national healthcare resources rationally and effectively through ensuring hospitals work together for common, strategic goals.** This is also highlighted by the objectives outlined in the Public Health Guidelines 2014-2020 that endorse effective management of the healthcare system and rational use of resources in order to promote sustainability, equal access and high-quality services (Cabinet of Ministers, 2014).

However, the current fragmentation of hospital ownership in Latvia limits closer cooperation. While there are some hospitals that are state-owned (for example, all 3 university hospitals, Hospital of Traumatology and Orthopedics (HTO) and National Rehabilitation Centre “Vaivari”), majority are owned by a combination of municipalities, city councils and, in two cases, limited liability companies. Hospitals in Latvia are fundamentally for-profit organizations limiting possible cooperation to areas that do not threaten the interests of their shareholders. Often municipalities that own hospitals are interested in providing a very wide a range of healthcare services to populations, even though good quality of care and survival rates are difficult to ensure without sufficient volume (Rivera, 2016). Therefore, hospital cooperation must also address strategies to rethink the governance model as a whole.

Some efforts towards promoting closer cooperation between hospitals have been made. In accordance with the World Bank Master Plan and the Conceptual Report “On Healthcare System Reform”, hospital cooperation is recommended within 8 collaboration territories, where level IV and III hospitals establish a cooperation model with level I and/ or II hospitals and Emergency Medical Assistance points. For a description of hospital levels see Appendix 4. Hospitals by level. According to Cabinet Regulation No. 56 “Rules on Program “Growth and Employment” Specific Support Objective No. 9.3.2. “Improve Quality Healthcare Service Availability, Especially for People at Risk Of Territorial Exclusion And Poverty Through the Development of Healthcare Infrastructure” Project Selection Round 3” (Regulation No. 56), hospitals may receive additional funding for establishing cooperation with

a regional or university hospital in one of three ways: through signing cooperation contracts, forming a parent-subsidiary relationship or becoming a single legal entity with the respective regional hospital.

Overall 12 contracts were signed as illustrated by Figure 2. However, only some territories have established formal cooperation relationships (cooperation contracts, subsidiaries or single legal entity) between all local hospitals and the regional or university hospital. **Moreover, concerns surrounding progress with the implementation of practical cooperation mechanisms (as opposed to just formal agreement) remain.** Nonetheless, the cooperation relationships established present significant progress, especially, given that the Regulation No. 56 only came into effect on February 2nd, 2018.

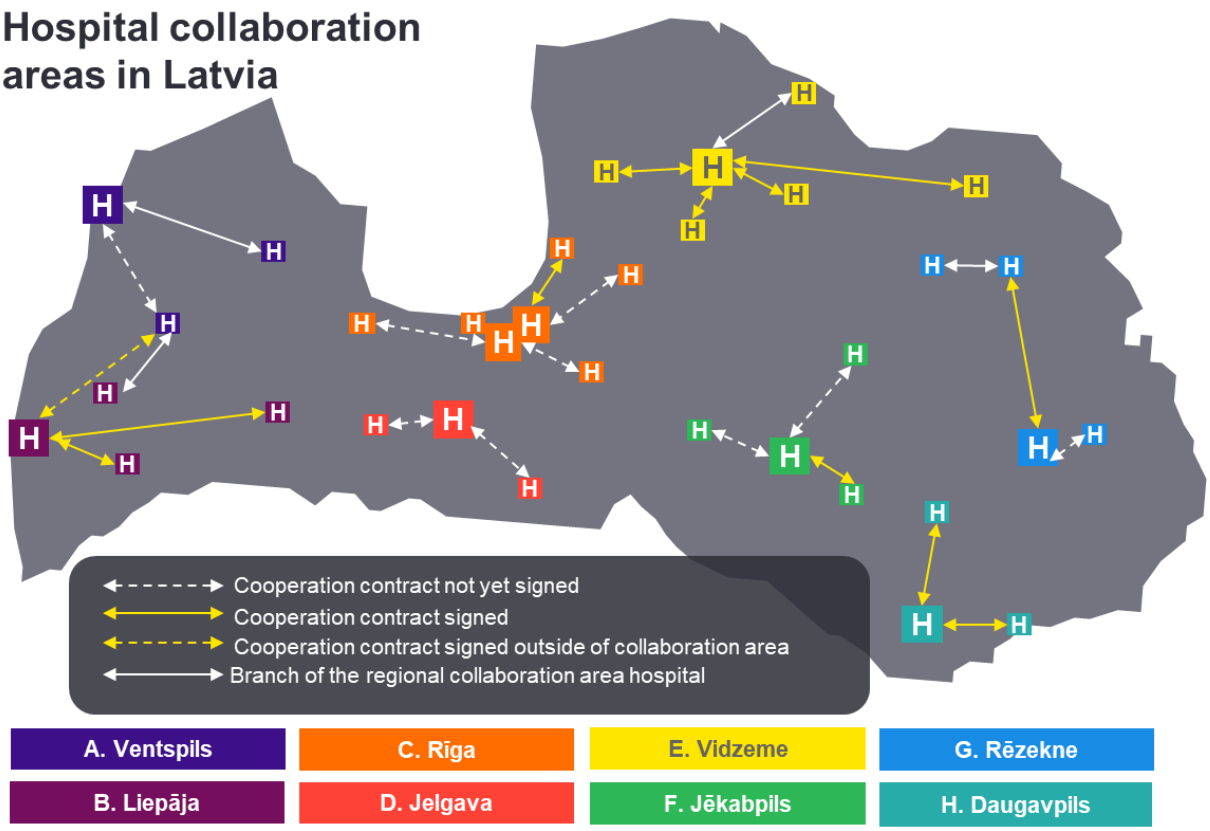

Figure 2 Hospital cooperation areas in Latvia

Therefore, the HCM aims to address the current limitations of and provide practical recommendations for hospital cooperation in Latvia. **This report describes the as-is situation of hospital cooperation, as well as core principles, considerations and practical recommendations for improvement**.

4.3 Main recommendations

In this report several practical recommendations were defined for hospital cooperation in Latvia. These recommendations cover short, medium and long-term and correspond to objectives set by Public Health Guidelines for 2014-2020 and are organized under three main objectives defined for the implementation of the HCM (see Figure 3).

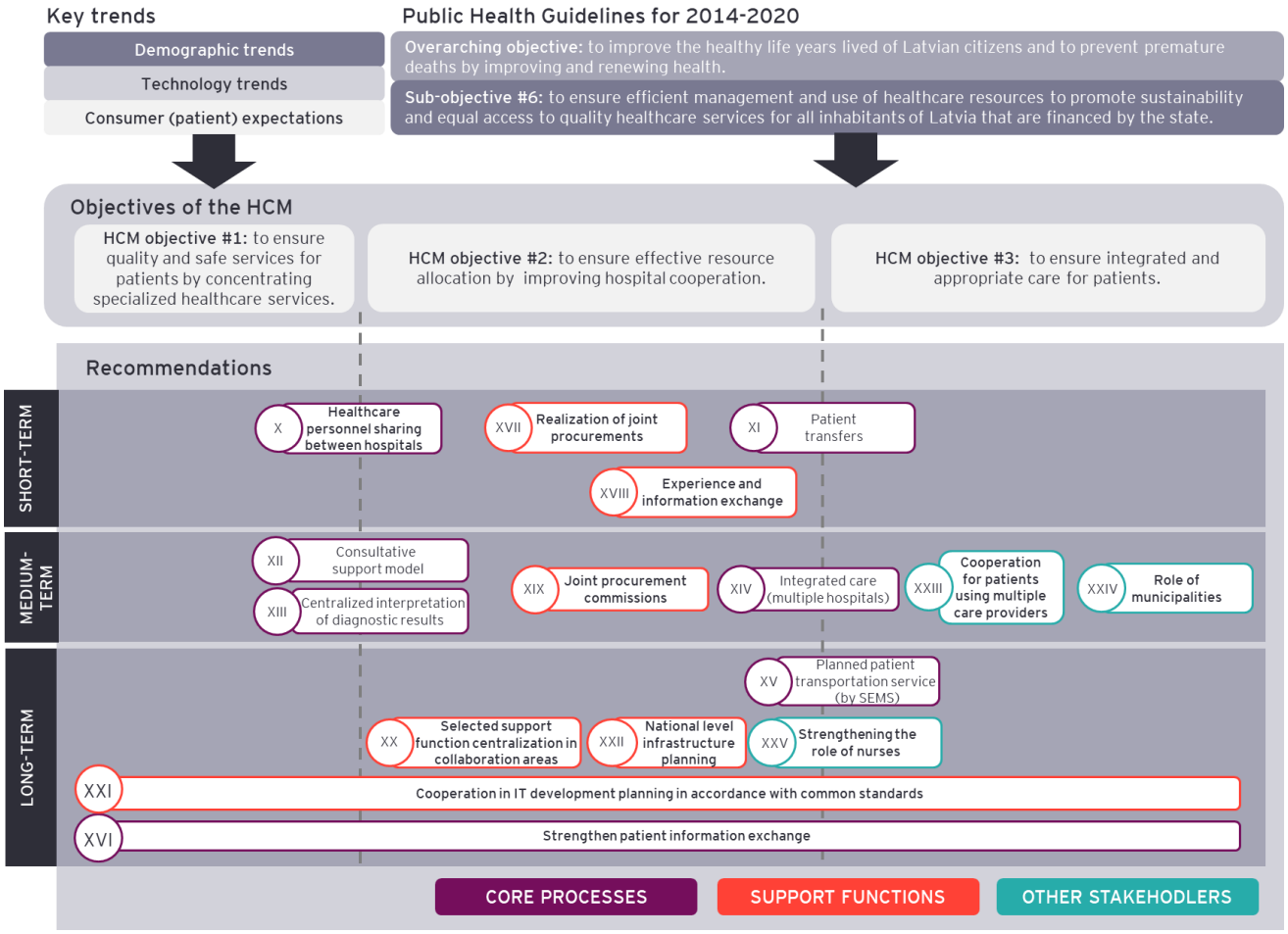

Figure 3 Main recommendations in the context of HCM objectives

The main problem areas and recommendations identified during this study are summarized in the table below (see Table 1). A list of indicative responsible parties for the implementation of each recommendation are available in Appendix 6. Responsible stakeholders for each recommendation. It is important to note that these recommendations represent analysis performed during the 2nd Phase of this Project and may change based on conclusions from further Project activities and this report does not represent a binding implementation plan.

Recommendations on cooperation in core functions	
X	Healthcare personnel sharing between hospitals
XI	Patient transfers from higher to lower level hospitals with current capacity
XII	Development of a consultative support model
XIII	Centralized interpretation of diagnostic results
XIV	Integrated care for patients receiving care from multiple hospitals
XV	Planned patient transportation service between hospitals provided by SEMS
XVI	Strengthen patient information exchange
Recommendations on cooperation in support functions	
XVII	Realization of joint procurements
XVIII	Experience and information exchange
XIX	Establishment of joint procurement commissions
XX	Centralization or partial centralization of selected support functions in collaboration areas
XXI	Cooperation in IT development planning in accordance with common standards
XXII	National level infrastructure planning
Recommendations for cooperation with other stakeholders	
XXIII	Improve cooperation for patients receiving care from multiple care providers
XXIV	Defining the role of municipalities
XXV	Strengthening the role of nurses, incl. in the coordination of continuity of care

Table 1 Main problem areas and recommendations

As-is situation	Recommendations
1. GOVERNANCE OF HOSPITAL COOPERATION	
Territorial grouping in collaboration areas (for a detailed description of the recommendation see section 6.2.5)	
The current cooperation model of 8 collaboration areas, is based on geography and World Bank recommendations (World Bank, 2016). Those collaboration areas are: Ventspils, Liepaja, Riga, Jelgava, Vidzeme, Rezekne, Daugavpils and Jekabpils (for a list of hospitals in each collaboration area, see Appendix 7. Collaboration areas in Regulation No.56). Each collaboration area has one regional hospital (except for Riga, where "leading hospitals" are university hospitals).	Considering the size of Latvia, it would be reasonable to make cooperation permissible between all levels of hospitals throughout the whole territory). Moreover, it is our recommendation that the HCM should encompass 3 main levels of care: ► Specialized and university hospitals, that primarily cooperate with each other, with respective regional hospitals (based on geographical location or area of specialization) and with local hospitals (especially in the Riga collaboration area); ► Regional hospitals that primarily cooperate with university hospitals and with local hospitals in their area; ► Local hospitals that cooperate with regional hospitals and other local hospitals in their area.
Cooperation contracts (for a detailed description of the recommendation see section 6.2.5)	

As-is situation	Recommendations
The current form of cooperation contracts is drafted based on requirements of Regulation No. 56 with a purpose of joint participation in the respective EU project. The conclusion of such contract gave an opportunity to hospitals to receive additional EU funds. According to interviews and focus group discussions, in many cases, however, these contracts remain as formal agreements with little practical implementation. Because the template form provided to hospitals by the MoH was only a recommended form, hospitals have also adopted multiple different variations of the contract in practice.	While the template contract developed by the MoH may remain only a recommended form (to allow hospitals to adapt it to their specific needs), hospitals should consider making the following improvements in the contracting form: ► The contract should contain an obligation of parties to create cooperation mechanisms and impose specific obligations on specific persons (management, Head Doctors, Head Nurses etc.) to perform certain cooperation related activities; ► The contract should state at least the main principles of financing of joint activities (currently it does not impose any financial obligations on any of the parties); ► The contract should set forth clear and efficient contractual sanctions like late payment penalties and contractual penalties for failure to perform or improper performance of certain activities; ► The contract should set forth a procedure for the resolution of practical issues, like the lack of care beds, transport vehicles or healthcare personnel; ► The contract should contain clear provisions related to the division of liability towards patients if the medical services are provided by several hospitals.
Inclusion of common obligations in regulations (for a detailed description of the recommendation see section 6.2.5)	
Hospitals mainly are limited liability companies and, therefore, the management board and supervisory council have an obligation to act as “honest and careful managers” with a purpose of gaining profits (but which, to an extent, may contradict the role of hospitals, which do not usually have a purely commercial nature).	Hospitals are entities, whose main purpose is often perceived to be broader than only profit and actions with purely commercial nature. Therefore, in the medium-term, where hospitals most likely will keep their legal form and shareholder structure, but must cooperate, we recommend including obligations for cooperation in legal acts.
Financial incentives (for a detailed description of the recommendation see section 6.2.5)	
Hospitals in Latvia are for-profit institutions. For any form of cooperation to succeed (assuming the current legal form and ownership structure remains) it must either be required from a regulatory perspective or be profit incentive driven for all involved hospitals.	► The use of strategic purchasing to either directly or indirectly promote closer cooperation between hospitals in the provision of services (see recommendation XXXII ”Use of cooperation contracts to motivate collaboration between hospitals”); ► Allowing hospitals to keep part of the savings they have made by optimizing their processes through cooperation (for example, by

As-is situation	Recommendations
	achieving savings through performing joint procurements or jointly providing services to patients) in their budgets for the upcoming year(s). To implement this, amendments to Regulation No. 806 with respect to dividend payment may be needed.
Review of hospital ownership structure (for a detailed description of the recommendation see section 6.2.5)	
The ownership structure of hospitals restricts possible cooperation in the following ways: (1) due to fragmentation, close cooperation is difficult to achieve from an organizational perspective, (2) the priorities of local municipalities and national-level policy objectives may at times be misaligned (for example, even if closing a hospital may be rational from a national perspective, usually it is very unpopular in the local community, to whom municipalities must be accountable to), (3) limitations that derive from restrictions of separate legal entities that act for profit incentives.	► Future reforms should include a review of hospitals' ownership structure considering the transfer (purchase of equity at the price determined by independent certified experts according to Latvian standards and regulatory requirements) of ownership of all or some shares of hospitals (1) to the state, (2) a specific centralized state-owned agency/ institution or (3) a regional agency. ► One potential model that could be implemented in the long-term and would align with international practice is that regional hospitals would be owned by the same regional or national level entity (more likely given the size of Latvia), whereas local hospitals would be either subsidiaries of or a single legal entity with regional hospitals.
Review of hospital legal form (for a detailed description of the recommendation see section 6.2.5)	
Currently hospitals are for-profit institutions which means that they need to behave in a way that maximizes profit. Meanwhile, healthcare normally is concerned also with the quality and accessibility of care. The for-profit incentive can fundamentally contradict some healthcare policy goals.	As a long-term solution, change of hospitals' legal form from commercial companies into state agencies (or other types of state institutions), social businesses or non-profits should be considered. Conversion to state agencies does not require amendments to Commercial law or Public Persons Law but would require amendments to the Medical Treatment Law clearly stating that public hospitals may only take a form of agency (or other form of state institution) and detailing transition rules and timeline for reorganization of hospitals from commercial companies into state agencies/ institutions. Meanwhile, conversion to social business or non-profit models would also require significant changes in current legislation, such as, for example, amendments in the Social Enterprise Law to allow publicly owned institutions to be social enterprises (currently, status of a social enterprise may only be acquired by a limited liability company where one or several public persons jointly do not have the majority of votes).

As-is situation	Recommendations
Governance forms (for a detailed description of the recommendation see section 6.2.5)	
Latvia will need to improve its supervision of service availability, coverage and network planning, especially, once hospitals implement more systematic cooperation through various mechanisms to ensure: ► Fair division of financing, responsibilities and services between hospitals; ► Appropriate network coverage (accessibility of services).	We recommend that a function is established to perform the following responsibilities: (1) analysis of existing hospital capacity and population needs, (2) overseeing of the allocation of specialized services, (3) development of recommendations for network optimization, (4) controlling the allocation of services between hospitals (including cases where hospitals enter subcontracting or consortia agreements with other hospitals to provide services) to ensure service accessibility, quality and fair negotiations in the context of hospital cooperation. The key objective of establishing a governance model for the above-mentioned purposes is to align and coordinate cooperation activities (that often already take place, but on an ad hoc basis) and to support the transfer of best practices throughout the network.
Integration of national decision making on healthcare and social care (for a detailed description of the recommendation see section 6.2.5)	
Currently, there is insufficient integration of national decision-making between different types of care as well as a lack of a clear definition of the roles and responsibilities of municipalities and the state. Permanent intersectoral structures exist in specific areas (e.g. substance abuse) with high-level committees under the Prime Minister. Thus, intersectoral policies affecting the health sector are usually dealt with in ad hoc interministerial working groups (Gulis et al, 2012). Currently, the legal framework of healthcare and other types of care is fragmented and there is need for closer policy planning integration. Each care system has their own regulations which are either not linked or linked weakly to each other.	We suggest to strengthen the integration of different types of care by establishing an integrated care strategy that aligns the overarching combined policy perspective of the involved ministries (MoH, MoW and the Ministry of Interior, Ministry of Environmental Protection and Regional Development) and municipality representatives. Additional work groups or commissions may be established based on need to target specific issues/ priorities (like the ones that already exist). The main issues that need to be addressed include financial arrangements, regional and case-based arrangements to improve cooperation and integration on all levels of care, need for specific criteria and patient pathways that incorporate the necessary intersectoral elements. This initiative requires detailed analysis of the current areas of lack of integration and definition of the future integrated patient-centered care model.
Key performance indicators (KPIs) for measuring cooperation (for a detailed description of the recommendation see section 6.2.5)	
Beyond the number of cooperation contracts, there is very limited measurement and evaluation of elements related	In order to ensure the HCM is realized successfully, a system to measure and analyze the implementation of the model (both

As-is situation	Recommendations
directly to cooperation between hospitals. To implement a successful cooperation model, a continuous process of evaluation and improvement should be implemented. The flexibility of the model suggested above allows for the implementation of various models for cooperation on a regional basis; however, facilitation of benchmarking and experience sharing could help to identify successful models that could be implemented in a wider range of hospitals.	implementation progress and the positive outcomes of cooperation) can be established on two levels: (1) as stated above, hospitals within a collaboration area should define objectives and indicators within their cooperation strategies, (2) on a national level to monitor and benchmark the performance of different collaboration areas and the system overall. Monitoring will give valuable input for (1) continuous improvement of the HCM, regulatory requirements, incentives and governance methods where needed, (2) benchmarking hospitals to identify best practices, as well as possible issues, that can be used to improve cooperation across the entire network. Given the limited resources of national-level governance institutions in Latvia, the supervision mechanism employed can use information reported by hospital collaboration areas as a primary input for evaluating progress in the implementation of collaboration mechanisms.

2. COOPERATION IN CORE FUNCTIONS

Short term

Healthcare personnel sharing between hospitals (for a detailed description of the recommendation see section 6.3.2.1)

On a national-level, common principles for the remuneration of healthcare personnel are determined by Cabinet Regulation No. 851 “Regulation on Lowest Monthly Salary and Special Premiums for Employees in the Healthcare Sector” (Regulation No. 851), however, providers may choose to pay personnel more than the monthly minimum. Additionally, the MoH analyzes the supply of medical personnel on a national, regional and institution level, however the human resource situation is constantly changing, and critical specialties can differ based on the healthcare provider, region and various other factors (such as retirement, prolonged illness, vacation or termination of employment of medical personnel). It is, therefore, advisable that hospitals continuously evaluate their human resource situation and cooperate with other providers to attract, retain and share healthcare personnel. Moreover, healthcare personnel often work at more than one medical institution, on their own initiative and little to no regional-level planning	► Define healthcare personnel sharing needs (including required FTEs per hospital) for critical positions in the collaboration area and identify possible personnel sharing opportunities. ► Hospitals should define a contracting form and incentives (for example, higher remuneration, valuable professional experience, non-monetary benefits) for employees working at several hospitals. ► Hospitals should define common principles for remuneration and other incentives for selected specialties to ensure healthcare personnel sharing on a collaboration area level. These principles do not necessarily need to mandate identical remuneration for healthcare personnel in hospitals of different levels but should aim to align principles by which remuneration is determined, especially in cases where personnel are contracted by multiple providers at once. ► Define a common approach for the planning of required FTEs and work schedules between collaborating hospitals.

As-is situation	Recommendations
and the situation is unlikely to improve due to aging of healthcare personnel.	► Hospitals need to implement a systematic organization of human resources and healthcare personnel sharing among hospitals within the collaboration area.
Patient transfers from higher to lower level hospitals with current capacity (for a detailed description of the recommendation see section 6.3.2.1)	
Only limited patient transfers from higher to lower level hospitals take place. This is due to several reasons, including lack of information on and limited capacity for non-acute inpatient care and the unwillingness of some patients to be transferred. There is no agreed upon process for organizing, approving and carrying out patient transportation between hospitals on the national level.	► Identify potential partner hospitals that would participate in patient transfers and define a procedure for the organization of patient transfers from higher to lower level hospitals. ► Define a procedure for hospitalization, care and discharge of patients (process itself, roles and responsibilities of involved parties, information sharing requirements to ensure patient care continuity and documentation approach for the process).
Medium term	
Development of a consultative support model (for a detailed description of the recommendation see section 6.3.2.2)	
Mapping of human resources suggests deficits of both physicians and nurses outside of Riga, while there are surpluses in multiple specialties on a national level. Consultative support within the Latvian healthcare system exists through the SMC of the SEMS (in emergency cases) or through informal relationships between personnel of different healthcare providers. Moreover, a pilot project in teleconsultations is currently in progress as part of the European Commission Third Union Action Programme in the Healthcare sector 2014-2020 Work Plan for 2019. However, improvements remain to be made, including wider implementation of a teleconsultation model based on conclusions from the pilot project and implementation of a more coordinated approach (with appropriate financing mechanisms) for consultations in non-emergency cases.	► Analyze consultative support needs by specialization and identify specific critical specialties to target as a priority through consultative support from higher to lower level hospitals. ► Develop procedures for the provision of consultative support, including the roles and responsibilities of consulting healthcare personnel and the financing model to incentivize consultative support.
Centralized interpretation of diagnostic results (for a detailed description of the recommendation see section 6.3.2.2)	
Currently, it is not common practice to centralize the interpretation of diagnostics in Latvia. The lack of standardization in the performance of diagnostics and	► Define types of diagnostic examinations that can be carried out as well as the preferred organizational model for centralized interpretation of diagnostic results.

As-is situation	Recommendations
descriptions results in duplication of examinations in several institutions and differing interpretations.	► Develop protocols for carrying out selected priority diagnostic exams and create a common format for preparing descriptions of diagnostic results. ► Pilot centralized interpretation of diagnostics services in selected partner-hospitals, ensuring the necessary technologies are available.
Integrated care for patients receiving care from multiple hospitals (for a detailed description of the recommendation see section 6.3.2.2)	
Only limited patient transfers from higher to lower level hospitals take place. There is no agreed approach for organizing, approving and carrying out patient transportation between hospitals. The division of responsibilities, and the funding arrangements are not clearly defined if the patient receives care in multiple institutions.	► Define the roles and responsibilities of involved parties, including during patient transportation. ► Develop a common assessment system and clinical criteria to direct patients to the appropriate service provider based on clinical guidelines, standards, algorithms and patient pathways. ► Develop funding arrangements for planned transfer of patients between hospitals and patient-cares from several service providers.
Long term	
Planned patient transportation service between hospitals provided by SEMS (for a detailed description of the recommendation see section 6.3.2.3)	
Planned patient transfers are organized either by using each hospital's vehicles or by outsourcing to SEMS or other medical transportation service providers. Additionally, there is no agreed process for organizing, approving and carrying out patient transportation between hospitals on a national level.	► Improve existing cooperation in providing services for patients who receive care from multiple care providers, including an assessment of the feasibility of implementing an electronic patient transfer system for managing the transfer approval process. ► Define the financing model for planned patient transfer (e.g. direct funding to SEMS or payments from hospitals). ► Set-up and pilot a centralized planned patient transportation service in Latvian territory (SEMS) with limited capacity.
Strengthen patient information exchange (for a detailed description of the recommendation see section 6.3.2.3)	
eHealth currently only includes a limited amount of medical patient information (e.g. diagnosis, examinations) which, according to focus group conclusions, is currently insufficient to provide efficient treatment. As a result, providing the	► Develop automatic exchange of information on patient admission and discharge from a hospital.

As-is situation	Recommendations
necessary information to their next care provider is often the responsibility of the patient and can both threaten patient safety and quality of care, and lead to duplications of examinations.	► Assess the possibility to adopt requirements for information sharing within eHealth by private healthcare IS providers to ensure information is provided in eHealth within a timely manner. ► Standardize data entry forms for various patient data recorded within eHealth (for example, diagnostic results) in cases where such forms are not yet developed. ► Promote the interoperability of existing information systems of medical institutions and pharmacies with eHealth (State Audit Office, 2015; National Reform Programme, 2018).

3. COOPERATION IN SUPPORT FUNCTIONS

Short term

Realization of joint procurements (for a detailed description of the recommendation see section 6.4.2.1)

Hospitals carry out procurements separately (except for a few joint procurements carried out by hospitals on their own initiative), despite often requiring similar goods and services.	► Ensure periodic and systematic analysis and alignment of procurement plans as well as information and experience exchange from previous procurement procedures with potential procurement partners. ► If potential synergies are observed, initiate joint procurements with other hospitals. Also, enable joint procurements for selected goods and/ or services.

Experience and information exchange (for a detailed description of the recommendation see section 6.4.2.1)

Information and experience exchange between specialists mainly happen on an informal basis. Not all cooperation contracts signed between hospitals include all the provisions stated in the current template and none give clear guidelines for information sharing (e.g. frequency, mode of communication).	► Define concrete requirements for information sharing (for example, information on vacancies, queue lengths, experience with suppliers, experiences regarding realization of projects), such as frequency and deadlines, mode of communication etc. ► Initiate exchange of information and experiences on various topics between both medical and non-medical personnel, including organization of specific experience sharing meetings between personnel (e.g. procurement specialists, HR specialists, IT specialists, medical staff) as needed.

Medium term

Establishment of joint procurement commissions (for a detailed description of the recommendation see section 6.4.2.2)

Hospitals develop technical specifications and carry out procurements separately (except for a few joint	► Establish a joint regional procurement commission within the framework of the hospital cooperation contracts.

As-is situation	Recommendations
procurements carried out by hospitals on their own initiative), despite often requiring similar goods and services.	► Select partners for joint procurement (participating hospitals) and design a plan for aligning procurement schedules and performing the necessary standardization procedures for joint procurement. ► Establish common working groups for the development of technical specifications for joint procurements.
Long term	
Centralization or partial centralization of selected support functions in collaboration areas (for a detailed description of the recommendation see section 6.4.2.3)	
Hospitals in Latvia typically realize support functions (for example, accounting and finance, HR management, procurement, infrastructure maintenance, cleaning) individually despite potential synergies that could result from centralization or partial centralization. However, given existing regulatory restrictions, the centralization of support functions may only be possible within hospitals that are a single legal entity or have a parent-subsidiary relationship (or through transfer of the specific function to national authorities, which is likely unfeasible given existing resource and capacity constraints).	► Identify support functions, which should be assessed for possible gains through centralization. ► Develop a high-level to-be operating model throughout a comprehensive analysis. ► Pilot the centralized support function operating model.
Cooperation in IT development planning in accordance with common standards (for a detailed description of the recommendation see section 6.4.2.3)	
Hospitals use several information systems that are often not integrated between different providers. As a result, medical institutions do not have access to all patient-related information needed to provide treatment. Therefore, there is potential for hospitals within a collaboration area to pursue greater cooperation in IT development planning in accordance with common standards.	► Define a common target and strategy for IT development and IT convergence among collaboration area hospitals. ► Draft a framework and action-plan for IT convergence, including a procurement strategy for IS components and/ or creation of a centralized IT department (if included within the strategy and possible under the current legal framework given their ownership structure). ► Implement the developed strategy, framework and action plan to ensure IT development (planning) in accordance with common standards.
National level infrastructure planning (for a detailed description of the recommendation see section 6.4.2.3)	
Lack of planned and purposeful coordination of capital investment on a national level results in both oversupply and lack of infrastructure capacity, depending on the region and type of infrastructure (World Bank, 2016). Since the analysis	► Define detailed requirements for equipment and other types of infrastructure based on hospital profiles to ensure capital investment follows the planned distribution of services within the hospital network, while remaining resource efficient.

As-is situation	Recommendations
performed by the World Bank, Latvian national authorities have taken steps to implement more control through evaluation of the appropriateness of procurements to the services and levels of the procuring hospitals. Moreover, EU fund related control mechanisms are in place for all infrastructure procured through these financing mechanisms. However, further improvements in the mapping of infrastructure requirements based on healthcare needs by geographical area could be made.	► Periodically and systematically assess existing infrastructure capacity and population needs at the time. ► Identify gaps between existing infrastructure capacity and population needs by taking into consideration international benchmarks.

4. COOPERATION WITH OTHER STAKEHOLDERS

Medium term

Improve cooperation for patients receiving care from multiple care providers (for a detailed description of the recommendation see section 6.5.2.1)

It is often difficult to refer patients to other care providers after acute inpatient care due to lacking capacity and/ or insufficient information on availability. This results in prolonged hospital stays, which is very costly for the healthcare system. Part of the solution is the development of national clinical algorithms and clinical pathways, which is currently underway in Latvia in priority healthcare areas as part of an ESF project.	► Adopt a common approach for patients receiving care from multiple care providers. ► Consider the establishment of a common system to track available capacity and waiting lists of institutions for post-hospital care. ► Define a clear split of responsibilities with regard to in charge of post-hospital care coordination, including consideration of possible incentives for involved parties for providing further care.

Defining the role of municipalities (for a detailed description of the recommendation see section 6.5.2.1)

Most hospitals are municipality owned, which means that municipalities participate in management decision-making of hospitals and influence planning and decision-making processes. However, in practice, the approach varies. In some cases, municipalities tend to limit their role in healthcare only to hospital ownership and ensuring physical accessibility (for example, premises for primary care) as current comprehension of regulatory framework does not require more.	► Define the scope of the term “provide access” to promote a common understanding of the role of municipalities in healthcare ► Clarify the involvement of local governments in the transportation of patients’ home or to another care provider from hospitals, considering that additional functions and obligations should be evaluated by considering available resources and capacity.

Long term

As-is situation	Recommendations
Strengthening the role of nurses, incl. in the coordination of continuity of care (for a detailed description of the recommendation see section 6.5.2.2)	
According to estimates, Latvia currently lacks approximately 1500 nurses in hospitals and 3050 nurses overall. In the last 10 years, the number of registered working nurses has dropped by approximately 21%, while the ratio of nurses per 100 000 inhabitants is 42% lower than on average in the EU (MoH, 2019b). The small nurse-to-doctor ratio prevents the full use of doctor's knowledge and experience, because the doctor must assume the role of the nurse, which creates intellectual losses in the system. National authorities in cooperation with the Nurse Association have performed analysis of the required changes regarding strengthening the role of nurses and developed a Conceptual Report "On Further Development of the Nurse Profession".	► Implement the recommendations defined in the respective Conceptual Report "On Further Development of the Nurse Profession", including: a. Development of a new occupational standard (general care nurse); b. Development of new approaches for nurse specialization through professional development programmes; c. Abolition of the certification process, including the replacement of nurse specialties and additional specialties with specialization (MoH, 2019a). ► Develop unified national-level care level classification to support a common approach in evaluating patient needs and improving analysis and allocation of appropriate resources for care. ► Ensure that a function for coordinating social care with healthcare is established in each hospital (in large hospitals this role is typically performed by a social worker, however, hospitals may determine individually the appropriate person(s) who fulfill this role).

5. GUIDELINES FOR PLANNING AND PROVISION SERVICES

Payment for outlier cases (for a detailed description of the recommendation see section 6.6.1.2)	
Latvia currently needs to improve specific payment mechanisms for outlier cases (e.g. patients with extremely high or low costs). Insufficient incentives to treat high-cost cases can result in patients being directed to higher level hospitals (even if treatment could have potentially been delivered at the lower level hospital).	While a system that separates outliers based on a clinically relevant category may seem preferable, it is also more difficult to implement and monitor. Therefore, when considering options for improvement different models may be evaluated, such as (1) additional payment, (2) payment according to the complexity of the case, or (3) setting different payment rates for acute and non-acute inpatient cases (World Bank, 2016).
Payment for patient transfers and patients receiving care from multiple providers (for a detailed description of the recommendation see section 6.6.1.2)	

As-is situation	Recommendations
The division of responsibilities and the funding arrangements are not clearly defined if the patient receives care from multiple institutions. This is partially due to the lack of developed clinical pathways, which could be linked to payments. Unclear funding mechanisms or misaligned incentives can hinder to allocation of patients to the most appropriate (both from a quality and resource efficiency perspective) care provider (for example, by delaying patient transfers to lower level hospitals for post-acute inpatient care).	Ideally, financing mechanisms should be linked with patient pathways, however, in the status quo financing mechanisms should be defined regardless where patient pathways are not available. Review of the funding mechanism should aim to address: ○ Planned patient transfers between hospitals; ○ A clear approach for funding care from multiple providers, for example, (1) a single medical institution receives a payment for a patient and makes an inter-hospital settlement, (2) each hospital receives a fraction of payment or (3) a distinction is created between services provided by different providers and recorded and funded as separate cases (World Bank, 2016).
Separate classification of acute and non-acute inpatient cases (for a detailed description of the recommendation see section 6.6.1.2)	
Currently the distinction between patients who need acute and non-acute inpatient care (i.e. patients whose category changes) is determined through a patient documentation annex, where it is indicated if the patient is non-acute. Currently, there is a lack of common clinical criteria for determining when a patient's category changes from acute to non-acute and lack of clear mechanisms for patient transfer (including financing).	► Determine patient transfer mechanisms and a clear funding approach to motivate effective patient transfers. ► Define clinical criteria for determining the category change and possibility for transfer to chronic care. ► Analyze the number of non-acute patients to identify the need for strengthening other forms of care (including chronic care) and cooperation with municipalities (World Bank, 2016).
Iimprovement in the DRG system (for a detailed description of the recommendation see section 6.6.1.2)	
Latvia has been using DRGs since 2014, however it is still combined with several "earmarked service programs", where diagnoses that would otherwise be assigned different DRGs are payed at the same rate. These programs include very expensive or specific services, which can only be abolished if the DRG system is improved to account for very expensive and specific cases (for example, kidney and heart transplantation). Tariffs are generally not set according to actual costing data, and as a result, mismatches between payment rates and actual costs distort the incentives of	► Improve DRG system and related instruments, incl. the abandonment of service payment programs where the diagnosis and procedures with different DRGs are paid at the same rate (which can only be achieved by pursuing broader DRG system improvements). Moreover, according to the World Bank, Latvia could also benefit from implementing rules for admissions (to control for potentially unnecessary admissions where cost effective alternatives exist), recommended upper and lower length of stay margins, adjustments for transfers and outlier

As-is situation	Recommendations
hospitals for providing services that are currently underpaid relative to costs.	payments (European Observatory on Health Systems and Policies, n.d.c; World Bank, 2016).
Calculation and use of actual costs for services and tariffs (for a detailed description of the recommendation see section 6.6.1.2)	
Data on actual cost of services is not systematically calculated, collected and analyzed, which results in tariffs that are not aligned with actual costs, and can lead to inefficient distribution of services. According to the NHS, some efforts have been made to collect existing actual cost data from hospitals (in particular, Guidelines for Inpatient Healthcare Service Providers for the Establishment of a Common Expense Recording System and Methodology for Inpatient Healthcare Service Providers for the Establishment of a Common Expense Recording System have been developed and are available on the NHS website), however due to a lack of a common methodology, the results are not comparable.	► Pilot cost calculation in selected hospitals to obtain empirical evidence for tariff review. ► Revise tariffs according to obtained cost estimates.
Payment for patient transfers (for a detailed description of the recommendation see section 6.6.1.2)	
Article 96 of Cabined Regulation No. 555 states that if a patient has medical indications for receiving inpatient care provided by a higher-level inpatient medical institution, the hospital shall ensure the transfer of the person to the hospital for an appropriate level hospital, which is provided by the SEMS in emergency cases. Non-emergency transfer costs currently must be covered by service providers (hospitals) and they are not compensated from the state budget. The issue of patient transportation from higher-level hospital to a lower-level hospital is not regulated at all.	► Define clear a clear procedure and criteria for patient transfers from higher to lower level institutions, including on payment.
Strategic purchasing (for a detailed description of the recommendation see section 6.6.2.2)	
According to World Bank recommendations, the existing Latvian financing model does not create sufficient opportunities and motivation for service providers to improve their performance (World Bank, 2016b).	► Continue pursuing strategic purchasing in selected services where capacity constraints do not negate possible benefits from selective contracting. In the long-term consider establishing a purchasing strategy based on population needs and monitoring of service provider capacity for a 3-5-year period and annual

As-is situation	Recommendations
According to focus group conclusions, there are multiple barriers to strategic purchasing, including insufficient capacity in some services that limits possible gains from selective purchasing and difficulties for hospitals to plan their investment and development due to a lack of clarity on future strategic procurements and their criteria.	purchasing plans to signal to providers clear priorities for strategic purchasing (Quentin, Panteli, Anna, & van Ginneken, 2015).
Use of cooperation contracts to motivate collaboration between hospitals (for a detailed description of the recommendation see section 6.6.2.2)	
Despite some positive examples (e.g. cooperation in providing oncological surgery services is implemented between Vidzeme Hospital and RECUH), the contracting form does not provide sufficient incentives for hospitals to collaborate in the provision of services (e.g. providing a service within the collaboration area rather than on individual hospital level).	In areas where capacity constraints do not negate possible benefits from strategic purchasing, the inclusion of incentives for collaboration can be integrated in strategic purchasing mechanisms. Strategic purchasing can be promoted through use of either explicit criteria (e.g. contracts only awarded to hospitals who collaborate with other hospitals in service delivery) or implicit criteria (setting demanding enough criteria that they can only be fulfilled through collaboration, for example, through criteria for volume or service mix).
Use of a cooperation contracts to motivate collaboration between different care providers (for a detailed description of the recommendation see section 6.6.2.2)	
The contracting form between providers and the NHS does not provide sufficient incentives for different healthcare providers to collaborate in the provision of services.	The prerequisite for contracting with multiple providers within a chain of services is clear definition of standards of care, responsibilities and mechanisms for patient transfers required from each provider. It also follows that administrative arrangements such as payment processes and dispute resolution should also be defined. The recommended form for agreeing on these aspects is the development of protocols, patient journey mapping and clarification of each provider's role in patient pathways (World Bank, 2016).
Improvement of the overall monitoring system and use of data (for a detailed description of the recommendation see section 6.6.3.2)	
Data from monitoring and audit activities are not currently systematically used, although some of the information already reported by hospitals could be used for monitoring activities.	► To assess the effectiveness of the payment system and the incentives it provides, national authorities should consider strengthening the monitoring and auditing system, including: o Strengthening the internal audit capacity of hospitals;

As-is situation	Recommendations
	○ Auditing of DRG assignment (whether hospitals are classifying patients in a way that results in higher cost rates than appropriate). ► More systematic monitoring requires 2 main elements: requirements for reporting (collecting) the appropriate information from care providers and a possibility to verify that the reported information is accurate (MoH, 2017; World Bank, 2016).
Institutional arrangements (for a detailed description of the recommendation see section 6.6.4.2)	
Currently, the supervision of the hospital network is performed centrally: cooperation contracts are evaluated by the MoH, while purchasing of services is conducted by the NHS (the NHS Charter states that one of the roles of the NHS is to analyze the healthcare service finance and volume indicators, forecast service volumes and evaluate service needs).	► Consider strengthening supervision of service availability and population needs under the NHS that could oversee the implementation of cooperation mechanisms (including negotiations on consortia agreements for hospitals to jointly provide services to avoid excessive power being wielded by larger hospitals).
Decision rights and autonomy (for a detailed description of the recommendation see section 6.6.4.2)	
Cabinet Regulation No. 555 state that hospitals have the right to agree (by concluding a respective contract) with another medical treatment institution on the delivery of necessary healthcare services, including agreeing on a mutual settlement procedure and informing the NHS.	► The negotiation process of hospitals choosing to provide services together should be supervised to avoid excessive influence that may result in unfair or sub-optimal (in terms of efficiency, quality and accessibility dimensions) distribution of services from some hospitals; ► The overall territorial distribution of services must be reasonable (hospitals should not be able to distribute services in between themselves in a way that threatens accessibility). ► Therefore, while a mechanism that allows for flexibility in how hospitals choose to contract between themselves can create some positive incentives (in particular, for efficiency), national authorities should consider implementing some controls (see XXXVI. Institutional arrangements).

5 Methodology

The HCM was prepared based on information gathered during desk research, interviews with relevant healthcare sector stakeholders, focus groups and international practice analysis from Denmark, Estonia, France, Lithuania, Norway, Poland, Slovenia and Sweden. This section describes the project approach for conducting interviews, organization of focus groups, international practice analysis, case study development and development and prioritization of recommendations.

5.1 Interviews

The purpose of conducting interviews was twofold:

- To arrive at a list of preliminary problem areas and areas in which cooperation could bring the biggest added value for discussion in focus groups;
- To address gaps in focus group findings through specific and targeted interviews.

Interviews were partially structured and conducted in an open conversation focused on a two-way communication both to provide and receive information. Preliminary interviews were used as a tool to gather industry insights and to prepare for focus groups. Interviews were used to analyze the as-is situation, existing bottlenecks and barriers to cooperation as well as possible solutions. Additional interviews were organized throughout Phase 2 of the project to address specific issues in a targeted way. For a full list of conducted interviews, see Appendix 2. List of conducted interviews.

5.2 Focus groups

During the preparation of the HCM, 7 focus groups were conducted with representatives of hospitals, municipalities, Ministry of Healthcare (MoH), National Health Service (NHS), State Emergency Medical Services (SEMS), Ministry of Welfare (MoW), Latvian Doctors' Association (LDA), National Rehabilitation Centre "Vaivari", Latvian Nursing Association (LNA), Latvian Association of Local and Regional Governments (LALRG) and others. **The purpose of the focus groups was to gather the views of different key stakeholders on the main problem areas in Latvian healthcare with a focus on cooperation between care providers, potential cooperation mechanisms and governance and implementation priorities, and to share best practice examples from other European countries.** For a full list of focus group participants, see Appendix 1. List of focus group participants.

When preparing for focus groups, relevant hospital cooperation models in Europe where researched to share as examples during discussions and to highlight their success and shortcomings. Furthermore, the topic areas for discussion were drawn from the findings of the assessment of the inpatient sector presented in the World Bank

Master Plan, which were reviewed and validated in focus groups. **Each focus group was devoted for a specific topic relevant for the development of the HCM** (see Figure 4). For a detailed list of focus group topics, see Appendix 1. List of focus group participants and discussed topics.

Figure 4 Project focus groups

5.3 International practice analysis

The countries selected for international practice analysis were Sweden, Norway, Estonia, Lithuania, Poland, Denmark and France. For the selection of countries for best practice analysis, the following criteria were considered: heath system efficiency, comparability to Latvia, recent reforms and innovative models in hospital cooperation and progress in the implementation of strategic purchasing. The main reasons for selecting each country are outlined in Figure 5. International practice analysis was conducted in 4 main steps:

- Development of a long-list of potential countries for international practice analysis;
- Selection of countries for analysis by the MoH from the prepared long-list;
- A general assessment of the hospital sector in each country;
- Selection and research of case studies for analysis.

Figure 5 Country-specific reasons for selection

5.4 Recommendation mapping approach

The recommendations developed from the information gathered during desk research, interviews, focus groups and international practice analysis are mapped according to 2 main dimensions:

- Time needed for implementation, i.e. whether the recommendations can be implemented in the short, medium or long-term:
  - Short-term recommendations can be implemented under the current legislative framework, hospital ownership and governance structure and they include, for example, joint working groups, contractual bilateral agreements, simple ministerial resolutions, development of internal

procedures or guidelines, ad-hoc trainings and forms of informal cooperation (for example, information and experience exchange). As a rule of thumb the implementation of short-term recommendations is possible in under 2 years.

- Medium-term recommendations can be implemented with some changes in existing legislation and/ or require the development of new methodologies, standards or procedures and include recommendations on, for example, development or changes in regulatory requirements, contractual multi-lateral agreements, process alignment and standardization of some technologies and infrastructure (excluding the integration of legacy systems), common trainings and coordinated knowledge management activities. However, medium-term recommendations do not require large-scale system-level changes, such as a change in the ownership structure of hospitals. As a rule of thumb, the implementation of medium-term recommendations is possible in under 5 years.
- Long-term recommendations either require large-scale systematic changes, such as changes in complex legal acts, the ownership structure or legal form of hospitals and/ or concern process integration across hospitals, technology solution implementation (including common data layers), significant competency upgrades, establishment of new legal entities, and/ or are dependent on the implementation of other medium or long-term recommendations. As a rule of thumb, the implementation of long-term recommendations is possible in a timeframe longer than 5 years.

- Their potential impact on achieving HCM objectives (for a description of HCM objectives, see section 6.1.2):
  - Low impact: the implementation of the recommendation is not necessary for the realization of HCM objectives but can improve the speed/ efficiency of realization.
  - Medium impact: the implementation of the recommendation has a significant impact on the realization of HCM objectives.
  - High impact: the implementation of the recommendation is critical for achieving HCM objectives.

Based on the dimensions outlined above, recommendations are grouped in one of 4 quadrants of the opportunity prioritization matrix (see Figure 6).

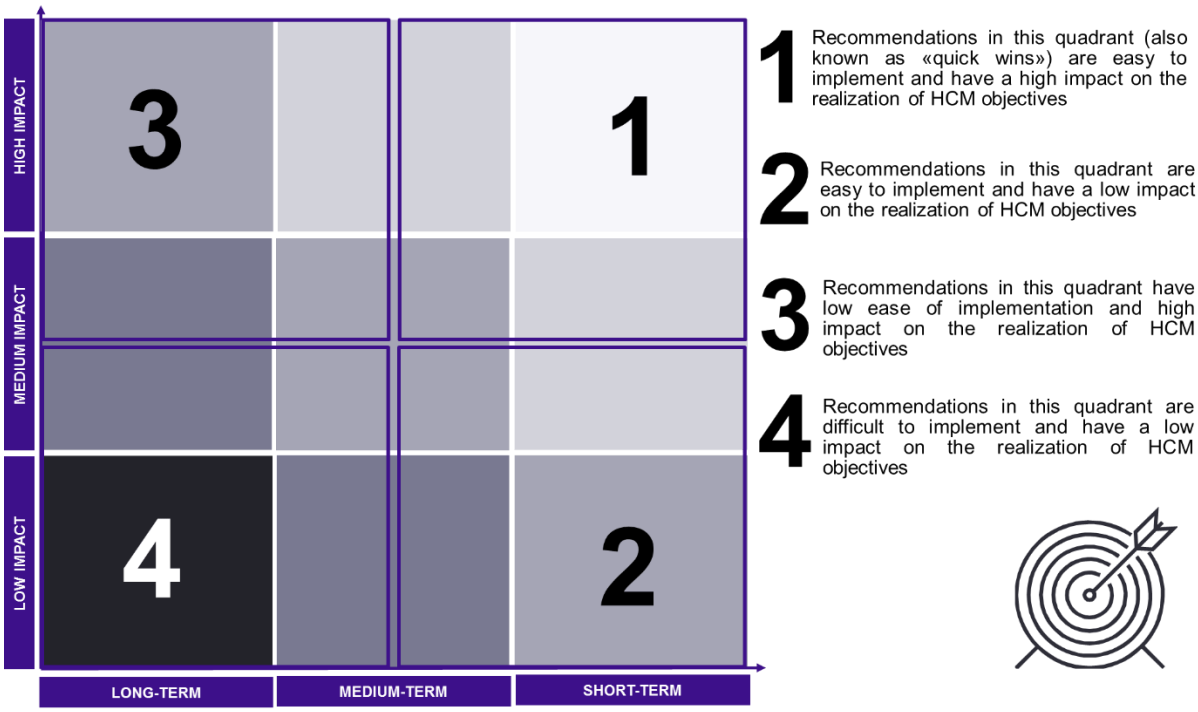

Figure 6 Opportunity prioritization matrix

For the sections included in the descriptions of recommendations on core functions, support functions and cooperation with other stakeholders, see Figure 7.

Relevant HCM objective(s)	Relevant HCM objectives this recommendation helps to achieve
Objective	Objective of the specific recommendation
As-is situation	Description of the current situation and main problem areas
Activities	Practical steps for the realization of this activity
Dependencies (if applicable)	Dependencies with other recommendations
Principles	Criteria under which a recommendation should be implemented
Institutional arrangements	Roles and responsibilities (national, regional or institution-level)
Feasibility	The main risks and concerns that may affect the feasability of this recommendation
Legal considerations (if applicable)	Regulatory restrictions and/ or considerations and/ or recommendations for changes

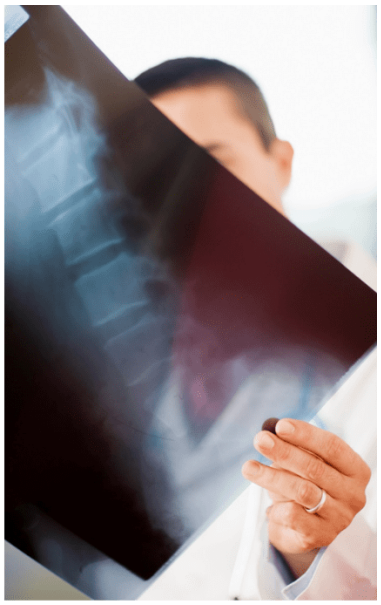

Figure 7 Recommendation structure

6 The Hospital Cooperation Model

The Latvian National Reform Plan calls for cooperation among hospitals of all levels, including by merging hospitals, creating subsidiaries or by signing cooperation contracts that include at least some functional integration. **The objective of the HCM is to outline the main principles and recommendations for the development and adoption of an effective, well-functioning model of hospitals' collaboration**. The proposed HCM is divided in the following sections:

- HCM objectives: outlines the main trends that will affect hospital cooperation in the future, the objectives of the HCM and how they align with policy planning objectives and the main prerequisites for the realization of the stated objectives.
- Governance of hospital cooperation: covers the existing regulatory framework, financing arrangements and cooperation mechanisms and the proposed governance model for hospital cooperation taking into consideration both the possibilities within the current legal framework as well as possible long-term changes.
- Cooperation in core functions**:** outlines the current as-is situation of cooperation in hospital core functions (healthcare service provision) and proposes practical recommendations for improvements.
- Cooperation in support functions**:** outlines the current as-is situation of cooperation in hospital support functions (accounting and finance, procurement, infrastructure management, HR management, etc.) and proposes practical recommendations for improvements.
- Cooperation with other stakeholders: outlines the current as-is situation of cooperation between hospitals and other stakeholders (other care providers, municipalities, universities, research organizations etc.) and proposes practical recommendations for improvements.
- Guidelines for planning and provision of healthcare services in line with principles of strategic purchasing**:** outlines the necessary changes in the hospital financing model that would support the implementation of efficient and effective hospital cooperation in Latvia, including payment methods, contracting forms, performance measurement and institutional arrangements.

6.1 HCM Objectives

6.1.1 Trends

To develop an HCM that will be responsive to not only current needs, but also remain relevant for years to come, it is necessary to analyze the key trends that will likely impact hospital cooperation. **Based on analysis carried out during this project, the following key trends will have significant impact on how hospital cooperation should be organized**:

- Demographic trends, including aging, population size and urbanization;

- Technological advancements;
- Shifts in patient expectations.

Latvia has a rapidly aging population due to a combination of factors, including advancement of medical technologies, increasing lifespans, relatively low birth rates and emigration (MoE, 2018b; MoE, 2018; World Bank, 2016). Assuming current trends continue, the number of inhabitants in Latvia will shrink by 7% until 2035, whereas the average age will increase to 45 years (MoE, 2018). Additionally, the dependency ratio of old-age is predicted to increase by approximately 20% in the next decade (Queisser & Falco, 2015). This will lead to an increase in the number of patients with chronic illnesses and demand for long-term care.

Meanwhile, populations in regions outside of Riga will continue to decline due to ongoing urbanization. Inequality between regions and local municipalities is likely to remain a problem due to widening income and economic activity disparities. Additionally, differences in healthcare service availability cause significant disparities in the life quality of inhabitants of various territories, therefore, necessitating regional collaboration between healthcare providers and clear patient pathways to promote more equal and accessible service coverage (Cabinet of Ministers, 2017).

The hospital network will need to be responsive to the resulting service demand shift from acute to chronic care and changes in territorial population coverage (Cabinet of Ministers, 2017; Ernst & Young LLP, 2018)**.** One way to achieve this is the concentration of specialized services based on volume, while strengthening the chronic care capacity of local hospitals. The current plan is to provide 18-26 acute beds and 4,4 chronic beds per 10 000 inhabitants. Additionally, according to the Conceptual Report “On Healthcare Reform”, Latvia should aim to combine systematically important hospitals with state-owned monoprofile hospitals, while reducing the overall number of hospital beds until 2020 (Cabinet of Ministers, 2017).

Technological advancement in healthcare encompasses a broad set of trends that will change healthcare service delivery (including collaboration) in the upcoming years. Technologies create opportunities to reduce hospital stays by promoting more remote treatment and observation (Gibbons & Shaikh, 2017; EYGM Limited, 2018; Ernst & Young, n.d.). Telehealth can both provide convenience for the patient and be cost-effective as it transfers more services outside of hospital walls and/ or provides opportunities for centralization, for example, through implementation of teleradiology (Ernst & Young LLP, 2018; WHO, 2016). The era of big data in healthcare will enable better decision-making both on a hospital network level, as well as on a patient and healthcare personnel level, through enabling better information sharing and opportunities to provide personalized solutions (EYGM Limited, 2017; Ernst & Young LLP, 2018; Ernst & Young LLP, 2018). In the longer term, technologies such as robotics, artificial intelligence, sensor technologies and big data will bring about even more profound changes to how services are planned and delivered (Gibbons & Shaikh, 2017; EYGM Limited, 2017; EYGM Limited, 2018; Ernst & Young, n.d.; Ernst & Young LLP, 2018; Ernst & Young LLP, 2018).

A key element for the promotion of collaboration through technology will come through advancements in eHealth. Investments in eHealth are often pursued to achieve new ways of delivering healthcare services as well as to improve information exchange. A key prerequisite for promoting an efficient eHealth system is the adoption of common standards for data exchange and interoperability, including the adoption of the EU Refined eHealth Interoperability Framework, as well as political commitment to sustainable funding and effective implementation (WHO, 2016).

The expectations of patients are changing rapidly, partially because of the technological advancements outlined above. The rise of super consumers is empowered by easy-to-use technology enabled engagement with service providers, such as those in banking, travel and retail. As a result, patients expect convenience, personalization and greater participation in their own healthcare (Ernst & Young LLP, 2018). The key outcomes of this shift include the transformation of the patient-provider relationship through a rise of participatory healthcare and a move from point solutions (healthcare services provided in isolation) to increasing integration and aggregation (Ernst & Young LLP, 2018; EYGM Limited, 2018). Moreover, patients will increasingly expect to receive services in a seamless and digitally enabled way, often preferring to receive care at home as opposed to in a hospital (PwC, 2018; PwC, 2018).

6.1.2 Objectives

The aims of the HCM are directly linked with the main healthcare policy objectives in Latvia. The overarching objective of the Public Health Guidelines for 2014-2020 is: to improve the healthy life years lived of Latvian citizens and to prevent premature deaths by improving and renewing health. The policy sub-objective that directly relates to the development of the HCM is sub-objective #6: to ensure efficient management and use of healthcare resources to promote sustainability and equal access to quality healthcare services for all inhabitants of Latvia that are financed by the state (Cabinet of Ministers, 2014). The short-term objectives of the HCM relate directly to practical steps that can be taken within the existing legal and governance framework:

- To improve service availability and to ensure effective use of limited HR resources by implementing healthcare personnel sharing;
- To ensure effective cooperation in service provision, including patient transfer between hospitals;
- To facilitate effective cooperation in organizing healthcare personnel trainings.

Meanwhile, the long-term objectives of the HCM will require more systematic changes. For the proposed long-term objectives, see Figure 8.

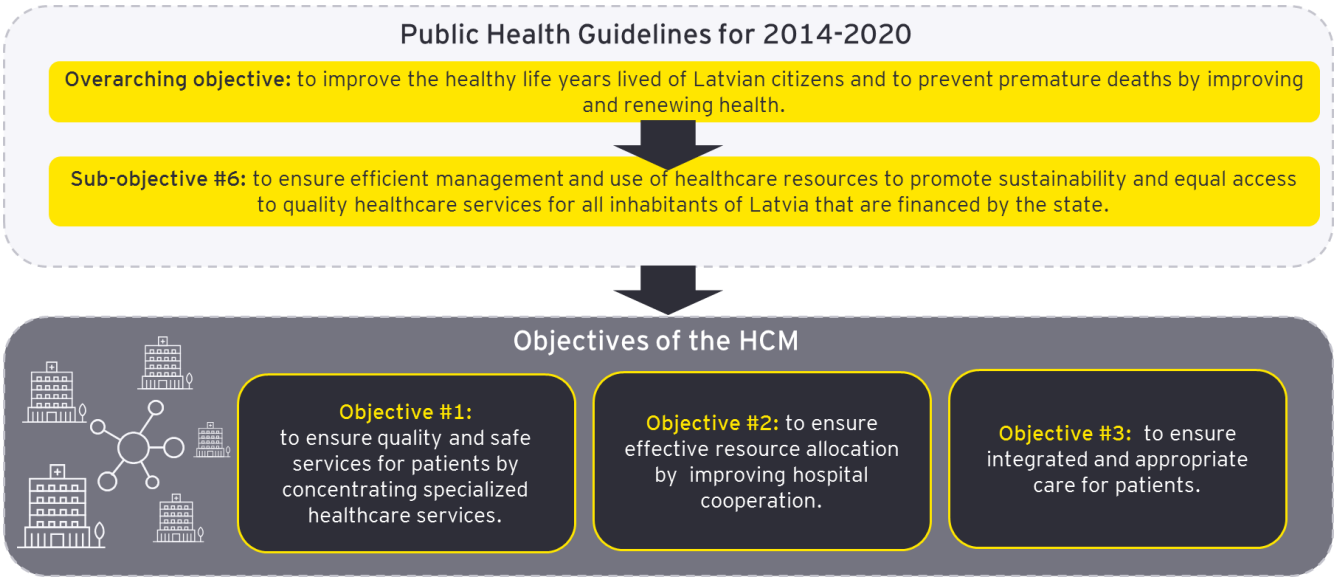

Figure 8 The objectives of the HCM

Objective #1: to ensure quality and safe services for patients by concentrating specialized healthcare services.

According to the World Bank, Latvia should pursue a dual strategy of concentrating highly specialized services, while improving the accessibility of basic services to the population (World Bank, 2016; World Bank, 2016b; World Bank, 2016). The current hospital network causes significant differences in life quality for inhabitants based on geographical region. For example, mortality for ovarian cancer is 1,5 times higher in low-intensity hospitals than in high intensity hospitals largely due to service volume (Cabinet of Ministers, 2017). In Latvia, higher service volumes in surgery have a strong correlation with better quality care and lower mortality (for example, aortic and vascular surgeries, invasive cardiology, breast, ovarian and colorectal cancer surgeries) (Cabinet of Ministers, 2014). Additionally, around a third of Latvian hospitals have less than 100 beds, which is considered insufficient for providing emergency medical care (Cabinet of Ministers, 2017; World Bank, 2016).

International practice from countries such as Denmark and Sweden also suggest that a move towards concentration of specialized services can improve quality, safety and ultimately save lives (see Figure 9). Patients in Sweden also state that medical results and continuity of care are more important than proximity, especially for those with chronic illnesses, who have multiple points of contact with care providers (Statents Offentliga Utredningar, 2015).

Figure 9 Main benefits of the concentration of specialized services in Sweden (Statents Offentliga Utredningar, 2015)

Objective #2: to ensure effective resource allocation by improving hospital cooperation.

According to the WHO, efficient resource allocation is key for ensuring healthcare system sustainability (Yip & Havez, 2015). It is also necessary to consider that approximately 20-40% of resources spent in healthcare are wasted, due to many factors, including ineffective use of medicines, infrastructure and human resources, lack of alternative care options to hospitals, limited transparency and accountability (WHO, 2010). Both excess and lack of infrastructure, equipment and human resources can be significant burdens for healthcare systems. Therefore, efficient allocation and use of resources (including optimizing capacity) is a key factor to ensure good healthcare outcomes, especially given the very limited funding and resource availability in Latvian healthcare (World Bank, 2016).

In 2017, Latvia had 63 hospitals (relative to 88 hospitals in 2008) in total with 10812 beds on average (55,7 beds per 10,000 population) (CDPC, 2017; World Bank, 2016). **However, despite significant improvements in the last years, there are still further efforts needed in the optimization of the hospital network.** Moreover, these efforts should not just concern hospital core functions (care delivery), but also support functions, such as human resource management, accounting, finance and supply of key goods and services, which currently are performed individually by each hospital (Cabinet of Ministers, 2017). Cooperation can allow hospitals to deliver more value for money by leveraging limited resources in a more effective way.

However, effective resource allocation does not just concern hospitals, but also allocation of resources between different types of care. Recently, there has been a focus on shifting resources away from hospital care towards less expensive ambulatory care both in Latvia and other EU MS. Meanwhile, the capacity of other care types such as care for chronic patients, palliative care and care at home often remains insufficient (European Observatory on Health Systems and Policies, n.d.c). Lack of adequate care outside of the hospital can increase the number and

length of hospitalizations that tend to be more expensive than other types of care. **Therefore, ensuring better integration and cooperation between different providers, can not only be better for the patient, but also improve the efficiency of the healthcare sector.**

Objective #3: to ensure integrated and appropriate care for patients.

As stated above, it is likely that many hospitalizations in Latvia could be either shortened or avoided altogether by providing better and more accessible care through other means. For example, hospitalizations due to asthma in Latvia are more than twice the EU average, and likely could be reduced through better quality and/ or more accessible primary care (OECD/European Observatory on Health Systems and Policies, 2017). Moreover, chronic patients often do not receive sufficient observation, for example, blood pressure and cholesterol measurements (Cabinet of Ministers, 2017; World Bank, 2015). The issue extends beyond healthcare, as there's also often need for either institutionalized or at-home social care, the lack of which can contribute to a higher rate of hospitalizations in the long-term (Cabinet of Ministers, 2017).

Cooperation is key in providing quality and seamless care from multiple providers. Battling fragmentation of care requires coordination between different types of care from the national level down to the individual case-level. This requires efficient information sharing as well as alignment of incentives, as providers who feel limited accountability to the population they serve often fail to be responsive to the needs of service users. Successful implementation of integrated care can generate benefits such as improved accessibility to care, health and clinical outcomes, higher patient satisfaction and improved service efficiency (WHO, 2016).

6.1.3 Prerequisites

Even though many areas of cooperation can be tackled already (for example, establishment of healthcare personnel rotation, information and knowledge sharing, development of a model for patient transfers after the end of the acute stage of inpatient care), achieving the objectives outlined above in the long-term will require significant shifts in how healthcare is organized in Latvia. **Below are the main prerequisites for the implementation of long-term changes in the way hospitals collaborate**:

- Hospital network planning and monitoring: it is necessary to ensure clear monitoring of what capacity (infrastructure, human resources) and services are available in each hospital to pursue further hospital network optimization and to identify needs for cooperation.
- Digital technologies and eHealth: information exchange between providers often still happens in paper format and/ or on an ad hoc as opposed to a systematic basis. Therefore, the development of eHealth has the potential to significantly improve cooperation between healthcare providers, as well as other stakeholders.
- The financing model: while many positive initiatives towards aligning policy goals with hospital incentives and encouraging cooperation have been or are being realized (for example, implementation of strategic

purchasing, allowing hospitals to contract between each other to provide care in cooperation, implementation of DRGs), further improvements in the financing model could help to incentivize even more efficient allocation of resources and better incentives.

- Clinical guidelines, standards, patient pathways: standardization, definition of clear roles and responsibilities and pathways are key enablers for better care integration and coordination.
- Regulatory requirements: while some aspects of cooperation are already present in legal acts (such as the need to establish subsidiaries, mergers or sign cooperation contracts to receive additional funding), further changes in legislation will be required to foster cooperation.
- Hospital ownership: the current fragmented ownership structure of hospitals limits cooperation, as instead of hospitals being incentivized to optimize their work on the national or at least regional level, most hospitals are municipality owned and are incentivized to act according to their shareholders' interests.
- National and regional level governance: a new HCM will require rethinking of the governance model on a national level with regard to the supervision of the hospital network, changes in the ownership structure (if implemented), and better integration of decision making across multiple sectors (Cabinet of Ministers, 2017).

6.2 Governance of hospital cooperation

6.2.1 Regulatory framework

Protection of human health and guarantees for a basic level of medical assistance are human rights granted by the Constitution of the Republic of Latvia. The same level of protection is foreseen for social care. The Preamble of the Constitution of the Republic of Latvia states that Latvia in its deepest core is a socially responsible state. After regaining independence, Latvia joined several international documents (treaties and conventions) which impose transnational responsibilities, including in the area of human rights. Latvia has joined the Universal Declaration of Human Rights grants rights to medical care and social services[1] and the International Covenant on Economic, Social and Cultural Rights imposes obligations on Latvia to take care of the mental and physical health of people, including an obligation to create conditions for the provision of medical care, and highlights the role of social care in guaranteeing human rights. **Therefore, Latvia as a democratic state must ensure compliance with basic human rights not only in providing an appropriate healthcare system, but also a system that provides adequate and reliable social care**.

6.2.1.1 Healthcare in national law

National law, which defines the basic principles of the operation of the Latvian healthcare system, is the Medical Treatment Law. Article 3 (1) of this law states that healthcare consists of measures implemented by healthcare service providers, including telemedicine and activities with medical products and medical devices for ensuring, maintaining and renewal of patient's health. Subordinate legal acts which are issued based on the Medical Treatment Law and have relevance for this report are:

- Cabinet Regulation No. 555 “Regulation for Payment and Organization of Healthcare Services” (Regulation No. 555), dated August 28, 2018, which inter alia sets forth requirements related to provision of healthcare services and details the levels of healthcare institutions;
- Cabinet Regulation No. 60 “Regulation Regarding Mandatory Requirements for Medical Treatment Institutions and Their Structural Units” (Regulation No. 60), dated January 20, 2010, which set forth mandatory requirements for medical treatment institutions and their structural units;

[1] Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, and housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control. Motherhood and childhood are entitled to special care and assistance. All children, whether born in or out of wedlock, shall enjoy the same social protection.

- Several other subordinate legal acts which play specific yet important role in the regulation of these rather complex legal framework of the healthcare system.

Another fundamental law, the Healthcare Financing Law, aims to ensure sustainable financing of healthcare, based on the solidarity of the whole society in responsible tax payment, to promote the financing and efficient use of healthcare that complies with international practice, access to healthcare and improvement of public health indicators. It also defines the general principles and structure of the healthcare financing system and regulates the financial and organizational structure of the state compulsory health insurance. Healthcare Financing Law also is the basis for several subordinate legal acts:

- Cabinet Regulation No. 555 "Regulation for Payment and Organization of Healthcare Services" (Regulation No. 555), dated August 28, 2018, which inter alia sets forth requirements related to provision of healthcare services and details the levels of healthcare institutions;
- Cabinet Regulation No. 261 "Regulation on Health Insurance Contributions" ", dated May 3, 2018, sets forth the procedures for payment and reimbursement of health insurance contributions.

Commercial Law as a general law and Law on Governance of Capital Shares of a Public Person and Capital Companies (Public Persons Law) regulates matters related to governance of capital companies of public persons (including state and municipalities). **As almost all Latvian hospitals are state or municipality owned limited liability companies, they must comply with the principles set out in the Commercial Law as well as the special provisions of the Public Persons Law.**

Law on Local Municipalities in Article 15 (6) defines the role of local governments in the healthcare system and states that **access to healthcare is one of the autonomous functions of local governments**.

Law on the Rights of Patients sets forth provisions promoting favorable relationships between a patient and the provider of healthcare services, facilitation of active participation of the patient in healthcare, as well as protection of patients' rights and interests.

There are several other legal acts which address individual matters in the healthcare system, for example, Cabinet Regulation No. 611 "Regulation on Provision of Maternity Assistance", dated July 25, 2006, Cabinet Regulation No. 330 "Vaccination Regulation", dated September 26, 2000 and the Law on the Protection of the Body of Deceased Human Beings and the Use of Human Tissues and Organs in Medicine.

Also, several general legal acts are applicable to this research, namely, General Data Protection Regulation, Civil Law, Labor Law and others.

6.2.1.2 Hospital care in national law

Establishment and operation of hospitals is a highly regulated sphere whereby **requirements for establishment and operation of hospitals are set by different legal acts**. Moreover, **legislation sets out the levels and profiles of hospital services that must be followed to qualify for state-funded services**.

According to Article 54 (1) of the Medical Treatment law, **state institutions, local governments, natural or legal persons may establish a medical treatment institution**. As stated in Article 92 of Regulation No. 60 a hospital is a medical treatment institution, where a patient is provided with emergency medical assistance, diagnosis as well as medical treatment. A patient is under constant and continuous 24-hour care and control of medical practitioners until certain diagnostics or level of medical treatment is realized.

According to the Appendix No. 6 of Regulation No. 555, currently **there are 31 healthcare institutions in Latvia, grouped into hospital levels I – V (31), as well as 8 specialized healthcare institutions**. Appendix No. 6 of the Regulation No. 555 sets out the service levels of hospitals. **Regulation No.555 divides hospitals by levels and profiles of treatments and medical services**. For the current classification, see Appendix 4. Hospitals by level. Appendix No. 6 of the Regulation No. 555 also provides respective specialties (profiles) for each level of hospitals. Appendix 2 of the Cabinet Regulation No. 56 **defines hospital collaboration areas between all level hospitals**.

Regulation No. 60 sets out detailed requirements for different technical aspects of medical treatment institutions, including hospitals. This means that if a hospital wishes to collaborate with another hospital it must verify if the potential cooperation partner meets all of the requirements set forth in the Regulation No. 60 (not only general requirements (for example waiting room for patients with a cloakroom or patient registration room), but also very detailed rules for each unit).

6.2.1.3 Link between healthcare and social care

Article 15 of the Law on Local Municipalities sets out different autonomous functions of local governments. As mentioned before, article 15 (6) of this law provides obligation to local municipalities to ensure access to health care. **According to the Article 15 (7) local municipalities must ensure social assistance (social care) to residents** (social assistance for poor families and socially vulnerable persons, places for old people in old-age homes, places for orphans and children without parental care in training and educational institutions, overnight shelters for the homeless, and others). **This outlines a significant difference from the role of the local government in the provision of healthcare services (where municipalities only ensure access to healthcare rather than provide healthcare services)**. Additionally, Article 77 of the Law on Local Municipalities allows using the real estate owned by the local government for social care purposes.

Law on Social Security governs several different issues, including principles for the structure and operation of a social security system, the main social rights and duties of persons, basic conditions for their performance and regulates the types of social services, including social and instructional assistance, and promotes social fairness and social security. Article 11 of this law provides the basis for social help stating that persons, who are unable by their own efforts to provide for themselves or to overcome difficulties in life, and who do not receive sufficient assistance from other persons, have the right to individual and material assistance, that corresponds with their needs, provides an opportunity for self-assistance and promotes their involvement in social life

Law on Social Services and Social Assistance governs matters related to principles for the provision and receipt of social work, social care, social rehabilitation, vocational rehabilitation services and social assistance, the range of persons who have the right to receive these services and assistance, as well as the principles for payment and financing of social care, social rehabilitation and vocational rehabilitation services. This law is the basis for several important legal acts such as:

- Cabinet Regulation No. 138 “Procedure for Receiving of Social Services and Social Assistance”, dated April 2, 2019;
- Cabinet Regulation No. 275 “Procedures for Payment for Social Care and Social Rehabilitation Services and the Procedures for Covering Service Costs from a Local Government Budged”, dated May 27, 2003.

Article 3 (3) of this law also delegates the rights to local governments to set out procedures for the provision of social services in local regulations. For example, on this basis Riga city municipality has adopted Regulation No. 184 “Receipt of Social Services and Payment Procedures”, dated September 4, 2012.

6.2.2 Hospital ownership and legal form

Hospitals in Latvia are limited liability companies whose shareholders include:

- The Government (MoH) (Level V hospitals and specialized hospitals);
- One or more municipalities (Level I—IV hospitals);
- Some hospitals have a mixed shareholder structure, which includes state, municipalities, other state-owned hospitals and private companies;
- Completely privately-owned companies.

The inconsistency and fragmentation of hospital ownership structures is a legacy from the transformation from the Soviet system and various healthcare system reforms rather than a system based on specific legal, operational or financial considerations. The operations of state and municipality owned limited liability companies are governed by the Public Persons Law (adopted in 2015 and primarily based on recommendations from the OECD on the

governance of SOEs), Latvian Commercial Law and State Administration Structure Law. The following Cabinet Regulations, which have relevance for this Report, have been issued based on the Public Persons Law:

- Cabinet Regulation No. 791 “Regulation on Number of Management Board and Supervisory Council Members in Public Person’s Capital Companies and Public – Private Capital Companies Depending on Size Characteristics of Capital Companies and on the maximum Amount of Monthly Remuneration to Members of Management Board and Supervisory Council” dated 22 December 2015 (Regulation No. 791);
- Cabinet Regulation No. 95 “Procedure of Evaluation of Operational and Financial Results of Capital Companies with State Control” dated 9 February 2016 (Regulation No. 95);
- Cabinet Regulation No. 806 “Procedure of Estimation and Determination of Part of Profits Payable as Dividends and other Payments into the State Budget for the Use of State Capital in State Capital Companies and Public-Private Capital Companies” dated 22 December 2015 (Regulation No. 806).

According to the Commercial Law, commercial companies, including limited liability companies, are formed for a purpose of performing commercial activities (economic activities for the purposes of gaining a profit). Members of the management board and supervisory council perform their obligations as “honest and careful managers”. Therefore, hospital owners, inter alia, are responsible for the achievement of certain operational and financial goals of the company.

As public or municipality owned limited liability companies, hospitals need to observe additional requirements. Pursuant to the Public Persons Law and Regulation No. 791, limited liability companies need to establish a management board of 2-5 members (depending on the size of company) and a supervisory council of 3-5 members (depending on the size of company), except for small companies. Moreover, the Public Persons Law and Regulation No. 95 define specific requirements for performance measurement based on operational and financial criteria. Additionally, Regulation No. 806 defines requirements for the payment of dividends into the state/ municipality budget. All of these requirements are similar to those of commercial companies.

The ownership structure and legal form of hospitals pose several challenges to cooperation as well as hospital governance overall. Firstly, healthcare policy goals may contradict the purpose of maximizing profit (for example, by prioritizing healthcare quality and/ or accessibility). Secondly, it may be rational from a national perspective to optimize the hospital network through, for example, reducing investment in or closing some hospitals. Hospitals currently have little incentive to pursue such national level goals, instead, as they are usually accountable to municipalities (who in turn are accountable to local populations), this creates significant resistance to potential optimization efforts. Moreover, the fragmentation of ownership means that decision-making is driven by different interests that make it complicated or even impossible to create efficient cooperation models, ensure coordinated activities and set and achieve common goals.

6.2.3 Hospital financing arrangements

According to Article 4 (1) of the Healthcare Financing Law, the healthcare system is financed from the following sources:

- Subsidy from general revenue in accordance with the annual State Budged Law;
- Subsidy from general revenue, consisting of the revenue from state social insurance contributions for the financing of healthcare services (corresponding to one percentage point of the mandatory contribution rate) in accordance with the annual State Budget Law;
- Subsidy from general revenue, consisting of the income from healthcare insurance contributions in accordance with the annual State Budged Law;
- State budget funds provided for regulatory enactments regulating the field of healthcare related to the provision of healthcare and administration and supervision of the healthcare sector;
- Co-payments of patients according to the requirements of the Healthcare Financing Law;
- EU funds and other foreign financial instruments;
- Own revenue of state and municipal medical institutions;
- Funds from the budget of local governments in accordance with the decisions adopted to ensure access to healthcare services and to cover costs of certain services.

Article 5 (1) of the Healthcare Financing Law prescribes that subsidies from state budget funds allocated to healthcare provision program of the MoH are used to ensure the minimum state paid scope of medical assistance, provide healthcare services of state compulsory health insurance, establish, restore and maintain state material reserves related to the provision of healthcare in emergency situations, for the activities of the healthcare program, including prevention, for the healthcare research and development program, for disease prevention and control measures and for the provision of medical rehabilitation.

Article 5 (2) and 5 (3) of the Healthcare Financing Law grants authority to the Cabinet of Ministers to:

- Determine the groups of healthcare services which are financed from the state budget and which are allocated to healthcare programs of Ministries of Justice (MoJ), Defense (MoD) and Interior (MoI), groups of persons which are entitled to such healthcare services and groups of persons for which patient co-payment is financed from said financial resources;
- Determine those healthcare services, which are not paid from the financial resources referred to in Article 5 (1) of the Healthcare Financing Law.

Additionally, the Healthcare Financing Law regulates such aspects of healthcare financing as patient co-payments[2], rights to receive emergency medical assistance[3], state payed minimum of healthcare and rights to receive such healthcare [4], questions related to state mandatory health insurance[5] and other crucial questions[6] within the scope of financing of the healthcare system. Regulation No. 555 further details the legal framework for the financing of healthcare and details:

- Healthcare services not covered by the state budged;
- Healthcare services included in the minimum state paid medical assistance and state compulsory health insurance;
- Organization of healthcare services that are included in the minimum state paid medical assistance and state compulsory health insurance;
- Payment for services included in state paid medical assistance minimum and state mandatory health insurance.

Hospitals as state/ municipality owned companies are obliged to pay a certain percentage of their profit into the state budget in the form of dividends. Regulation No.86 state that the minimum dividend which must be paid by a state company (Regulations No. 86 applies only to state companies) into the state budget is 50% of the company's annual profit unless the company's medium-term strategy states otherwise. If the medium-term strategy states a different percentage it must be approved by the Cabinet of Ministers (based on a motivated request submitted by MoH). If upon approval of annual financial statements, the MoH considers that the amount of dividends should differ from the estimated amount stated in hospital's medium-term strategy, then such decision may only be adopted by the Cabinet of Ministers upon prior consent of Ministry of Finance (MoF) and the Cross-Sectoral Coordination Centre (CSCC).

Local government owned enterprises have less strict rules on determining annual dividends. The Public Persons Law does not impose any minimum amounts or procedure for determining the percentage of annual profits payable as dividends by municipality companies. Therefore, municipalities, as shareholders of hospitals, currently have the decision-making freedom on these matters. However, latest discussions in the Latvian Parliament indicate that the Public Persons law might be amended with provisions that impose the same requirements as for SOEs on municipality owned enterprises, inter alia with respect to the minimum amount of dividends payable into the municipality budget.

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[2] Article 6.
[3] Article 7.
[4] Articles 8 and 9.
[5] Articles 10, 11, 12, 13.
[6] Article 13 regulates the competence of the MoH, Article 15 – the competence of the NHS.

As SOEs or municipality owned enterprises, hospitals do have to take responsibility over not exceeding their budgets even if more services than planned are delivered. However, the incentive to avoid budget overruns is reduced through 2 main mechanisms:

- Possible adjustments in financing by the NHS based on service volume provided (either increased or decreased financing);
- Possible aid from hospital shareholders (typically, either the state or municipalities) once liabilities reach a high level (European Observatory on Health Systems and Policies, n.d.).

It is worth noting that many hospitals in Latvia report losses year after year and often provide more services than indicated in the initial budget (according to the annual reports published on the websites of hospitals). For many others the reported profits are relatively low. Most hospitals also accumulate significant debt (liabilities of the 3 university hospitals ranged from EUR 50 million to over 100 million in 2017). Of course, this could also be impacted by payments that do not cover the costs of hospitals for providing services and/ or by planned demand for services being lower than actual demand. Hospitals may also be counting on healthcare budget increases during the year (which happens often) (European Observatory on Health Systems and Policies, n.d.).

Typically, hospital owners are expected to finance investments (the state provides financing (usually, state guaranteed loans) for state-owned hospitals and municipalities provide investment for municipal hospitals). Therefore, investments vary significantly between regions contributing to further differentiation of healthcare service quality and accessibility based on geographical location. In addition to public investment, significant amount of funding is also available through financial assistance mechanisms, for example, the European Regional Development Fund. The overarching trend in recent years has been towards consolidating the hospital sector and the number of acute-care beds to optimize the network as per World Bank Master Plan recommendations (European Observatory on Health Systems and Policies, 2017). However, lack of planned and purposeful coordination of capital investment on a national level results in both oversupply and lack of infrastructure capacity, depending on the region and type of infrastructure (e.g. specific medical equipment, premises) (World Bank, 2016).

6.2.4 Current cooperation mechanisms

Because of previous studies and related public policy documents, several new laws and Cabinet regulations as well as amendments to existing legal acts had been adopted to regulate certain aspects of cooperation between hospitals and other involved persons/ organizations. These legal acts, as analyzed below, only cover a small part of cooperation aspects and would need to be extended to foster cooperation between different stakeholders.

Type of cooperation	Description
Hospitals and general practitioners	According to Article 16 of Regulation No. 555, GPs (together with healthcare personnel employed in their practice – GPs assistant (feldsher), nurse and midwife) are the main providers of primary healthcare. Article 37 of the Regulation states that the employed healthcare specialists provide services together with the GP. Article 21 of the Regulation provides that every person can register with one general practitioner's practice. According to the Article 36.6 of the Regulation, general practitioner must ensure that he/she or a specialist employed in his/ her practice within the following business day contacts a patient to agree on further healthcare, if the general practitioner has received information about the visit of an ambulance brigade to a patient registered with the general practitioner's practice. Moreover, Article 37 of the Regulation states that the general practitioner has the right to send the patient to receive the secondary healthcare services.
Hospitals and local governments	Considering that majority of hospitals are owned by one or multiple municipalities, cooperation between hospitals and local governments is realized through participation of local municipalities in the management of hospitals. Considering that, as mentioned above, autonomous functions of local governments include both, access to healthcare and providing of social care, municipalities must ensure certain level of cooperation between both areas. However, in practice municipalities tend to narrow their involvement in healthcare. Thus, municipalities limit their involvement in healthcare only to hospital and physical accessibility of services. Such an approach does not promote cooperation between healthcare and social care segments, therefore the meaning of "ensuring of access" and the obligation of municipalities to promote coordination of healthcare and social care work, must be defined more precisely in the Law on Municipalities.
Hospitals and providers of social care	According to conclusions from focus group discussions, inadequate social care (together with inadequate social rehabilitation services) directly affects medical institutions which must provide services to persons requiring social care and social services rather than medical assistance. As social care is a responsibility of local governments, but healthcare (except access to healthcare) is not, there is not much overlap between these two areas in legal acts. However, there are some exceptions: ► Article 3 (11) of Regulation No. 60 provides detailed requirements for health points of long-term social care and social rehabilitation institutions. A health point is a structural unit in a social care institution, which provides healthcare to patients in cases of long-term or chronic illness. However, Article 63 (36) of the Regulation states that a doctor is not required to be present at the health point for 24 hours a day. ► Article 13 (3) of Regulation No. 555 states that doctors, whose practice is situated in a long-term social care and social rehabilitation institution, in specific circumstances have the right to send a patient to receive state-funded healthcare services or to prescribe medical products and medical devices compensated from state budged. Additionally, Article 28 (1^1) of the Law on

Type of cooperation	Description
	Social Services and Social Assistance states that a long-term social care and social rehabilitation institution may establish a structural unit to ensure health care services. .
Cooperation between hospitals	Apart from the provisions of Regulation No. 56, which in fact relate only to joint participation of hospitals in a specific EU project, there are no legal acts obliging hospitals to perform specific actions directed towards establishing and performing cooperation. In absence of regulatory legal provisions obliging hospitals to cooperate, current cooperation might be considered an ad hoc initiative, usually driven by specific interests. It means that in practice many aspects of cooperation of hospitals are not considered as binding obligations, but rather an optional voluntary measure, often realized through personal informal relations between hospital representatives. In our view, hospitals currently consider cooperation as an aid in exceptional cases rather than a part of their everyday work. Experts also pointed out that cooperation is difficult due to practical reasons. For example, even if there is a contract in place between hospitals (as provided for in Article 99 of Regulation No. 555), practical reasons such as the lack of care beds, transport, healthcare personnel and uncertainty about available funding and distribution of funding among participating hospitals hinder practical implementation of cooperation mechanisms.
	Hospital cooperation contracts
	The current cooperation contract form is drafted based on requirements of Regulation No. 56 with a purpose of joint participation in an EU project. The conclusion of such contract gave an opportunity to hospitals to receive additional EU funds. MoH ensures control of fulfilment of requirements of Regulation No. 56. While the template contract developed by the MoH may remain only a recommended form (to allow hospitals to adapt it to their specific needs), hospitals should consider making some improvements in the contracting form. On a general note, the draft contract contains very broad and declarative provisions, which are not supported by adequate non-performance sanctions, thus making it almost impossible to enforce them in case of poor performance or non-performance of contractual provisions by any of the parties. Such contracts do not promote cooperation between contractual parties, as they are considered as “non-binding” high level policy documents rather than documents creating binding and enforceable obligations. The draft contract states that the goal of the contract is to ensure of availability of quality efficient healthcare services to residents of the cooperation territory. To achieve this goal, the parties undertake to: ► Provide inpatient healthcare and first aid services of specific volume; ► Promote availability of healthcare services in the cooperation territory based on the principle of fair commercial practice; ► As much as possible, avoid duplication of providing complicated healthcare services; ► Create a procedure of transfer of patients between the cooperating hospitals;

Type of cooperation	Description
	► Exchange information on the length of queues for access to healthcare services; ► Create a procedure for healthcare personnel sharing and consultative support, considering the demand and supply of human resources; ► Ensure access to medical archives of other hospitals for healthcare personnel; ► Promote strengthening of capacity of involved hospitals; ► Cooperate in attracting new and training existing personnel; ► Coordinate the basic principles of staff remuneration and other motivation instruments; ► Exchange information on staff vacancies; ► Attract investments and implement joint projects; ► Realize joint procurements, where possible, ► Promote efficient use of medical technologies; ► Cooperate in areas of quality control and patient safety by creating joint patient service standards and quality measurements; ► Cooperate in IT support matters; ► Exchange other necessary information. Although many of the previously mentioned activities might indeed improve cooperation of the involved hospitals, the contract does not contain other necessary instruments that would ensure proper performance of these tasks, namely: ► The contract only vaguely refers to the rights (rather than obligation) of parties to create joint working groups or commissions, but does not oblige either management or specific medical personnel, like Head Doctors, Head Nurses or others, to perform certain cooperation related activities; ► The contract clearly states that it does not impose any financial obligations on any of parties. The Parties must rather sign separate contracts on financial matters. It means that the parties are not motivated to perform many of the undertaken activities due to the lack of clearly agreed financing which may demotivate the involved parties and prevent cooperation; ► The contract does not have any contractual sanctions apart from a general damage compensation clause, which allows the parties to consider the contract as a “memorandum of understanding” or a policy document rather than a document creating binding obligations; ► The contract does not set forth a procedure for the resolution of practical issues, like the lack of care beds, transport vehicles or health workers; ► The contract does not have any provisions related to the division of liability towards patients if the medical services are provided by multiple hospitals.

6.2.5 Recommendations for HCM governance

To implement successful hospital cooperation, various aspects of hospital governance should be reviewed. Firstly, there are multiple mechanisms for implementing incentives for hospitals to cooperate, including financial

incentives, regulatory requirements or changes in the legal or ownership form of hospitals each of which has different benefits and drawbacks. However, we suggest combining multiple mechanisms at once by both providing positive and negative motivators for better cooperation. Secondly, measurement and supervision of the implementation of hospital cooperation should be considered to ensure effective realization of the recommendations included in this report.

As-is situation	Recommendation
I. Territorial grouping in collaboration areas	
The current cooperation model of 8 collaboration areas, is based on geography and World Bank recommendations (World Bank, 2016). Those collaboration areas are: Ventspils, Liepaja, Riga, Jelgava, Vidzeme, Rezekne, Daugavpils and Jekabpils (for a list of hospitals in each collaboration area). Each collaboration area has one regional hospital (except for Riga, where "leading hospitals" are university hospitals).	Considering the size of Latvia, it would be reasonable to make cooperation permissible between all levels of hospitals throughout the whole territory. In practice, there already are situations where hospitals have signed cooperation contracts outside of their defined territory (for example, Kuldiga Hospital and Liepaja Hospital). Moreover, it is our recommendation that the HCM should encompass 3 main levels of care: ► Specialized and university hospitals, that primarily cooperate with each other, with respective regional hospitals (based on geographical location or area of specialization) and with local hospitals (especially in the Riga collaboration area); ► Regional hospitals that primarily cooperate with university hospitals and with local hospitals in their area; ► Local hospitals that cooperate with regional hospitals and other local hospitals in their area. Additionally, in some respects, cooperation between hospitals on the same level as opposed to collaboration areas may be preferable (for example, the procurement of certain medical equipment may only be relevant for hospitals who share the same medical profiles of care). As signing agreements to facilitate the necessary cooperation relationships would create an excessive administrative burden, the definition of cooperation relationships in regulations should be considered. We would propose to amend the Regulation No. 56 or add these rules to Regulation No. 555, maintaining the territorial principle, but supporting cooperation outside the territories, when necessary.
CASE STUDY	
Sweden: six healthcare regions	

As-is situation	Recommendation
According to Section 9 of the Health and Medical Care Act, the government may prescribe regions for health and medical care that concern several county councils and that county councils shall cooperate on issues concerning such county-wide healthcare. The 6 healthcare regions (South, Southeast, West, Stockholm-Gotland, Uppsala-Örebro and Norra) each incorporate multiple municipalities and are meant to enable information sharing and collaboration. The population base in the six healthcare regions varies considerably, from about 2,2 million inhabitants in the Stockholm-Gotland region to approximately 880,000 inhabitants in the Northern Region. While collaboration is mandatory within each territory, hospitals must also collaborate on a national level in the provision of highly specialized care and can voluntarily choose to cooperate outside of the defined region. A collaboration committee, which is tasked with coordinating highly specialized care, is established in each region. While initially the collaboration committees were rather homogenous, currently the governance approaches of each region differ. For example, the Northern and South-Eastern healthcare regions have chosen to develop a collaboration board and create a platform with a clearer decision mandate, while in the Northern region, the collaboration board has been transformed into a regional municipality association with county councils as members. Special agreements regulate the roles and responsibilities of regional healthcare committees and regional associations regarding collaboration, for example, in research, education and pricing of healthcare (Utredningen om högspecialiserad vård, 2015).	
II. Cooperation contracts	
The current form of cooperation contracts is drafted based on requirements of Regulation No. 56 with a purpose of joint participation in the respective EU project and as a precondition for receipt of EU funds. According to interviews and focus group discussions, in many cases, however, these contracts remain as formal agreements with little practical implementation. While a template form is provided to hospitals by the MoH, hospitals have also adopted multiple different variations of the contract.	We recommend that each region develops a common strategy for cooperation that states the key objectives of the collaboration area that they aim to achieve through collaboration, main activities for implementation in the short, medium and long-term and an approach for measuring successful implementation. This approach would ensure hospital buy-in and ownership of the goals stated in the strategy and allow them to define priorities based on their specific regional context. These strategies should be evaluated and approved by the MoH alongside cooperation agreements. While the template contract developed by the MoH may remain only a recommended form (to allow hospitals to adapt it to their specific needs), hospitals should consider making the following improvements in the contracting form: ► The contract should contain an obligation of parties to create cooperation mechanisms and impose specific obligations on specific

As-is situation	Recommendation
	persons (management, Head Doctors, Head Nurses etc.) to perform certain cooperation related activities; ► The contract should state at least the main principles of financing of joint activities (currently it does not impose any financial obligations on any of the parties); ► The contract should set forth clear and efficient contractual sanctions like late payment penalties and contractual penalties for failure to perform or improper performance of certain activities; ► The contract should set forth a procedure for the resolution of practical issues, like the lack of care beds, transport vehicles or health workers; ► The contract should contain clear provisions related to the division of liability towards patients if the medical services are provided by several hospitals. Furthermore, the supervision and enforcement of contractual obligations should be carried out by the involved parties.
III. Inclusion of common obligations in regulations	
Hospitals are limited liability companies and, therefore, the management board and supervisory council have an obligation to act as "honest and careful managers" with a purpose of gaining profits (but which, to an extent, may contradict the role of hospitals, which do not usually have a purely commercial nature). Moreover, the different shareholders (mainly, state and municipalities) have different interests, thus making it complicated and sometimes even impossible to ensure coordinated activities and the realization of	Hospitals are entities, whose main purpose is often perceived to be broader than only profit and actions with purely commercial nature in the medium-term, where hospitals most likely will keep their legal form and shareholder structure, but must cooperate, we recommend including obligations for cooperation in legal acts. Action should be followed to establish a single model for the governance of hospitals, preferably under national responsibility. It is important to note that the inclusion of requirements within legislation is not mutually exclusive with other mechanisms to promote cooperation, such as financial incentives, cooperation contracts or even changes in the legal form or ownership structure. In fact, any chosen form for promoting closer cooperation is likely to require amendments in existing regulations to ensure a well-defined and managed process with clear objectives and requirements.

As-is situation	Recommendation
common goals (coordinated investments, cooperation with a joint purpose, etc.).	

CASE STUDY

France: shared medical projects of autonomous territorial hospital group

In France, the establishment of territorial hospital groups is one of the most structured and ambitious measures to modernize the French health system. This system reconciles the necessary autonomy of the institutions and the development of territorial synergies. It includes no subordination and no standardization – as each territorial group should adapt to the realities of its territory and it's promoted healthcare strategy. The realization of cooperation is enabled through the development of shared medical projects that define the medical strategy of the territorial group including the following:

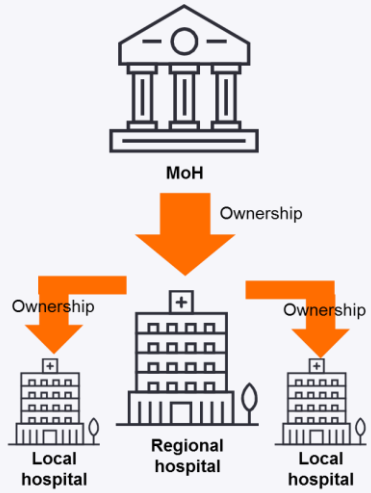
- Medical goals,
- Objectives for improving the quality and safety of care;
- Sector organization of the provided care offer;
- Principles of the activities of the organization, including:
  - Permanence and continuity of care;
  - Outpatient activities, including advanced consultations;
  - Ambulatory, partial and conventional hospitalization activities;
  - Technical platforms;
  - Management of emergencies and unscheduled care;
  - Response to exceptional health situations;
  - Home-based hospital services;
  - Medico-social care activities;
- Projects in medical biology, medical imaging, including interventional, and pharmacy;
- Where applicable, the distribution of jobs in medical and pharmaceutical professions.

The development of shared medical projects is mandatory. The shared medical project is the cornerstone of the territorial hospital group. It is a definite way of enabling a "group strategy" involving all available medical teams, elected and patient representatives to implement the provision of healthcare in the area. Each territorial hospital group consists of participating institutions – public health establishments and public medico-social care institutions or service providers that make decisions, organize and develop a shared medical project together (Ministère des Affaires sociales et de la Santé, 2016).

IV. Financial incentives

As stated above, hospitals in Latvia are for-profit institutions. For any	We recommend considering the introduction of 2 types of financial incentives:

As-is situation	Recommendation
form of cooperation to succeed (assuming the current legal form and ownership structure remains) it must either be required from a regulatory perspective or be profit incentive driven for all involved hospitals. For example, the cooperation agreements that hospitals have already signed, were incentivized through the possibility to obtain additional funding.	► The use of strategic purchasing to either directly or indirectly promote closer cooperation between hospitals in the provision of services (see recommendation XXXIII ”Use of cooperation contracts to motivate collaboration between hospitals”); ► Allowing hospitals to keep part of the savings they have made by optimizing their processes through cooperation (for example, by achieving savings through performing joint procurements) in their budgets for the upcoming year(s). To implement this, amendments to Regulation No. 806 with respect to dividend payment may be needed. The main benefit of both approaches relative to other incentives that may aim to prescribe very specific obligations and requirements towards how hospitals should go about cooperation are that this allows hospitals (who have an in-depth understanding of their own processes and the local context) relative flexibility in how they achieve the goals set out by the national authorities. However, this flexibility should have some constraints, for example, hospitals should not reduce the accessibility or quality of services through optimization. Similarly, the risk of selective purchasing is that some providers who, for example, have an important role in providing services to an underserved population, may not qualify, thus, again reducing the accessibility of services significantly for this part of the population.
V. Review of hospital ownership structure	
While there are some hospitals are state-owned, the majority are owned by a combination of municipalities, city councils and, in two cases, limited liability companies. The ownership structure restricts possible cooperation in the following ways: (1) due to fragmentation, close cooperation is difficult to achieve from an organizational perspective, (2) the priorities of local	Future reforms should include a review of hospitals’ ownership structure considering the transfer (purchase of equity at the price determined by independent certified experts according to Latvian standards and regulatory requirements) of ownership of all or some shares of hospitals (1) to the state, (2) a specific centralized state-owned agency/ institution or (3) a regional agency (if such is established). Nonetheless, mechanisms that allow municipality participation should be maintained (with decision making or advisory powers). This process ought to be gradual and aim to consolidate and simplify the ownership of hospitals by investing in systematically important (regional) hospitals. Regional hospitals should be a priority state acquisition for the following reasons:

As-is situation	Recommendation
municipalities and national-level policy objectives may at times be in conflict (for example, even if closing a hospital may be rational from a national perspective, usually it is very unpopular in the local community, to whom municipalities must be accountable to), (3) limitations that derive from restrictions of separate legal entities that act for profit incentives.	► They have a larger number of patients than local hospitals; ► The geographical area covered by regional hospitals typically far exceeds the municipalities who own them (especially since regional hospitals often receive patients from other hospitals or by emergency services from a larger general area). The implementation of this recommendation would mainly require amendments in the Law on Local Municipalities, Medical Treatment Law, Healthcare Financing law as well as Regulation No. 555 and adoption of new Cabinet of Ministers Regulation governing operations of the new centralized state agency/ institution. One potential model that could be implemented in the long-term and would align with international practice is that regional hospitals would be owned by the same regional or national level entity (more likely given the size of Latvia), whereas local hospitals would be either subsidiaries of or a single legal entity with regional hospitals (see Figure 10). This model could significantly simplify national-level governance, align incentives for cooperation on a regional level (through the single legal entity being incentivized to optimize services to achieve lower costs) and a national level (through their ultimate owner).  *Figure 10 Hospital ownership model*

CASE STUDY

Denmark, Estonia, Lithuania, Norway, Sweden: hospital ownership

Various arrangements for hospital ownership exist. While all three Baltic States have relatively fragmented hospital ownership, Nordic models from Sweden, Norway and Denmark tend to have regional level ownership

As-is situation	Recommendation

under a single entity, thus enabling possible opportunities for centralization of functions and various other forms of cooperation (see Table 2).

Table 2 Ownership models: international practice (European Observatory on Health Systems and Policies, n.d.d)

Country	Ownership of hospitals
Denmark	Public hospitals within a region are owned by regional councils that are selected once in 4-5 years. Hospital funding is provided by local governments and the state.
Estonia	Public hospitals are owned by the state, local governments and public legal bodies, often having multiple owners per hospital. Hospitals operate as joint-stock companies or foundations.
Lithuania	A mixture of owners, including municipalities, who typically own small and local hospitals.
Norway	Regional health authorities are responsible for providing specialized care and own hospital trusts in the region.
Sweden	Public hospitals are grouped either under county council (local) hospitals or regional hospitals.

VI. Review of hospital legal form

Currently hospitals are for-profit institutions which means that they need to behave in a way that maximizes profit. Meanwhile, healthcare normally is concerned also with the quality and accessibility of care. The for-profit incentive can fundamentally contradict some healthcare policy goals.	As a long-term solution, change of hospitals' legal form from commercial companies into state agencies (or other types of state institutions), social businesses or non-profits should be considered. Conversion to state agencies does not require amendments to Commercial law or Public Persons Law but would require amendments to the Medical Treatment Law clearly stating that public hospitals may only take a form of agency (or other form of state institution) and detailing transition rules and timeline for reorganization of hospitals from commercial companies into state agencies/ institutions. Meanwhile, conversion to social business or non-profit models would also require significant changes in current legislation, such as, for example, amendments in the Social Enterprise Law to allow publicly owned institutions to be social enterprises (currently, status of a social enterprise may only be acquired by a limited liability company where one or several public persons jointly do not have the majority of votes).

VII. Governance forms

As-is situation	Recommendation
Latvia will need to improve its supervision of service availability, coverage and network planning, especially, once hospitals implement more systematic cooperation through various mechanisms to ensure: ► Fair division of financing, responsibilities and services between hospitals; ► Appropriate network coverage (accessibility of services).	We recommend that a function is established to perform the following responsibilities: (1) analysis of existing hospital capacity and population needs, (2) overseeing of the allocation of specialized services, (3) development of recommendations for network optimization, (4) controlling the allocation of services between hospitals (including cases where hospitals enter subcontracting or consortia agreements with other hospitals to provide services) to ensure service accessibility, quality and fair negotiations in the context of hospital cooperation. The key objective of establishing a governance model for the above-mentioned purposes is to align and coordinate cooperation activities (that often already take place, but on an *ad hoc* basis) and to support the transfer of best practices throughout the network. Selecting an appropriate governance model should consider the available capacity of involved institutions (NHS or hospital management capacity) to supervise and govern the network.
VIII. Integration of national decision making on healthcare and social care	
Currently, there is insufficient integration of national decision-making between different types of care as well as a lack of a clear definition of the roles and responsibilities of municipalities and the state. Permanent intersectoral structures exist in specific areas (e.g. substance abuse) with high-level committees under the Prime Minister. Thus, intersectoral policies affecting the health sector are usually dealt with in ad hoc interministerial working groups (Gulis et al, 2012). Currently, the legal framework of healthcare and other types of care is fragmented and there is need for closer policy planning integration.	We suggest strengthening the integration of different types of care by establishing an integrated care strategy that aligns the overarching combined policy perspective of the involved ministries (MoH, MoW and the Ministry of Interior, Ministry of Environmental Protection and Regional Development) and municipality representatives. Additional work groups or commissions may be established based on need to target specific issues/ priorities (like the ones that already exist). The main issues to address include financial arrangements, regional and case-based arrangements to improve cooperation and integration on all levels of care, need for specific criteria and patient pathways that incorporate the necessary intersectoral elements. This initiative requires detailed analysis of the current areas of lack of integration and definition of the future model for integrated care.

As-is situation	Recommendation
Each care system has their own regulations which are either not linked or linked weakly to each other. Currently, there are plans to research on the realization of integrated care.	

CASE STUDY

Denmark: healthcare agreements between regions and municipalities

In Denmark, there is a mandatory requirement set within the framework of national legislation to develop health-care agreements between regions and municipalities that contain a set of common goals and mutual commitments, as well as care plans for patients. These health agreements are considered a useful tool for strengthening coordination between the regions and municipalities Instituted at the start of the regional and municipal election cycle every 4 years, agreements cover six areas: hospital admission and discharge processes, rehabilitation, medical advice and assistance, prevention and health promotion, mental health and follow-up after adverse events. These healthcare agreements are approved by the Danish Health Protection Authority.

These healthcare agreements are signed in each region, covering all municipalities and include the following aspects:

- Involvement of patients and relatives;
- Promotion of equality in health and access, especially, between psychiatric and somatic patients;
- Goals and following up activities;
- Quality and patient safety;
- Coordinating capacity across regions and municipalities;
- GP involvement (Christiansen & Vrangbæk, 2017; Lyngso, Godtfredseb, & Frolich, 2016).

IX. Key performance indicators (KPIs) for measuring cooperation

Beyond the number of cooperation contracts, there is very limited measurement and evaluation of elements related directly to cooperation between hospitals. To implement a successful cooperation model, a continuous process of evaluation and improvement should be implemented. The flexibility of the model suggested above allows for the implementation of various models for cooperation on a regional

In order to ensure the HCM is realized successfully, a system to measure and analyze the implementation of the model (both implementation progress and the positive outcomes of cooperation) can be established on two levels: (1) as stated above, hospitals within a collaboration area should define objectives and indicators within their cooperation strategies, (2) on a national level to monitor and benchmark the performance of different collaboration areas and the system overall. Monitoring will give valuable

As-is situation	Recommendation
basis; however, facilitation of benchmarking and experience sharing could help to identify successful models that could be implemented in a wider range of hospitals.	input for (1) continuous improvement of the HCM, regulatory requirements, incentives and governance methods where needed, (2) benchmarking hospitals to identify best practices, as well as possible issues, that can be used to improve cooperation across the entire network. The developed KPIs (both ones defined and used by hospital collaboration areas and on a national-level (if any)) should relate to the objectives stated in the HCM (see section 6.1) and can include structural (e.g. # of health professionals involved in healthcare personnel sharing schemes, infrastructure utilization, number of joint procurements), process (e.g. reduced time between a patient being ready for discharge and time of discharge, number of patient transfers to lower level institutions, volume of jointly provided services, volume of services provided through cooperation with another hospital) and outcome indicators (e.g. cost savings, clinical outcome improvements related to the introduction of telehealth, consultative support models, centralized diagnostics). Some of these measures could also be considered for inclusion in strategic purchasing criteria. Given the limited resources of national-level governance institutions in Latvia, the supervision mechanism employed can use information reported by hospital collaboration areas as a primary input for evaluating progress in the implementation of collaboration mechanisms.

6.3 Cooperation in core functions

In 2017, 214 965 unique people received inpatient care in Latvia (312 038 hospitalizations in total). While the number of hospitalizations dropped in 2017, the length of stay increased to 8,6 days (which is also slightly above the EU average) (NHS, 2018; OECD/European Observatory on Health Systems and Policies, 2017)**. Despite reductions in the number of hospital beds as well as the number of hospitals in Latvia, network optimization is a continuous process of monitoring, evaluation, and reform.** According to the World Bank, Latvia should continue to pursue a dual strategy of concentrating highly specialized services, while improving the accessibility of basic services to the population (World Bank, 2016; World Bank, 2016b; World Bank, 2016).

Secondly, there is a clear lack of both human and financial resources observed in the Latvian healthcare system. According to World Bank, there are shortages in all groups of health professionals and all levels of care, however this is particularly severe at the hospital level (World Bank, 2016). Conversely, Latvia has one of the lowest healthcare expenditures in the EU with 3.07% of GDP, while the EU average is 7.2% of GDP (Cabinet of Ministers, 2017). **Due to the lack of key healthcare resources, a cooperation model needs to exist to ensure better and more efficient allocation of funding and health professionals**.

Ideally, hospital cooperation in core functions would allow hospitals to use their limited resources more effectively through healthcare personnel sharing, improved information exchange and/ or telemedicine. The largest gains from cooperation can be achieved in areas that require the most resources (financial, infrastructure, HR) and/ or where the required resources are very scarce (such as accident and emergency care doctors and occupational medicine specialists) (World Bank, 2016). Beyond efficiency gains, hospital cooperation can also help to improve the quality and accessibility of healthcare. For example, healthcare professionals that would otherwise be unavailable in a specific local hospital, could be brought in through a healthcare personnel sharing scheme. Patients can also be provided with better quality and/ or more accessible services by improving incentive schemes for patient transfers and referrals.

6.3.1 As-is situation

A prerequisite for aligning the allocation of limited resources with population needs is knowing what services are available and where. Current hospital profiles (as defined in Regulation No. 555, Annex 6, see Figure 11) and the Hospitalization Plan define what services should be available in each hospital. Hospitals need to immediately inform the SEMS and the NHS on services that are difficult or impossible to provide, for example, due to illness of key healthcare personnel. Ad hoc changes trigger amendments in the Hospitalization Place Plan, which is available on the NHS website and is binding to the SEMS. Daily service availability needs to be recorded by the SEMS and frequent changes impact the speed at which emergency care can be delivered. Hospitals also state limitations on the provision of services defined in the Hospitalization Plan, for example, neurosurgery is

provided in 7 out of 8 level IV hospitals, of those 3 hospitals can only provide it through the assistance of the SMC from the SEMS and 1 hospital can only provide the profile for head trauma (see Appendix 3. Availability of surgery services in IV level hospitals according to the Hospitalization Plan). Similar limitations are listed for many of the services included in the Hospitalization Plan. Additionally, while national authorities collect financial and other types of data on publicly financed services, data collected on privately provided services is limited (World Bank, 2016).

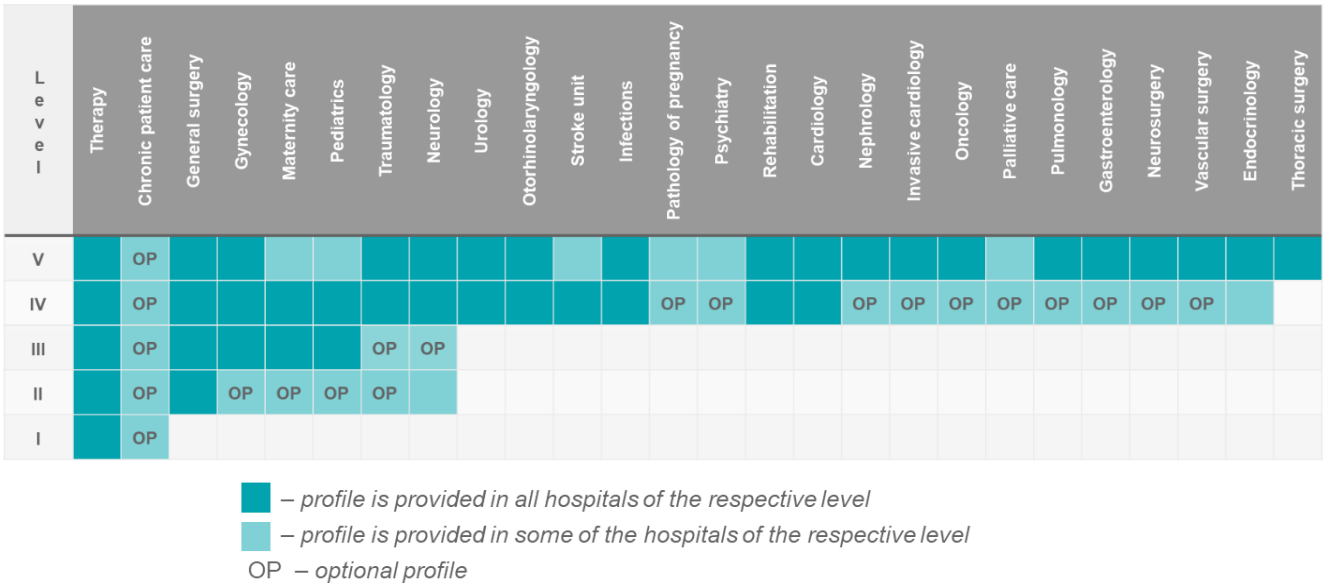


Figure 11 Healthcare profile provision according to hospital levels as defined in Cabinet Regulation No. 555

Additional barriers are presented by the lack of clinical guidelines, algorithms, standards and patient pathways and general standardization in both service provision (and information exchange) (Cabinet of Ministers, 2017). Cooperation is hindered if time must be invested in correcting mistakes, duplicating examinations or collecting and clarifying additional information. For example, due to inadequate standardization of descriptions, discrepancies in interpretations and delayed access to past examinations, diagnostic examinations may be duplicated. On the other hand, in some areas greater standardization has been achieved, for example, regarding information that must be included in eHealth, standardized forms are described in Regulation No. 134 paragraph 7 and its corresponding annexes. Where healthcare workers need to work together while sufficient alignment of clinical processes and information recording are not yet implemented, the consequences extend beyond efficiency and can also often impact the quality of care.

One of the reasons behind competition among hospitals is the lack of human resources (i.e. specialists, nurses etc.) in Latvia. The shortages in human resources are particularly severe for doctors in hospitals, doctors in residency and nurses (World Bank, 2016; World Bank, 2016). Some of the reasons for insufficient human resources are, for example, entry restrictions, an insufficient number of funded residence positions and relatively

low average salaries (however, it is worth noting that the number of state funded residence positions has increased and is planned to be approximately 222 in the study year 2019/ 2020, 194 in 2020/ 2021 and 188 in 2021/ 2020 (MoH, 2019c)). Healthcare personnel often have opportunities to earn more in secondary out-patient care (especially in the private sector) than in hospital care (World Bank, 2016). Moreover, according to estimates, Latvia currently lacks approximately 1500 nurses in hospitals and 3050 nurses overall. In the last 10 years, the number of registered working nurses has dropped by approximately 21%, while the rato of nurses per 100 000 inhabitants is by 42% lower than on average in the EU (MoH, 2019b). In addition, to the lack of human resources, there is an unequal distribution of doctors throughout Latvia, with 62% of them working in the capital Riga, 9% working in Riga region and the rest spread out in the other four regions (Cabinet of Ministers, 2017). In response, in December 2017 MoH begun the implementation of an EU fund project "Healthcare and Healthcare Support Personnel Availability Improvement Outside of Riga" with the objective to strengthen personnel availability in priority health areas (heart and cardiovascular diseases, oncology, pediatrics and mental health). By May 2019, 304 healthcare personnel received compensation for work in the regions and have committed to continue work outside of Riga for the upcoming 5 years (including in the SEMS) (MoH, 2019d). Without cooperation in HR planning at least on a regional level, it is difficult to identify and address the lack of specialists within specific areas and to reduce competition between hospitals to acquire specialists. The impact of the inpatient sector on human resource availability in other healthcare sectors, especially ambulatory care, must also be considered.

Cabinet Regulation No. 555 "Regulation on Healthcare Service Organization and Payment" includes the following provisions regarding patient transfers:

- If a hospitalized patient has medical indications for receiving healthcare services that the hospital does not provide, the hospital must ensure that the patient is transferred to another provider to receive the necessary manipulations and back. The hospital should pay the service provider who carried out the necessary manipulations.
- An inpatient healthcare institution has the right to agree (by signing a respective contract) with another healthcare institution on the transfer of patients to another facility to receive necessary treatment in other cases as well, by agreeing on payment for services and informing the NHS.

However, due to lack of detailed criteria and principles for patient transfers, the organization of patient flows between different hospital levels often results in inefficient use of hospital resources when provision of medical services could be provided by lower-level hospitals. Additionally, patient transfers often happen based on informal relationships between individual healthcare workers. Moreover, currently transfers in emergency cases are carried out by the SEMS, while planned transfers are the responsibility of hospitals who either ensure it with their own vehicles or by outsourcing the service to the SEMS or other transportation service providers. In some cases, transfer of patients with hospital vehicles may only be possible after several days due to unavailability, which may result in increased number of hospital days at the sending hospital. Furthermore, maintaining vehicles is resource-intensive and often too costly for some hospitals.

Overall, multiple prerequisites need to be in place for effective and large-scale cooperation to take place in the Latvian hospital sector (improved standardization, development of clinical guidelines, standards, algorithms and pathways), improved information exchange, etc.). However, during focus group discussions, multiple areas with the potential for cooperation in the short-term were also identified, such as cooperation in healthcare personnel rotation planning, patient transfers from higher to lower level hospitals (where relevant capacity exists) after acute inpatient care has ended as well as cooperation in organizing trainings and other competency improvement events. However, despite current limitations, Latvia should pursue longer term objectives as well. **While some improvement may be expected, financial and human resources in Latvia will remain limited and the hospital network will need to be responsive to demographic trends, which will require an increasing amount of cooperation among service providers to ensure accessibility of quality services in the territory of Latvia**.

However, in the long-term Latvia should pursue an evidence-based strategy of concentration of highly specialized care to enable more resource efficiency and better care quality. Meanwhile, the accessibility of basic care as well as chronic care should be improved by maintaining these functions in local hospitals (World Bank, 2016; World Bank, 2016b; World Bank, 2016). Evidence shows that higher service volumes in specialized care have a strong correlation with quality and safety indicators (Statents Offentliga Utredningar, 2015). On the other hand, an optimized hospital network reduces the burdens of both excess (resource wastage due to underutilization) and insufficient capacity (worse healthcare outcomes that can increase the number of expensive hospitalizations in the long-term) (World Bank, 2016).

6.3.2 Practical recommendations

In this section we provide the main recommendations for cooperation in the realization of hospital core functions in the short, medium and long-term. A list of indicative responsible parties for the implementation of each recommendation are available in Appendix 6. Responsible stakeholders for each recommendation.

6.3.2.1 Short term

X. Healthcare personnel sharing between hospitals	
Relevant HCM objective	**<u>Objectives #1 and #2:</u> to ensure quality and safe services for patients by concentrating specialized healthcare services; to ensure effective resource allocation by improving hospital cooperation.**
Objective	To encourage better geographical distribution of healthcare professionals across hospitals in the short-term and better quality of care for patients in rural areas. Healthcare personnel sharing can also aid timely identification of patients that need to be treated at

	and transferred to a higher-level hospital. Healthcare personnel sharing also has the potential to improve specialization, care integration and overall quality of care (Westra, Federica, Carree, & Ruwaard, 2015).
As-is situation	On a national-level, common principles for the remuneration of healthcare personnel are determined by Regulation No. 851, however, providers may choose to pay personnel more than the monthly minimum. Additionally, the MoH analyzes the supply of medical personnel on a national, regional and institution level, however the human resource situation is constantly changing, and critical specialties can differ based on the healthcare provider, region and various other factors (such as retirement, prolonged illness, vacation or termination of employment of medical personnel). It is, therefore, advisable that hospitals continuously evaluate their human resource situation and cooperate with other providers to attract, retain and share healthcare personnel. Moreover, currently healthcare personnel often work at more than one medical institution (for example, according to HI data, Vidzeme collaboration area hospital medical personnel in cardiology, endocrinology and diabetes, obstetrics and gynecology, trauma and orthopedic surgery specialties work in more than 3,5 workplaces on average), on their own initiative and little to no regional-level planning (HI, 2019).. Furthermore, the situation is unlikely to improve due to aging of healthcare personnel (according to the Ministry of Economics (MoE), 49% of healthcare personnel are above 50 years old, which is the highest percentage of all high qualification employment sub-groups) (MoE, 2018). Additionally, mapping of human resources suggests deficits of both physicians and nurses outside of Riga, while there are surpluses in multiple specialties on a national level (World Bank, 2016). This suggests that possible gains could be made through aligning medical personnel planning for particularly critical positions in hospital collaboration areas.
Activities	1. Hospitals should analyze health personnel demand and supply within the given region by specialization (according to, for example, healthcare personnel register data, workforce data from hospitals, number of vacancies, service volume provided (e.g. number of manipulations, cases)), including analysis of the number of personnel working for multiple healthcare providers. 2. Identify existing demand and supply mismatches and define specific critical specialties to target through centralized planning of healthcare personnel sharing. 3. Define healthcare personnel sharing needs (including required FTEs per hospital) for critical positions in the collaboration area and identify possible personnel sharing opportunities.

	4. Hospitals should define a contracting form and incentives (for example, higher remuneration, valuable professional experience, non-monetary benefits) for employees working at several hospitals. 5. Hospitals should define common principles for remuneration and other incentives for selected specialties to ensure healthcare personnel sharing on a collaboration area level. These principles do not necessarily need to mandate identical remuneration for healthcare personnel in hospitals of different levels but should aim to align principles by which remuneration is determined, especially in cases where personnel are contracted by multiple providers at once. 6. Define a common approach for the planning of required FTEs and work schedules between collaborating hospitals. 7. Consider promoting tele-consultations as part of the consultative support model. 8. Implement a systematic organization of human resources and specialist sharing among hospitals within the collaboration area, including: a) Identification and targeting of candidates for healthcare personnel sharing; b) Negotiation and on-boarding of healthcare professionals selected for sharing; c) Set-up of periodic review of critical positions to be targeted through healthcare personnel sharing planning.
Dependencies	Recommendation XVIII “Experience and information exchange.
Principles	1. Financial considerations: coordinated healthcare personnel sharing planning among hospitals should be realized within the existing financial constraints of hospitals. 2. Geographical considerations: given the varying distances between hospitals outside of Riga, not all health professionals might be willing to work and commute to hospitals far from their home or main workplace. Therefore, the health professionals who will be selected to be subject to sharing should have their workplaces within reasonable distance and be willing to commute between them or have telehealth solutions available and appropriate for the realization of their duties. 3. Infrastructure considerations: in addition to geography, existing infrastructure and commuting options should be considered and managed, e.g. by aligning healthcare personnel working times with public transportation schedules, provision of compensation for travel and/ or providing transportation for personnel within the healthcare personnel sharing program. 4. Healthcare personnel workload considerations: personnel workload planning should take into consideration the relevant regulatory requirements and avoid assigning

	health professionals an unreasonable workload. Additionally, travel time between hospitals should also be taken into consideration.
Institutional arrangements	The planning of healthcare personnel sharing can be carried out within the framework of existing collaboration area meetings with the involvement of HR departments from participating hospitals. Additional working groups may be established for performing the as-is situation and healthcare personnel sharing needs assessment.
Feasibility	1. Limited human resources: limited human resources may limit possibilities for healthcare personnel sharing as many health professionals already have very high workloads. However, incentive and remuneration principle alignment may help to disincentivize health professionals from seeking employment outside of the collaboration area. 2. Administrative burden**:** analysis of the as-is state and workforce needs will require additional hospital management and HR specialist capacity. 3. Financial considerations**:** while performing analysis of the as-is state and workforce needs will require additional capacity, the alignment of principles for remuneration and incentives for health workers is likely to create savings relative to the current scenario where hospitals attempt to outcompete each other to attract personnel.
Legal considerations	1. Article 53 (1) of Labor Law sets out that an employee must perform their work in employer's undertaking unless the parties have agreed otherwise. Thus, a prior consent of employee is required to send him/ her on a business trip or employ him/ her in different place rather than in place where the employer is located. General practice in Latvia suggests that the parties agree on place of work and the rights of the employer to send the employee on business trips or to perform work duties in different place in employment agreements. 2. The time spent by an employee for travelling to another work place will be considered as working time, therefore it is payable. Moreover, only if the employee will be able to reach the other place of work and return within 8 business hours then it may be considered as regular working day. However, if the employee spends more than 8 hours, it will be considered either overtime or business trip. In case of a business trip, the employer will be obligated to pay daily allowance and compensate expenses of respective employee that have arisen during business trip. 3. Currently overtime of medical personnel is paid according to the general provisions of Labor Law, overtime hours are calculated by each medical treatment institution separately (if there is an employment agreement), considering the type of

	employment relationship (fixed or accumulated) and respective restrictions of the 16-hour average within 7 days (for 4 months period).
XI. Patient transfers from higher to lower level hospitals with current capacity	
Relevant HCM objective	**<u>Objectives #2 and #3:</u> to ensure effective resource allocation by improving hospital cooperation; to ensure integrated and appropriate care for patients.**
Objective	To ensure more efficient resource allocation by transferring patients who have finished acute inpatient care to receive non-acute inpatient care in lower level hospitals. This recommendation is also likely to result in better healthcare outcomes as it reduces the so-called “bed-blocker” problem often present at higher level hospitals that can reduce service availability.
As-is situation	Currently, a hospital has the right to agree (by signing a respective contract) with another healthcare institution on the transfer of patients to another facility to receive the necessary treatment. However, only limited patient transfers from higher to lower level hospitals take place. This is due to several reasons, including lack of information on and limited capacity for non-acute inpatient care and the unwillingness of some patients to be transferred. However, according to focus group discussions, local hospitals sometimes have available capacity for post-acute patients and are interested in developing it further, while at higher level hospitals often significant capacity is occupied by patients who could be moved to another care location. Additionally, there is no agreed upon process for organizing, approving and carrying out patient transportation between hospitals on the national level.
Activities	1. Identify potential partner hospitals that would participate in patient transfers (existing capacity for non-acute inpatient care in receiving hospitals should be considered). 2. Define the approach for systematically sharing information between partner hospitals on existing capacity for non-acute inpatient care (local hospitals) and patient transfer needs (regional, specialized or university hospitals). 3. Define a procedure for the organization of patient transfers from higher to lower level hospitals, including: a) The process of organizing patient transfers; b) Roles and responsibilities of involved parties (incl. requesting doctor, receiving personnel); c) Criteria for the patient transfer to be considered approved by both the requesting and receiving hospitals; d) Information sharing requirements to obtain approval for transfer and to ensure care continuity;

	e) Documentation approach for the approval process. 4. Define a procedure for hospitalization, care and discharge, including: a) The process of hospitalization, care and discharge from receiving confirmation of the transfer to patient discharge; b) Roles and responsibilities of involved parties (incl. receiving care department and healthcare personnel); c) Information sharing requirements to ensure care continuity; d) Documentation approach. 5. Perform planned patient transfers from higher to lower level hospitals.
Dependencies	N/ A
Principles	1. Available capacity: patient transfers to lower level hospitals should only be carried out where appropriate capacity is available, and the transfer is approved. As is, chronic care capacity in Latvia is limited and should be developed in the long-term. 2. Financial considerations**:** patient transfers should be financially reasonable for both receiving and requesting hospitals (and the healthcare system as a whole). 3. Mode of communication: partner-hospitals must agree on an information sharing approach on available capacity for transferred patients. In the short term this information can be conveyed through direct communication with other hospitals, however, other, more centralized solutions may be considered in the long-term. 4. Criteria for transfers: currently, patient transfers are approved by responsible doctors, however, in the long-term clear clinical criteria for when patients may be transferred need to be developed.
Institutional arrangements	The development of a patient transfer model can be carried out within the framework of existing collaboration area meetings with the involvement of medical personnel from participating hospitals (unless national level procedures and criteria are approved). The approval of patient transfers should be carried out by responsible doctors, until specific criteria are developed.
Feasibility	1. Capacity of chronic care providers: due to limited care capacity, patient transfers in the short-term will only be carried out in limited cases. 2. Patient rights: as patients can refuse being transferred, many patients may prefer receiving care from a higher-level hospital (e.g. because it is closer to home and/ or has higher perceived quality of care). 3. Patient transportation: due to the lack of available capacity for patient transportation some transfers may be delayed by multiple days thus reducing possible savings from

	patient transfers. In the long term, a centralized planned patient transportation solution could be developed (see Recommendation XV "Planned patient transportation service between hospitals provided by SEMS"). 4. Financial considerations**:** due to the difference in the cost of bed days between different level hospitals and the voluntary nature of participating in patient transfers on behalf of hospitals, the implementation of this recommendation is likely to result in cost savings.
Legal considerations	1. Article 8 of Patient Rights Law states that patients have the right to choose their treating doctor and medical institution. Article 5 (1) of this law defines that every patient has the right to receive medical treatment corresponding to the state of his/ her health. Article 5 (4) of this law states that every patient has the right to timely medical treatment. 2. A medical treatment institution, to which the patient has turned, shall provide information regarding the opportunities and terms for the receipt of medical treatment, as well as regarding other medical treatment institutions where appropriate medical treatment may be received. 3. Article 5 (6) of this law states that if opportunities for medical treatment are restricted or if several types of medical treatment are permissible, a patient has the right to the professional choice of the physician, which is based on the medical criteria supported by evidence. 4. These provisions limit the possibility to exchange the patients via hospital collaboration system without prior consent and acceptance of patient. Article 96 states that if the patient medical indications for receiving inpatient care services provided by a higher-level hospital, the medical treatment institution shall ensure the transfer of the person to the hospital for an appropriate level hospital. The medical treatment institution must ensure the transportation of the patient to another hospital and back. In such a case, the NHS covers the costs of the manipulation by payment to the hospital where the person is hospitalized, but medical institutions settle their financial issues independently. Transportation costs currently must be covered by the providers.
CASE STUDY	
Sweden: continuity of care for chronic patients	
In Sweden, the Primary Healthcare Centre (PHCC) is responsible for all chronic care. There are over 1000 PHCCs across Sweden, financed by the counties, of which 80% are run by the counties who also employ the	

staff working in the PHCCs. The remainder are operated by private providers, mostly in large chains. In addition to, or integrated with PHCCs, there are some 7000 clinics for maternal and child health, district physiotherapy, rehabilitation and others. These are organized and run by nurses, midwives, physiotherapists and other health professionals, employed by the counties, with general physicians (GPs) acting as consultants. All PHCCs run nurse-led clinics for diabetes and hypertension and some for allergy, asthma and chronic obstructive pulmonary diseases (COPD), psychiatry and heart failure. Some of the larger centers also provide nurse-led clinics for chronic neurological disorders.

Hospital departments for internal medicine have also established nurse-led clinics for diabetes, allergy, asthma, COPD and hypertension, as well as heart failure, chronic neurological conditions and renal failure. Some hospitals may offer nurse-led clinics for home oxygen treatment and other conditions or interventions, depending on local need and culture.

Some specific examples of continuity of care in Sweden, include the continuous treatment of diabetes, stroke, dementia and mental illnesses. Children and young people with diabetes are generally treated by healthcare professionals at hospital clinics; however, adults with diabetes are treated in PHCCs. In both settings, these are nurse-led clinics. Specialist clinics also involve dieticians. All diabetes care (irrespective of age) is provided according to national guidelines and insulin is fully subsidized. National guidelines and registries on diabetes care are developed and operated by the State (National Board of Health and Welfare), the Swedish Society of Medicine and the counties.

In the meantime, for stroke patients, the chain of care is from ambulance transport to the emergency room at the nearest county hospital and to a stroke ward. After a thorough, diagnostic assessment including a computed tomography (CT) brain scan, pharmaceutical treatment and, sometimes, thrombolysis, rehabilitation begins. One third of patients are discharged within two weeks and transferred for rehabilitation at outpatient clinics in the community or in the primary care setting. There are clinical guidelines for stroke patients linking all elements of the care pathway. While people with dementia are screened at the primary care level and generally seen at specialist clinics before diagnosis, according to clinical guidelines. Home care or nursing home care is provided by the community (Nolte, Knai, & McKee, Managing Chronic Conditions: Experience in eight countries, 2008).

6.3.2.2 Medium term

XII. Development of a consultative support model	
Relevant HCM objective	**<u>Objectives #1 and #2:</u> to ensure quality and safe services for patients by concentrating specialized healthcare services; to ensure effective resource allocation by improving hospital cooperation.**
Objective	To encourage better geographical distribution of healthcare professionals across regions and improved accessibility of quality care for patients. Healthcare personnel sharing can

	also aid timely identification of patients that need to be treated at and transferred to a higher-level hospital. In principle, ensuring healthcare personnel sharing can reduce the need for patient transfers by making services more accessible locally and promote experience sharing and learning between health professionals from different hospitals. Healthcare personnel sharing also has the potential to improve specialization, care integration and overall quality of care (Westra, Federica, Carree, & Ruwaard, 2015).
As-is situation	Currently healthcare personnel often work at more than one medical institution on their own initiative and little to no regional-level planning. Additionally, mapping of human resources suggests deficits of both physicians and nurses outside of Riga, while there are surpluses in multiple specialties on a national level (World Bank, 2016). This suggests that possible gains could be made through encouraging healthcare professionals from higher level institutions to provide consultations at lower level institutions. Consultative support within the Latvian healthcare system exists through the SMC of the SEMS (in emergency cases) as well as through informal relationships between personnel of different healthcare providers. Moreover, a pilot project in teleconsultations is currently in progress as part of the European Commission Third Union Action Programme in the Healthcare sector 2014-2020 Work Plan for 2019.However, improvements remain to be made including wider implementation of a teleconsultation model based on conclusions from the pilot project and implementation of a more coordinated approach (with appropriate financing mechanisms) for consultations in non-emergency cases.
Activities	1. Assess the possibility for implementing additional incentives for healthcare professionals to provide consultative support (both remote and in-person) at lower level hospitals, including an assessment of the overall financial impact of the recommendation by also taking into consideration: a. Reduced unnecessary patient transfers or faster transfers for complex cases; b. Changes in necessary HR capacity; c. Potential impact on outcomes and quality of care; d. Potential impact on the HR capacity, accessibility and quality of other care types, particularly, ambulatory care; e. Improved treatment speed and quality (e.g. if consultative support ensures higher quality of care and patients may be discharged faster). 2. Analyze consultative support needs by specialization. 3. Identify specific critical specialties to target as a priority through consultative support from higher to lower level hospitals. 4. Define consultative support needs (including required FTEs).

	5. Determine the preferred legal form for providing consultative support (e.g. under an employment contract, within the hospitals' cooperation contract or developing a branch of the higher-level hospital on the local or regional hospital premises). 6. Define the split of responsibilities between the consulting specialists and personnel working directly with the patient. 7. Develop procedures for the provision of consultative support, including the roles and responsibilities of consulting health workers and the financing model to incentivize consultative support, including principles, conditions and amount of remuneration of health professionals and preferred payment form (either inter-hospital payments or centrally compensated by the NHS). This needs to be combined with precise information on available service volumes and a clear system for requesting and approving consultative support services. 8. Consider promoting tele-consultations as part of the consultative support model. 9. Implement the developed consultative support model, which could include, for example, the following types of support: a. Support in the treatment of complex cases; b. Support in the assessment of patients who may potentially need to be transferred to a higher-level hospital; c. Multidisciplinary consultations for the development of diagnostics and treatment tactics; d. Experience sharing with the aim to develop the competences of local health professionals (Nakipov, u.c., 2017).
Dependencies	Recommendation X "Healthcare personnel sharing between hospitals".
Principles	1. Hospital capacity: the capacity of higher-level hospitals to provide consultative support. This recommendation should be implemented within reasonable capacity and workload constraints. 2. Geographical considerations: given the varying distances between hospitals outside of Riga, not all health professionals might be willing to work and commute to hospitals far from their home or main workplace. Therefore, the professionals who will provide consultative support should have their workplaces within reasonable distance and be willing to commute between them or have telehealth solutions available and appropriate for the realization of their duties. 3. Infrastructure considerations: in addition to geography, in case of physical consultations existing infrastructure and commuting options should be considered and managed, e.g. by aligning healthcare personnel working times with public

	transportation schedules, provision of compensation for travel and/ or providing transportation for personnel providing consultative support. 4. Healthcare personnel workload considerations: Healthcare personnel workload planning should take into consideration the relevant regulatory requirements and avoid assigning health professionals an unreasonable workload. Additionally, travel time between hospitals should also be taken into consideration.
Institutional arrangements	The assessment and changes of the financing model to incentivize the provision of consultative support should be carried out by national authorities. If successful incentives for providing consultative support are established, higher level hospitals will be willing to provide sufficient amount of consultative support on their own accord. However, some conditions should be established to ensure that support is directed where it is most needed, e.g. by defining geographical areas and specialties each tertiary hospital is responsible for and by setting criteria for the types of consultative support that can be compensated.
Feasibility	1. Limited human resources: limited human resources may limit possibilities for consultative support as many health professionals already have very high workloads. However, the potential to reduce unnecessary patient transfers and to identify cases where transfers are necessary faster through consultations can have a positive effect on HR availability within the consulting hospital. 2. Administrative burden**:** analysis of the as-is state and needs for consultative support will require additional hospital management and HR specialist capacity. 3. Financial considerations**:** while consultative support will require additional capacity, the potential savings due to reduced unnecessary patient transfers or faster necessary transfers can have a positive financial impact. This should be evaluated against the cost of incentivizing consultative support from a national perspective.
Legal considerations	See recommendation X “Healthcare personnel sharing between hospitals“.

CASE STUDY

Sweden: remote healthcare specialist consultations by Karolinska Hospital

The Gastro Centre of Karolinska University Hospital currently practices an innovative way for conducting surgeries via video link. During these sessions leading surgeons are guiding colleagues throughout the country who carry out ERCP-assisted surgery to operate gallstones, cirrhosis and cancer. As Karolinska University is home to some of Sweden’s leading specialists, some of the top national endoscopists are now enabled to share their knowledge with other surgeons without leaving the office of their home-based hospital. This telemedicine

process allows to improve patient safety and reduce risks of complications and re-operation. To reach even more patients across the country, parallel guidance is now also being implemented: an expert from Karolinska can guide three procedures simultaneously. The telemedicine initiative is realized in cooperation with Södersjukhuset Hospital, Visby Hospital, Skaraborgs Hospital in Skövde, Gävle Hospital and Södertälje Hospital, as well as Boston Scientific and Polycom (Karolinska University Hospital, 2018).

XIII. Centralized interpretation of diagnostic results

Relevant HCM objective	**<u>Objectives #1 and #2:</u> to ensure quality and safe services for patients by concentrating specialized healthcare services; to ensure effective resource allocation by improving hospital cooperation.**
Objective	To avoid duplications of diagnostics, differing interpretations and descriptions, and to efficiently use limited resources through centralization of the interpretation of diagnostic results, for example, in radiology. The experience level of healthcare personnel who carry out imaging interpretation is important in ensuring high quality, thus, centralization of this function would improve the quality of patient care and helps to ensure accurate and timely medical diagnoses. For example, the most prevalent telehealth program in the European Region is teleradiology, where access to expertise and specialty is essential (Mahaer, Bahadori, Davarpanah, & Ravangard, 2018; WHO, 2016). Standardization (a prerequisite for centralization) can help to improve cooperation and information exchange beyond just the centralized function: developed protocols can be used in regular diagnostics and improve the interpretability of results across the field.
As-is situation	Currently, it is not common practice to centralize the interpretation of diagnostics in Latvia. The lack of standardization in the performance of diagnostics and descriptions results in duplication of examinations in several institutions and differing interpretations. According to focus group conclusions, the lack of standardization has been one of the main barriers for the centralization of imaging interpretation, for example in ultrasonography.
Activities	1. Assess potential priorities for imaging standardization, considering the potential for centralization (including the possible gains in accuracy, reduced duplications, reduced need for HR, increased specialization, possible increases in the utilization of medical equipment etc.). 2. Define types of diagnostic examinations that can be carried out according to hospital profiles, levels and other criteria (e.g. volume). 3. Develop protocols for carrying out selected priority diagnostic exams.

	4. Develop a common format for preparing descriptions of diagnostic results (in the long-term, use of clinical terminology systems for diagnostics and equipment should be considered). 5. Define the preferred organizational model for centralized interpretation of diagnostic results, for example: a. A centralized function in some hospitals (inter-hospital payments take place for the service of interpretation); b. A centralized function in a separate entity providing services for hospitals; c. Compensation from the NHS for the service of preparing a diagnostic image and interpretation separately. 6. Select partner-hospitals for piloting a priority diagnostic telehealth solution and ensure the necessary technologies are available (including a common platform for sharing diagnostic images). 7. Carry out trainings on the use of the telehealth solution, including on: a. Communication technology and approach for remote interpretation; b. Clinical technology and diagnostic device user training; c. Protocols for the use of diagnostic devices and preparing descriptions of imaging results (Vanderwerf, n.d.). 8. Pilot centralized interpretation of diagnostics services in selected partner-hospitals. For detailed steps for the establishment of a centralized function, see recommendation XX “Centralization or partial centralization of selected support functions in collaboration areas”.
Dependencies	Recommendation XVI “Strengthen patient information exchange”.
Principles	1. Information sharing: information sharing should be convenient and avoid creating an excessive administrative burden. 2. Timeliness of response: interpretations should be provided promptly, and results should be sent back to the treating institution without additional delay to ensure timely care for the patient. 3. Hospital levels and characteristics: the needs and capacity of hospitals to perform diagnostics may differ. Standardization and alignment of routine diagnostics might be more common and easier to introduce, however, the interpretation of some diagnostics may be difficult to centralize in the medium-term, for example, if equipment needs to be aligned between institutions.

	4. Consistent stakeholder engagement**:** to ensure that all expectations are considered and taken into account all relevant stakeholders should be consulted. A change management strategy should be developed and put into place to minimize resistance and increase the probability of successful adoption of the organizational change. For the key principles for the establishment of a centralized function, see recommendation XX "Centralization or partial centralization of selected support functions in collaboration areas".
Institutional arrangements	The development of common protocols and description forms for diagnostics should be carried out on a national level and be applicable for both remote and regular diagnostic services. To set-up a centralized function, hospitals should provide a business case for the MoH on how centralization would provide resource savings. The set-up should be subject to MoH approval. Centralized functions may be located in either: 1. A separate entity providing services for a range of hospitals; 2. In one or multiple hospitals that provide services for other hospitals.
Feasibility	1. Availability of resources: setting up a centralized interpretation of diagnostics function will require some up-front investment, management commitment and human resources from participating parties both to establish the feasibility and perform the set-up of joint functions. 2. Adequate infrastructure: a platform to facilitate the sharing of diagnostic images and receiving interpretations is necessary to implement this recommendation.
Legal considerations	See recommendation XX "Centralization or partial centralization of selected support functions in collaboration areas". There is also basis in Regulation No. 555 for hospitals to make inter-hospital payments for the provision of medical services, i.e. a hospital has a right to agree with another medical institution on the delivery of medical services to a patient. However, this provision specifies that the patient must be transferred between the two medical institutions, which in the case of telehealth is not applicable. To implement a telehealth model that allows hospitals to provide telehealth services to other hospitals, this section may need to be revised.

CASE STUDY

Norway: Telemedicine and teleradiology in Norway

Already in 2007 in Norway, 7 out 26 hospitals reported the full or partial implementation of on-call collaboration with the use of teleradiology, especially for geographical reasons. Currently most hospitals have used some form of telemedicine, however, the distribution is uneven (North Norway region reports the most consistent use

of telemedicine, most likely, due to issues caused by low population density). Norway has been at the forefront of teleradiology for more than 25 years. It started with the efforts of Jan Stormer, radiologist and Senior Consultant at the University Hospital of North Norway. As early as 1992, x-ray images were transferred from Tromso Military Hospital to the then Tromso Regional Hospital to enable weekly radiologist visits and daily specialist interpretations (a system that is still relevant to this day, although now enabled by digital solutions) (Hartvigson, 2007).

Findings from Norway indicate that three important factors impact the use of telemedicine: need for consistent governance and a telemedicine strategy, the willingness of clinicians and economic and financial dimensions (need for clear compensation mechanisms). Barriers may also include fragmented management, storage, security, traceability and exchange of information between organizations (Alami, Gagnon, Wootton, Fortin, & Zanaboni, 2017).

XIV. Integrated care for patients receiving care from multiple hospitals

Relevant HCM objective	**<u>Objectives #2 and #3:</u> to ensure effective resource allocation by improving hospital cooperation; to ensure integrated and appropriate care for patients.**
Objective	To achieve better integration of different types of care through establishing clear responsibilities and allocation of funds, including by creating incentives for patient transfers.
As-is situation	Currently, a hospital has the right to agree (by signing a respective contract) with another healthcare institution on the transfer of patients to another facility to receive the necessary treatment. However, only limited patient transfers from higher to lower level hospitals take place. Additionally, there is no agreed upon approach for organizing, approving and carrying out patient transportation between hospitals. The division of responsibilities, and the funding arrangements are not clearly defined if the patient receives care in multiple institutions. Lack of developed clinical guidance, clinical algorithms and clinical pathways also hinder closer cooperation.
Activities	1. Adopt a common patient transfer procedure both for transfers from lower to higher level and from higher to lower level hospitals. For a detailed description on how to organize patient transfers, see recommendation XI “Patient transfers from higher to lower level hospitals with current capacity”. 2. Define the roles and responsibilities of involved parties, including during patient transportation. 3. Develop a common assessment system and clinical criteria to direct patients to the appropriate service provider (including criteria for hospitalization) based on clinical guidelines, standards, algorithms and patient pathways. 4. Assess the feasibility of implementing an electronic patient transfer system for managing the approval process.

	5. Develop funding arrangements for planned transfer of patients between hospitals and care from several service providers, if possible, linking them to patient pathways and/ or disease management programs and considering options for centrally funded patient transportation between hospitals (currently it is covered by each hospital.
Dependencies	Recommendations XI “Patient transfers from higher to lower level hospitals with current capacity” and XVI “Strengthen patient information exchange”.
Principles	1. Indication for transfer: when requesting to transfer a patient from a lower-level to a higher-level hospital an indication for the need of transfer must be provided. 2. Available capacity: patient transfers to lower level hospitals should only be carried out where appropriate capacity is available, and the transfer is approved by the sending and receiving hospital. 3. Financial considerations**:** patient transfers should be financially reasonable for both receiving and requesting hospitals (and the healthcare system as a whole), while not endangering patient safety and quality of care. 4. Criteria for transfers: currently, patient transfers are approved by responsible doctors, however, in the long-term clear clinical criteria for when patients may be transferred need to be developed.
Institutional arrangements	A general patient transfer model should ideally be approved on a national level and encompass planned patient transfers between all hospital levels. The approval of patient transfers should be carried out by responsible doctors based on specific clinical criteria, clinical guidelines, standards, algorithms and patient pathways.
Feasibility	1. Patient pathways: clearly defined patient pathways will aid successful care integration and coordination across different levels of care. 2. Capacity of care providers: due to limited capacity, patient transfers will always be limited based on available beds. 3. Patient rights: as patients can refuse being transferred, many patients may prefer receiving care from the current care provider (e.g. because it is closer to home and/ or has higher perceived quality of care). 4. Patient transportation: due to the lack of available capacity for patient transportation some transfers may be delayed by multiple days thus reducing possible savings from patient transfers. In the long term, a centralized planned patient transportation solution could be developed (see recommendation XV “Planned patient transportation service between hospitals provided by SEMS”).

	5. Financial considerations: the development of the criteria, guidelines, standards and pathways mentioned above will require both the commitment of national authorities and up-front investment, however more resource efficient patient allocation is likely to have a positive financial impact.
Legal considerations	See recommendation XI "Patient transfers from higher to lower level hospitals with current capacity". However, patient rights are not unconditional as patients may only choose a healthcare provider that is appropriate for their health status. In the medium-term some legislative solutions, however, may be possible, for example: 1. As patients have a right to choose a care provider from the existing supply of available institutions who provide the specific services, a stricter definition of services available at each hospital that restricts the patient's ability to choose to receive non-acute inpatient care in a high-level hospital could be pursued, for example, by stating that university hospitals do not provide non-acute care. 2. The MoH may also assess if services provided at a higher-level hospital after a patient transfer has been offered and refused by the payment should be state funded for the patient.

6.3.2.3 Long term

XV. Planned patient transportation service between hospitals provided by SEMS	
Relevant HCM objective	**Objective #2 and #3: to ensure effective resource allocation by improving hospital cooperation; to ensure integrated and appropriate care for patients.**
Objective	To implement a safe, reliable, timely and cost-effective solution for planned patient transfers (non-emergency referrals) between hospitals of all levels (both from higher level to lower level hospitals and vice versa) to ensure continued treatment. The purpose of this solution is to centralize the function on a national level to reduce the need for individual hospital fleets and to reduce delays in planned patient transfers due to unavailability of hospital vehicles. Moreover, a centralized transfer center provides a single-point of contact and reduces the importance of informal relationships between healthcare professionals when arranging patient transfers (CentralLogic, 2015).
As-is situation	Currently, planned patient transfers are organized either by using each hospital's vehicles or by outsourcing to SEMS or other medical transportation service providers. Additionally, there is no agreed upon process for organizing, approving and carrying out patient

	transportation between hospitals on a national level. Currently, in some cases, transporting patients with hospital vehicles may only be possible after several days, which often results in avoidable expenses due to extended hospital stays and possible delays in receiving the next stage of treatment. Moreover, both vehicle maintenance and outsourcing are resource-intensive, especially for local hospitals.
Activities	1. Adopt a common patient transfer procedure both for transfers from lower to higher level and from higher to lower level hospitals. For a detailed description on how to organize patient transfers, see recommendation XI “Patient transfers from higher to lower level hospitals with current capacity”. 2. Improve existing cooperation in providing services for patients who receive care from multiple care providers, including an assessment of the feasibility of implementing an electronic patient transfer system for managing the approval process, including accounting for the transferred patients. For a detailed description on how to improve cooperation for patients receiving care from multiple hospitals, see recommendation XIV ”Integrated care for patients receiving care from multiple hospitals”. 3. Perform an assessment of processes, people and infrastructure necessary for the feasibility of a centralized patient transfer function, including: a. Analysis of the existing and potential volume of patient transfers and their geographical location; b. Analysis of costs associated with maintaining separate transport fleets and outsourcing of planned patient transportation services, including necessary personnel capacity and costs, assessment of current costs associated with delayed transfers due to unavailability of transportation services; c. Definition of the future-state patient transportation process and operating model; d. Definition of future-state infrastructure needs (e.g. types of vehicles and technologies), personnel needs and associated costs for a centralized function; e. Assess the costs/ benefits associated with implementing a centralized patient transportation function. 4. Define the financing model for planned patient transfer (e.g. direct funding to SEMS or payments from hospitals). 5. Develop an implementation roadmap for set-up, including: a. Design of targets and objectives for centralization; b. Definition of the economic rationale and governance structure;

	c. Definition of the organizational structure; d. A transition strategy; e. Key risks and strategies to tackle them; f. A detailed to-be operating model. 6. Set-up and pilot a centralized planned patient transportation service in Latvian territory (SEMS) with limited capacity.
Dependencies	Recommendations XI “Patient transfers from higher to lower level hospitals with current capacity” and XIV ”Integrated care for patients receiving care from multiple hospitals”.
Principles	1. Transportation provider capacity considerations: the capacity needs of the centralized function vs local fleets or outsourcing need to be assessed as a centralized transportation function must be able to cover a wide geographical area. Therefore, this recommendation should only be implemented if the necessary capacity is possible to guarantee and it proves to be cost effective and feasible. 2. Criteria for transfers: only patients that need further treatment in a hospital should be transported by SEMS; transportation for patients who need to access other types of care (e.g. primary care, care at home, social care) are not in scope of this recommendation. Both transfers from higher to lower and lower to higher level hospitals should happen according to clearly defined criteria (see recommendations XI “Patient transfers from higher to lower level hospitals with current capacity” and XIV ”Integrated care for patients receiving care from multiple hospitals”). 3. Financial considerations: prior to the implementation of this recommendation, detailed financial feasibility of a centralized planned patient transfer function needs to be assessed. If the costs exceed possible gains from removing or reducing the need for local fleets and/ or outsourcing of transportation services, this solution should not be implemented. 4. Available capacity: patient transfers to lower level hospitals should only be carried out where appropriate capacity is available, and the transfer is approved.
Institutional arrangements	A proposed patient transfer model should be assessed and approved on a national level and (if approved) be carried out by SEMS. The needed up-front investments should also be provided through public funding sources.
Feasibility	1. Availability of resources: a detailed feasibility assessment for the establishment of centralized patient transportation service in Latvia, incl. the necessary human and infrastructure capacity of SEMS, needs to be carried out. The set-up of the centralized function will require significant up-front investment, however, has the

	potential to produce savings in the long-run through reducing duplication of functions and simplifying patient transfers.
Legal considerations	1. Currently Article 151 of Regulation No. 555 states that state budget funds intended for payment of healthcare services shall not be paid for services that are not healthcare services, including for the transportation and accommodation expenses of person or their accompanying person related to relocation for receiving care. Therefore, transportation costs must be covered by the involved healthcare service providers (hospitals). 2. Moreover, current cooperation contracts do not impose any financial obligations on any of the parties (including on covering of transportation costs if the patients are transferred from one hospital to another).

XVI. Strengthen patient information exchange

Relevant HCM objective	**<u>Objectives #1, #2 and #3:</u> to ensure quality and safe services for patients by concentrating specialized healthcare services; to ensure effective resource allocation by improving hospital cooperation; to ensure integrated and appropriate care for patients.**
Objective	To improve the exchange of patient information between hospitals through the development of eHealth and to promote integration between eHealth and other patient information systems (e.g. private sector provided diagnostic imaging, laboratory result systems). This objective should be enhanced by better adoption of clinical coding and clinical terminology systems, which can be considered critical for health information management (Alakrawi, 2016; AHIMA, 2013; AHIMA, 2014).
As-is situation	The use of eHealth has been mandatory since 1st of January 2018 and entails obligatory use of e-prescriptions for state compensated medicine and electronic sick leave documentation. According to Regulation No. 134, medical practitioners and medical support persons also must include additional information (for example, reports on ambulatory examinations and care, vaccination passport, oncological patient care and registration cards and results of visual diagnostics). Standardized forms for medical documents that need to be uploaded to eHealth are described in Regulation No. 134 paragraph 7, and include, for example, discharge – epicrisis, information of the emergency medical assistance call card, an immunization card, description of the radiological examination among others with specific forms included in the Regulation's annexes.

	However, eHealth currently only includes a limited amount of medical patient information (e.g. diagnosis, examinations) which, according to focus group conclusions, is insufficient to provide efficient treatment. This is due to 4 main factors: (1) eHealth is relatively new and therefore the data collected in the system is limited, (2) eHealth only aims to include the most important patient data (e.g. conclusions from visual diagnostics, but not images, which are typically stored in private sector provider systems such as DataMed) (3) some data appears in eHealth with a delay. As a result, providing the necessary information to their next care provider is often the responsibility of the patient and can both threaten patient safety and quality of care, and lead to duplications of examinations. On the other hand, some improvements in this area have been made for information provided by SEMS. If a patient calls SEMS and after examination they decide not to hospitalize the patient, the relevant GP is notified requesting further check-ups. Latvia uses the International Classification of Diseases (ICD - 10) for diagnoses in national healthcare and reimbursement systems and the Nordic Classification of Surgical Procedures (NCSP) (World Bank & IBRD, 2009; World Bank, 2016). However, while ICD-10 is valuable for reporting and statistics, it is not designed for electronic health record (EHR) systems and other clinical applications (Alakrawi, 2016). A system that is designed for EHR can allow for greater interoperability across multiple applications and go a long way in improving healthcare information exchange.
Activities	1. Develop automatic exchange of information on patient admission and discharge from a hospital. 2. Standardize data entry forms for various patient data recorded within eHealth, for example, defining the form for recommending further care after discharge from the hospital and descriptions of diagnostic results in cases where such forms are not yet developed. 3. Assess the possibility to adopt requirements for information sharing within eHealth by private healthcare IS providers, such as descriptions of results from laboratory tests and imaging diagnostics, to ensure information is provided in eHealth within a timely manner (as opposed to with a delay of multiple days). While storage of images in a centralized public database is currently not planned, improving the accessibility of diagnostic images should be considered. 4. Standardize data entry forms for various patient data recorded within eHealth, for example, diagnostic results, where such forms have not yet been developed. In the long-term the adoption of clinical terminology systems (e.g. SNOMED) should be considered including:

	a. An assessment of areas for implementation that would bring the highest added value (i.e. areas where standardization can bring the highest benefit and where collaboration and information sharing between different health professionals is critically important); b. Development of a roadmap and approach for implementation by involving healthcare specialists; c. Development of instructions and training on use of the system for healthcare personnel; d. Piloting partial implementation of a clinical terminology system in a selected focus area (Sheeran, Coales, & Sparkes, 2013). 5. Promote the interoperability of existing information systems of medical institutions and pharmacies with eHealth (State Audit Office, 2015; National Reform Programme, 2018).
Dependencies	Recommendation XXI "Cooperation in IT development planning in accordance with common standards".
Principles	1. Common standards: eHealth and other information systems need to be developed within the framework of common standards for data exchange and interoperability to promote integration. 2. Political commitment: successful implementation of further eHealth and other information sharing initiatives require sustained political commitment due to the long-term nature of most possible initiatives in this area as well as the need for sustainable funding (WHO, 2016). 3. Management capacity: the support and continuous development of the eHealth system requires significant investment about capacity required from the MoH and NHS. 4. Standardized information and data: healthcare personnel should be trained to use clinical terminology systems and other tools of standardizing exchangeable data and information correctly (Sheeran, Coales, & Sparkes, 2013). 5. Implementation priorities: not all necessary improvements in eHealth can be pursued at once and that initiatives should be prioritized. Priority initiatives should be in areas where standardization can bring the highest benefit and where collaboration and information sharing between different health professionals is critically important.
Institutional arrangements	eHealth related initiatives should be pursued on a national level by the NHS and MoH, however, significant stakeholder involvement (patients, GPs and general physician

	assistants (GPAs), pharmacies, hospitals, etc.) is key for ensuring the success of further improvements. The involvement of healthcare providers and private healthcare system providers also needs to be ensured as their cooperation in improving the integration of various healthcare systems can significantly speed up or slow down the realization of benefits associated with eHealth initiatives.
Feasibility	1. Financial considerations: the development of eHealth will require significant up-front investments for years to come, however it should also have an impact on healthcare quality through better health-related decision making and greatly improved efficiency. 2. Consistent stakeholder engagement: significant stakeholder engagement will be needed to ensure that all expectations are considered and considered. A change management strategy should be developed and put into place to minimize resistance and increase the probability of successful adoption.

CASE STUDIES

France: Program of Medicalization of Information System (PMSI)

In France the PMSI is based on the production of a standard discharge summary for each acute hospital stay that describes the nature of the treatment and examinations, the diagnosis at admission and associated diagnoses or complications. This discharge summary is then integrated into the homogenous hospital stay groups DRG system. (European Observatory on Health Systems and Policies, 2015)

Estonia: Exchange of patient information in eHealth

In Estonia the e-Health system is a uniform and standardized information-exchange platform that connects all providers and allows data exchange with various other sources such as registries. The data collected and used in this system are personalized to allow every patient access to each patient's health data. The eHealth system has a statistics module that is used for automatic and ad-hoc generation of anonymized health information. (European Observatory on Health Systems and Policies, 2018)

The deadlines for submitting patient care summaries to eHealth are: 5 workdays for inpatients and 1 workday for outpatients (for every case, not every visit). Meanwhile, diagnostic images are stored in a separate database (accessible to healthcare personnel), while the Patient Portal contains results and radiology descriptions (Christian et al, 2017).

Poland: law on the Information system in Healthcare

In Poland, the Law on the Information System in Healthcare (2011) makes it obligatory for health records to be stored in an electronic format. The Law addresses issues relating to the storage, processing, transfer of and access to such health data. This includes ensuring that healthcare providers make records stored in their ICT

systems available to authorized institutions and individuals to facilitate continuing treatment or diagnostic procedures.

The introduction of such legislative act and the system itself does not only aid medical treatment but also facilitate reimbursement for medical care. The aim of this e-Health Reform was and still is to have electronic data that moves with the patient and provides up-to-date information to healthcare providers, as well as the information system processes such data as healthcare entitlements, insurance numbers and insurance details, while also enabling the use of ePrescriptions. The legislation incorporates the rules on the identification and authorization processes related to the exchange of such data (WHO, 2016).

6.4 Cooperation in support functions

Hospitals in Latvia typically realize support functions (for example, accounting and finance, HR management, procurement, infrastructure maintenance, cleaning) individually despite potential synergies that could result from centralization, partial centralization or experience and information sharing. For example, hospitals rarely pursue joint procurements, even though they could lead to improved bargaining power and create savings due to higher volumes. Additionally, insufficient infrastructure planning (e.g. premises, MME) from a national perspective can create mismatches between hospital capacity and population needs (World Bank, 2016). **Therefore, closer cooperation in the realization of support functions can significantly contribute to efficient resource allocation in the hospital sector**.

The objective of cooperation in the realization of support functions is to gain from synergies due to similarities across multiple hospitals. Improvements in efficiency are possible on multiple levels: collaboration area, among hospitals of the same level or national level. Cooperation should also be responsive to industry trends and technological advancements, allowing for easier resource and information sharing. Finally, a more strategic approach towards infrastructure planning must be taken to achieve national healthcare objectives and to provide appropriate services volumes.

6.4.1 As-is situation

Three main barriers currently prevent closer cooperation: (1) lack of standardization in processes, IT systems, goods and services procured etc., (2) legal barriers for cross-hospital cooperation and (3) barriers to information exchange. Firstly, many processes, systems and services need to be aligned to pursue any form of centralization or joint procurement and to realize savings from cooperation. Secondly, the legal form and fragmented ownership of hospitals both creates disincentives for closer cooperation, as well as restricts their ability to procure goods or services from each other. Lastly, given the lack of integration between hospitals' IT systems, ensuring sufficient information exchange to realize support functions jointly can be difficult and/ or time and resource consuming. There are also limits to what information hospitals can reasonably be expected to share between them as competing for-profit institutions.

Support functions, such as laundry, catering, IT support, maintenance of infrastructure, cleaning and procurement, are currently organized by hospitals individually. Due to the fragmentation of hospital ownership, hospitals are not incentivized to plan and optimize these functions on a national or a regional level. **Instead, hospitals act in accordance with interests of their owners that are not necessarily aligned with national-level healthcare goals.**

Moreover, hospitals plan and purchase (or develop) IT systems individually. As a result, the lack of IT integration limits information exchange, including valuable patient information, due to incompatibility. While all inpatient

institutions have signed contracts with the NHS on the use of eHealth, it is currently insufficient for sharing all necessary patient information between providers. Moreover, the MoH does not plan to create a unified healthcare service provider information system but plans to promote the interoperability of existing information systems of medical institutions and pharmacies with eHealth (State Audit Office, 2015; National Reform Programme, 2018). **Therefore, systematic planning to improve the integration of information systems between hospitals is needed both regarding patient information and other information systems.**

Lack of cooperation in procurement results in wasted resources. Even though the types of necessary goods and services, such as medical supplies, medicines, cleaning services, utilities, are similar for most hospitals, hospitals do not organize systematic joint procurement activities. It is important to note that the HCM does not suggest joint procurement should be pursued in all categories of goods and services. Any joint procurement activities should be subject to there being enough similarities between hospitals in what is procured and have a financial basis.

According to the World Bank, insufficient centralized control and mapping of infrastructure results in mismatches between demand and capacity. Capital investments in the hospital sector are often driven by the availability of an investment budget and targets for the number of beds (Sanigest International, 2016). As a result, some infrastructure is not fully utilized, while some regions lack certain types of infrastructure. For example, the World Bank Master Plan concludes that there were only 4 mobile X-Ray units in Kurzeme, while there should have been 14[7], while at the same time, there were approximately 17 more X-Rays available in Riga than required (World Bank, 2016). This issue is not restricted to medical equipment, for example, the State Audit Office found that premises of 18,5 thousand m^2 had not been used in RECUH. Multiple reasons caused this underutilization, including lack of equipment and delays in strategic decision making (State Audit Office, 2017b; State Audit Office, 2017c).

Since the analysis performed by the World Bank, Latvian national authorities have taken steps to implement more control through evaluation of the appropriateness of procurements to the services and levels of the procuring hospitals. Moreover, EU fund related control mechanisms are in place for all infrastructure procured with these financing instruments. However, further improvements in the mapping of infrastructure requirements based on healthcare needs by geographical area could be made. Since the World Bank report, efforts have been made to align infrastructure investment with a national-level plan, based on conclusions form the analysis performed by the World Bank. It is also worth noting that some equipment is purchased from EU funds and cannot be sold or reallocated immediately.

[7] According to the population standard of 5.5 per 100 thousand inhabitants.

6.4.2 Practical recommendations

In this section we provide the main recommendations for cooperation in the realization of hospital support functions in the short, medium and long-term. A list of indicative responsible parties for the implementation of each recommendation are available in Appendix 6. Responsible stakeholders for each recommendation.

6.4.2.1 Short term

XVII. Realization of joint procurements	
Relevant HCM objective	**Objective #2: to ensure effective resource allocation by improving hospital cooperation.**
Objective	To ensure efficient use of resources and better bargaining power through joint procurement procedures. Typical benefits of joint procurement are lower prices due to economies of scale, administrative cost savings, and pooling of skills and expertise (European Commission, 2008; European Comission, 2016).
As-is situation	Hospitals carry out procurements separately (except for a few joint procurements carried out by hospitals on their own initiative), despite often requiring similar goods and services (e.g. healthcare goods (medicine, medical items, tools, medical devices, equipment), catering, laundry, waste management, cleaning, security, systems and equipment (software, hardware) etc.).
Activities	1. Ensure periodic and systematic alignment of procurement plans with potential procurement partners. 2. Periodic review of partner hospital procurement plans to identify potential joint procurement opportunities. For preliminary mapping of procurements according to the appropriate level of centralization based on focus group discussions, see Appendix 5. Preliminary mapping of procurement centralization levels. 3. Information and experience exchange from previous procurement procedures. 4. Where potential synergies are observed, initiate joint procurements with other hospitals. 5. Realize joint procurements for selected goods and/ or services.
Dependencies	N/ A
Principles	1. Financial considerations: joint procurements should require spending less resources by each involved hospital.

	2. Supplier capacity considerations: current and potential suppliers of goods and services need to be assessed to ensure they can provide increased volumes, ensure complex logistics and offer a lower price when procured jointly. 3. Hospital levels and characteristics: hospital needs may differ, for example, high-level hospitals or specialized hospitals may require different goods or services than local hospitals. Therefore, joint procurements should only be pursued if sufficient similarities in the procured goods/ services are possible. 4. Geographical distribution of hospitals and suppliers: some support functions are geographically sensitive (e.g. catering, garbage disposal) and cannot be procured jointly or can only be procured jointly by hospitals within certain geographical proximity. 5. Number of potential suppliers and competitive landscape: the number of potential suppliers in the market and the competitive landscape can impact the potential cost savings of increased volume (World Bank, 2016b).
Institutional arrangements	The planning of joint procurements can be carried out within the framework of existing collaboration area meetings (where existent). Additional working groups may be established for the development of technical specifications and other procurement documentation as needed. Participation in joint procurement activities should be organized on a voluntary basis (i.e. hospitals should not be forced to participate unless the joint procurement procedure is likely to be beneficiary to them).
Feasibility	1. Categories of goods and services for which joint procurement is not possible: not all goods and services can nor should be procured jointly, thus, it is necessary to assess and identify areas in which joint procurements are feasible and financially founded. It is possible that joint procurements that can be realized without significant alignment of procurement times and/ or standardization is very limited. 2. Financial impact: due to the voluntary basis of participating in joint procurement as well as potential savings from joint procurement activities, this activity is likely to have a positive financial impact.
Legal considerations	1. According to Appendix 8 of the Regulation No. 555, the NHS organizes centralized procurement of medical devices and dietary foods. Each hospital separately deals with the purchase of medicines, medical materials and other materials, technologies necessary for operations of the hospital and other goods and services. 2. The template for the current hospital cooperation contracts created by the MoH has a provision for the responsibility of parties “to carry out joint procurements where possible”, however, only 6 out of 13 signed contracts have included it in the final

	draft, namely hospitals in the Vidzeme and Daugavpils regions. To encourage joint procurement among other hospitals in other regions, all other contracts should include this provision.

XVIII. Experience and information exchange

Relevant HCM objective	**Objective #2: to ensure effective resource allocation by improving hospital cooperation.**
Objective	To encourage information and experience exchange between hospitals to gain from possible synergies and to improve processes and competencies.
As-is situation	Information and experience exchange between healthcare personnel mainly happens on an informal basis. The current template for hospital cooperation contracts demands information exchange on queue lengths for outpatient services, vacancies as well as a general provision for exchanging information in other matters related to the realization of the cooperation contract. However, not all cooperation contracts signed between hospitals include all the provisions stated above and none give clear guidelines for information sharing (e.g. frequency, mode of communication).
Activities	1. Identify information sharing needs and purpose for the use of information (within the framework of existing cooperation contract meetings). 2. Define concrete requirements for information sharing, such as frequency and deadlines, mode of communication (e.g. if a specific information sharing platform should be used). 3. Exchange information and experience on, for example: a. Vacancies; b. Queue lengths; c. Experience with suppliers of goods and services; d. Experience in the realization of projects. 4. Initiate exchange of information and experiences on various topics between both medical and non-medical personnel, including organization of specific experience sharing meetings between personnel (e.g. procurement specialists, HR specialists, IT specialists, medical staff) as needed.
Dependencies	N/ A
Principles	1. Limitations to information sharing: hospitals should observe all regulatory requirements as well as their shareholder interests when deciding what information

	should be shared (e.g. some information may not be reasonable to share due to hospitals being competing for-profit institutions). 2. Mode of communication/ platform for information sharing: to ensure regular and effective information exchange, platform or platforms for information dissemination should be selected or established. 3. Information security: sufficient information security, especially of sensitive information, should always be ensured to avoid access by unwarranted parties. 4. Administrative burden: information sharing requirements should avoid creating an unnecessary administrative burden on staff, instead only focusing on sharing information that can practically improve cooperation between hospitals.
Institutional arrangements	Information sharing needs can be defined during existing collaboration area meetings (where existent). After the requirements for information sharing are identified and agreed upon, each hospital should delegate information and experience sharing responsibilities to an individual or a group of individuals. Separate meetings can be set up for experience sharing among selected specialists based on need.
Feasibility	1. Legal restrictions: certain legal restrictions may exist to sharing some types of information due to regulatory requirements, such as GDPR. 2. Administrative burden: collection and exchange of information and experience can create an additional administrative burden on hospital staff. Hospitals should avoid creating excessive requirements for information sharing.

6.4.2.2 Medium term

XIX. Establishment of joint procurement commissions	
Relevant HCM objective	**Objective #2: to ensure effective resource allocation by improving hospital cooperation.**
Objective	To ensure efficient use of resources and better bargaining power through joint procurement procedures and development of common technical specifications and capturing synergies between hospitals (e.g. skills and market intelligence, best practices) through resource pooling and standardization. Typical benefits of joint procurement are lower prices due to economies of scale, administrative cost savings, and pooling of skills and expertise (European Commission, 2008; European Comission, 2016).

As-is situation	Hospitals develop technical specifications and carry out procurements separately (except for a few joint procurements carried out by hospitals on their own initiative), despite often requiring similar goods and services (e.g. healthcare goods (medicine, medical items, tools, medical devices, equipment), catering, laundry, waste management, cleaning, security, systems and equipment (software, hardware) etc.).
Activities	1. Establish information sharing procedure about procurement plans, including procurement needs, expected timing, amount of available financing etc. between hospitals. 2. Identify priorities for joint procurement and the specific procurement needs of each hospital. 3. Establish a joint regional procurement commission within the framework of the hospital cooperation contracts. 4. Analyze the as-is situation, including types of specific goods and services required, procurement schedules, suppliers and market situation. 5. Map a common procurement portfolio (selection of goods and services to be procured jointly). For preliminary mapping of procurements according to the appropriate level of centralization based on focus group discussions, see Appendix 5. Preliminary mapping of procurement centralization levels. 6. Select partners for joint procurement (participating hospitals). 7. Develop a plan for aligning procurement schedule and performing the necessary standardization procedures for joint procurement. 8. Establish common working groups for the development of technical specifications for joint procurements. 9. Develop common technical specifications for goods/ services. 10. Implement common procurement procedures in hospital collaboration areas in selected product/ service groups.
Dependencies	Recommendations XVII “Realization of joint procurements”, XVIII “Experience and information exchange””.
Principles	1. All considerations listed in recommendation XVII “Realization of joint procurements” apply. 2. Timing and standardization alignment considerations: the time required for alignment and standardization may differ depending on the type of goods and services procured, for example, items such as medical supplies can be jointly procured faster,

	while joint MME or IT procurements may require a significantly longer time horizon for alignment/ standardization.
Institutional arrangements	Members of the joint procurement commission should be representatives of hospitals that are willing to be involved in joint procurements. Joint procurement commissions do not necessarily need to adhere to the collaboration areas as defined by the World Bank and the MoH, if joint procurements with other partners are feasible and financially preferable (e.g. instead opting to establish commissions including hospitals on the same level, regional hospitals procuring goods/ services together with university hospitals in Riga, etc.). Participation in joint procurement commissions as well as procurements realized jointly by several hospitals should be voluntary (i.e. hospitals should not be forced to participate in procurement procedures that are not financially beneficial for them).
Feasibility	1. All considerations listed in recommendation XVII “Realization of joint procurements” apply. 2. Agreement on goods and services: There is a risk that the involved parties who currently use different types of a specific item or service, will not be able to compromise and select a standard option that satisfies all.
Legal considerations	1. All legal considerations listed in recommendation XVII “Realization of joint procurements” apply. 2. From the perspective of the Public Procurement Law, solutions where one hospital conducts procurement for goods and services for other hospitals, or creation of a new institution with centralized procurement obligations per se do not contradict the existing provisions of Public Procurement Law. Such solutions would fall under the scope of Article 1 (4) (a) of the Public Procurement Law. Additionally, the Public Procurement Law allows providers to perform market research.

CASE STUDY

France: cooperative procurement network UniHa

Union des Hospitaux pour les Achats (UniHa) is a cooperative procurement network in France consisting of 67 public hospitals with the aim to carry out joint procurement. The framework agreement was initiated in 2017. Prior to this, hospitals had identified an issue with long hospital stays for patients that resulted in additional workloads to medical personnel as well as unnecessary extra costs for the healthcare system. At the same time, there were medical devices and surgical techniques available that would significantly reduce the prolonged hospital stays and save money. UniHa issued a tender for a framework agreement with specification that

required the supply of medical devices and the provision of assistance and training to the relevant medical teams. The hospitals that chose to join this agreement were signing up for:

- The provision of medical devices;
- The performance of an audit and supply of a diagnostic report on hospital's practices;
- The option to choose a detailed action plan (incl. an objective average duration-of-stay target and follow-up on its implementation) or a follow-up on the labelling and/ or a pre-audit.

Additionally, this agreement allowed for a risk distribution model between the purchaser and the provider. The provider's remuneration would depend on the extent of the achieved reductions in the length of patient stays (UniHA, n.d.; UniHA, 2017; OECD, 2018).

6.4.2.3 Long term

XX. Centralization or partial centralization of selected support functions in collaboration areas	
Relevant HCM objective	**<u>Objective #2:</u> to ensure effective resource allocation by improving hospital cooperation.**
Objective	Increase efficiency through centralizing or partially centralizing the provision of certain support functions. Potential benefits of centralization of support functions are better allocation of resources, increased standardization, reduced administrative costs and burden in each participating hospital. For example, in the case of centralized outsourcing, employing a shared service center (SSC) model can typically offer up to 30% of cost savings in operations (Ernst & Young Baltic, 2018).
As-is situation	Hospitals in Latvia typically realize support functions (for example, accounting and finance, HR management, procurement, infrastructure maintenance, cleaning) individually despite potential synergies that could result from centralization or partial centralization. For example, hospitals need to provide 24-hour technical infrastructure maintenance, including specialists with specific competencies on different types of infrastructure maintenance (e.g. electricity, ventilation systems and elevators). Currently hospitals realize this function individually, which creates challenges related to specialist availability and costs, especially for smaller hospitals. As a result, resources may not be used efficiently due to the need to maintain staff, materials and financial resources used to drive these support functions. However, given existing regulatory restrictions, the centralization of support functions may only be possible within hospitals that are a single legal entity or have a parent-subsidiary relationship (or through transfer of the specific

	function to national authorities, which likely is unfeasible given the existing resource and capacity constraints).
Activities	1. Identify support functions, which should be assessed for possible gains through centralization. 2. Perform an assessment of processes, people and technologies in the selected support functions across potential partner hospitals, including: a) Alignment of a common process taxonomy; b) Validation of costs and FTEs; c) Analysis of processes against relevant benchmarks (external or between partner hospitals). 3. Develop a high-level to-be operating model. Analysis should consider at least: a) The optimal mix between centralized and decentralized; b) The optimal mix between in-house and outsourcing; c) Whether the centralized function should be multi-functional or specialized (e.g. should multiple support functions be bundled within a single entity); d) The optimal level of centralization (e.g. municipality, collaboration area, planning region or national level); e) The possible geographical location of the centralized function; f) The appropriate level of standardization required for the implementation of a centralized function, for example, types of infrastructure, IT systems, processes and specializations required; g) Assessment of potential regulatory barriers to centralization or procurement of goods and services from the centralized function. 4. Validate the as-is assessment and proposed to-be operating model with hospital management, including review of processes, technology and organization. 5. Develop an implementation roadmap for set-up, including: a) Design of targets and objectives for centralization; b) Definition of the economic rationale and governance structure; c) Definition of the organizational structure; d) Considerations for the selection and implementation of a technological platform (for example, an enterprise resource planning (ERP) system); e) A transition strategy; f) Key risks and strategies to tackle them; g) A detailed to-be operating model. 6. Pilot the centralized support function operating model by considering at least the following 4 dimensions during set-up (see Figure 12).

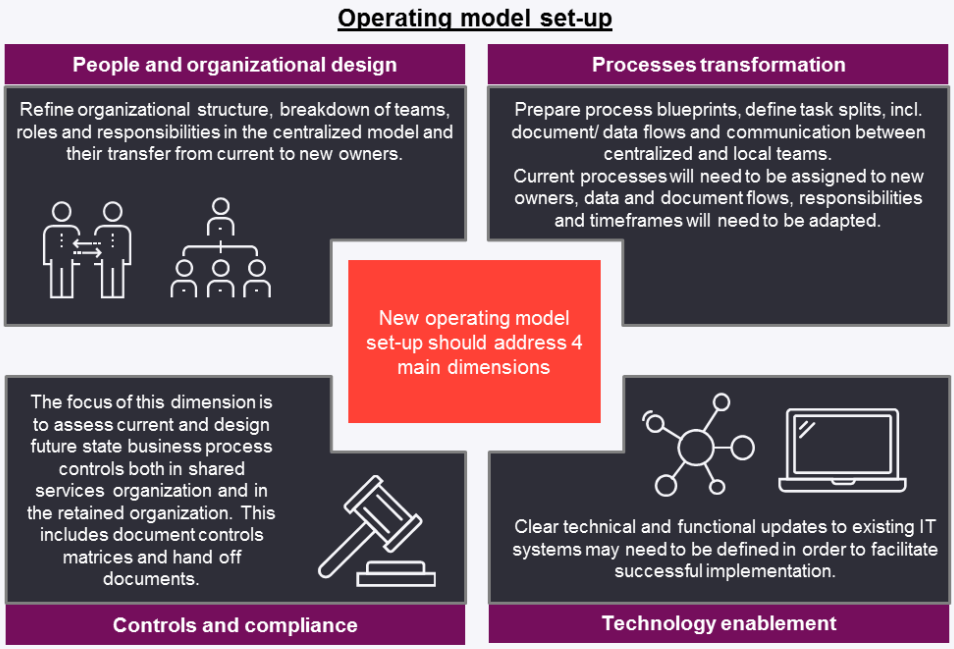


Figure 12 Operating model set-up dimensions

Dependencies	N/ A.
Principles	**1.** <u>The optimal mix between centralized and decentralized:</u> when considering the establishment of a centralized function, hospitals should consider both different models of centralization as well as different regional levels of cooperation (see Figure 13).

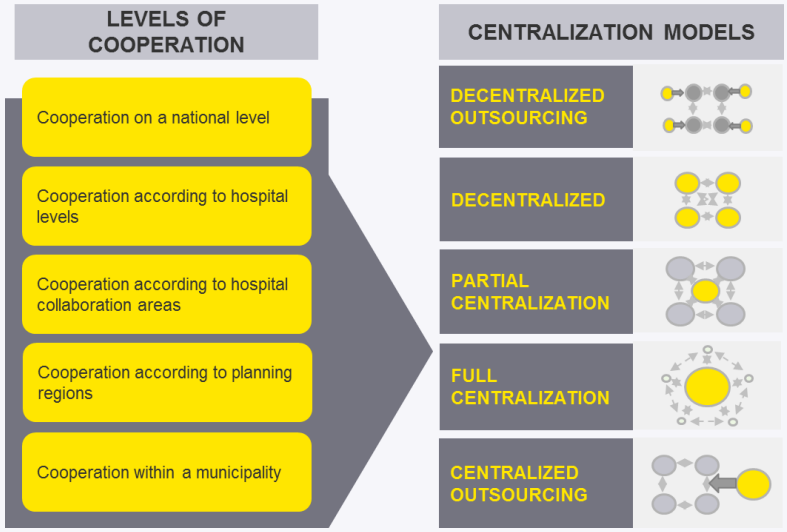


Figure 13 Cooperation and centralization models

	2. Optimal mix of in-house and outsourcing: centralization of support functions should also be compared to outsourcing. Drivers for outsourcing include: lack of internal capabilities, necessity for high investments to realize functions in-house, possible gains from process efficiency or technology available to suppliers. Meanwhile, in-house services are typically chosen when there is a desire to keep the specific knowledge and experience in-house and a high degree of industry specificity. 3. Multi-functional or specialized: multi-functional centralization may provide potential for significant synergies (e.g. joint strategy, IT systems, experience sharing) and ensure more efficient governance (Capgemini Consulting, 2013). 4. Geographical location: the best geographical location needs to be identified for the realization of shared support functions. This can either be a separate entity or a structure within one or multiple of the partner hospitals under assumption that those hospitals have a parent-subsidiary relationship or are merged into a single legal entity. Geographical location should also consider the availability of resources within the specific location, including both specialists and infrastructure. Additionally, some support functions may be geographically sensitive (e.g. catering due to service standards and transportation costs) which may create barriers to centralization. 5. Financial considerations: centralization should require spending less resources by the partner hospitals than in a decentralized model to be pursued. 6. Hospital levels and characteristics: the needs of hospitals may differ significantly regarding support fun0ctions. While possibilities of standardization and alignment should be considered, not all functions may be feasibly centralized.
Institutional arrangements	To set-up a centralized function, hospitals should provide a business case for the MoH on how centralization would provide resource savings. Centralized functions may be located in either: 1. A separate entity providing services to a range of hospitals; 2. In one or multiple hospitals that provide services to other hospitals under assumption that those hospitals have a parent-subsidiary relationship or are merged into a single legal entity; 3. If centralization is done on the national level, in a national level entity subordinate to the MoH, such as the HI (for the procurement of specific groups of goods where national-level centralization is rational). However, given existing resource and capacity constraints, as well as policy objectives regarding the reduction of

	governmental and public sector workforce, this solution would not be recommendable.
Feasibility	1. Functions in which centralization is not possible: not all support functions can nor should be centralized, thus, it is necessary to assess and identify the ones that are appropriate for this initiative. 2. Availability of resources: setting up a centralized function will require some up-front investment, management commitment and human resources from participating parties both to establish the feasibility and perform the set-up of joint functions. 3. Consistent stakeholder engagement: to ensure that all expectations are considered and considered all relevant stakeholders should be consulted. A change management strategy should be developed and put into place to minimize resistance and increase the probability of successful adoption of the organizational change.
Legal considerations	1. With respect to centralization of specific functions of hospitals in a separate entity, it must be considered that the State Administration Structure Law sets specific preconditions for establishing of state/ municipality owned companies: a. Existence of market failure: a situation where the market is incapable of serving the public interest in the relevant field and the company is establishing with a purpose of elimination of such market failure; b. Company will create goods or services that are strategically important for the development of an administrative territory of the state or a local government, or the state security; c. Company will administer properties that are strategically important for the development of an administrative territory of the state or a local government, or the state security. 2. Therefore, it would be complicated to justify establishing of a new state-owned capital company for performance of centralized, mostly administrative, functions. 3. With respect of creation of centralized institution, the provisions of State Administration Law setting forth preconditions for establishing of state/ municipality companies must be considered. These preconditions might not be met as there is no market failure in the areas of centralized services therefore the centralized institution may only be established between institutions who are either in a parent-subsidiary relationship or a single legal entity. 4. Article 4 (2) of the Public Procurement Law states that the Public Procurement Law is not applicable in situations where a controlled legal person, which is a contracting authority, awards a contract to its controlling contracting authority, or to another legal

person controlled by the same contracting authority, provided that there is no direct private capital participation in the legal person being awarded the public contract, with the exception of non-controlling and non-blocking forms of private capital participation required by national legislative provisions, in conformity with the Treaties, which do not exert a decisive influence on the controlled legal person.

5. In the case of national-level centralization (for specific procurements), the centralized institution may take a form of state institution (or agency) under direct supervision of MoH or Minister of Health (same as, for example, NHS) or be located in an already existing institution. Therefore, an institution that is subordinate to the MoH may carry out a centralized procurement function on behalf of hospitals.

CASE STUDY

Norway: Shared Service Centers (SSC) for support functions in South-East Norway

Sykehuspartner is owned by Helse Sør-Øst. With around 1400 employees, Sykehuspartner is one of the Nordic region's largest SSCs in the hospital sector. The owner Helse Sør-Øst is one of four health regions in Norway and is the strategic unit that owns the health trusts/ hospitals in the South-East Norway. The objective of Sykehuspartner is to provide secure, stable, standardized services and technologies to support the needs of hospitals. They provide services in ICT, logistics, HR and employee support to all hospitals in the Helse Sør-Øst health region. The main areas of support of Sykehuspartner provides are:

- Running and managing ICT systems: safe and stable operation of IT equipment, network, clinical and administrative applications, and IT infrastructure;
- Providing regional finance and logistics service: a common ERP solution, regional commodity catalogue and regional supply center. The joint regional service facilitates a high degree of automated supply of goods for hospitals, which has positive effects on both quality and cost. The purpose of standardized solutions and work processes is to contribute to increased user-friendliness, higher quality of data and better information management;
- Managing HR: a wide range of forward-looking electronic solutions such as employee portal for payment, travel expenses, recruitment, surveys, e-learning portal and others;
- Providing employee support: queries from employees regarding issues with IT equipment, programs or questions about salaries etc. In total, Sykehuspartner serves approximately 80000 users.

Through the unique combination of knowledge about the health sector with technology expertise, Sykehuspartner delivers forward-looking and effective solutions that help healthcare personnel to concentrate on patient care (Sykehuspartner, 2019; Helse Sør-Øst RHF, 2019).

CASE STUDY

France: centralized procurement departments in hospital collaboration areas

Within the framework of the territorial hospital groups (GHT) reform across French regions a new function was established, namely, the centralized procurement function. The overall purpose of the GHT reform is to enable the healthcare institutions to develop and implement a territorial strategy for ensuring equal access to safe and qualitative hospital care. The objective of the joint commissions established in collaboration areas is to ensure collaboration on a regional level by establishing a shared procurement system. The main benefits of this reform are expected to be:

- Aligns the procurement processes of different organizations;
- Pooling of expertise, technical resources and processes;
- Optimization of purchasing strategies and better evaluation of suppliers;
- Economies of scale due to larger orders (where applicable).

The implementation of this function is carried out through via the following steps (simplified):

- Define the centralization project approach;
- Launch the centralization project;
- Analyze the current procurement situation;
- Map a common procurement portfolio;
- Map markets and suppliers;
- Map procurement processes;
- Define a target procurement function model;
- Adapt the territorial purchase action plan;
- Define relevant terms and conditions;
- Implement quality management methods;
- Set up the target procurement model.

The institution responsible for centralized procurement function implementation within the group of hospitals designated by the constituting agreement is doing it on behalf of the respective participating institutions of the GHT (Ministère des Affaires Sociales et de la Santè, 2017).

XXI. Cooperation in IT development planning in accordance with common standards

Relevant HCM objective	**<u>Objectives #1, #2 and #3:</u> to ensure quality and safe services for patients by concentrating specialized healthcare services; to ensure effective resource**

	allocation by improving hospital cooperation; to ensure integrated and appropriate care for patients.
Objective	To facilitate a move towards IT system convergence in collaboration areas in order to ensure more efficient functioning, monitoring and analysis of the healthcare system, Typical benefits are better information exchange between hospitals (and other care providers), easier use due to uniformity of software (especially if significant healthcare personnel sharing happens among hospitals), better access to data and tools, common IT security policies as well as potential synergies from joint IT procurements or possible centralization (see recommendations XVII "Realization of joint procurements", XX "Centralization or partial centralization of selected support functions in collaboration areas") (Ministère des Affaires Sociales et de la Santè, 2016).
As-is situation	Hospitals use several information systems, for example, in radiology, laboratories, finance and accounting, that are often not integrated between different providers. As a result, medical institutions do not have access to all patient-related information needed to provide treatment (i.e. patient data is stored in the systems of different medical institutions that are not integrated). Additionally, the costs of implementing and maintaining IT systems are high and there are significant barriers to centralization and/ or joint procurement in this area due to a lack of standardization. Therefore, there is potential for hospitals within a collaboration area to pursue greater cooperation in IT development planning in accordance with common standards.
Activities	1. Set-up a dedicated management function (in the short term – as part of hospital collaboration area meetings, in the long term – a separate structural unit/ working group). 2. Conduct a review of the existing information systems in hospital collaboration areas. 3. Define a common target and strategy for IT development and convergence (i.e. the goal of IT convergence can range from integration of systems to fully centralized IT functions (relevant for hospitals that are a single legal entity or have a parent-subsidiary relationship)). 4. Identify gaps between the existing model and the developed targets and strategy. 5. Draft a framework and action-plan for IT convergence, including a procurement strategy for IS components and/ or creation of a centralized IT department for two or more hospitals (if included in the strategy and possible under the current legal framework given their ownership structure) (for a detailed description of activities for setting up a centralized function and/ or joint procurement, see recommendations XX "Centralization or partial centralization of selected support functions in collaboration areas", XIX "Establishment of joint procurement commissions").

	6. Implementation of the developed strategy, framework and action plan to ensure IT development planning in accordance with common standards.
Dependencies	Recommendation XVI “Strengthen patient information exchange”.
Principles	1. Functionality and inter-operability: collaboration in IT development should yield the desired level of functionality and integration across IT systems, including with the eHealth information system. 2. Safety and security: IT systems should adhere to increasing information safety and security standards, and access to information should be controlled to ensure compliance to regulatory requirements. 3. IT development in alignment with common standards: partner hospitals should define and follow common standards, including The Health Level Seven International (HL7) standard (WHO, 2016). 4. Dimensions of change: IT development and convergence will require changes in current processes, organization and technologies, as well as staff competencies. At the same time, IT convergence efforts should not reduce the flexibility of hospitals to adapt systems to their specific needs. 5. Cloud solutions: in pursuing improvements in IT, cloud solutions should be considered due to lower investment costs, reduced maintenance needs, higher scalability and accessibility from any location. For a more detailed description of principles for setting up a centralized function and/ or joint procurement, see recommendations XX “Centralization or partial centralization of selected support functions in collaboration areas”, XIX “Establishment of joint procurement commissions”.
Institutional arrangements	Depending on the chosen IT convergence strategy and the preferred level of centralization of IT planning, procurement and support functions, the organizational model for implementing this recommendation can differ. For a more detailed description of institutional arrangements for setting up a centralized function and/ or joint procurement, see recommendations XX “Centralization or partial centralization of selected support functions in collaboration areas”, XIX “Establishment of joint procurement commissions”).
Feasibility	1. Financial considerations: collaboration in IT development should require spending less resources by the partner hospitals in the long-run. However, the implementation of this recommendation will likely require significant up-front investments from hospitals.

2. Consistent stakeholder engagement**:** significant stakeholder engagement will be needed to ensure that all expectations are considered and taken into account. A change management strategy should be developed and put into place to minimize resistance and increase the probability of successful adoption.

For a more detailed description of feasibility considerations for setting up a centralized function and/ or joint procurement, see recommendations XX “Centralization or partial centralization of selected support functions in collaboration areas”, XIX “Establishment of joint procurement commissions”.

CASE STUDY

France: Information system convergence

France initiated mandatory information system convergence by law in 2016. The strategy for joint management of hospital information system convergence is aimed at establishing patient file coordination between different information systems owned by parties in a collaboration region. The scope for pooling hospital information systems includes not only hardware and software but also human resources by establishing a joint IT department responsible for governance and support. In practice, the IS should converge towards a single IS that is essential to allow health professionals to intervene on several sites and to have a transversal vision of patient information and benefits from uniformity of software. Information system convergence creates some major benefits, such as IT security centralization, economies of scale when investing in software, improved information exchange, better access to data and tools. For a simplified implementation approach, see Figure 14.

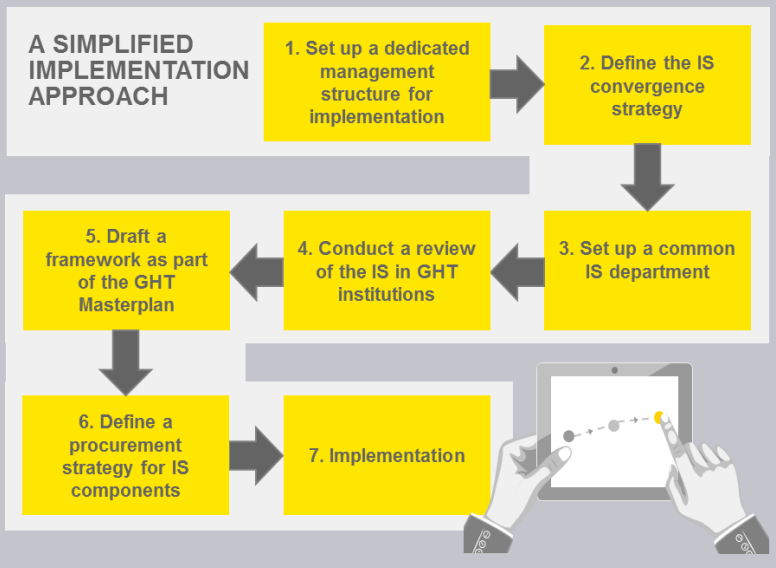


Figure 14 IS convergence implementation approach

XXII. National level infrastructure planning

Relevant HCM objective	**Objective #2: to ensure effective resource allocation by improving hospital cooperation.**
Objective	To promote better allocation of capital investment by ensuring sufficient national-level planning of infrastructure and to reduce mismatches between population needs and hospital capacity.
As-is situation	Hospital owners are responsible for capital investments, while the state typically provides guarantees for capital investment to creditors (and assumes risk if hospitals fail to pay back) (WHO, 2017). According to the World Bank, lack of planned and purposeful coordination of capital investment on a national level results in both oversupply and lack infrastructure capacity, depending on the region and type of infrastructure (e.g. specific medical equipment, premises) (World Bank, 2016). Multiple reasons cause underutilization, including unbalanced capital investment (e.g. premises may be underutilized due to lack of equipment), shareholder incentives to provide a wide range of services at each hospital, delays or lack of strategic decision making on either a hospital or national level (e.g. on service distribution within the hospital network and requirements for providing specific services types). Since the analysis performed by the World Bank, Latvian national authorities have taken steps to implement more control through evaluation of the appropriateness of procurements to the services and levels of the procuring hospital. Moreover, EU fund related control mechanisms are in place for all infrastructure procured with fund financing. However, further improvements in the mapping of infrastructure requirements based on healthcare needs by geographical area could be made.
Activities	1. Develop an infrastructure management strategy based on future hospital network design (developed based on gap analysis of existing capacity and future population needs). 2. Define detailed requirements for equipment and other types of infrastructure based on hospital profiles to ensure capital investment follows the planned distribution of services within the hospital network, while remaining resource efficient (e.g. lower level hospitals may need less complex and expensive diagnostic equipment than university or specialized hospitals). 3. Periodically and systematically assess existing infrastructure capacity and population needs (currently, estimates of needed investments in MME are included in the World Bank Master Plan (World Bank, 2016; MoH, 2016)) and develop mapping of infrastructure requirements by geographical area.

	4. Establish a mechanism for monitoring equipment utilization, for example, by linking diagnostic results stored in the eHealth system with specific equipment serial numbers or introducing internet of things (IoT) solutions and analyzing utilization of equipment acquired through public funding. 5. Identify gaps (equipment shortages and surpluses) between existing infrastructure capacity and population needs by taking into consideration international benchmarks. 6. Promote infrastructure sharing to close gaps between demand and supply in the short-term and ensure further capital investment to address shortages through centralized planning and procurement control of significant infrastructure (e.g. MME) at a national level.
Dependencies	1. Recommendation XVII “Realization of joint procurements”.
Principles	1. Needs based planning: infrastructure planning should be aligned with population needs and the desired healthcare service coverage. There should be clear requirements for what services should be provided in each hospital that are linked with requirements for infrastructure. Planning should consider a long-term perspective, and take into consideration demographic and epidemiological trends, and urban development. 2. Redistribution of existing infrastructure: where possible, medical equipment should be redistributed or shared to achieve appropriate geographical coverage in alignment with national healthcare goals. It is important to note that reallocation or selling of underutilized equipment may be limited due to EU funding requirements for a specific period.
Institutional arrangements	Large scale capital investment (for example, purchasing of MME above a certain threshold) should be subject to approval by the MoH, if publicly financed. Monitoring of the existing infrastructure capacity and population needs should be performed by the NHS.
Feasibility	1. Financial considerations: while national-level infrastructure planning can improve how efficiently capital investment is allocated, matching supply to population needs may require significant investment, for example, the World Bank Master Plan estimates suggest that each region will require approximately EUR 14 million on average (EUR 72 million in total) of investment in equipment to cover population needs by 2020 (World Bank, 2016). 2. Decision-making capacity: responsibility for long-term infrastructure planning must be delegated to a body that has the appropriate competence, technical capacity and

	influence to carry out this activity. Currently, the centralized planning of infrastructure is reliant on one-off reviews such as the World Bank Master Plan and more continues monitoring can only be established through improved data collection and analysis capabilities.
Legal considerations	1. Medical devices and goods are regulated by the Regulation Regulation No. 689 "Procedures for the Registration, Conformity Assessment, Distribution, Operation and Maintenance of Medical Devices, which came into effect in 2017. Purchase of most medical devices and goods is undertaken by healthcare providers in accordance with the Law on Purchases for the Needs of State and Local Governments. Procedures for centralized purchases of medical devices are defined by Regulation on Organization and Financing of Healthcare. These purchases are undertaken by the NHS, on behalf of all institutions with which it has contracts (WHO, 2017). 2. The template for the current hospital cooperation contracts created by the MoH has a provision for the responsibility of parties "to promote the rational use of medical technology, including in case of damage to medical technology, the other party shall, as far as possible, provide diagnostic examinations to inpatient patients of the cooperation area". 3. Additionally, current regulation requires for all hospitals that are state-owned enterprises to verify purchases above 140,000 EUR with the MoH Procurement Coordination Committee.

CASE STUDIES

Norway: national agency for hospital infrastructure planning

In Norway, the overall responsibility for the planning of infrastructure and capital investment in public healthcare providers lies with the Regional Health Authorities (RHAs) for specialist care and the municipalities for primary care. Both the RHAs and the municipalities have a wide authority to plan their own infrastructure, yet RHAs should consult the Ministry of Health for major investments infrastructure (e.g. the building of new hospitals).

In 2014, four RHAs of Norway established a new agency for hospital construction (Sykehusbygg HF). The agency serves a national center of competence for hospital planning and construction, with expertise for all hospital trusts. It establishes standards, solutions, systems and tools for infrastructure, benefiting all RHAs. It delivers services that streamline planning and development work, promote quality, reuse existing solutions and therefore reduce costs. The agency has a decentralized structure with main location in Trondheim (Sykehusbugg HF, 2019).

Poland: priorities for infrastructure purchasing defined in the "Health Policy Program"

Equipment for hospitals is purchased via competitive bidding and financed by local governments (who also own hospitals). The MoH specifies funding for the purchase of equipment in the “Health Policy Program” and the allocated funds are given to providers through a bidding process by taking into consideration the priorities defined in the “Health Policy Program”. These key issues receive guaranteed public funding. In the private sector, healthcare providers can choose how they purchase equipment (Healthcare Resource Guide: Poland, 2018).

6.5 Cooperation with other stakeholders

Latvia has a high rate of hospitalizations and long hospital stays relative to the EU average (Eurostat, 2016). The number of hospital stays usually reflects the accessibility and/ or quality of other types of care. Therefore, hospital cooperation cannot be viewed in isolation from other types of healthcare and social care. **As stated in the Public Health Guidelines for 2014-2020, Latvia needs to promote partnership, intersectoral coordination and cooperation between different care providers to promote equal opportunities for all citizens.** Care integration in Latvia remains limited; however, some positive elements, such as home care services for chronically ill patients and elements of care pathways have been introduced (WHO, 2017). Clear division of roles and responsibilities and intersectoral dialogue on all levels (national, regional, municipal, institution and case-level) are key prerequisites for creating an effective integrated care system.

6.5.1 As-is situation

According to focus group discussions, the high-rate of hospitalizations and extended hospital stays are, at least in part, due to insufficient access to social and/ or healthcare. For example, university hospitals receive a high number of patients for whom different types of care (e.g. primary case, social care) would be more appropriate. The emergency unit at RECUH (the largest hospital in Latvia) receives on average 314 patients daily out of which 200 are not hospitalized (Biklava & Skride, 2018). This suggests some patients either cannot or choose not to receive care elsewhere. On the other hand, once patients are ready to be discharged it is often difficult to find where to transfer them, leading to extended hospital stays. Both factors result in inefficient spending of limited healthcare resources (HR, infrastructure and financial).

Other countries such as the United Kingdom and the Netherlands emphasize the role of GPs as the first point of contact for patients with the healthcare system, serving as gatekeepers and care coordinators (World Bank, 2015). **However, in Latvia, the accessibility of GPs remains a concern, especially in rural areas, after working hours and on weekends.** Some countries, including Denmark, tackle this issue by offering additional compensation to GPs for out-of-hours consultations, telephone consultation and home visits. Similarly, in the Netherlands GPs can receive hourly compensation for care outside regular working hours. While such schemes might require additional funding, providing expensive hospital care is much more expensive than primary care overall (Strizrep & Alaka, 2016).

Lack of information exchange between hospitals and primary care further exacerbate the issue, as patients are often the ones responsible for ensuring their next care provider receives information on, for example, results of diagnostics, or their admission to a hospital (World Bank, 2015). One exception is an alert system introduced in 2013 that informs GPs by email about patients that have called emergency services but

have not been hospitalized. GPs are then obliged to contact their patients and agree upon a course of treatment. However, GPs are not systematically notified when patients are hospitalized or discharged (OECD, 2016).

According to conclusions from focus group discussions, one of the main issues increasing the number of and extending hospital stays is insufficient social protection and social care. Additionally, on a national level, intersectoral issues are usually solved through ad hoc working groups, instead of permanent structures and the spheres of social care and healthcare are under the responsibility of different ministries and are regulated by separate laws (The Health Systems and Policy Monitor, n.d.). On a regional level, the roles and responsibilities of municipalities in healthcare (specifically, accessibility to healthcare) are not interpreted in a uniform way (Cabinet of Ministers, 2017). Some cooperation, of course, does exist, such as the establishment of medical points in social care institutions, the presence of social workers in the management of hospital admissions and between GPs and social care in providing at-home care. **Nonetheless, hospitals often deal with social issues, and closer cooperation on all levels of governance could help to reduce preventable or excessively long hospital stays**.

6.5.2 Practical recommendations

In this section we provide the main recommendations for cooperation with other stakeholders in the medium and long-term. A list of indicative responsible parties for the implementation of each recommendation are available in Appendix 6. Responsible stakeholders for each recommendation.

6.5.2.1 Medium term

XXIII. Improve cooperation for patients receiving care from multiple care providers	
Relevant HCM objective	**<u>Objective #3:</u> to ensure integrated and appropriate care for patients.**
Objective	To improve care integration and continuity between different types of care through establishing clear responsibilities, appropriate financial incentives and effective information exchange.
As-is situation	In Latvia, 96% of patients are registered with a GP, who acts as the main point of contact with the healthcare system. The GP either treats the patient directly or issues a referral to (1) a health center for laboratory or imaging tests; (2) a healthcare professional; or (3) a hospital. A patient with a referral can freely choose any ambulatory or inpatient care provider that has a contract with the NHS. After hospital discharge, patients may be referred for rehabilitation or home care (European Observatory on Health Systems and Policies, 2012). However, as stated above, many patients seek hospital care even

	when other types of care may be sufficient and/ or more appropriate. Moreover, it is often difficult to refer patients to other care providers after acute inpatient care due to lacking capacity and/ or insufficient information on availability. This results in prolonged hospital stays, which is very costly for the healthcare system. Part of the solution is the development of national clinical algorithms and clinical pathways, which is currently already taking place in Latvia in priority healthcare areas as part of an ESF project.
Activities	1. Develop a common assessment system and criteria to direct patients to the appropriate service provider (including criteria for hospitalization) both when selecting a care provider and after discharge from a hospital and patient pathways for multidisciplinary care. 2. Adopt a common approach for patients receiving care from multiple care providers by: a. Developing individual patient treatment plans with clear goals; b. Considering the introduction of a role of a case manager; c. Improving the procedure and criteria for referring patients to further care after discharge from a hospital by considering the need for follow-ups (that the patient has successfully sought care from an appropriate provider), necessary improvements in information exchange mechanisms; d. Linking funding arrangements for care from several service providers to patient pathways and/ or disease management programs; e. Define clear roles and responsibilities both on a regional (municipal) and a case-level. 3. Consider the establishment of a common system to track available capacity and waiting lists of institutions for post-hospital care (for example, social care beds) or, in the short-term, strengthen information exchange regarding available capacities and coordination. 4. Define a clear split of responsibilities regarding post-hospital care coordination, including consideration of possible incentives for involved parties for providing further care in a timely manner.
Dependencies	Recommendations XVIII “Experience and information exchange”, XXV “Strengthening the role of nurses, incl. in the coordination of continuity of care”.
Principles	1. Mode of communication/ platform for information sharing: to ensure regular and effective information exchange, platform or platforms for information dissemination may also be selected or established. 2. Common assessment criteria: ideally, directing a patient from one type of care provider to another should be done according to common clinical assessment

	criteria and a procedure either agreed upon between the two institutions in question. 3. Available capacity: patient transfers to other types of care should only be carried out where appropriate capacity is available, and the transfer is approved.
Institutional arrangements	The development of patient pathways, disease management programs and common assessment criteria should be carried out on a national level and, ideally, binding to institutions providing relevant services. The division of roles and responsibilities in cross-sectoral care should be made with the involvement of other relevant ministries, especially MoW and MoI.
Feasibility	1. Patient pathways: clearly defined patient pathways will aid successful care integration and coordination across different levels of care. 2. Financial considerations: the development of the criteria, guidelines, standards and pathways mentioned above will require both the commitment of national authorities and up-front investment, however more resource efficient patient allocation is likely to have a positive financial impact. 3. Capacity constraints: given the lack of capacity in some areas of care (including social care) the benefits of better information sharing, common criteria and procedures, and clear roles and responsibilities may have limited impact.
Legal considerations	1. The Law on Social Security governs several different issues including principles for the structure and operation of a social security system, the main social rights and duties of persons, basic conditions for their performance and the types of social services, including social and instructional assistance. 2. As social care is a responsibility of local government, but healthcare (except access to healthcare) is not, there is not much overlapping between these two areas in legal acts. However, there are some exceptions (for example, health points in social care and rehabilitation institutions).

CASE STUDIES

Estonia: uniform assessment system and criteria for referring people to welfare and health services

The National Audit Office audited the activity of the state in the organization of independent nursing care in 2013 and found that there is a lack of uniform criteria for the assessment of patients' health, which may result in the wrong type of care provided to the patient (including unclear funding model from the Municipal or National Health Insurance Fund). In 2013, of patients who received inpatient nursing care:

- 25% received the wrong and most expensive care;

- 37% of those who received the wrong service needed welfare services;
- 45% needed outpatient nursing care and/ or welfare services at home;
- 18% would have coped without any care.

To improve the situation two tasks were put forward to change the situation:

- Establish a uniform assessment system and criteria for referring people to welfare and health services;
- Combine the organization of the health and welfare system to guarantee the necessary and the cheapest service;
- Prepare a detailed plan and schedule;
- Consider whether to turn general nursing homes into state-owned institutions or whether to transfer the provision of the service to *AS Hoolekandeteenused*;
- Consider whether to finance the provision of independent nursing care and social welfare services from the state budget (National Audit Office of Estonia, 2015).

Sweden: incentives for patient discharge from hospital care

In Sweden, on average 4,4% of hospital days are spent by so-called “bed blocker” patients. As a solution for this issue, in 2018 the Swedish government introduced the “Act on cooperation at discharge from inpatient care” that entails the following:

- The definition of a safe and effective discharge process to minimize hospital stays;
- A clearly defined discharge procedure;
- Agreements with country councils/ municipalities on common guidelines for cooperation and planning for these patients;
- Clearly defined terms of financial liability of municipalities in accordance with the mutual agreement or on the 3rd day after the planned discharge of the patient (Zetterberg, 2016).

Norway: legal requirement for an individual care plan

Before the introduction of the Care Coordination Reform in 2002, care coordination was mostly realized on a case-level with very limited the institutional integration. The main objective of the Care Coordination Reform was to improve public health and improve health and social care service integration. The Care Coordination Reform also defined inter-institutional cooperation between hospitals and municipalities. Right now, in Norway, multiple laws include a requirement that every patient is entitled to an individual care plan that includes clear care plan goals, as well as a care coordination approach, if multiple caregivers are involved (Ahgren, 2014).

XXIV. Defining the role of municipalities

Relevant HCM objective	**<u>Objective #3:</u> to ensure integrated and appropriate care for patients.**

Objective	To define the role of local governments in the provision of health services to ensure a uniform and effective approach to municipality involvement and cooperation with the healthcare system. Considering that, as mentioned above, autonomous functions of local governments include both, access to healthcare and providing of social care, the municipalities must ensure certain level of cooperation when dealing with persons requiring both types of care.
As-is situation	The involvement of local governments in ensuring of access to healthcare differs between municipalities (Cabinet of Ministers, 2017). Most hospitals are municipality owned, which means that municipalities participate in management decision-making of hospitals and influence planning and decision-making processes. However, in practice, municipalities tend to limit their role in healthcare only to hospital ownership and ensuring physical accessibility (for example, premises for primary care).
Activities	1. Define the scope of the term "provide access" to promote a common understanding of the role of municipalities in healthcare, including: a. The role of municipalities in care coordination between care providers, including responsibilities when further care is not arranged within a given timeframe; b. Possible mechanisms for integrating decision making on social and healthcare issues; The Conceptual report "On the Reform of the Healthcare System" states that "access" consists of (1) financial access (2) geographic access, (3) administrative and organizational access. 2. Clarify the involvement of local governments in the transportation of patients' home or to another care provider from hospitals, especially regarding cases where relatives are unable to provide transportation. It is worth noting that in some cases this service is already provided by municipalities, however approaches differ.
Dependencies	N/ A
Principles	1. Capacity considerations: the demands placed on municipalities in the coordination of care after discharge from a hospital (if implemented) must be considered against existing capacity constraints in relevant institutions receiving patients (depending on how the abovementioned responsibilities are distributed). 2. Required resources: defining and/ or clarifying may result in additional functions for municipalities within healthcare, that can require additional resources (both financial and human resources). On the other hand, the required changes should aim to have a positive effect on the efficiency of both the healthcare and the social case sectors.

	3. Geographical considerations: given the fragmentation of Latvian municipalities, it is worth considering possible cooperation among multiple municipalities to more efficiently cover the territory relevant for healthcare institutions which often serve patients beyond the borders of their municipality.
Institutional arrangements	The necessary changes in regulation and definition of the role of municipalities should be carried out on a national level with participation of representatives from multiple sectors, including municipalities and ministries. These changes should also be aligned with the upcoming Municipality Reform in Latvia.
Feasibility	1. Stakeholder resistance: it is likely that redefining the role of municipalities will face significant stakeholder resistance. Therefore, the realization of this recommendation should aim to ensure maximum stakeholder buy-in during the analysis stage and throughout implementation.
Legal considerations	1. While the Law on Local Municipalities states some responsibility for the local government in healthcare, that role is limited to providing access to healthcare services and does not state any obligation to participate provision of secondary care. 2. Currently Article 151 of the Regulation No. 555 states that state budget funds intended for healthcare services shall not be paid for other services, including transportation expenses. Amendments to regulatory requirements should be made, and criteria when the transportation of patients to home or another healthcare institution is the responsibility and financial obligation of local governments must be included. 3. Considering that, as mentioned above, autonomous functions of local governments include both access to healthcare and provision of social care, municipalities are well placed to foster cooperation between both. 4. However, in practice municipalities tend to narrow their involvement in healthcare to hospital ownership and promotion of physical accessibility. 5. Such an approach does not promote cooperation between healthcare and social care segments, therefore the meaning of “ensuring of access” to healthcare services must be precisely defined in the Law on Municipalities. 6. Since both sectors (healthcare and welfare) are regulated by different legal acts, amendments should be introduced respectively. This means that respective amendments might be required not only in the Law on Social Services and Social Assistance, but also in Medical Treatment Law, Healthcare Financing Law as well as Regulation No. 555 imposing cooperation obligations on social care and healthcare institutions.

CASE STUDY

Denmark: municipality role in healthcare coordination

Because of a recent municipality reform, counties remained responsible for the planning and operating hospitals and contracting with providers practicing in private clinics, such as GPs, dentists, physiotherapists and medical personnel. Meanwhile, municipalities took over the responsibility for healthcare in the community from the counties, including health promotion, primary prevention, rehabilitation and care for patients with chronic conditions. Mandatory agreements between counties and municipalities were introduced to enhance coordination regarding admissions, discharge, rehabilitation and capacity.

Municipalities can also establish health centers which can provide health services by various providers to provide routine health services to citizens. These centers may focus on patients with chronic conditions which require frequent control, marginalized groups, rehabilitation, prevention and health promotion (Christiansen & Vrangbæk, 2017).

Norway: ordering office to direct patients to appropriate care providers

Care coordination after discharge from a hospital is organized through an ordering office: an institution in charge of collecting information on the availability of different care solutions and a formal decision-making authority on further care. Ordering offices were first introduced in municipalities around 2002. There are clear rules on how decisions on further care are made: (1) doctors supply ordering offices with information on the patient's condition, (2) based on this information ordering offices decide, (3) the decision may be discussed through a dialogue procedure. There are also financial incentives to provide further care fast: every 24 hours a patient discharge is delayed, municipalities must pay a fee (previously, municipalities had 10 days to plan further care) (La Rocca & Hoholm, 2017; Hesselink, Schoonhoven, & Plas, 2013).

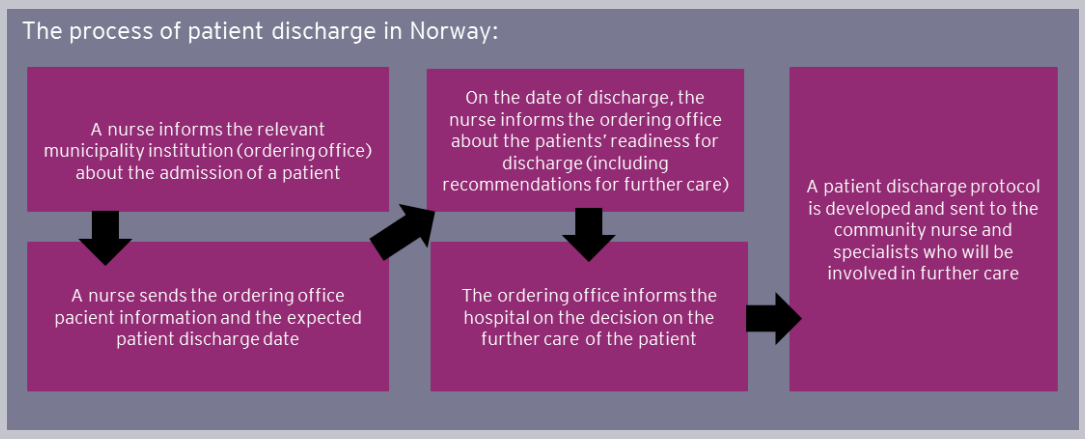


Figure 15 Patient discharge in Norway

Norway: integrated care model in Fosen

The peninsula of Fosen consists of seven municipalities, with a population of about 25 500 citizens where it might take one to three hours by boat or car to get to the nearest hospital. After nearly three decades of

development, a district medical center (Fosen DMC) and a public health center have been established. Fosen DMC provides services including inter-municipal health promotion, primary healthcare, a primary care on-call center and an outpatient specialist clinic and share-care ward. The key to the success of the operational care model is close cooperation with a large hospital on the Norwegian mainland, St. Olav's Hospital. The communication between the two healthcare units is well established through shared data, videoconferencing, an education program, consistent standards and protocols used in the DMC and the hospital, as well as some medical personnel sharing. An intermediate care facility has been created where people could be admitted for a few days and cared for by community primary care doctors working closely with hospital medical professionals. With the support of hospital specialists, the Fosen DMC is providing a comprehensive package of care and services closer to where residents live, thus minimizing the travel time, promoting patient-centered care, as well as avoiding costly admission to the acute hospital.

This transfer of services from the hospital to the community results in high satisfaction among both patients and staff, while also producing cost savings for the hospital (OECD, 2016).

France: improvement of cooperation for patients receiving care from multiple care providers

In France, special round-table discussions for coordination of integrated care take place involving stakeholders in the medical, psychological, social service, administrative and environmental fields at all levels of responsibility (national, regional, departmental, local and clinical). This mechanism seeks to overcome the traditional vertical organization of governance. The objective of the implementation of this approach is to have decision makers not only involved on the supply side, but also to holistically address population needs.

The management of every case is done by case managers, who follow-up on individuals in complex medical situations (Somme & de Stampa, 2011).

6.5.2.2 Long term

XXV. Strengthening the role of nurses, incl. in the coordination of continuity of care	
Relevant HCM objective	**<u>Objectives #2 and #3:</u> to ensure effective resource allocation by improving hospital cooperation; to ensure integrated and appropriate care for patients.**
Objective	To strengthen the role of nurses in hospitals and in care coordination with other institutions to deliver safe, high-quality, effective and efficient health services. Nurses are vital to protecting and improving health by ensuring access and continuity of care to patients (WHO, 2015).
As-is situation	According to estimates, Latvia currently lacks approximately 1500 nurses in hospitals and 3050 nurses overall. In the last 10 years, the number of registered

	working nurses has dropped by approximately 21%, while the number of nurses per 100 000 inhabitants is by 42% lower than on average in the EU (MoH, 2019b). The small nurse-to-doctor ratio prevents the full use of doctor's knowledge and experience, because the doctor must assume the role of the nurse, which creates intellectual losses in the system. There is also a high percentage of nurses who are close to retirement (20% of nurses are in pre-retirement and retirement age). In more rural areas the difference is even more pronounced. Compared to the optimum number of nurses in the country, by 2025 there will be a total deficit of about 3050 nurses (Cabinet of Ministers, 2017). Evidence-based practice shows that, based on patient's needs (levels of care), nursing practice can be expanded while changing the organization of work for patient care (WHO, 2015). National authorities in cooperation with the Nurse Association have performed analysis and prepared a Conceptual report of the required changes regarding strengthening the role of nurses and developed a Conceptual Report "On Further Development of the Nurse Profession".
Activities	2. Implement the recommendations defined in the Conceptual Report Report "On Further Development of the Nurse Profession", including: a. Development of a new occupational standard (general care nurse); b. Development of new approaches for nurse specialization through professional development programmes; c. Abolition of the certification process, including the replacement of nurse specialties and additional specialties with specialization (MoH, 2019a). 3. Develop unified national-level care level classification to support a common approach in evaluating patient needs and improving analysis and allocation of appropriate resources for care. 4. Ensure that a function for coordinating social care with healthcare is established in each hospital (in large hospitals this role is typically performed by a social worker, however, hospitals may determine individually the appropriate person(s) who fulfill this role).
Dependencies	Recommendation XXIII "Improve cooperation for patients receiving care from multiple care providers".
Principles	1. Remuneration levels: salaries for nurses must be appropriate and competitive to ensure that new graduates are motivated to pursue this profession. Annually

	around 250 people get nurse qualifications, however, only approximately 60 of them start working at hospitals (Cabinet of Ministers, 2017). 2. Fragmentation of nursing practice: according to the Conceptual report by the MoH, the aim by 2019 was to reduce the number of nursing specialties by combining all seven into one – a general nurse. The creation of such a base specialty would facilitate the change of patient care organization from a functional model to a group work model and encourage more mobility within the profession.
Institutional arrangements	Changes in the role of nurses in healthcare need to be made with national-level coordination and support (including securing political will for implementation of the developed recommendations).
Feasibility	1. Education and qualifications: different lengths of training, different levels of education obtained, as well as academic degrees to acquire the nursing specialty, creates confusion in the healthcare labor market (Cabinet of Ministers, 2017).

CASE STUDIES

Slovenia: care continuum and coordination nurses in the North-West region

In Slovenia the nurses have a list of obligations regarding the information coordination and healthcare provision that improve the cooperation between the hospital and out-patient care staff, as well as provides an effective patient discharge process (Nolte, Optimizing service delivery: ANALYSIS OF THE HEALTH SYSTEM IN SLOVENIA, 2015). A model for nurses as coordinators of post-discharge care from North-West region is considered an example of best practice in Slovenia.

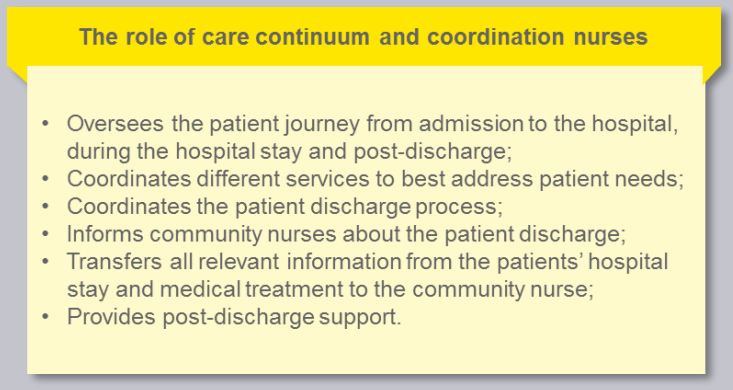


Figure 16 The role of care continuum and coordination nurses

The key benefits of this approach were:

- Enhanced coordination of care between the hospitals and community care;

- More streamlined and uniform patient discharge process (Ministry of Health of the Republic of Slovenia, 2016).

6.6 Guidelines for planning and provision of healthcare services in line with principles of strategic purchasing

The chosen approach to planning and provision of healthcare services incentivizes healthcare providers to act in a certain way. **Therefore, the purpose of this section is to provide guidelines for planning and provision of healthcare services in line with principles of strategic purchasing to foster effective and efficient hospital cooperation**. The recommendations within this section are based on existing literature, international practice, and of structured interviews with informed stakeholders in Latvia. This chapter contains recommendations on 4 main dimensions: payment methods, contracting forms, performance management and institutional arrangements.

6.6.1 Payment methods

Payment methods are a tool to create incentives to providers based on the policy goals of national authorities. **The purpose of this section is to provide recommendations for improving existing payment methods by taking into consideration the technical capacity of the MoH and its subordinate institutions**. Importantly, while the principles for procurement set out by the MoH already are taken into consideration, proposals for possible changes are also considered.

6.6.1.1 As-is situation

According to Cabinet Regulation No. 555, hospitals are paid according to the defined hospital levels and profiles as stated in Annex 6. For some services additional requirements apply, for example, a set minimum of birth cases for obstetrics, services subject to strategic purchasing and if the hospital in question contracts another hospital to provide the service in question. **Hospitals in Latvia are payed according to the predicted number of patients through a mixture of methods:**

- Monthly fixed payments for services which have per-patient tariffs;
- Monthly fixed payments according to DRG;
- Monthly fixed payments for hospital admissions departments;
- Monthly fixed payments for patient observation for 24 hours;
- Payments according to bed days for patients in need of artificial lung ventilation (Strizrep & Alaka, 2016; NHS, 2018; MoH, 2015).

According to the World Bank, the current system does not sufficiently distinguish between different levels of complexity of cases and non-acute and acute inpatient episodes (Holla, Rabie, & Sales, 2016). Moreover, current tariffs are not calculated based on cost calculations conducted in hospitals according to a common methodology.

As a result, the existing system hinders optimal distribution of services, which in turn can disincentivize appropriate and cost-effective collaboration.

The payment model in Latvia is relatively inflexible and does little to motivate better performance (apart from select strategic procurements and some performance payments for GPs) or to sanction poor results. **Therefore, new provider payment mechanisms need to be implemented to improve performance and promote cooperation through a move towards more strategic purchasing** (World Bank, 2016b).

Overall, the World Bank and conclusions from project focus groups, interviews and desk research indicate that the system currently lacks sufficient level of detail in classification of services for determining payments that incentivize efficient hospital behavior. For example, Latvia currently needs to improve payment mechanisms for outlier cases (e.g. patients with extremely high or low costs) and define clinical criteria for differentiation between acute and non-acute inpatient episodes. Moreover, some services that should be subject to different DRG codes are compensated with the same amount, thus indicating insufficient recognition of different levels of complexity (for example, the lack of distinction between different levels of intensive care) (Strizrep & Alaka, 2016).

Lack of evidence-based tariff-setting makes directing patients to the appropriate provider difficult, as hospitals may lack incentive to treat specific types of patients and opt to transfer them to higher level hospitals. In 2017, the NHS reviewed tariff formulas for most manipulations and case-based payment programs. Moreover, Guidelines for Inpatient Healthcare Service Providers for the Establishment of a Common Expense Recording System and Methodology for Inpatient Healthcare Service Providers for the Establishment of a Common Expense Recording System have been developed and are available on the NHS website, While some efforts to collect actual cost data from hospitals have been made, progress remains limited, as hospitals do not systematically calculate actual costs based on a uniform methodology (NHS, 2018). Hence a precondition for developing a well-functioning payment system that motivates hospitals to provide services efficiently (collaborating where needed) is systematic collection of actual cost data prepared according to a common methodology (Strizrep & Alaka, 2016).

Recommendations for improvements in the current payment system should also take into consideration the existing technical capabilities of national authorities in Latvia. Therefore, several recommendations presented concern the prerequisites needed for developing an effective provider payment system (such as gathering actual cost data and adoption of a more detailed classification of services) instead of changes in payment mechanisms per se. It is also worth noting that improvements in the financing system also depend on the adoption of clinical algorithms, guidelines, pathways and standards as well as overall improvements in hospital network monitoring.

6.6.1.2 Practical recommendations

Objective	As-is situation	Description of the proposed improvements	Dependencies
XXVI. Payment for outlier cases			
To ensure that hospitals are not discouraged from taking on potentially high cost cases or lose money while treating them, due to the lack of an appropriate payment approach.	Latvia currently needs to improve specific payment mechanisms for outlier cases (e.g. patients with extremely high or low costs). Insufficient incentives to treat high-cost cases can result in patients being directed to higher level hospitals (even if treatment could have potentially been delivered at the lower level hospital).	While a system that separates outliers based on a clinically relevant category may seem preferable, it is also more difficult to implement and monitor. Therefore, when considering options for improvement different models may be evaluated, such as (1) additional payment, (2) payment according to the complexity of the case, or (3) setting different payment rates for acute and non-acute inpatient cases (World Bank, 2016).	N/ A
XXVII. Payment for patient transfers and patients receiving care from multiple providers			
To aid care integration and motivate care providers by developing an appropriate financing model for patient transfers.	The division of responsibilities and the funding arrangements are not clearly defined if the patient receives care from multiple institutions. This is partially due to the lack of developed clinical pathways, which could be linked to payments. Unclear funding mechanisms or misaligned incentives can hinder to allocation of patients to the most appropriate (both from a quality and resource efficiency perspective) care provider (for example, by delaying patient transfers to lower level hospitals for post-acute inpatient care).	Ideally, financing mechanisms should be linked with patient pathways, however, in the status quo financing mechanisms should be defined regardless where patient pathways are not available. Review of the funding mechanism should aim to address: ► Planned patient transfers between hospitals; ► A clear approach for funding care from multiple providers, for example, (1) a single medical institution receives a payment for a patient and makes an inter-hospital settlement, (2) each hospital	Recommendations XI "Patient transfers from higher to lower level hospitals with current capacity", XIV "Integrated care for patients receiving care from multiple hospitals", XXIII "Improve cooperation for patients receiving care from multiple care providers".

Objective	As-is situation	Description of the proposed improvements	Dependencies
		receives a fraction of payment or (3) a distinction is created between services provided by different providers and recorded and funded as separate cases (World Bank, 2016).	
XXVIII. Separate classification of acute and non-acute inpatient cases			
To ensure better decision-making on resource allocation by separate classification of acute and non-acute inpatient cases.	Currently the distinction between patients who need acute and non-acute inpatient care (i.e. patients whose category changes) is determined through a recording documentation annex, where it is indicated if the patient is non-acute. Currently, there is a lack of common clinical criteria for determining when a patient's category changes from acute to non-acute and lack of clear mechanisms for patient transfer (including financing).	► Determine patient transfer mechanisms and a clear funding approach to motivate effective patient transfers. ► Define clinical criteria for determining the category change and possibility for transfer to chronic care. ► Analyze the number of non-acute patients to identify the need for strengthening other forms of care (including chronic care) and cooperation with municipalities (World Bank, 2016).	Recommendations XI "Patient transfers from higher to lower level hospitals with current capacity", XIV "Integrated care for patients receiving care from multiple hospitals".
XXIX. Improvement in the DRG system			
To align provider incentives with optimal resource allocation and service delivery.	Latvia has been using DRGs since 2014, however it is still combined with several "earmarked service programs", where diagnoses that would otherwise be assigned different DRGs are payed at the same rate. These programs include very expensive or specific services, which can only be abolished if the DRG system is improved to account for very expensive and specific	Improve DRG system and related instruments, incl. the abandonment of service payment programs where the diagnosis and procedures with different DRGs are paid at the same rate (which can only be achieved by pursuing broader DRG system improvements). Moreover, according to the World Bank, Latvia could also benefit	Recommendations *XXXV* "*Improvement of the overall monitoring system and use of data*", *XXX* "*Calculation and use of actual costs for services and tariffs*".

Objective	As-is situation	Description of the proposed improvements	Dependencies
	cases (for example, kidney and heart transplantation). Tariffs are generally not set according to actual costing data, and as a result, mismatches between payment rates and actual costs distort the incentives of hospitals for providing services that are currently underpaid relative to costs.	from implementing rules for admissions (to control for potentially unnecessary admissions where cost effective alternatives exist), recommended upper and lower length of stay margins, adjustments for transfers and outlier payments (European Observatory on Health Systems and Policies, n.d.c; World Bank, 2016).	

CASE STUDY

Slovenia: DRG implementation

Before the implementation of DRG based payments in 2004, Slovenia used prospective planning-based payments linked to the number of inpatient cases. The main reasons for implementation included:

- Insufficient granularity in classification of services;
- Different pricing for similar services based on the provider;
- Insufficient/ ineffective monitoring of hospital activity.

The DRG system allowed Slovenia to transfer to a more transparent and equitable payment system with a more detailed classification of services. In the 5 years from 2003 to 2008, Slovenia achieved more cost-effective admissions, reduced ALOS by 18.5% and decreased waiting lists by 31%.

Due to the administrative burden and lack of standardized rules of accounting, costing analysis was not immediately implemented. Instead, Slovenia opted for a highly participatory model of projecting costs based on previously defined weight groups. The Slovenian DRG system is based on Australian Refined (AR-) DRGs with imported Australian cost-weights. Moreover, adjustments for long and short-stay outliers, readmissions and transfers are not implemented (Holla, Rabie, & Sales, 2016; Marušič, Rupel, & Ceglar, 2013; World Bank, 2016).

Hospitals receive reimbursement based on the total number of cases and DRG weights. Annual budgets are divided by 12 and paid monthly. In practice, hospitals often exceed the budget cap before the end of the year and are rarely paid for DRGs provided in excess of the planned amount. As hospitals are mostly government owned, the government is also ultimately responsible for deficits and has, at times, covered hospital debts, although not systematically (Quentin, Panteli, Anna, & van Ginneken, 2015).

XXX. Calculation and use of actual costs for services and tariffs

To obtain reliable data for tariff revision and better allocation of	Data on actual cost of services is not systematically calculated, collected and analyzed, which results in tariffs that are not aligned with actual costs,	► Pilot cost calculation in selected hospitals to obtain empirical evidence for tariff review.	N/ A

Objective	As-is situation	Description of the proposed improvements	Dependencies
financial resources. Cost information is essential for developing and updating DRG based payments.	and can lead to inefficient distribution of services. According to the NHS, some efforts have been made to collect existing actual cost data from hospitals (in particular, Guidelines for Inpatient Healthcare Service Providers for the Establishment of a Common Expense Recording System and Methodology for Inpatient Healthcare Service Providers for the Establishment of a Common Expense Recording System have been developed and are available on the NHS website), however due to a lack of a common methodology, the results are not comparable.	► Revise tariffs according to obtained cost estimates.	
XXXI. Payment for patient transfers			
To incentivize resource-efficient patient transfers according to the needs of the patient.	Article 96 of Cabined Regulation No. 555 states that if a patient has medical indications for receiving inpatient care provided by a higher-level inpatient medical institution, the hospital shall ensure the transfer of the person to the hospital for an appropriate level hospital, which is provided by the SEMS in emergency cases. Non-emergency transfer costs currently must be covered by service providers (hospitals) and they are not compensated from the state budget. The issue of patient transportation from higher-level hospital to a lower-level hospital is not regulated at all.	► Define a clear procedure and criteria for patient transfers from higher to lower level institutions, including on payment.	Recommendations *XI* "*Patient transfers from higher to lower level hospitals with current capacity", XIV "Integrated care for patients receiving care from multiple hospitals".*

6.6.2 Contracting forms

A shift in how services are compensated necessarily entails changing the purchaser-provider contracting form. Contracts should set clear conditions for payment of services that effectively manage the volume and mix of services provided. **The purpose of this section is to define methodologies to define contracting for volume and service-mix according to the needs of the population and consider options for selective contracting to ensure quality and reward good performance**. Given existing resource constraints in Latvia, ideally, the contracting form should also help to manage existing budget constraints.

6.6.2.1 As-is situation

According to the World Bank, a move towards strategic purchasing in the case of Latvia is critical to create a mechanism through which continuous healthcare performance improvements may be facilitated (Holla, Rabie, & Sales, 2016; World Bank, 2016b). Strategic purchasing can facilitate overall higher efficiency in service provision, thus also enabling better management of limited healthcare resources (WHO, n.d.)]. Regarding cooperation, strategic purchasing can be a valuable tool for incentivizing patient transfers between hospitals and cooperation in care delivery. The specific health financing reforms proposed by the World Bank are:

- A move from passive to strategic purchasing to drive patient volume by referencing them in agreements with providers and ensuring compliance with admission protocols and referral guidelines through appropriate compensation and incentives;
- Include performance measures in agreements with providers;
- Ensure adequate and transparent compensation for quality and efficiency (e.g. by allowing hospitals to reinvest some of their efficiency savings) (World Bank, 2016b).

As a response to these recommendations, Latvia implemented strategic purchasing in some specific service categories: planned inpatient oncological care (2017), outpatient mammography (2017), medical fertilization (2017), positron emission tomography with computer tomograph (2018), inpatient rehabilitation services (2018-2019) (NHS, 2018; National Reform Programme, 2018). The latest strategic procurement procedure (medical rehabilitation services in inpatient, day care and outpatient care) was organized according to Articles 5.2., 5.3.2. of the Cabinet Regulation No. 555 and Article 4.1.1 of the Cabinet Regulation No. 850 “Regulation of the National Health Service”. Cabinet Regulation No. 555 sets out the legal basis for implementing strategic purchasing in the provision of inpatient healthcare services. Payment for services is performed in accordance with provisions of Appendix 14. However, despite the progress, multiple challenges with current strategic procurement procedures were identified during this project:

- Strategic procurement has limited effect in motivating efficiency and quality gains in service categories where existing capacity is insufficient;

- Strategic purchasing limits the possibility of hospitals to plan investment in the long-term (due to lack of clarity on which services will be subject to strategic purchasing in the future and what criteria will be used for evaluation);
- Strategic purchasing creates a large administrative burden both for NHS and providers in the approval of requirements and during evaluation of providers.

Another potential mechanism to incentivize cooperation is contracting multiple healthcare providers at once. This approach would align with the stated goal of the MoH and NHS to reduce the number of total contracts signed with healthcare providers in the long-term. However, there are concerns over the disproportionate power that could be wielded by the main contracting hospitals (most likely, regional, specialized and university hospitals). One positive example of where cooperation has been incentivized through strategic procurement is cooperation between RECUH and Vidzeme Hospital in the provision of planned inpatient oncological care. RECUH is the contracting party to the NHS and provides methodological oversight, while some services are carried out by healthcare personnel in Vidzeme Hospital.

Finally, contracting requirements should be transparent and possible to monitor from both the provider and the purchaser side (including sufficient technical capacity). Providers need to be assured that contracting is consistent and fair, while the NHS should be able to rely on accurate and timely information for monitoring (World Bank & IBRD, 2009).

6.6.2.2 Practical recommendations

Objective	As-is situation	Description of the proposed improvements	Dependencies
XXXII. Strategic purchasing			
To achieve improved healthcare system performance and improve responsiveness to patient needs, equity of access and efficient resource utilization (Sanderson, Lonsdale, & Mannion, 2019).	According to World Bank recommendations, the existing Latvian financing model does not create enough opportunities and motivation for service providers to improve their performance (World Bank, 2016b). Thus far, strategic purchasing has been implemented in the following areas: oncological treatment in inpatient medical treatment facilities (2017), outpatient mammography	Continue pursuing strategic purchasing in selected services where capacity constraints do not negate possible benefits from selective contracting. In the long-term consider establishing a purchasing strategy based on population needs and monitoring of service provider capacity for a 3-5-year period and annual purchasing plans to signal to providers clear priorities for strategic purchasing	Development and implementation of the Healthcare Performance Management (HCPM) system.

Objective	As-is situation	Description of the proposed improvements	Dependencies
	(2017), medical fertilization (2017); positron emission tomography with computer tomograph (2018), medical rehabilitation services in inpatient, inpatient and outpatient care (2018/ 2019). According to focus group conclusions, there are multiple barriers to strategic purchasing, including insufficient capacity in some services that limits possible gains from selective purchasing and difficulties for hospitals to plan their investment and development due to a lack of clarity on future strategic procurements and their criteria.	(Quentin, Panteli, Anna, & van Ginneken, 2015).	

CASE STUDY

Estonia: Implementation of strategic purchasing

Estonia adopted strategic purchasing in 2014 in specialist care. The reform was aimed at shifting criteria for purchasing from historical supply to population needs-based, to improve quality, promote concentration of care and improve access. For an example of criteria from general surgery procurement:

- Lower price (price reductions >10%);
- Penalties (no penalties);
- Arrears of taxes (no arrears of taxes);
- Corrective actions by the Health Board (no corrective actions);
- Petitions to the expert commission on quality of care (no justified petitions);
- Connection to eHealth (data submitted to the eHealth);
- Share of accredited doctors (all doctors certified);
- Comprehensive care provision (contract includes outpatient and inpatient care);
- Share of surgeons who have been doing surgeries (>90% of surgeons have performed surgeries);
- Share of diagnostic tests and procedures (above the average);
- Share of doctors working in the inpatient care setting (>90% of doctors working in inpatient setting);
- Workload (Habicht, Habicht, & van Ginneken, 2015).

Objective	As-is situation	Description of the proposed improvements	Dependencies
XXXIII. Use of cooperation contracts to motivate collaboration between hospitals			
To motivate collaboration between hospitals in the provision of services.	Despite some positive examples (e.g. cooperation in providing oncological surgery services is implemented between Vidzeme Hospital and RECUH), the contracting form does not provide sufficient incentives for hospitals to collaborate in the provision of services (e.g. providing a service within the collaboration area rather than on individual hospital level).	In areas where capacity constraints do not negate possible benefits from strategic purchasing, the inclusion of incentives for collaboration can be integrated in strategic purchasing mechanisms. Strategic purchasing can be promoted through use of either explicit criteria (e.g. contracts only awarded to hospitals who collaborate with other hospitals in service delivery) or implicit criteria (setting demanding enough criteria that they can only be fulfilled through collaboration, for example, through criteria for volume or service mix).	*XIV. Integrated care for patients receiving care from multiple hospitals* Recommendations *XXIII* "*Improve cooperation for patients receiving care from multiple care providers*", XXXII "Strategic purchasing".
XXXIV. Use of a cooperation contracts to motivate collaboration between different care providers			
To motivate collaboration between different types of service providers (e.g. including primary, secondary and social care).	The contracting form between providers and the NHS does not provide sufficient incentives for different healthcare providers to collaborate in the provision of services.	The prerequisite for contracting with multiple providers within a chain of services is clear definition of standards of care, responsibilities and mechanisms for patient transfers required from each provider. It also follows that administrative arrangements such as payment processes and dispute resolution should also be defined. The recommended form for agreeing on these aspects is the development of protocols, patient journey mapping and clarification of each provider's role in patient pathways (World Bank, 2016).	Recommendation *XXIII* "*Improve cooperation for patients receiving care from multiple care providers*".

6.6.3 Performance measurement

The purpose of this section is to suggest guidelines on the set-up and maintenance of an effective performance measurement system. Lastly, in this section we will also address general recommendations for the supervision of provider payment system, including such prerequisites for a well-functioning monitoring system as data collection on existing workloads and total income of providers.

6.6.3.1 As-is situation

Requirements and indicators to promote cooperation in strategic purchasing can be defined to work in one of 2 ways: implicitly (indicators that set requirements that are easier for hospitals to fulfil when cooperating) or explicitly (directly demanding cooperation among hospitals). Given that cooperation is not an end, but rather a mechanism to promote better policy outcomes (efficient resource allocation, quality and accessibility) the former approach may seem preferable, as it allows flexibility in how those outcomes are reached. However, it may be more difficult to define and control such measures. It is also worth noting that strategic procurement is only one of the potential ways to incentivize cooperation, and should be considered against other mechanisms, such as regulatory requirements, other financing mechanisms, or broader changes to incentive structures via the legal and ownership form of hospitals.

Cooperation is not the direct objective of strategic purchasing currently and requirements do not explicitly include cooperation with other hospitals as a criterion. The planned inpatient oncological care, for example, included criteria for service providers (locations, number of manipulations in the hospital and by surgeons), requirements for service organization (e.g. 24/ 7 patient supervision, waiting times for at least 80% of specified surgeries cannot exceed 21 days from approving the treatment strategy) and quality criteria. The only requirements that directly related to cross-institutional cooperation were that the healthcare institution must provide all specified services itself or ensure that they are provided in another institution within 21 days and that the further treatment strategy and other relevant information, including recipes and referrals, are provided to patients upon discharge.

Furthermore, any purchasing mechanism should also be monitored to provide incentives for the system to work as intended. Regulatory agencies, the NHS and providers all need to take part in ensuring that healthcare funds are spent effectively. Of course, as for-profit institutions, hospitals already have some incentives to ensure effectiveness, however most hospitals are publicly owned. As a result, state and local authorities often intervene to finance growing debts, thus weakening this incentive (Bondarenko, Matvieiev, & Zahurulko, 2018). Additionally, monitoring is needed to avoid perverse incentives implicit in some payment mechanisms (such as, increasing the number of admissions, attempting to filter complex cases by unnecessarily forwarding them to higher level hospitals, undertreatment of cases and/ or premature discharge) (World Bank & IBRD, 2009; Strizrep & Alaka, 2016).

6.6.3.2 Practical recommendations

Objective	As-is situation	Description of the proposed improvements	Dependencies
XXXV. Improvement of the overall monitoring system and use of data			
To supervise the effectiveness of the payment system and to incentivize care providers to perform according to principles set-out by national authorities (e.g. by avoiding misclassifications or unnecessary hospital admissions).	Data from monitoring and audit activities are not currently systematically used, although some of the information already reported by hospitals could be used for monitoring activities.	To assess the effectiveness of the payment system and the incentives it provides, national authorities should consider strengthening the monitoring and auditing system, including: ► Strengthening the internal audit capacity of hospitals; ► Auditing of DRG assignment (whether hospitals are classifying patients in a way that results in higher cost rates than appropriate). More systematic monitoring requires 2 main elements: requirements for reporting (collecting) the appropriate information from care providers and a possibility to verify that the reported information is accurate (MoH, 2017; World Bank, 2016).	N/ A
CASE STUDY			
Sweden: DRG case record audits			
In total, about 90% of inpatients in Sweden are grouped into DRGs, and 65% are financed through DRGs. Swedish county councils are not only responsible for primary coding of and registration of DRGs at hospitals, but also for checking the quality of the results of the DRG-grouped data by means case record audits. Some of the county councils carry out audits of case records on regular basis to identify incorrect coding. The process in place if fraud is identified in the records differs from county to county. In most cases the hospital or private clinic will be obligated to pay back the discrepancy. Very few cases of up-coding occur because of the small number of private hospitals in Sweden. However, a problem still exists in terms of 'down-coding' (due not to failings of the financial system, but rather the tradition of entering only few codes into the system). At national level, the authorities encourage hospitals to operate better coding practices, which has often led to a greater number of registered secondary diagnoses per case. Systematic selection of patients for financial reasons has not occurred in public hospitals but has occurred to some degree among private providers in Stockholm. Several record audits in Sweden (2300 medical records altogether) show that abuse of secondary diagnosis coding can create an increase, but also (at the same time) a decrease in DRG weights compared with accurate coding. Audits have led to adjustments in			

Objective	As-is situation	Description of the proposed improvements	Dependencies
reimbursement to hospitals and other providers of healthcare. Most wrong-coding is not in fact a sign of abuse of the system, but rather a matter of ignorance. Coding quality has improved and continues to improve in Sweden, even though it is not considered to be a significant problem, especially in terms of up-coding, but the problems remains relating to too few diagnoses and procedures being coded. As such, there are attempts to introduce more time for coding issues in physicians' education programmes, and many county councils are educating their medical secretaries in coding and encouraging them to play a larger role in this field (Serdén & Heurgren, 2011).			

6.6.4 Institutional arrangements

Institutional arrangements are key in how purchasing methods are designed, incentive structures managed and how providers are monitored. **The purpose of this section is to outline options for institutional arrangements linked with strategic purchasing highlighting the potential benefits and drawbacks**. The as-is analysis and recommendations aim to reflect on the purchaser-provider split, governance arrangements of strategic purchasing, decision rights and autonomy of providers and roles and responsibilities.

6.6.4.1 As-is situation

Latvia has a purchaser-provider split where the NHS is the only third-party purchaser of primary, secondary, tertiary and hospital-based emergency care services (OECD/European Observatory on Health Systems and Policies, 2017). According to the Law on Healthcare Financing, the NHS is responsible for administration and supervision of the use of the available public funding for healthcare services. Moreover, the NHS analyses healthcare financial indicators, service volume and needs.

Design of requirements for provider payments is best carried out through collaborative work with healthcare professionals. According to the World Bank, to pursue a better design and review process consultative bodies in Latvia need to be strengthened and monitoring capabilities improved. A key element for ensuring this is close collaboration and experience sharing, both within the Latvian system as well as with other countries (Strizrep & Alaka, 2016).

A prerequisite for managing the purchaser-provider relationship is having a realistic picture of what demand and supply of services exists. As outlined in section 6.3.1, current hospital profiles and the Hospitalization Plan go a long way to define what services should be available in each hospital. However, due to both limitations stated by hospitals in the Hospitalization Plan and more ad hoc changes (e.g. a profile is not possible to ensure due to a specialist being sick), regular changes occur in service availability, which are recorded by the SEMS. According to focus group discussions, currently, if a hospital does not provide a specific profile

during a given time, SEMS brings the patient elsewhere and the hospital where the patient would have otherwise been admitted does not face any consequences.

Therefore, it's necessary to consider how demand and supply of services could be monitored from a governance perspective. The development of a governance mechanism to better align existing mismatches could also help to ensure supervision during contract negotiations, including cases where NHS chooses to contract multiple providers at once and there is need to ensure that the main contractor does not exert excessive influence over the division of services and among subcontractor/ other consortia hospitals.

6.6.4.2 Practical recommendations

Objective	As-is situation	Description of the proposed improvements	Dependencies
XXXVI. Institutional arrangements			
To facilitate better monitoring of population needs and capacity, and to supervise and improve negotiations on cooperation between hospitals.	Currently, the supervision of the hospital network is performed centrally: cooperation contracts are evaluated by the MoH, while purchasing of services is conducted by the NHS (the NHS Charter states that one of the roles of the service is to analyze the healthcare service finance and volume indicators, forecast service volumes and evaluate service needs).	Consider strengthening supervision of service availability and population needs under the NHS that could oversee the implementation of cooperation mechanisms (including negotiations on consortia agreements for hospitals to jointly provide services to avoid excessive power being wielded by larger hospitals).	Recommendation XXXVII "Decision rights and autonomy".
XXXVII. Decision rights and autonomy			
To create control mechanisms to limit the excessive influence of larger hospitals in negotiations between providers and ensure appropriate service distribution.	Cabinet Regulation No. 555 state that hospitals have the right to agree (by concluding a respective contract) with another medical treatment institution on the delivery of necessary healthcare services, including agreeing on a mutual settlement	If strategic procurement is used to promote cooperation between hospitals in the provision of services, multiple considerations should be considered: ► The negotiation process of hospitals choosing to provide services together should be supervised to avoid excessive influence that may result in unfair or sub-optimal (in terms of efficiency, quality and	Recommendation XXXVI "Institutional arrangements ".

Objective	As-is situation	Description of the proposed improvements	Dependencies
	procedure and informing the NHS.	accessibility dimensions) distribution of services from some hospitals; ► The overall territorial distribution of services must be reasonable (hospitals should not be able to distribute services in between themselves in a way that threatens accessibility). Therefore, while a mechanism that allows for flexibility in how hospitals choose to contract between themselves can create some positive incentives (in particular, for efficiency), national authorities should consider implementing some controls (see XXXVI. Institutional arrangements).	

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8 Appendix

8.1 Appendix 1. List of focus group participants and discussed topics

For a list of institutions represented in focus groups, see Table 3.

Table 3 Institutions represented in focus groups

Focus group	Date	Represented institutions
Focus group 1 "Definition of potential cooperation areas (I)"	**27.11.2018.**	*Institutions represented in the focus group were MoH, NHS, Kuldiga Hospital, Limbazi Hospital, Bauska Hospital, Rezekne Hospital, Jekabpils Regional Hospital, Cesis District Hospital, Pauls Stradiņš Clinical University Hospital (PSCUH), HTO and Riga East Clinical University Hospital (RECUH). The focus group was moderated by EY.*
Focus group 2 "Definition of potential cooperation areas (II)"	**28.11.2018.**	*Institutions represented in the focus group were MoH, NHS, Kuldiga Hospital, Limbazi Hospital, Bauska Hospital, Jekabpils Regional Hospital, Cesis District Hospital, PSCUH, RECUH, HTO, LDA and SEMS. The focus group was moderated by EY.*
Focus group 3 "Definition of concrete cooperation mechanisms for support processes"	**12.12.2018.**	*Institutions represented in the focus group were Limbazi Hospital, Bauska Hospital, Cesis District Hospital, Preili Hospital, Rezekne Hospital, PSCUH, RECUH and HTO. The focus group was moderated by EY.*
Focus group 4 "Definition of concrete cooperation mechanisms for functions"	**16.01.2019.**	*Institutions represented in the focus group were MoH, NHS, Cesis District Hospital, Kuldiga Hospital, Preili Hospital, Rezekne Hospital, NHCV, SEMS, PSCUH, HTO, RECUH and Riga Children's Clinical University Hospital (RCCUH). The focus group was moderated by EY.*
Focus group 5 "Cooperation with other key stakeholders"	**14.02.2019.**	*Institutions represented in the focus group were NHS, MoW, Riga City Council, Jelgava City Council, Bauska Hospital, Cesis District Hospital, Preili Hospital, Kuldiga Hospital, Limbazi Hospital, NHCV, RCCUH, HTO and PSCUH. The focus group*

Focus group	Date	Represented institutions
		was moderated by EY and attended by the law firm "Kronbergs Cukste Levin" (KCL).
Focus group 6 "Strategic purchasing"	**26.02.2019.**	*Institutions represented in the focus group were NHS, Kuldiga Hospital, Limbazi Hospital, Bauska Hospital, Rezekne Hospital, Preili Hospital, Cesis District Hospital, PSCUH, RECUH, and RCCUH. The focus group was moderated by EY and attended by the law firm KCL.*
Focus group 7 "Governance and implementation of the HCM"	**27.02.2019.**	*Institutions represented in the focus group were Cesis District Hospital, Preili Hospital, PSCUH, RECUH, and RCCUH. The focus group was moderated by EY and attended by the law firm KCL.*

For a list of key questions/ topics addressed during focus groups, see Table 4.

Table 4 Topics discussed during focus groups

Focus group	Date	Topics discussed
Focus group 1 "Definition of potential cooperation areas (I)"	**27.11.2018.**	**Purpose of the focus groups:** to assess problems and identify the main areas where cooperation could bring the biggest added value.
Focus group 2 "Definition of potential cooperation areas (II)"	**28.11.2018.**	**Topics discussed:** ► Potential cooperation areas in support functions: ○ Patient information archiving; ○ Technical maintenance of infrastructure; ○ HR management (e.g. joint training planning and implementation, remuneration and benefits policy alignment, specialist sharing); ○ Quality management; ○ Project management;

Focus group	Date	Topics discussed
		○ Procurement of goods and services (e.g. catering services, laundry, waste recycling, medicines, medical equipment, IT systems); ○ IT system development planning; ○ IT system maintenance and IT support. ► Potential cooperation areas in core functions: ○ Patient flow organization; ○ Provision of planned consultative support between hospitals; ○ Standardization of and cooperation in diagnostic services. ► Potential improvements in cooperation with other stakeholders: ○ With social care providers; ○ With primary care providers (especially GPs).
Focus group 3 "Definition of concrete cooperation mechanisms for support processes"	**12.12.2018.**	**Purpose of the focus group:** to identify concrete potential cooperation mechanisms in support functions. **Topics discussed:** ► Cooperation in infrastructure maintenance (e.g. repair and supervision of medical equipment, technical maintenance of infrastructure, construction and repairs, fire safety); ► Cooperation in infrastructure use (e.g. sharing of premises, equipment, etc.); ► Cooperation in hospitality services (e.g. catering, laundry services, cleaning); ► Cooperation mechanisms in legal support (e.g. contract preparation, procurement, litigation, real estate management); ► Cooperation in finance and accounting (e.g. financial planning and analysis, accounting, statistics); ► Cooperation in HR management (e.g. remuneration and motivation system, employee performance evaluation system,

Focus group	Date	Topics discussed
		career development system, employee recruitment and retention system); ► Cooperation in record keeping and archive maintenance; ► Cooperation in customer service (e.g. registration, call centers); ► Cooperation in work safety; ► Cooperation in quality management; ► Cooperation in internal audit; ► Cooperation in public relations; ► Cooperation in IT (e.g. IT development planning, IT system procurement, maintenance and IT support, data protection).
Focus group 4 "Definition of concrete cooperation mechanisms for core functions"	**16.01.2019.**	**Purpose of the focus group:** to identify concrete potential cooperation mechanisms in core functions. **Topics discussed:** ► Cooperation between hospitals, including: o Cooperation in regional service distribution planning; o Consultative support; o Healthcare personnel sharing between hospitals; o Patient transfers between hospitals (emergency transfers and planned transfers); o Cooperation in performing diagnostics, including possible centralization of interpretation of diagnostics; o Cooperation in service delivery, if services can be delivered by multiple hospitals (e.g. acute inpatient care delivered in a university or specialized hospital, non-acute inpatient care delivered in a local hospital); ► Cooperation between hospitals and providers of rehabilitation services; ► Cooperation between hospitals and providers of long-term care, such as care for chronic diseases;

Focus group	Date	Topics discussed
Focus group 5 "Cooperation with other key stakeholders"	**14.02.2019.**	**Purpose of the focus group:** to identify potential cooperation mechanisms with stakeholders. **Topics discussed:** ► National level decision making regarding multidisciplinary care, including cooperation between MoW, MoH and MoI; ► The role and responsibilities of municipalities in the provision of care (both healthcare and social care); ► Cooperation between hospitals and GPs/ GPAs; ► Cooperation with the providers of social care and care at home (roles and responsibilities, information sharing, financing); ► Cooperation between hospitals and providers of rehabilitation services; ► Cooperation between hospitals and providers of long-term care, such as care for chronic diseases; ► Patient transfers between hospitals and other care providers/ home; ► Examples of cooperation between stakeholders from international practice.
Focus group 6 "Strategic purchasing"	**26.02.2019.**	**Purpose of the focus group:** to develop recommendations for the improvement of planning and provision of healthcare services to ensure effective hospital cooperation. **Topics discussed:** ► Policy mechanisms in strategic purchasing to impact provider behavior; ► Current experience with strategic purchasing in Latvia, including main challenges (administrative burden, difficulty planning hospital budgets and investments, limitations of strategic purchasing due to limited capacity); ► Payment methods (providing the correct incentives and division of financing between multiple providers, need for

Focus group	Date	Topics discussed
		evidence-based tariffs, more detailed classification of services); ▶ Contracting forms (including linking contracts with clinical guidelines and pathways, quality criteria, rewarding performance improvement); ▶ Performance measurement and supervision (supervision of indicators included in strategic purchasing contracts, supervision of provider performance and auditing); ▶ Institutional arrangements, including provider participation in the planning and development of strategic purchasing requirements; ▶ Discussion of World Bank recommendations for provider payment; ▶ Examples of payment methods, contracting forms and institutional arrangements from international practice.
Focus group 7 "Governance and implementation of the HCM"	**27.02.2019.**	**Purpose of the focus group:** to define the governance approach for hospital cooperation and to set priorities for the implementation of activities. **Topics discussed:** ▶ Review of proposed recommendations, root causes and main problems identified during focus groups; ▶ Definition of short and long-term objectives of the HCM; ▶ KPIs to measure and analyze the implementation of the HCM; ▶ Possible legal forms of cooperation, including cooperation contracts, inclusion of provision for cooperation in legislation, financing mechanisms to incentivize cooperation; ▶ The incentives created by the current hospital ownership structure; ▶ Possible division of roles and responsibilities on a national, collaboration area and local level; ▶ Priorities and sequence for implementing recommendations;

Focus group	Date	Topics discussed
		▶ Examples of governance mechanisms from international practice (including ownership structures and legal forms).

8.2 Appendix 2. List of conducted interviews

For a list of conducted interviews see Table 5.

Table 5 List of conducted interviews

No.	Institution	Date
1.	Cesis District Hospital	07.11.2018.
2.	Vidzeme Hospital	09.11.2018.
3.	Limbazi Hospital	09.11.2018.
4.	Smiltene Red Cross Hospital	12.11.2018.
5.	Aluksne Hospital	13.11.2018.
6.	Madona Hospital	14.11.2018.
7.	Preili Hospital	15.11.2018.
8.	Daugavpils Regional Hospital	21.11.2018.
9.	PSCUH	07.01.2019.
10.	RCCUH	11.01.2019.
11.	SEMS	28.01.2019.
12.	NHS	30.01.2019.
13.	NHS	25.02.2019.
14.	Latvian Nurse Association	28.02.2019.
15.	Latvian GP Association	05.03.2019.
16.	Latvian Rural GP Association	08.03.2019.

8.3 Appendix 3. Availability of surgery services in IV level hospitals according to the Hospitalization Plan

For an example of available services according to the hospitalization plan, see Table 6.

Table 6 Surgery profiles in level IV hospitals according to the Hospitalization Plan

Service/profile	Vidzeme	Jelgava	Jekabpils	Daugavpils	Rzekne	N-Kurzeme		Liepaja
						Ventspils	Talsi	
General surgery	■	■	■	■	■	■		■
Traumatic abdominal damage; gastrointestinal bleeding, acute abdominal pain, hernia incision; holes, shot wounds, head bruises.	■	■	■	■	■	■		■
Polytrauma	■	■	■	■	■	■		■
Thoracic surgery	■	■	■		■	■		
Chest organ injuries, traumatic and spontaneous pneumothorax; puncture wounds in the thorax with penetrating cardiovascular damage	■	■	■		■	■	■	■
Neurosurgery	■	■	■	■	■	■		■
Vascular surgery	■	■	■		■	■		
Arterial thromboembolism, thrombophlebitis and phlebotrombosis without trophic ulcers	■		■	■	■	■	■	■
Microsurgery					■			
Traumatic amputation of body parts, severe combined trauma, peripheral nerve and tendon damage	■				■			■
Purulent surgery	■	■	■	■	■	■	■	
Arterial thromboembolism, thrombophlebitis and phlebotrombosis with trophic ulcers; acute osteomyelitis and exacerbation of chronic osteomyelitis	■	■	■	■	■	■	■	■
Facial purulent surgery	■	■	■		■	■	■	■
Tissue thermal damage	■	■	■	■	■	■	■	■
Oral, facial and jaw surgery		■	■					
Traumatology	■	■	■	■	■	■		■
Patients with long bones fractures (open or closed), snake or animal bites, foreign object in upper respiratory tract and esophagus	■	■	■	■	■	■	■	■
Complex spinal injuries	■		■	■	■			■
Urology	■	■	■	■	■	■		■
Otorhinolaryngology	■	■	■			■	■	
Ophthalmology	■			■	■	■		■
Gynecology	■	■	■	■	■	■		■
Pregnancy complications up to 21 weeks	■	■	■	■	■	■		■
Obstetrics	■	■	■	■	■	■		■

■ Provided
■ Provided partially (e.g.. with exceptions or depending on the severity)
■ Not provided
■ Provided only on weekdays and specific hours (usually between 8:00 and 14:00)
■ Provided only by Specialized Medical Center (within SEMS)

8.4 Appendix 4. Hospitals by level

For a list of hospitals by level, see Table 7.

Table 7 Hospitals by level

Level	Description of services	Hospitals
I	Basic treatment and care for chronic patients	► Livani Hospital ► Aizkraukle Hospital ► Bauska Hospital ► Limbazi Hospital ► Ludza Medical Center
II	Care in 3 specialties (profiles) (therapy, chronic care, surgery), as well as emergency care;	► Aluksne Hospital ► Preili Hospital ► Tukums Hospital ► Kraslava Hospital
III	Care in 7 mandatory specialties (profiles), as well as emergency care;	► Madona Hospital ► Cesis District Hospital ► Dobele Hospital ► Jurmala Hospital ► Ogre District Hospital ► Balvi and Gulbene Hospital association ► Kuldiga Hospital
IV	Care in 24 mandatory areas specialties (profiles), as well as emergency care;	► Liepaja Regional Hospital ► Daugavpils Regional Hospital ► Ziemelkurzeme Regional Hospital ► Jelgavas City Hospital ► Vidzeme Hospital ► Jekabpils Regional Hospital ► Rezekne Hospital
V and V specialized	Care in at least 25 specialties (profiles), as well as emergency care	► PSCUH ► RECUH ► UCH ► HTO[8] ► Riga Maternity Hospital[9] ► National Rehabilitation Centre “Vaivari”[10]

[8] Specialised
[9] Specialised
[10] Specialised

Level	Description of services	Hospitals
Specialized healthcare institutions	Care in specialty	► Riga Psychiatry and Addiction Centre ► Riga 2nd Hospital ► Children's Neuropsychiatric Hospital "Ainazi" ► Akniste Mental Hospital ► Piejuras Hospital ► Daugavpils Neuropsychiatric Hospital ► Hospital Guintermuiza ► Strenci Neuropsychiatric Hospital ► Sigulda Hospital
Other hospitals	Care and chronical care	► Saldus Hospital ► Priekule Hospital

8.5 Appendix 5. Preliminary mapping of procurement centralization levels

For preliminary mapping of procurement centralization levels, based on project focus group discussions and interviews, see Figure 17.

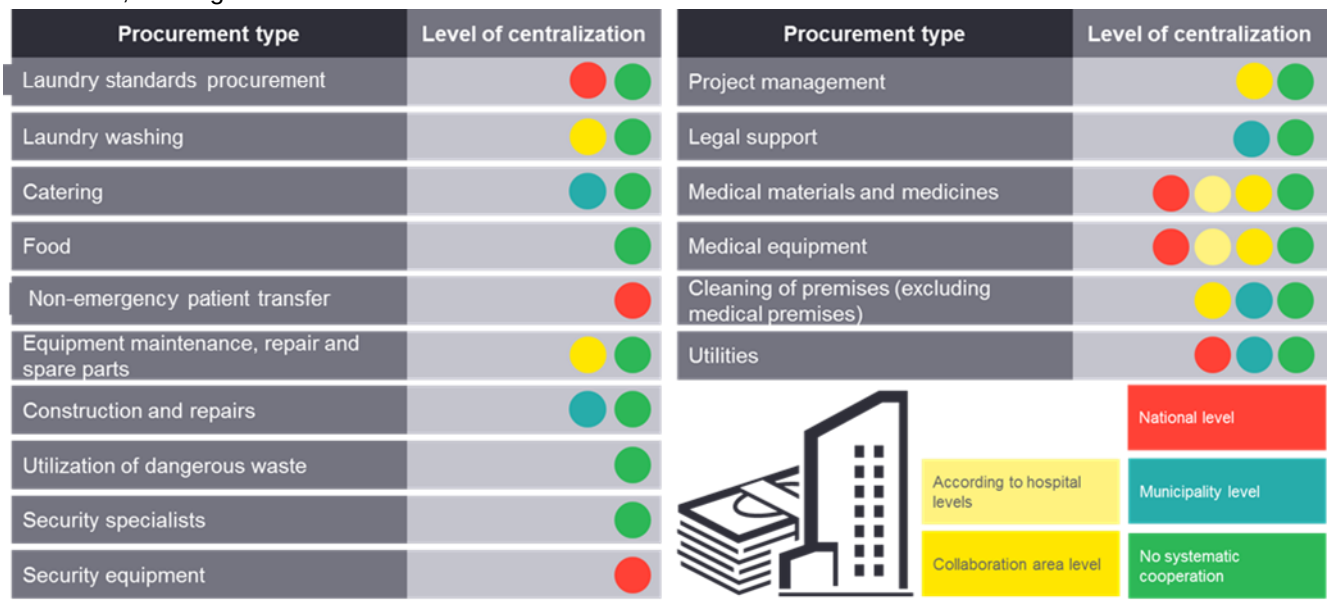

Figure 17 Procurement centralization levels

8.6 Appendix 6. Responsible stakeholders for each recommendation

For a list of institutions and other stakeholders responsible for the implementation of each recommendation, see *Table 8 Responsible stakeholders for each recommendation*

No.	Recommendation	MoH and subordinate institutions	Hospitals	Municipalities	Other ministries and public sector parties	SEMS	Primary care providers	Other care providers
Recommendation on the governance of the HCM								
I	Territorial grouping in collaboration areas	X						
II	Cooperation contracts	X	X					
III	Inclusion of common obligations in regulations	X						
IV	Financial incentives	X						
V	Review of hospital ownership structure	X		X	X			
VI	Review of hospital legal form	X		X	X			
VII	Governance forms	X						
VIII	Integration of national decision making on healthcare and social care	X		X	X			
IX	Key performance indicators (KPIs) for measuring cooperation	X	X					
Recommendations on cooperation in core functions								
X	Healthcare personnel sharing between hospitals		X					
XI	Patient transfers from higher to lower level hospitals with current capacity	X	X					
XII	Development of a consultative support model	X	X					
XIII	Centralized interpretation of diagnostic results	X	X					
XIV	Integrated care for patients receiving care from multiple hospitals	X	X					
XV	Planned patient transportation service between hospitals provided by SEMS	X				X		
XVI	Strengthen patient information exchange	X	X		X		X	X
Recommendations on cooperation in support functions								

No.	Recommendation	MoH and subordinate institutions	Hospitals	Municipalities	Other ministries and public sector parties	SEMS	Primary care providers	Other care providers
XVII	Realization of joint procurements		X					
XVIII	Experience and information exchange		X				X	X
XIX	Establishment of joint procurement commissions		X					
XX	Centralization or partial centralization of selected support functions in collaboration areas	X	X		X			
XXI	Cooperation in IT development planning in accordance with common standards	X	X				X	
XXII	National level infrastructure planning	X						
Recommendations for cooperation with other stakeholders								
XXIII	Improve cooperation for patients receiving care from multiple care providers	X	X	X	X		X	X
XXIV	Defining the role of municipalities	X		X	X			
XXV	Strengthening the role of nurses, incl. in the coordination of continuity of care	X	X		X		X	X
Guidelines for planning and provision of healthcare services in line with principles of strategic purchasing								
XXVI	Payment for outlier cases	X						
XXVII	Payment for patient transfers and patients receiving care from multiple providers	X						
XXVIII	Separate classification of acute and non-acute inpatient cases	X						
XXIX	Improvement in the DRG system	X						
XXX	Calculation and use of actual costs for services and tariffs	X	X					
XXXI	Payment for patient transfers	X						
XXXII	Strategic purchasing	X						
XXXIII	Use of cooperation contracts to motivate collaboration between hospitals	X	X					
XXXIV	Use of a cooperation contracts to motivate collaboration between different care providers	X	X				X	X

No.	Recommendation	MoH and subordinate institutions	Hospitals	Municipalities	Other ministries and public sector parties	SEMS	Primary care providers	Other care providers
XXXV	Improvement of the overall monitoring system and use of data	X						
XXXVI	Institutional arrangements for strategic purchasing	X						
XXXVII	Decision rights and autonomy	X						