



Integrated care in the Baltic countries over a five-year period: an expert-informed cross-country analysis of progress, challenges and future directions

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ARTICLE INFO

Keywords:

Integrated care
Multimorbidity
Implementation
Coordination
Political commitment
Policy

ABSTRACT

Background: In Estonia, Latvia, and Lithuania, the push for care integration has gained momentum, being seen as an innovative approach to allocate resources more efficiently and improve patient outcomes.

Objective: This study investigates the progress of integrating care in the Baltic countries from 2019 to 2024 to detail key learnings.

Methods: We undertook a cross-country study to better understand the progress in care integration in the Baltics with a two-round, 21-item questionnaire on the adoption of integrated care reforms in 2019 and 2024. Responses were analyzed to capture countries' policy environments and their conduciveness to the uptake of integrated care. Country-specific experiences with implementation of care were further explored via case studies of pilot programmes.

Results: The pace of implementing integrating care varied. Existing barriers, workforce challenges and payment schemes have impeded integration across health and social care. Despite this, political commitment across successive governments to new and innovative service delivery and collaboration for chronic care management underscores an important prerequisite toward achieving more integrated and person-centred healthcare. The three case studies illustrate hurdles that come with shifting care settings and expanding roles for some workers.

Conclusions: Integrating care across providers and the social and health sectors is an incremental process that needs long-term political support to address persistent barriers. The Baltic countries' experiences indicate challenges in bringing together stakeholders in areas such as data interoperability, new financing models and reorganization of workforce and skills mixing. Further work should advance evidence on patient-centred solutions for evolving needs.

Research in context

What is already known about the topic?

Health systems worldwide face a multitude of challenges that

confront their current and established approaches to deliver care and impact their ability to provide services in a sustainable and effective way. Evolving service delivery approaches to these challenges include integrated care models, which aim to better integrate care at the community, primary and secondary interfaces and between health and social care to address increasingly diverse

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<https://doi.org/10.1016/j.healthpol.2025.105526>

Received 4 July 2025; Received in revised form 3 December 2025; Accepted 4 December 2025

Available online 5 December 2025

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and complex health and care needs of individuals with chronic diseases.

What does this study add to the literature?

While this topic is widely explored in Western European and larger countries, it remains underreported in a comparative manner for smaller and Eastern European countries. This study, focusing on the development and implementation of integrated care policies in Estonia, Latvia and Lithuania in the past 5 years serves to fill this gap in the literature.

What are the policy implications?

The implications of this research are that integrating care across providers and including the social sector is an incremental but necessary process that needs long-term political support to address persistent barriers.

1. Background

Health systems worldwide face a multitude of challenges that confront their current and established approaches to deliver care and impact their ability to provide services in a sustainable and effective way. Foremost among these are the needs of ageing populations and the rising prevalence of non-communicable diseases (NCDs), as well as the number of people suffering from two or more chronic NCDs, or multimorbidity. NCDs are a key public concern, driven by more service utilization, burdens on the health system and high mortality rates [1].

Evolving service delivery approaches to these challenges include integrated care models, which aim to better integrate care at the community, primary and secondary interfaces and between health and social care to address increasingly diverse and complex health and care needs of individuals with chronic diseases [2,3]. An increasing number of integrated care initiatives have been documented across European countries, and in a variety of settings, for example in Germany (Gesundes Kinzigtal) and Spain (Catalonia Integrated Care) [4–7]. Integrated care can also be referred to as coordinated care, comprehensive or seamless care, as different stakeholders may pursue these concepts for different purposes within the health and social care systems [8,9]. As a wide range of approaches is covered by the concept of integrated care, we apply the SELFIE (Sustainable intEgrated chronic care modelS for multi-morbidity: delivery, Financing, and performance)¹ definition of integrated care: “Integrated care is defined as structured efforts to provide coordinated, pro-active, person-centred, multidisciplinary care by two or more well-communicating and collaborating care providers either within or across sectors”.

The Baltic countries of Estonia, Latvia and Lithuania have witnessed substantial changes in their health systems since regaining independence in the early 1990s. Substantial reforms have focused on transitioning from a centralized system to more decentralized, efficient, and patient-centred care models [10,11]. This transition has encountered several obstacles, influenced by historical legacies, economic shifts, and evolving societal expectations and demands. Furthermore, structures and practices such as the focus on specialist care, hospital-based care and service fragmentation pose distinct challenges for the successful implementation of integrated care. [Box 1](#) gives an overview of the health

system structures of the Baltic countries.

Box 1

Overview of health system organization in the Baltic countries

The institutional arrangements of the Baltic health systems share common features of publicly-financed, universal health coverage, but differ in their organizational structures. Estonia operates under a social health insurance model managed by the Estonian Health Insurance Fund (EHIF). Latvia’s system is primarily tax-funded and administered through the National Health Service (NHS). Lithuania’s health system is organized around a single national insurance fund, the National Health Insurance Fund (NHIF). These differing institutional configurations influence the financing, governance, and implementation of integrated care reforms across the three countries.

The organization of (mostly) locally funded social services and centrally funded healthcare providers remain an ongoing challenge to efficient and effective integration, though there are always trade-offs and examples of perfect integration remain elusive. The experience in the Baltic countries can provide an example for other nations dealing with health systems experiencing fragmentation or undergoing governance changes, as also shown during the first wave of the COVID-19 pandemic [12].

As the share of older persons and chronic diseases is rapidly increasing in the Baltic countries, policymakers face choices to reform their systems [11,13,14]; however, evidence on integrated care initiatives in the three Baltic states of Estonia, Latvia and Lithuania is still limited compared to the literature on larger nations [15–20].

This study aims to add to the literature in the Baltic countries by providing an overview of the progress and challenges of integrated care implementation from 2019 to 2024, based on concepts identified in the SELFIE conceptual framework (see Methods). This study investigates two main areas between 2019 and 2024: [1] the policy environment shaping the development (introduction and implementation) of integrated care and [2] the development of one integrated care programme in each country to highlight progress, facilitators and enablers around implementation. Notably, we examine the uptake of integrated care and do not measure the performance of it.

2. Methods

2.1. Study background, design and participant selection

This study was initiated in 2019 through the Health Systems and Policy Monitor (HSPM) network of the European Observatory on Health Systems and Policies² in order to assess the current status of integrated care in the Baltic countries. First, two researchers conducted a rapid review of scientific literature to identify relevant theoretical models or frameworks to support the analysis of integrated care reforms in Estonia, Latvia and Lithuania. Although the SELFIE framework was designed

¹ SELFIE, an EU funded Horizon2020 project (2015-2019), aimed to “contribute to the current state of knowledge and provide applicable policy advice on integrated care for persons with multi-morbidity [...]SELFIE aims to improve person-centred care for persons with multi-morbidity by proposing evidence-based, economically sustainable, integrated chronic care models that stimulate cooperation across health and social care sectors. It also aims to propose appropriate financing/payment schemes that support the implementation of these models.” (<https://www.selfie2020.eu/>)

² The HSPM network is an international group of country experts from high profile institutions and academic standing in health systems and policy analysis: <https://eurohealthobservatory.who.int/monitors/health-systems-monitor/network>

with a focus on multimorbidity, it was selected for this study as it can be applied to integrated care in general, and also provides the basis for analyzing integrated care at the policy level. SELFIE was furthermore selected over other models, e.g. the Scirocco Maturity Model or Developmental model for integrated care, as they do not make a distinction between changes at different levels (micro, meso and macro levels) of the health system (i.e. patient and professional interactions versus organizational or governance-level developments).

A 21-item open-ended questionnaire (see Annex 1) was drafted and organized according to the six main components of SELFIE (Service delivery, Leadership & governance, Workforce, Financing, Technologies & medical products, Information & research), which was adapted from the WHO health system components [21] to, among other things, collect information on the policy environment influencing integrated care reforms and their implementation processes. The questionnaire was then internally tested and adjusted over multiple bilateral exchanges between the researchers and the Baltic country experts to clarify questions of interpretation. The free-text responses furthermore include information on ongoing or former integrated care pilot program per country (selected by responding country experts according to health policy relevance and availability of information to highlight the uptake of integrated care), in relation to the SELFIE framework to contextualize the trends discussed in the questionnaire.

2.2. Conceptual framework

The SELFIE framework places the individual with multimorbidity and their environment at the core. Each of the six components relating to integrated care describes their core elements at the micro, meso, and macro levels [22]:

- The micro level concerns the interaction of the individual with a multidisciplinary team of care professionals and informal caregivers;
- The meso level concerns the organizational level and the institutional set up of providers for integrated care, and their relation to one another in providing services to the same patient;
- The macro level includes legislation, governance, policies, and system-wide changes at the national level.

This study focuses on the macro level of the framework, in the interest of capturing the policy environment and its conduciveness to the uptake of integrated care in the Baltic countries. The six components and the macro elements considered within each are listed in Table 1 and

Table 1
Framework components adopted from the SELFIE framework.

Main components of the SELFIE framework	Macro level elements considered
(1) Service delivery	<ul style="list-style-type: none"> • Market regulation • Policies to integrate care across organizations & sectors • Service and structural access
(2) Leadership & governance	<ul style="list-style-type: none"> • Political commitment • Policy & action plans
(3) Workforce	<ul style="list-style-type: none"> • Workforce-demography match • Educational and workforce planning
(4) Financing	<ul style="list-style-type: none"> • Equity and access • Stimulating investments in innovative care models • Financial systems for health- and social care
(5) Technologies & medical products	<ul style="list-style-type: none"> • Policies fostering technological innovation • Access to technologies and medical products
(6) Information & research	<ul style="list-style-type: none"> • Privacy and data protection legislation • Policies that stimulate research in integrated care • Access to information

Source: [22].

analyzed in detail in the results section.

2.3. Data collection and analysis

Country experts were chosen on the basis of having a deep insight into the organization and policy processes of their national health systems, as well as knowledge of health policy initiatives in each country. They completed the questionnaire (distributed via email over two distinct time periods: initially, in 2019, and again in 2024 (this time including information about a recent or ongoing integrated care pilot project whose implementation in their country encompassed the framework components in Table 1). Ethical approval was not necessary and therefore not sought in advance.

The questionnaire data were collected, analyzed descriptively and consolidated by the researchers using a Microsoft Excel matrix, with two columns per country to provide a side-by-side overview across the sample years. To avoid bias, the responses were discussed and analysed by multiple researchers on the manuscript, and any discrepancies were clarified with the respondents directly (see attached COREQ checklist).

3. Results

In this section we first present the results of the questionnaires and detail the level of care integration in the Baltic countries, noting key barriers and enablers within the policy environment. We also highlight examples from integrated care pilot projects according to selected framework components. Table 2 provides an overview of the focal areas of the pilots.

The policy environment according to framework elements

An enabling policy environment consists of conditions that facilitate the design and implementation of new policies and is necessary for both top-down and bottom-up approaches [23]. Top-down approaches offer high-level support for coordination and appropriations while bottom-up designs empower local actors from the very beginning [24].

3.1. Service delivery

Service delivery is linked to the management and delivery of health services to the targeted population and a more effective and efficient health care system, which are critical to support integrated health service delivery and person-centred care. Policies at the macro level that encourage the integration of care across organizations and sectors are essential and entail a need for sector regulation that facilitates collaboration. Furthermore, policies ensuring service and structural access for the population need to be in place [22].

Within the component of service delivery, the main regulative barrier in Estonia concerned data accessibility across different providers in the care chain and was reported unchanged in 2024 in comparison to 2019. All three countries reported to have policies in place to increase integration within the health sector (for example patient pathways in oncology), but very limited action with regards to integrating the health and social services. For Latvia and Estonia, current regulation of purchasing services across different sectors and levels of care was identified as a barrier as the arrangements for purchasing and paying for services have not significantly changed (as of 2024) to incentivize care integration. As for the status of services and structural access, policies in all three countries were reported to address services, and organizational and timely access separately in the health and social sector. Responses also indicated issues with inequity of access to services in general due to different reasons (e.g. geographic accessibility, costs, etc.).

3.2. Leadership & governance

Leadership and governance at the macro level entails support for

Table 2
Focal areas of the integrated pilot projects in Estonia, Latvia and Lithuania.

Country	Description	Target group	Programme focus	Stakeholders involved	Status as of writing
Estonia	A pilot was launched in the second half of 2018 in one county with the main aim of improving care coordination. The pilot lasted up to 2021, whereby 180 patients were enrolled for PAIK services which focused on patients' proactive care management by a dedicated team composed by different experts.	Patients living in the county coping with chronic disease(s) and requiring social support.	Improve coordination between healthcare and social care providers; support chronic patients' treatment.	Viljandi county hospital, family physicians, specialists, local government social workers and pharmacists, the community and families involved	The pilot in one country was finalized in 2022. During the pilot, a specific IT solution was developed for improving care integration. As the pilot was considered successful in terms of impact (patient satisfaction, treatment compliance etc.) the project was continued in the pilot county and also scaled to two other counties. Starting from the spring of 2023, a clinical impact study of this service was launched to assess the effect of the care integration with the help of an IT solution supporting communication between healthcare and social services on patients' health, quality of life and satisfaction with services. The aim is to build evidence and support nationwide implementation of the service model [45].
Latvia	GPs are obliged to provide adults with a preventive examination for NCDs once a year, fully covered by the health budget, though low levels of adults receive them. In order to systematically strengthen the GPs role in preventative examinations and to try and institutionalize the idea of cancer screenings in the country and expedite them, a pilot programme "green corridor" was organized in 2016.	General population	Strengthen GPs' role / cancer prevention	GPs, primary and specialist care providers	The State Audit Office of the Republic of Latvia, in its report, found that the Green Corridor did not meet its objectives. Namely, services were neither timely arranged nor received: only 25 % of patients received services within the stipulated 10 working days, and the average time from the GP visit to diagnosis was 195 days, although treatment should be started within 65 days. Many patients were also referred to services under the Green Corridor programme whose suspicion of an oncological disease was not confirmed, meaning that there was little control over whether the patient should have been sent to receive healthcare services directly within the Green Corridor to begin with [46]. In order to improve the care of oncological patients, a so-called yellow corridor was introduced in 2024 to provide regular health checks after completion of treatment in the remission or stabilization phase, providing for priority examinations and consultations within 10 days.
Lithuania	21 municipalities out of a total of 61 implemented a pilot in which they formed mobile teams by enlisting nursing professionals to collaborate with social services professionals in the delivery of in-home day care services. Developed and implemented 2012–2015.	The elderly and those with disabilities	In-home nursing and social care	Mobile teams, including nursing and social service professionals	Expanded twice since 2015 (2016–2023 and 2022–2029), increasing workforce (adding rehabilitation professionals and psychologists) beneficiaries (adding children under seven).

Source: authors' own elaboration.

integrated care policies from national or regional leadership and governance, and cross-sectoral commitment, which are key elements for facilitating successful integrated care implementation [22].

In Estonia, health and social affairs have been under one ministry since 1993. The government-level "Welfare Development Plan 2016–2023" aimed to prioritize care integration as one of the key development areas. It was not updated beyond 2023, but the new National Health Plan mentions person-centred care and improved care integration as priority points [25]. Although integrated care was not explicitly mentioned in the previous coalition agreement (2019–2023), the agreement did call for the development of a plan for a people-centred and integrated hospital network until 2040 as one of the actions to

improve care access [26]. While this plan was made public in 2022, it did not result in any policy changes as it became clear that developing the hospital network in silo from the rest of the health system was not feasible. Therefore, the current government coalition (2023–2027) mentions an integrated health and social system based on a personal approach and the proactive offering of services as a priority and foresees a joint health system development plan for primary, hospital and emergency care [27].

In Latvia there has been commitment at the highest political level for integrated care in both the Public Health Strategy 2014–2020 and the Public Health Guidelines 2021–2027. As part of a Ministry of Health action plan, a new integrated care department has been established,

who, with the Ministry of Welfare, have agreed on new joint initiatives on care coordination. There are also sectoral policies to coordinate care at the national (emergency medical services and pathways in oncology), regional (hospital service areas) and local (coordination of social assistance for municipalities) levels (see [Box 2](#)).

In Estonia, a need for additional capacity building for existing staff in relation to the principles of care coordination was reported in 2019. While there is no systematic wide training for cooperation across sectors regarding integrated care, clinical assistants in Estonia have been newly trained since 2022 to serve as links for improved care across different settings and levels, and patient-centred principles are part of nurses'

Box 2

Case study examples (leadership & governance)

Estonia: The PAIK project is a bottom-up initiative, driven and led by the county-owned hospital (Viljandi Hospital), supported by the Ministry of Social Affairs (MoSA) and funded by the EHIF. Family physicians, specialists, local government social workers, pharmacists, the community and families take a team-based approach to manage patients (selected based on a risk stratification model) care by developing patient-centred care plans which are shared with the care team. The project implementation was governed by the MoSA and EHIF.

Lithuania: In 2007, the Ministry of Health and the Ministry of Social Security and Labour both endorsed a regulation that encompassed rules for in-home nursing and social care. This first attempt to integrate health and social care was unsuccessful despite the regulation, due to the absence of common frameworks and variations in budgets, payments, and agreements. The introduction of novel initiatives has generated new organizational frameworks and approaches, which are already exerting an enduring influence on enhancing the variety and quality of the services provided. This experience with integrated home care contributed to the development of new arrangements for the nationwide provision of long-term care. In 2023, new joint regulation of the two ministries [32] defined the principles and scope of long-term care (LTC), its providers, and set requirements for coordination of LTC for every municipality. In 2023, the Health System Law introduced a position of LTC coordinator at each municipality.

While there had been no specific policies for integrated care in the Lithuanian government during the first survey round, the (previous) government in Lithuania released an action plan to improve integrated care in different settings [28]. In outpatient settings, by the end of 2023, health centres were established in most communities, either through agreements or as single legal entities. Additionally, improved care coordination is tied to the implementation of case management, which plays a key role in integrating health and social services within these centres. In inpatient settings, changes to the hospital network are underway as of this writing (such as by amending the Health System Law and the Health Institutions Law) to oblige regional service provision planning and to set criteria (territorial accessibility, multi-profile services, emergency care 24/7, quality of care) for the regional networks of acute hospitals. For long-term care settings, in July 2023, the Ministry of Labour and Social Security together with the Ministry of Health released new guidelines on the development of long-term care [29].

Evaluation methods of integrated care programs, which are relevant to understanding the barriers and enablers to implementation, were found to be part of policy development in Estonia (for example patient surveys, monitoring care outcomes, and treatment pathway compliance [30]). Such assessments exist also for programs in Latvia (i.e. oncological patient pathways). In Lithuania, evaluation is an integral activity to investments from the European Structural and Investment Funds. Furthermore, the State Auditor presently assesses new reforms (such as the 2023 overview of health network transformation [31]).

3.3. Workforce

Enough skilled workforce is critical for successful implementation of integrated care programs, which require multi-disciplinary teamwork. This entails fostering a workforce-demography match in view of the rising chronic conditions and increasingly ageing society and ageing health workforce [24], and ensuring appropriate capacity-building for this workforce to provide appropriate and efficient care.

Additionally, several pilots conducted on care integration all highlighted the need for a care coordinator, but it has remained unclear on which level of the care coordinator should be contributing (social system, primary care or secondary care). During a pilot that was conducted by the EHIF in collaboration with the World Bank, the care coordination role was given to the nurses [33]. During this pilot, the primary care providers emphasized the lack of time for nurses to take up this role. It has been highlighted that if care integration at primary health care level is scaled, more nursing staff would be needed in the primary care centres [34], but this is a challenge as there is a significant lack of nurses in the country [13].

Lack of health workers in the public sector, especially nurses, and care coordination was a reported concern in Latvia (see [Box 3](#)), where cooperation for capacity building for integrated care is observed only in isolated cases, such as separate hospital networks, palliative care or value-based innovations. The lack of human resources in oncology in the public sector in general is seen as a threat to the implementation of the Latvian Green Corridor to ensure the policy initiative - diagnostic and treatment services according to the planned timeframe. Additionally, guidelines on primary care development were adopted in 2024 on the optimal model of organizing GP practices (i.e. number of patients, task shifting, expanding teams³ to include other professions, availability and quality criteria, in urban and rural areas [35]). The guidelines determine the implementation of a multidisciplinary approach (a core tenet of integrated care, according to SELFIE) - the involvement of nurses and physician assistants, who, for example, can prescribe medication under certain circumstances, as well as the creation of joint practices or the cooperation of family doctor practices with specialists. Looking forward, integrated care principles are part of standard educational programmes for health professionals in Latvia, while many continuing educational curricula for medical specialists and those working in emergency medicine are now offered as well.

In Lithuania, shortages of specific categories of health personnel are seen as issues for integrating care, particularly as concerns long-term

³ such as a child care specialist, physiotherapist, midwife, pediatrician or nurse who has developed child care skills, a mental health worker or other specialist.

care staff and nurses. The Ministry of Health, with funding from the European Social Fund, implemented the project on training >2650 administrators and providers alike on the organization and delivery of integrated outpatient care [36].

Though the acknowledgement of the need for a change in payment systems is limited in Latvia, there have been discussions around the development of different funding models (i.e. outcomes-based funding, bundled payments) to support the shift towards integrated care but those are not yet finalized in any document [39]. Major roadblocks

Box 3

Case study examples (workforce)

Estonia: PAIK aims to improve collaboration among a defined care team and residents in Viljandi County who have been diagnosed with a chronic condition and require social support. PAIK health managers (social workers or nurses in Viljandi Hospital who complete additional, specific training) assess the patients' health status. This includes identifying patients' personal goals in addition to health-related goals— this is summarized in the form of a personalized health plan. The health managers are responsible for patient care monitoring and communication with other care team members such as family physicians, social workers, home nurses etc.

Latvia: Actively practicing GPs in Latvia are decreasing, and at least 22 % of GP practices audited do not employ the two additional medical personnel needed to tend to their patients lists [35]. As a result, several primary care services are impacted in terms of availability, including early detection and follow-up care of suspected oncological diseases. The “green corridor” aimed to enable patients suspected of having an oncological disease to receive fully covered follow-up services in an expedited process. As of 2024, the function of oncology patient care coordinators in hospitals has been strengthened. However, hospitals report that the biggest obstacle to implementation is the lack of specialists in oncology.

Lithuania: The pilot program employed mobile teams of nursing and social service professionals to deliver in-home care. It has expanded over time and received promising evaluation results from patients: 186 mobile teams in 59 municipalities provided comprehensive care for 5100 elderly and disabled individuals between 2016 and 2020. In addition to the consistent expansion of coverage, recent developments have involved the integration of rehabilitation professionals and psychologists into the teams, as well as the provision of care for disabled children under the age of seven in public educational institutions [37].

3.4. Financing

Acknowledgement at the national and regional levels that innovations in payment system are needed to tackle the shortcomings in existing payment systems can substantially support the progress in integrated care, as can having dedicated funding. For example, bundled payments or population-based payment are more likely to support coordination of care than fee for service. Furthermore, it is pivotal to pay attention to equity and access for vulnerable groups in the payment system [22].

There are no systematic financing mechanisms reported to support equitable access throughout the transition towards integrated care in Estonia. Some project-based initiatives that cover the full care pathway are being piloted but are not (yet) implemented system-wide. Namely, the EHIF has initiated pilots for stroke patients that ensure funding for the full care pathway, including bundled payments in primary health-care (which was left out of previous pilots) [38].

include the lack of uniform quality criteria for providers across sectors and no unified data system to enable patient coordination across multiple providers [40].

There is no targeted funding or adjustment to basic payment mechanisms to support integrated care in Lithuania. Integrated care projects have to be funded from the European Structural and Investment Funds and the national budget (see Box 4). Acknowledgement of the need for a change in funding or payment mechanisms is limited. However, continuous efforts in advancing payment mechanisms, particularly in primary care, were reported. Results reported in the questionnaire in 2024 revealed investments to funding new staff positions as well as changing tariffs for outpatient consultations and telemedicine, among others.

Box 4

Case study examples (financing)

Estonia: The PAIK pilot included the development of a financing model for the service. The pilot resulted in a recommendation to combine fee-for-service, capitation and performance-based payments for healthcare providers engaged in the process. One of the limitations was that the plan did not include a financing mechanism for social services. In addition, the proposed payment design was not piloted and has not been implemented by the end of 2024. Since the pilot's implementation in 2018, the EHIF has allocated a total lump-sum of EUR 855,000 to the project by the end of 2023 [41].

Latvia: Financing for the green corridor pilot was secured from the state budget, with providers receiving extra payments for guaranteeing post-screening appointments above the specified amount of their contract. The funding mechanism was assessed as flawed, as many GPs that had registered patients who were diagnosed received green corridor incentives without necessarily being involved in their care (i.e. patients went to specialists, who were not eligible for the financing).

Lithuania: The initiatives' continuity and financial sustainability are in doubt. While municipalities were allocated approximately EUR 3 million from the state budget in 2022 to support the expansion of integrated care [42], the majority of expenses, including transportation-related costs and wages for personnel other than social workers, are covered by the European Structural and Investment Fund.

3.5. Technologies & medical products

Policies that support Information and Communication Technologies (ICT) and eHealth are important to foster the development of integrated care, connecting providers in a multidisciplinary team as well as the patient and their carer(s) effectively. Another critical aspect is the provision of equitable access to technological and medical products [22].

In terms of policies to support development of Information and Communication Technologies (ICT) and eHealth services for integrated care, all countries reported political support, but the degree of implementation varied.

Estonia has developed a national e-Health system for data exchange between different healthcare providers. Although the e-health system digital database provides a comprehensive review of patient health status, it is not linked to data on social needs as the health and social systems operate in silos and there are data protection concerns limiting data exchange between the two sectors. While there are increasingly more initiatives for systems integrating person social and health needs (see Box 5), there are no nation-wide systems in place.

In Latvia, the e-Health system is under development and there are still considerable discrepancies concerning the availability of e-Health infrastructure between institutions, though the government adopted a digital health strategy in 2023. This strategy plans to create a single, unified system for all health sector actors with funding from both the state budget and EU investments, which will assist service providers that traditionally have had to fund their own ICT systems – a hurdle for the introduction of consolidated standards. The mandate of implementing eHealth policy was transferred in January 2025 to the Latvian Digital Health Center to promote the development of digital health and ensure strategic management of the digital health ecosystem [43].

In Lithuania, providers are gradually sending data to be included in a collaborative e-infrastructure. In 2023, the Ministry of Health decreed a new action plan to develop digital health systems within the country, with particular focus on eHealth tools and a dashboard to monitor progress. While there are innovative technologies used in practice in Lithuania, evidence on their implementation and effectiveness are lacking. In 2024, the exchange of outcomes of the patient needs' assessment between e-health and social care information systems was legally established [32,42].

Box 5

Case study example (technology and medical productions)

Estonia: the Viljandi PAIK project utilizes a new IT solution ("Teleskoop"), which is integrated into the hospital's information system to facilitate information sharing of the health plan and essential information between the members of the integrated care services team. With the help of the digital solution the patient information can be shared more efficiently with all care team members.

3.6. Information & research

Due to the sensitive nature of health information, privacy and data protection legislation is a key aspect to consider. Policies to spur research in integrated care are also important. Thus, attention is needed to ensure that access to information should be easily available, especially for vulnerable groups [22]. With increased use of channels such as the Internet to disseminate information, older population groups may struggle to find the information they need.

All three countries have legislation governing privacy and data protection to support information sharing, and that citizens have access to their own health information and to information on how to navigate the health system; however, this does not translate into data exchanges

between sectors, which all experts identified as a major enabler to stimulate integrated services. In Estonia, a new health portal was launched to support patient centred approach and support citizens engagement in managing their health data [44]. In Lithuania, the law on patients' rights dictates that confidential patient information can be shared only with signed patient consent, though it was reported (both in 2019 and 2024) that clear procedures and agreements to share the information among, particularly non-medical, providers are lacking.

4. Discussion

Over the 2019–2024 period considered in this study, the policy environment at the macro level has seen some progress areas regarding the integration of care in the Baltic countries of Estonia, Latvia and Lithuania. There are also persisting challenges. In the following section we discuss the results across the different parts of the framework in these contexts, as well as that of future directions. Our findings also highlight examples of implementation of existing pilot programs, including details of where unsuccessful or ongoing initiatives are often underreported. Highlighting these examples provides better country-specific context of the integrated care landscape and offers valuable insights for future policy efforts, many of which can be valuable to the other countries in policy design.

4.1. Progress

Across the three Baltic countries, governments have introduced policies to support integration of health and social care, demonstrating political commitment over successive governments (*Leadership & governance*). Gradually, an overarching ambition to transform health and social care is reflected in national strategies which now commonly mention the importance of coordination between ministries, care settings and patients and their families, even if not yet fully reflected in practice (*Service delivery*). In all three countries, practical implementation barriers remain, which can largely be attributed to the need to address issues of system sustainability by ensuring adequate resources and governance. Here, new data sharing spaces that could enable one-stop shops for electronic patient records and eHealth are an example of seamless, cross-sectoral coordination and communication (*Technologies & medical products*). Additionally, the inclusion of integrated care principles in the education or continuing education of health workers

can lay the foundations to promote multidisciplinary teamwork (*Workforce*).

4.2. Challenges

The comparative analysis of the questionnaire rounds from 2019 to 2024 suggests that even with political commitment, institutional process and strategic governance, progress has been limited in achieving the goals. One significant hurdle is the development of nationwide ICT and standard eHealth infrastructures to facilitate data exchange between social and healthcare providers (*Information & research*). Estonia has shown notable progress in this area, but many initiatives across the region are still in their early stages. Furthermore, sustainable financing

systems and purchasing models that incentivize efficiency and cross-sector collaboration are piloted, but none have been scaled on national level (*Financing*). This is similar to the results reported from other Central and Eastern European (CEE) contexts, where long-term financial sustainability and the lack of specific national or regional financing schemes were identified as among the most critical obstacles to implementation [47]. Despite of political support, the reported lack of access to health and social care information and limited interoperability across care settings are commonly identified as barriers for further integration which are in line with previous literature on, as well as data privacy concerns [48–50].

Additionally, a lack of skilled workforce, declining personnel, and inadequate training are also identified challenges in the Baltic countries, as elsewhere, as reported in other CEE countries [47]. Workforce decline due to aging and burnout worsens the issue, making retention strategies vital. Service integration does not necessarily require more staff but rather a workforce that is adequately resourced and trained to work in new, more collaborative ways. However, training often fails to support cross-sectoral collaboration, limiting coordination across health and social care. Addressing these challenges requires policies focused on workforce development, retention incentives (also to keep workers in the public system to promote long-term sustainability), and education reforms aligned with healthcare needs.

4.3. Future directions

Reforming the workforce is a policy priority in all three countries, however challenges remain in redesigning roles to enhance the efficiency of integrated care implementation. Given the ageing societies and shrinking health and social care workforces in all three Baltic states, governments will need to provide more services with either the same or fewer personnel. As recruitment alone is unlikely to bridge this gap, capacity building across providers, developing and implementing new professional roles (for example, specialised roles such [Advance Practice Nurses](#)) to improve i.e., care coordination, represent an efficient way to shift certain tasks [51]. In Estonia, trained clinical assistants and patient-centred principles are included in other educational curricula, nonetheless there are challenges in designating who may be responsible for care coordination. Latvia has incorporated patient-centred care principles into continuing education programs. Further development of innovative payment models, such as bundled payments or those based on performance based-indicators can also be more specifically designed to support integrated care, shift care settings or avoid duplication of services offered [52–54].

Finally, the future potential of integrated care will depend on the ICT and eHealth developments enabling care coordination and integration across providers, sectors and stakeholders (i.e. including family members and informal care givers) [55,56]. The introduction of structured data-sharing frameworks would increase the ability to coordinate care effectively across health and social services.

4.4. Limitations

This study has some methodological limitations. First, we focused on national level arrangements and we prioritized breadth within each country over depth within individual integrated care programmes or pilots. Second, a self-designed questionnaire can be advantageous for tailoring it to specific research needs, but it may introduce bias in question design, and limits comparison with other studies. Third, the level of detail on the information in the survey responses did vary, though we followed up with clarifications to original responses from experts where necessary to conduct the cross-country analysis of the results. Fourth, we provided the survey in the English language only, meaning terminologies could have been misinterpreted by experts, though we actively worked to clarify any discrepancies during the analysis stage. Fifth, while not the focus of this article, external factors

such as the COVID-19 pandemic may have impacted integrated care differently across countries and time periods. Finally, our case studies were short summaries meant to supplement the information in the questionnaire response; future research should include in-depth case studies of individual programs to provide a more nuanced understanding.

5. Conclusions

Embedding integrated care is an incremental process and approaches evolve over time or need to be adopted, which also applies to the Baltic countries.

Estonia has shown how progress in digitalization was achieved through strong governance, sustained political commitment through binding, legislated targets—and carefully designed national and regional governance structures. Latvia's primary care development guidelines [57] aim to address the challenges brought by health workforce shortages by expanding multidisciplinary GP teams, institutionalising task-shifting, and embedding patient-centred care principles in both pre-service and continuing professional education. Lithuania used targeted legislation to let municipalities convert outpatient facilities into community health centres, employ case managers and adopt bundled payments that reward cross-sector collaboration. Persistent gaps nevertheless hamper scale-up: health-social data links are still incomplete, fee-for-service incentives favour siloed delivery, and shortages of nurses and care coordinators undermine continuity.

By learning from these experiences, other countries in Europe and beyond can find valuable insights that could be applicable to their contexts, including by building on existing partnerships and structures from preceding governments to confront common challenges. However, further research is needed to advance evidence on patient-centred solutions for evolving health care needs and highlight unique challenges and innovative approaches in different contexts.

Ethics approval and consent to participate

Not applicable.

Consent for publication

Not applicable.

Availability of data and materials

Questionnaire response has been attached as Annex 1, COREQ checklist as a supplementary file.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Declaration of competing interest

The authors declare that they have no competing interests.

Acknowledgements

The authors are grateful to Dr. Estera Wiczorek and Prof. Dr. Reinhard Busse for their helpful feedback on earlier versions of the manuscript.

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at [doi:10.1016/j.healthpol.2025.105526](https://doi.org/10.1016/j.healthpol.2025.105526).

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