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Babeș-Bolyai University

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FINANCING PREVENTIVE HEALTH SERVICES FOR CHILDREN IN ROMANIA

Mapping and analysis of financial flows at national levels

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EXECUTIVE SUMMARY

Current financial evidence shows that even a relatively small investment of $5 per person in maternal and child healthcare would avoid the preventable death of 147 million children, 32 million stillbirths, and 5 million women in 74 countries by 2035 (Stenberg et al., 2014)social, and economic returns. We costed health systems strengthening and six investment packages for: maternal and newborn health, child health, immunisation, family planning, HIV/AIDS, and malaria. Increasing health expenditure by just $5 per person per year up to 2035 in 74 high-burden countries could yield up to nine times that value in economic and social benefits. These returns include greater gross domestic product (GDP). Moreover, societies which have been successful at emphasizing investment in children's healthcare and education over the past years have been outstanding in the health and economic sector (Clark et al., 2020).

Recognizing the importance of prioritizing investment in prevention, this report is the first study in Romania to map and analyze financial flows in preventive health for services targeting children and young adults below 18 years of age. This exercise maps the financial flows both at the national and subnational level, recognizing the important role of regional and local institutions in organizing and delivering relevant preventive health services for children. The analysis covers the period 2018–2020 and so monitors the impact of COVID-19 on the use of health services and financial resources allocation.

To achieve the objective of this study, we combined three methodological approaches:

(1) literature review / scoping study;
(2) national-level expenditure analysis; and
(3) interviews with key informants.

According to the OECD, Eurostat & WHO (2017), prevention refers to **any measures that aim to reduce or avoid the risk of a disease or injury**.

Data from the Romanian National Institute of Statistics show that, at the national level, current spending on preventive services in terms of lei/inhabitant and share of current healthcare spending has increased over the years 2018–2019. The domestic general government preventive care spending (as a share of domestic general government spending) has increased by 0.1% over the two mentioned years. Overall, 99.8% (2018) and 100% (2019) of the current preventive public spending derived from the domestic general government preventive care spending.

Between 2018 and 2020, the total budget of the national program for health evaluation, promotion, and education was RON 3,963,000, representing about 0.1% of the total budget of national public health programs (excluding the budget allocated for RT-PCR for SARS-CoV-2).
The budget allocation increased by 5.8% in 2019 and 7.1% in 2020, with a budgetary execution above 90% each year.

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Over the same period (2018-2020), the total budget of the child and health nutrition subprogram accounted for 50,141,000 RON, representing 2% of the total budget allocated for the national public health programs (excluding the budget allocated for RT-PCR for SARS-CoV-2). The budget per year fluctuated, increasing by 26% in 2019 but decreasing by 30% in 2020.

Better policy interventions aimed to deliver preventive health services to children require an **improved data collection system with a higher level of disaggregation** that allows monitoring the type and volume of services and funding delivered per child over time. Data collected should include health outcomes reporting as well as an analysis of the intervention's cost-effectiveness.

The COVID-19 pandemic exposed **Romania's inadequate investment in public health and health preventive services provided by local governments,** many of which were quickly overwhelmed, resulting in, for example, the lack of personal protective equipment and small budget execution overall for preventive services.

Abbreviations

CDC	Centers for Disease Control and Prevention
DPHAs	District Public Health Authorities
EU	European Union
HPV	Human papillomavirus
LPAs	Local Public Authorities
MoH	Ministry of Health
MoF	Ministry of Finance
NHIH	National Health Insurance House
NIPH	National Institute of Public Health
NIS	National Institute of Statistics
NPHPs	National Public Health Programs
PHC	Primary health care
SDGs	Sustainable Development Goals
SHA	System of Health Accounts
SHI	Social health insurance
TB	Tuberculosis
UHC	Universal health coverage
UNCRC	United Nations Convention on the Rights of the Child
UNICEF	United Nations Children's Fund
WHO	World Health Organization

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1 Introduction

Health promotion and disease prevention are crucial parts of public health and include health promotion interventions and early detection and management of diseases (CDC, 2009). Integrating preventive services in the healthcare system can reduce the risk for disease, disabilities, and death (The U.S. Department of Health and Human resources, 2021). Prevention also reduces the burden of non-communicable diseases (NCDs) that account for 77% of the burden of disease in the European Region (World Health Organization, 2021a). As such, the World Health Organization (WHO) argues that prioritizing investments in health promotion and disease prevention interventions based on scientific evidence can reduce disease burden (World Health Organization, 2018). Some prevention interventions can yield positive returns on investment within the first two years and become a highly cost-effective way to maintain the population's health sustainably (World Health Organization, 2014, p.7).

Previous financial evidence from high-burden countries, with different health systems than the Romanian one, shows that a relatively small investment of $5 per person in maternal and child healthcare would save 147 million children, prevent 32 million stillbirths, and avert 5 million maternal deaths by 2035 (Stenberg et al., 2014)social, and economic returns. We costed health systems strengthening and six investment packages for: maternal and newborn health, child health, immunisation, family planning, HIV/AIDS, and malaria. Nutrition is a cross-cutting theme. We then used simulation modelling to estimate the health and socioeconomic returns of these investments. Increasing health expenditure by just $5 per person per year up to 2035 in 74 high-burden countries could yield up to nine times that value in economic and social benefits.

These returns include greater gross domestic product (GDP. Moreover, societies which have been successful at emphasizing investment in children's healthcare and education over the past years have been outstanding in the health and economic sector (Clark et al., 2020). Findings show that each $1 invested in maternal and child health will generate an additional $7.2 of benefits through increased earnings in low-income countries and $11.3 in lower-middle-income countries. Similar returns are valid for adolescent health investment – for each $1 spent on adolescent health care, an additional $12.6 will be generated (Clark et al., 2020).
Despite the evidence on the benefits of investing in health promotion and disease prevention, public funding for preventive services is often limited. In 2018, spending on preventive services as a share of spending on health accounted for 2.8% in the EU; Romania is far below the EU average at 1.4% (Eurostat, 2021a).
This report aims to map financial flows for preventive health services for children and adolescents.

The analysis covers the national level, as well as subnational levels - in recognition of the important role that regional and local institutions play in organizing and delivering preventive health services for children. Specifically, the report is focused on how financial resources are allocated to preventive services, the rationales behind decision-making processes, and the areas where improvement is necessary. The analysis covers the period 2018–2020 and comes to support a long-term vision of improving the allocation and utilization of public funds addressed to children's and young adults' health and well-being in Romania.

2 Scoping study

2.1. International context

Leaders and organizations around the world have recognized the importance of ensuring a flourishing future for children. The Committee on the Rights of the Child actively advocates for improving the public expenditure for children for better outcomes. Article 4 of the Convention on the Rights of the Child advises States to invest to "the maximum extent of available resources" for ensuring the implementation of child rights (UNCRC, 2016). State parties must take measures within their budget processes to generate revenue and adequately manage expenditures to realize children's rights. General Comment No. 19 (2016) on public budgeting for the realization of children's rights provides detailed directions for the States to accomplish these obligations recognized in the Convention. Accordingly, better public expenditure for children can be achieved by considering the five principles: **effectiveness, efficiency, equity, sustainability, and transparency.**

With the final goal of upholding children's rights, the UNCRC recommends budget monitoring and surveillance mechanisms for each stage of the budget process - planning, enacting, executing, and follow up.

Briefly described, planning consists of periodically assessing the economic, legislative, and policy context for children protection and how the context impacts children, mobilizing domestic resources, and formulating budgets at national and sub-national levels. The enactment stage should involve the legislators' close and qualitative examination of budget proposals and making sure the budget is enacted by the legislature and is accessible to civil societies. The executing stage refers to maintaining efficient and transparent public finance mechanisms for transfers and spending financial resources and recurring reports of budget execution. Reports and evaluations at the end of the year and audits, which conclude at the follow-up stage, will provide insights into the measured impact of the budget.

2.2. What is prevention?

According to the OECD, Eurostat & WHO (2017), prevention refers to **any measures that aim to reduce or avoid the risk of a disease or injury**. It is based on a health promotion strategy that involves a process to enable people to choose healthy behaviors and improve their health. These measures include a variety of interventions organized at primary, secondary, and tertiary prevention levels:

PRIMARY PREVENTION	SECONDARY PREVENTION	TERTIARY PREVENTION
aims to reduce the risks before they generate some effect (e.g. vaccination, routine check-ups, screening)	involves specific interventions aimed at detecting the disease as early as possible (e.g. screening)	treats disease or injury to avoid worsening or complications (e.g. early surgery)

The System of Health Accounts (ibid.) classifies prevention based on the type of service:

1. **Information, education, and counselling programs (IEC)**
2. **Immunization programs**
3. **Early disease detection programs**
4. **Health condition monitoring programs**
5. **Epidemiological surveillance and risk and disease control programs.**

3 Methodology

To achieve the objective of this study, we combined three methodological approaches:

(1) literature review / scoping study;

(2) national-level expenditure analysis;

(3) interviews with key informants; and

(4) technical support from UNICEF Country Office in Romania.

The scoping study approach (Arksey & O'Malley, 2005) was used as a method to comprehensively map and review relevant literature in the field of preventive services addressed to children and young adults at national and sub-national levels. The System of Health Accounts framework of prevention (HC.6) was used for the classification of preventive services.

In order to extract financial and volume indicators of activity of the Romanian healthcare system, we used a wide range of sources, such as scientific publications, grey literature, public databases, as well as formal data requests addressed to key stakeholders (Ministry of Health, National Health Insurance House, National Institution of Public Health, National Institute of Statistics, and National School of Public Health, Management, and Professional Development). The period under review is 2018–2020.

All information extracted from these sources was pooled, cleaned, restructured, analyzed, and synthesized using MS Office. We used Tableau Desktop to develop visualizations based on processed worksheets. Variables are expressed using gross values and proportions. Descriptive indicators were computed to express the distribution of various budget items.
In some cases, basic bottom-up (based on the volume of activity) or top-down (based on total yearly expenditure) approaches were used to estimate missing indicators. Assumptions for these calculations are available in the Appendix.

Due to the structure and technical features of the Romanian healthcare budget, systematic and exhaustive extraction of all items related to primary prevention activities for the target population of the study was not possible. To address this issue, only expenditure items or activities that could be directly linked to primary prevention were analyzed. Additional services or activities for which curative and preventive dimensions are fundamentally interwoven were excluded from the analysis.

Eight semi-structured interviews were organized with relevant experts from each key national institution identified during the literature review and expenditure analysis. The aim was to receive feedback on critical areas of past, current and planned health financing policies addressed to children and adolescents .

4 Results from interviews

4.1. National context

Life expectancy at birth in Romania remains among the lowest in the EU, despite the fact that it has increased from 73 years in 2010 to 75 years in 2019 (World Bank, 2021). The infant mortality rate dropped from 10.5 to 5.7 per 1,000 live births over the same time period (World Bank, 2021). However, in 2020, the infant mortality rate increased to 6.1 per 1.000 live births. An increase was also seen in the under-five mortality rate from 6.9 in 2019 to 7.4 in 2020.

At the national level, children and young adults under 18 years of age account for 19% of the total population (NIS, 2020).

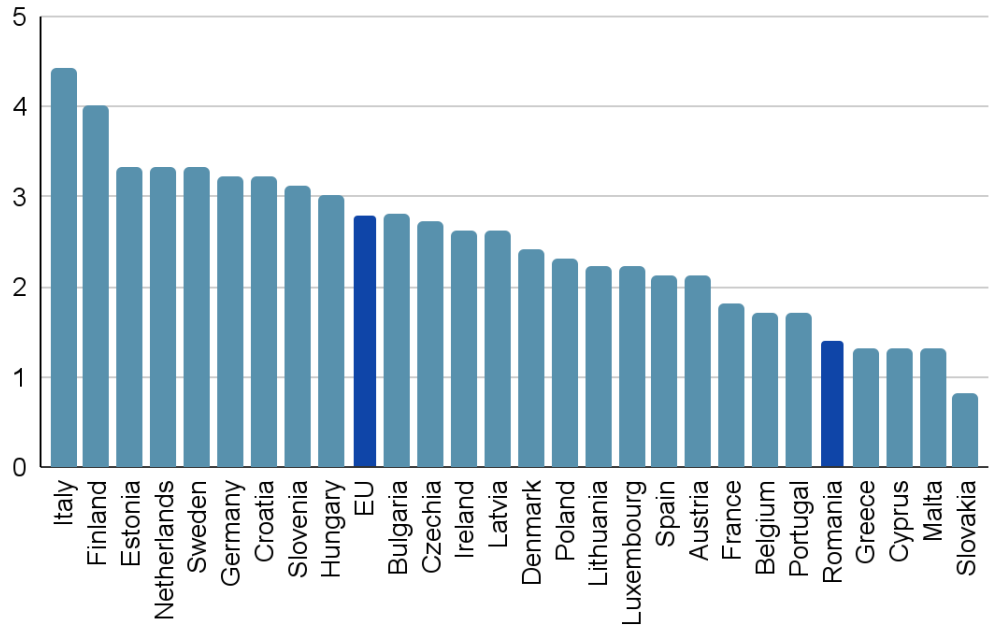
Worldwide, health is the second largest area of public expenditure for most countries (World Health Organization, 2014), including Romania.
The Committee on the Rights of the Child also actively promotes better public expenditure for children. Article 4 of the CRC directs States to invest in child rights to 'the maximum extent of available resources'. General Comment No. 19 (UNCRC, 2016) on Public Budgeting for the Realization of Child Rights guides States on how to fulfill and report on this obligation. It provides specific guidance for member states with regard to realizing children's rights at each stage of the budget process, as well as for domestic mobilization of additional resources.

In Romania, Law no. 95/2006, is the cornerstone legislation which regulates the healthcare system, establishing its fundamentals. The health system is organized around a mandatory social insurance system at two main levels – national and district / county. According to Law no. 95/2006, children and people under the age of 26, if they are students, are entitled to the basic package of services without any social health insurance contribution. Also, pregnant women are entitled to the minimum package of services, even if they are not insured. (European Commission, 2021).
Despite efforts to decentralize some regulatory functions, the Romanian healthcare system continues to be highly centralized (Vlădescu, et al., 2016).
The overall healthcare budget is set annually by the Government and approved by the Parliament through the State Budget Law. The majority of the health budget is allocated through the Ministry of Health at central level, followed by local budgets and other ministries with subordinated healthcare facilities. Before being distributed to the Ministry of Health and other ministries that have their own health networks, the funds are allocated for specific purposes, and further transfers across budget categories are not possible (ibid., p.61).

Healthcare in Romania relies mainly on public financing, which has increased as a share of total spending from 75% in 2011 to 80% in 2019. Public spending on health as a share of GDP increased from 4.7% to 5.7% in the same period. In 2019, 65% of the total spending on health was funded by the National Health Insurance Fund, 15% from government transfers and about 20% from voluntary and out-of-pocket payments (Eurostat 2021b).

In terms of preventive services, the share of total current health spending slightly increased from 1.3% in 2011 to 1.5% in 2019. Figure 1 shows the share of current spending on preventive services in the EU, which was just below 3% on average in 2018. Among EU Members States, Italy (4.4%) and Finland (4%) allocated the most to prevention, whereas Slovakia (0.8%), Greece (1.3%), Cyprus (1.3%), Malta (1.3%), and Romania (1.4%) are at the bottom of the ranking.

Figure 1. Current spending on preventive services in 2018 (as % of total healthcare spending)



Source: *Eurostat (2021a)*

Data from the Romanian National Institute of Statistics *(Table 1)* shows that, at national level, current spending on preventive services in terms of lei/inhabitant and share of current healthcare spending has increased over the years 2018–2019. The domestic general government preventive care spending (as a share of domestic general government spending) has increased by 0.1% over the two mentioned years. Overall, 99.8% (2018) and 100% (2019) of the current preventive public spending derived from the domestic general government preventive care spending.

Table 1. Preventive care expenditure for the whole population

Indicators	Measurement unit	2018	2019	Change (%)
Current preventive care expenditure	*per capita in RON*	38.6	47.8	**9.1**
Current preventive care expenditure	*% of current health expenditure*	1.4	1.5	**0.1**
Domestic general government preventive care expenditure	*% of current preventive care expenditure*	99.8	100	**0.2**
Domestic general government preventive care expenditure	*% of domestic general government health expenditure*	1.8	1.9	**0.1**
Domestic general government and externally preventive care expenditure	*% of GDP*	0.08	0.09	**0.01**

Source: *National Institute of Public Health (NIPH)Note: 2020 data is not yet available.*

However, a recent report on spending on health in Europe, conducted by the World Health Organization, highlighted the COVID-19 implications for health spending. EU countries mobilized additional funds in 2020 to treat and prevent disease and mitigate some of the challenges (World Health Organization, 2021c, p.63) and should continue to prevent the gap between the necessary versus the allocated resources (ibid., p.75). The interviews highlighted this, as well - ***"More specifically, if we have 100 lei that we have to spend for glycemic sensors, but the requests are worth 200 lei, priority will be given to children and pregnant women. Later, if there is money left, it will be given to other people, respectively to adults. There are priorities, an application, but I would say that it is punctual, it is not made at the level of a legislation that should apply only to children."***

According to the most recent report issued by the European Commission, there is a growing tendency in the rates of overweight, obesity and smoking among adolescents in Romania (European Commission, 2021). The same report mentions that the Romania is spending significantly less than the EU-wide average in areas related to health. Whereas 44% of the total spending is allocated to inpatient care, only about 1% is dedicated to prevention (European Commission, 2021).

Recognizing the importance of prevention, the Romanian Parliament adopted in 2020 Law no. 152/2020, which regulates the organization and financing of health promotion and disease prevention services (Monitorul Oficial, 2020). It aims to create the legal framework for payments for preventive actions in addition to health care services paid for through the social health insurance system. Article 5 (3) states that the funds allocated for health promotion and disease prevention through the ministries and the local budgets will be no less than 3% of total health expenditure, with financing and activities coordinated in intersectionality. If put into practice, a minimum of 3% would translate into double the current spending.

The key medium-term planning tool in the health sector is the National Health Strategy developed in two phases: 2014–2020 and 2021–2027, aligning with the EU cohesion policy. It covers the areas of public health, health services, and system-wide measures. The strategy's main objectives are to improve the health and nutrition of mother and child, reduce mortality and morbidity of communicable diseases and slow down the increase of morbidity and mortality from NCDs. The main objective in the area of health services is to ensure equitable access to quality and cost-effective health services. The implementation of this strategy is one of the conditions for accessing the new EU funding (Ministerul Sănătății, 2014; Vlădescu et al., 2016).

4.1.1. National health programs

In Romania, there are two categories of National Health Programs that are regulated by Law 95/2006:

- **National public health** programs financed by the Ministry of Health
- **Curative** national health programs financed by the National Health Insurance House

Article 46 of the Law details upon the objectives of the National Health Programs, as follows:

- ➔ to solve health problems with priority, following the National Health Strategy
- ➔ to use the allocated resources efficiently

- to base the programs on the needs of the population
- to ensure compliance with the policies, strategies, and recommendations of the international institutions and organizations.

According to Article 48 of the Law, The National Health Programs are developed by the Ministry of Health in collaboration with the National Health Insurance House and non-governmental authorities, institutions, and organizations.

The national public health programs are implemented in compliance with the technical norms approved by the Ministry of Health. In this regard, Article 49 of the Law specifies the financing mechanism. Hence, the implementation of the programs is financed by the Ministry of Health, from the state budget and own revenues, through providers of medical services subordinated to the Ministry of Health, or local public administration authorities, ministries and institutions with their own health network, through public institutions, as well as private services providers. The budget allocation is done based on contracts concluded with the Public Health Authorities or, as the case may be, with the public institutions subordinated to the Ministry of Health.

According to Order no. 377/2017 approving the technical norms, the national public health programs are financed from **two budgetary titles** stipulated in the classification of the indicators related to public finances (Article7), as follows:

1. **Title 20 "Goods and services"**

- Title of expense "Goods and services - LPAs" corresponds to the national public health programs implemented by the sanitary units subordinated to LPAs

- Title of expense "Goods and services - DPHAs" corresponds to the national public health programs implemented by the DPHAs, and other specialized units

2. **Title 51 "Transfers between public administration units"**

- Title of expense "Transfers" corresponds to the national public health programs implemented by the sanitary units subordinated to the MoH

Financing of the national public health program or subprogram from the MoH budget is made monthly, in-depth for each source of funding and title, based on the request made by the specialized units that implement them (Article8).

The funds allocated from the two budgetary titles can be used to purchase the goods and services necessary for developing the programs, such as drugs and sanitary materials, professional training, to name but a few (Article 9).

The entities implementing the programs must use funds within the allocated budget and according to the specific purpose, in compliance with legal provisions.
Additionally, they must efficiently manage physical and financial resources, expenses, and budgetary execution (Article 56). Law no. 95/2006 facilitates a certain degree of transparency, stipulating that the allocated budget for the national health programs should be published on the Ministry of Health's website.

From the perspective of the experts interviewed, insufficient funds are allocated for the development of prevention activities among the pediatric population (especially in family or school offices), the allocation of existing ones being ***"unevenly distributed, concentrated in large cities, where we have 1000 school doctors, and absent in rural areas"***. According to most of the contributions of the participants, the national prevention programs are ***"quite restrictive"***, their funding being described as "quite weak and unfounded" due to the limitations imposed by the lack of systematically collected current data on the health status of the population.

1. Budget allocation for national public health programs

The total budget for the national public health programs targeting the whole population for the period 2018–2020 accounts for RON 3,164,013,000 (Table 2).

Data from the interviews highlight that, in general, the budget allocated to preventive health programs increased by maximum 5% compared to the previous year; increases were correlated with the performance of the activities - **"We make a distribution according to performance, where we have teams. Where we have the results of the activity, reflected in the expenses, i.e. where they can spend and prove that they do, we propose to the ministry to allocate more money. The ministry accepts, it is based on our proposals, the problem is that, even so, the money is very little."**

Table 2. Financing of the national public health programs, whole population, 2018–2020

Entire population	2018		2019	2020	
	State budget	Own budget	State budget	State budget	State budget (RT-PCR)
Allocated budget	307,889,000	411,247,000	942,933,000	993,736,000	508,208,000 *
Spent budget	297,553,500	-	901,866,000	880,890,331	361,499,000 *
Budgetary execution	96.6%	-	95.6%	88.6%	71.1%

Source: *data requested and received from the MoH; Order no.1230/2018*
** Funding of RT-PCR for SARS-CoV-2 included under the national program of surveillance and control of priority communicable diseases*

According to Law 95/2006, the beneficiaries of the national public health programs are the insured people, children, and young adults included. The national programs carried out by the Ministry of Health, specifically targeting children, are the national vaccination program and the national women's and child health program - subprogram for child nutrition and health. However, children and young adults can be beneficiaries of other national health programs (Table 3).

Table 3. Beneficiaries of the national public health programs

Program	Adults	Children & young adults*
National program for communicable diseases		
National vaccination program	✓	✓
National program of surveillance and control of priority communicable diseases	✓	✓
National program of prevention, surveillance, and control of HIV	✓	✓
National program of prevention, surveillance, and control of TB	✓	✓
National program for the surveillance and limitation of healthcare-associated infections and microbial resistance, as well as monitoring the use of antibiotics	-	-
National program for the monitoring of influencing factors in the living and work environment	-	-
National program for transfusion safety	-	-
National program for non-communicable diseases		
Subprogram for the early detection of cervical cancer (Babes-Papanicolau testing)	✓	
National program of mental health and prophylaxis in psychiatric pathology	✓	✓
National program for the transplantation of organs, tissues, and cells of human origin	✓	
National program for endocrine disorders	✓	
National program for the assessment of Vitamin D Status	✓	✓
National program for the treatment of rare disorders	✓	
National program for the management of national registers	-	-
National **program for health evaluation, promotion, and education**		
A. Subprogram for health assessment and promotion and health education	✓	✓
Interventions for a healthy lifestyle	✓	✓
Assessment of the health status of the general population	✓	✓
B. Sub-program for the prevention and control of tobacco use	✓	✓

Mother and child national program		
A. Child nutrition and health subprogram		✓
Prophylaxis of dystrophy in children aged 0-12 months (milk powder)		✓
Prevention of malnutrition in low birth weight children		✓
Prevention of phenylketonuria and congenital hypothyroidism by neonatal screening, confirmation of the diagnosis of phenylketonuria, and monitoring of disease progression		✓
Dietary treatment of children with phenylketonuria and other congenital metabolic diseases		✓
Prevention of hearing impairment through hearing screening in newborns		✓
Prevention of retinopathy of prematurity and its complications, through neonatal screening, laser therapy, and monitoring of the evolution of the disease		✓
Prevention of associated morbidity and complications, through early diagnosis, as well as monitoring of chronic diseases in children		✓
Prevention of complications, through early diagnosis and monitoring of epilepsy and non-epileptic manifestations in children and dietary treatment of epilepsy		✓
B. Women's Health subprogram	✓	

***Note**: This category includes people under 18 years of age*
***Source:** adapted from Order 377/2017; Order 805/2020; Order 1.087/2021*

- The beneficiaries of the national vaccination program include **newborns up to 7 days**, children of **2, 4, 11, and 12 months**, as well as children aged **5, 6 years, and between 11-18 years**
- The beneficiaries of the national program of prevention, surveillance, and control of HIV include **newborns up to 6 weeks of age** for the post-exposure prophylaxis treatment
- The beneficiaries of the national program of prevention, surveillance, and control of TB include **people aged 0-19 years** for the prophylactic treatment
- The beneficiaries of the national program for health evaluation, promotion, and education include the **age group 3-19 years** for the subprogram addressing interventions for a healthy lifestyle
- The beneficiaries of the interventions for prophylaxis of dystrophy in children are **children aged 0-12 months**

The age groups are not explicitly mentioned for the rest of the programs addressed to people below 18 years.

4.2. Main public financing arrangements for preventive services in Romania

Figure 2 summarizes publicly financed preventive health services in Romania.

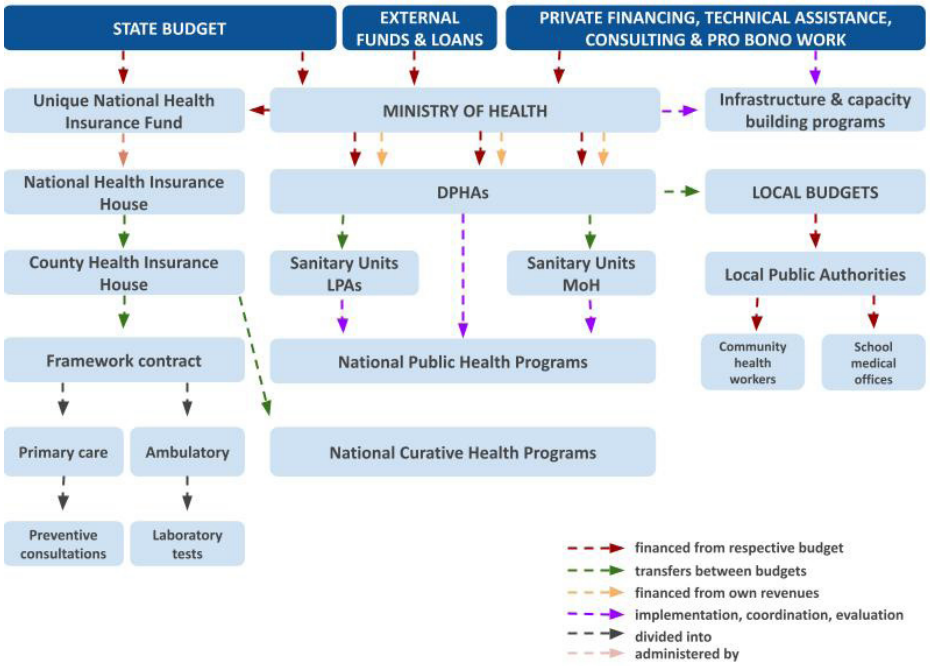


Figure 2. Main public financing arrangements for preventive services in Romania

4.2.1. Services provided by family physicians

Family physicians have a gatekeeping role in Romania. Still, access to primary healthcare services is constrained by the distribution of financial, human, physical and social resources at the national and sub-national levels, with high disparities between urban and rural areas. Up to 90 percent of localities lacking a family physician are rural, resulting in an increased number of underserved vulnerable population (World Bank, 2019, p.20).

Hence the contact with primary healthcare can be challenging, resulting in wasteful spending at national level. According to the World Bank, in 2018, at least 10 percent of hospital spending ($400 million) could have been avoided through effective primary healthcare (World Bank, 2019, p.19).

- ➔ At national level, family physicians provide primary care services, including preventive services on growth and development, nutritional status and nutritional practices, and other preventive services for young adults (0–18 years). Family physicians are paid fee-for-service for preventive care.

As stated in the Order no. 1068/2021, the frequency of consultations offered by family physicians should be as follows:

- at maternity discharge and at 1 month - at the child's domicile
- at 2, 4, 6, 9, 12, 15, 18, 24, 36 months
- once a year from 4-18 years

The payment methods in primary healthcare for the provision of medical services are capitation and fee for service. Payments are calculated as follows:

- capitation: per capita by tariff / insured person, in relation to age groups (Table 4); gender differences apply to higher age groups (>18 years).
- fee for service: by tariff on medical services expressed in points (Table 5)

Table 4. Number of points / person used in family medicine, in relation to age and gender in 2021

Age group	0-3 years		4-18 years	
Gender	**M**	**F**	**M**	**F**
Number of points/person/year	13	13	8	8

Source: *Order no. 1068/2021*

In 2021, the points attributed per capita in family medicine were not differentiated by gender. Additionally, the minimum guaranteed value of the capitation point was 8,5 RON, while the minimum guaranteed value of a fee for service point was 3,5 RON.

Table 5. Number of points for fee for service provided by family physicians, by payment / medical service in 2021

Preventive medical services	Number of consultations	Number of points / consultation
at maternity discharge	1 consultation	15
1 month	1 consultation	15
2, 4, 6, 9, 12, 15, 18, 24, 36 months	1 consultation/each month	5,5
4-18 years	1 consultation/year	5,5

Source: *Order no. 1068/2021*

Additionally, as the interviewed experts mentioned, MoH may contract family physicians for services under the national curative health programs, such as immunization and maternal and childcare.

Table 6. Laboratory tests for people aged 0–18 years covered by the NHIH

2–5 years	6–9 years	10–17 years	18 years
Anemia screening: 1. complete blood count 2. syderemia Rickets screening: 1. total serum calcium 2. ionized calcium 3. Phosphorus 4. Alkaline phosphatase	Prophylaxis of metabolic syndrome for increased BMI: 1. total serum protein 2. LDL cholesterol 3. serum triglycerides 4. blood sugar 5. TGP 6. TGO 7.TSH 8.FT4	Prophylaxis of metabolic syndrome for increased BMI: 1. LDL cholesterol 2. serum triglycerides 3. blood sugar 4. TGP 5. TGO 6.TSH 7. FT4 STD screening (after the start of sexual intercourse): 1. VDRL or RPR	1. complete blood count 2. ESR 3. blood sugar 4. total serum cholesterol 5. LDL cholesterol 6. serum creatinine 7. VDRL or RPR for women who plan to get pregnant

Source: *http://legislatie.just.ro/Public/DetaliiDocument/244166*

4.2.2. The national vaccination program

Before the COVID-19 pandemic, the budget allocated to the national vaccination program included two main activities:

- vaccination according to the National Vaccination calendar[1]
- vaccination of population groups at risk with vaccines other than vaccines against COVID-19 (e.g. flu vaccine);

After the outbreak of the COVID-19 pandemic, the allocated budget included two additional activities (Order no. 1.087/2021):

- purchase of COVID-19 vaccines;
- purchase of sanitary materials needed in the campaign against COVID-19;

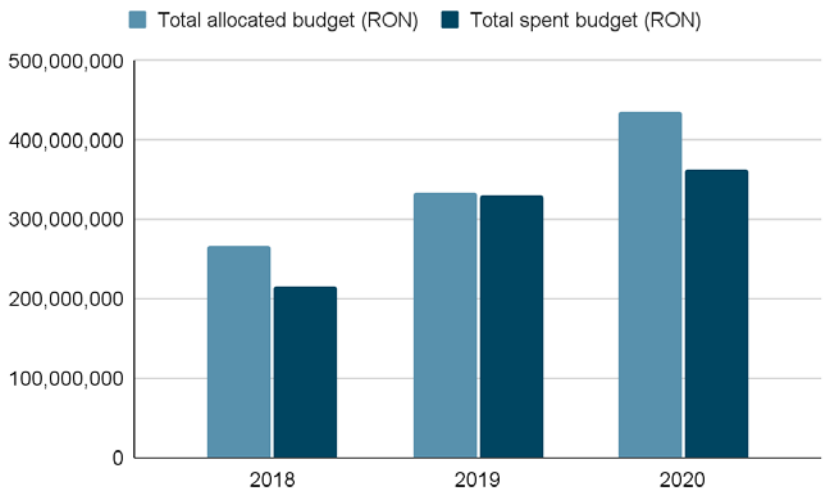
1 https://insp.gov.ro/centrul-national-de-supraveghere-si-control-al-bolilor-transmisibile-cnscbt/calendarul-national-de-vaccinare/

Over the period 2018–2020, the total budget of the national vaccination program was RON 1,041,796,000, representing 39% of the total funding for the national public health programs (excluding the budget allocated for RT-PCR for SARS-CoV-2). The national vaccination program has recorded an increase in the budget allocation by 27.2% from 2018 to 2019 and by 28.2% from 2019 to 2020. The budgetary execution, however, did not follow the same trend. It was the highest in 2019 (97.3%), followed by 2020 (83.1%) and 2018 (81.%) (Figure 3). The amount spent increased consistently. Therefore, the MOH is spending more in absolute terms, just not more relative to the allocations.

Vaccination rates have decreased over the years. According to the National Institute of Public Health, the vaccination rates for children of 12 months decreased in 2018, alongside the rates for children of 18 and 24 months in 2020. The World Health Organization draws attention to the importance of immunization, especially for newborns and children, estimating that it prevents 2-3 million deaths every year (World Health Organization, 2021d). Recent data published by WHO and UNICEF (2021) on the impact of the COVID-19 pandemic on childhood vaccinations shows that 23 million children worldwide failed to receive basic vaccines in 2020. Compared with 2019, 3.7 million more children missed out on basic vaccines, reflecting the global service disruptions due to the pandemic.

Globally, the diversion of resources and personnel to support the COVID-19 response translated into closed clinics or reduced hours, challenges due to lockdown measures, and transportation disruptions. Additionally, school closures have affected the vaccinations against HPV, with only 13% of girls being vaccinated in 2020, compared to 15% in 2019.

Figure 3. Budget of the national vaccination program



Source: *adapted from data received from the MoH*

The HPV vaccine was administered, upon request, to girls between the ages of 11 and 14 years, until 2020. In 2021, according to a ministerial order approved by the MoH in September, the age group was extended to include girls aged 15-18 years.
In Romania, several activities are carried out for the vaccination of the population, according to Order no. 377/2017 :

1. Activities carried out by NIPH, through the National Surveillance Center and Control of Communicable Diseases and specialized structures at the regional level.
2. Activities carried out by the services/offices for the supervision of and control of communicable diseases within DPHAs.
3. Activities carried out by medical service providers at the maternity hospitals within the public and private health system.
4. Activities carried out by healthcare providers at the primary healthcare level
5. Activities carried out by pneumology hospitals

The program evaluation is done following the pre-established indicators (Table 7).

Table 7. Evaluation indicators of the national vaccination program

Numbers/year	Estimated average cost/activity
2,500,000 vaccinations	65 RON/vaccination
130,000 vaccination cards printed by NIPH	1 RON/card
350 activities carried out by NIPH	970 RON/activity

Source: *adapted from Order no. 377/2017*

The estimated average cost/vaccination is calculated as the ratio between the actual spending and the number of vaccinations performed.

The actual spending includes:

- the vaccine doses;
- the injection syringes;
- the service provision;
- general expenses comprising the value of goods used for administrative purposes, costs related to transportation and maintenance of vaccines, measurement of refrigerators facilities, product losses, IT&C system maintenance.

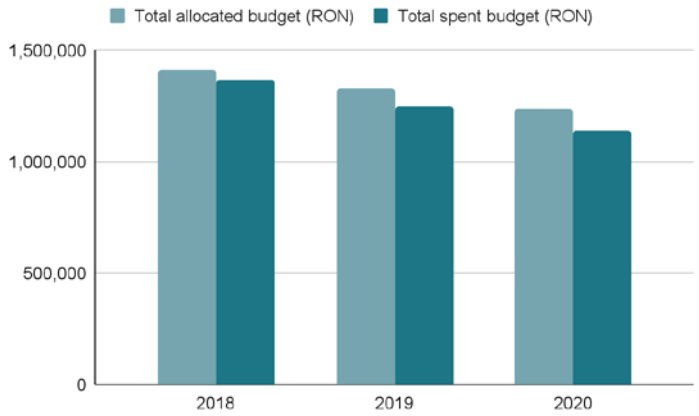
According to UNICEF (2020), the costs of vaccinating a child depend on the variations in vaccine products, the prices negotiated with manufacturers, and delivery costs. As actual investment in vaccination is poorly documented in European Union countries, the summary paper developed by UNICEF offers benchmark values for the costs of vaccine delivery in low and medium-income countries in 2020 and a good start to give a rough estimate of the resources needed. The paper argues that the average costs of fully vaccinating a child under 24 months against eleven different diseases are estimated at $58 for countries that procure vaccines through UNICEF. However, the price range can reach costs between $37 and $101 per child (UNICEF, 2020, p.2).

4.2.3. The national program for health evaluation, promotion, and education

Between 2018 and 2020, the total budget of the national program for health evaluation, promotion, and education was RON 3,963,000, representing about 0.1% of the total budget of national public health programs (excluding the budget allocated for RT-PCR for SARS-CoV-2).
The budget allocation increased by 5.8% in 2019 and by 7.1% in 2020, with a budgetary execution above 90% each year (Figure 4).

Programatically, there is no clear distinction between children and adults in terms of budgeting. *"It is not a division by children and adults, but by the types of activities promoted. For example, starting from 2020, health promotion is done on a specific topic each month. If that month's topic is also addressed to children, then the materials also contain data about children."*

Figure 4. Financing of the program for health evaluation, promotion, and education (2018-2020)



Source: *adapted from data received from MoH*

When discussing the financing of the sub-programs under the health evaluation, promotion, and education program, the allocations, amounts spent and execution rates have all been gradually falling; this trend is consistent across the two sub-programs, as per info in the table below (Table 8).

Table 8. Financing of subprograms under the program for health evaluation, promotion, and education

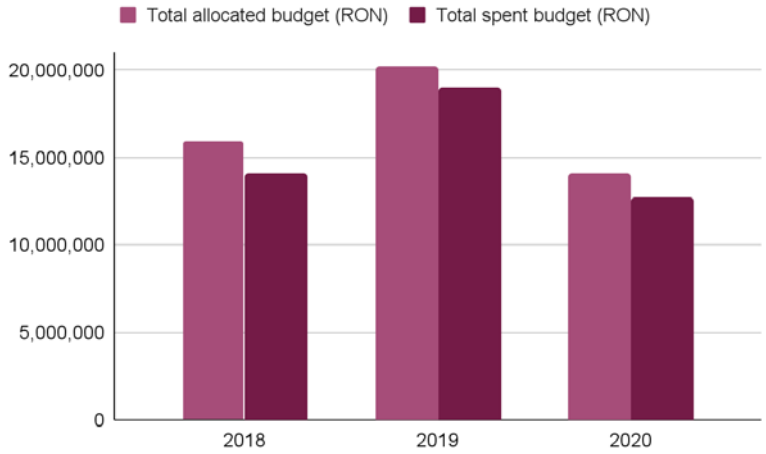
NAME	2018	2019	2020
Subprogram for health assessment and promotion, and health education			
Allocated budget (RON)	824,000	773,000	706,000
Budgetary execution	**95%**	**92%**	**92%**
Subprogram for the prevention and control of tobacco use			
Allocated budget (RON)	583,0000	552,000	525,000
Budgetary execution	**100%**	**96%**	**92%**

Subprogram for health assessment and promotion and health education		Subprogram for the prevention and control of tobacco
A. Interventions for a healthy lifestyle	**B. Assessment of the health status of the general population**	1. organizing a national campaign to celebrate the National No Tobacco Day, including a press conference and the production and distribution of information materials such as posters and flyers
A.1 organizing and implementing campaigns to celebrate World/ European Days according to the national calendar	B.1 assessment of the health of children and young adults	2. continuous promotion of the hotline "Tel Verde-stop smoking", as well as the website and Facebook page
A.1 organizing and implementing interventions for specific health priorities	B.2 assessment of the health status of the general population	3. providing the necessary drug treatment for smoking cessation, according to recommendations of professional organizations in the field
A.3 organizing and taking actions for the implementation of the county action plans for healthy eating and physical activity in children and adolescents		
A.4 organizing and implementing health promotion interventions for vulnerable communities and groups		
A.5 promoting a healthy lifestyle by organizing and implementing primary and secondary prevention interventions to reduce harmful alcohol consumption		
A.6 complimentary activities		

4.2.3.1. Subprogram for child nutrition and health

Over the same period (2018-2020), the total budget of the child and health nutrition subprogram accounted for 50,141,000 RON, representing 2% of the total budget allocated for the national public health programs (excluding the budget allocated for RT-PCR for SARS-CoV-2). The budget per year has fluctuated, increasing by 26% in 2019 but decreasing by 30% in 2020 (Figure 5). The budgetary execution was 88% in 2018, 94% in 2019, and 90% in 2020.

Figure 5. Financing of the subprogram for child nutrition and health (2018-2020)



***Source**: adapted from data received from the MoH*

The World Food Programme (2021) recognizes the importance of nutrition, being mentioned as one of the five steps to achieve zero hunger by 2030. Good health and nutrition, starting with a child's first 1000 days, is crucial to the child's development, ability to grow, learn and thrive (Thousand Days, 2021). Research shows that optimum fetal and child nutrition and development have many benefits over a lifetime. It increases cognitive, motor, socioemotional development, school performance and learning capacity, work capacity and productivity, and adult stature, while morbidity and mortality in childhood, obesity, and non-communicable diseases decrease (Black et al., 2013).

In terms of return on investment, research shows that investing $1 in promoting the nutrition of mothers and children in the first 1000 days yields a return of $35 (Thousand Days, 2021).
Mothers, however, are sometimes adolescent girls, which is associated with a higher risk of maternal mortality and morbidity, neonatal births, preterm births, and low birth weight (World Health Organization, 2020).

However, this is far from being achieved in Romania. A 2019 report from the National Institute of Public Health shows that the malnutrition rate (/1000 people) in people aged 0 to 19 was 61.4% (INSP, 2019). Complementary, access to services for children is uneven, especially for vulnerable groups. In rural areas, there is limited access to adequate nutrition or healthcare (European Commission, 2020). Estimates by UNICEF/WHO show that 8.2% of infants have a low weight at birth, which strengthens the reasoning for taking immediate action (Global Nutrition Report, 2021). Interventions to address malnutrition in low birth weight children are included under the subprogram for child nutrition and health, accounting for 5,428,000 RON over 2018-2020 (Table 9). The budgetary execution of this intervention was over 90% for each year, with an estimated average cost/beneficiary of 100 RON, according to Order no. 377/2017.

Table 9. Financing of interventions under the subprogram for child nutrition and health

Subprogram	2018	2019	2020
Prophylaxis of dystrophy in children aged 0-12 months (milk powder)			
Allocated budget (RON)	5,065,000	7,338,000	2,764,000
Budgetary execution	**71.1%**	**99.9%**	**74.1%**
Prophylaxis of malnutrition in low birth weight children			
Allocated budget (RON)	1,885,000 *	1,956,000	1,587,000
Budgetary execution	**91.4%**	**91.7%**	**90.2%**
Prevention of phenylketonuria and congenital hypothyroidism by neonatal screening, confirmation of the diagnosis of phenylketonuria, and monitoring of disease progression			
Allocated budget (RON)	3,494,000 *	3,955,000	3,793,000
Budgetary execution	**98.5%**	**97.9%**	**94.4%**
Dietary treatment of children with phenylketonuria and other congenital metabolic diseases			
Allocated budget (RON)	2,331,000 *	2,815,000	3,191,000
Budgetary execution	**99.8%**	**88.2%**	**99.7%**
Prevention of hearing impairment through hearing screening in newborns			
Allocated budget **(RON)**	434,000 *	611,000	414,000
Budgetary execution	**91.7%**	**72.7%**	**77.1%**
Prevention of retinopathy of prematurity and its complications, through neonatal screening, laser therapy, and monitoring of the evolution of the disease			
Allocated budget (RON)	329,000 *	471,000	313,000
Budgetary execution	**84.2%**	**61.6%**	**82.1%**
Prevention of associated morbidity and complications, through early diagnosis, as well as monitoring of chronic diseases in children			
Allocated budget (RON)	2,342,000 *	2,696,000	1,825,000
Budgetary execution	**96.6%**	**93.1%**	**93.8%**
Prevention of complications, through early diagnosis and monitoring of epilepsy and non-epileptic manifestations in children and dietary treatment of epilepsy			
Allocated budget (RON)	133,000 *	300,000	159,000
Budgetary execution	**72.9%**	**63.0%**	**78.6%**

** financing from MoH's own revenue*
***Source**: adapted from data received from the MoH*

4.3. School health services

Data on the health status of children and adolescents are registered through annual school check-ups. However, the latest available data were collected for 2013–2014 (Vlădescu et al., 2016, p.4).
According to Law no.95/2006, article 34, preventive medical assistance for children and youth is provided by public or private school medical offices or individual family physicians' offices (Parlamentul României, 2015).

Order no. 162/2008 on the transfer of all responsibilities and authority of the MoH to the LPAs explains the extent to which health and dental care is provided in schools:

- health and dental care are provided to children throughout the school terms by doctors, dentists, and nurses;
- the medical staff enter a contract with the LPAs;
- for schools with no medical professionals, the family physicians and dentists within the respective communities or nearby localities can provide the necessary health and dental care based on an agreement with the local authorities (Guvernul României, 2008).

In practice, "there is no clear division of responsibilities between family medicine physicians and school physicians" (Vlădescu et al., 2016, p.4), resulting in a lack of monitoring of children with chronic diseases and diffusion of responsibility.

The LPAs enter contracts with the DPHAs to provide payments to doctors, dentists, nurses, and the essential drugs and sanitary materials, with funds provided from the state budget through the MoH according to Law no. 95/2006, Art. 20 (Parlamentul României, 2015).

At the national level, in 2019, children and young adults received services in 2.040 school medical offices and 504 school dental medical offices (Table 10).

Table 10. The share of school medical and dental offices in 2019

	TOTAL	URBAN	RURAL
School medical offices	2.040	2.025	15
School dental medical offices	504	504	0

Source: *adapted from INS (2020)*

In 2020, 1.302 doctors and 3.630 nurses were employed to provide medical services in schools. Of the total number of doctors, 61% are specialized in general medicine and 39% in dental medicine. On the other hand, of the total number of nurses, 90% are specialized in general medicine and 10% in dental medicine (Ministerul Sănătății, 2020).
The lack of a well-developed network of school offices was also recognized during the interviews. Identifying the financing sources for human resources was mentioned as a high priority. One respondent gave the example of the French model, where school nurses are entrusted the education and health promotion mission.

4.4. Dental services

The funds allocated for dental services derive from the NHIH and are reported annually. However, the report does not specify how many services were addressed to children and young adults and which type of services – eg prevention/ prophylaxis. Accordingly, in 2020, the NHIH reported 993.358 therapeutic acts and payments in the amount of RON 100.667.000.

4.5. Community health workers

In line with UNICEF findings from 2021 on the importance of community health care to ensure access to preventive services across vulnerable populations, one expert reinforced the impact of community health care workers on the well-being of children and young adults. In some cases, community health workers are being used within the education units lacking school doctors. As one respondent stressed, "We rely on them, and we see results", mentioning that the return on investment in community health care workers can be seen in the long term when certain diseases get to be prevented instead of treated. However, the distribution of community health workers in Romania is unequal, with significant differences between counties. About 50% of community health workers are concentrated in a quarter of the counties and not always where they are most needed (UNICEF, 2021c, p.9).

5 Conclusions and recommendations

"In the legislation, things may be a little better, but in practice, the protection and the medical services provided to children under 18 are not very well supported." Policy recommendations and actions to strengthen prevention care financial allocation should be addressed at each level of the budget cycle.

- **Overall spending on prevention has increased,** both in terms of allocations and amounts spent, however not by much, and can be considered relatively stable and low by European standards;
- **Allocations for the immunization program are by far the largest,** representing 30-40% of total expenditure on prevention. The other programs are considerably lower;
- **Budget execution rates vary considerably both across programs/sub-programs and across years within the same program,** broadly in the 70-100% range. These variations may suggest deficiencies in planning, organizing and delivering the programs, but may also be a result of their complexity e.g. cross-institution coordination;
- **There are no apparent mechanisms, certainly not legal ones, that can explain how allocations are made and vary year-on-year** e.g. execution rates, outputs, outcomes. It would be useful to compare, however indicatively, allocations with disease burden in children in Romania (using IHME or WHO data) and see if there's any relationship at all;
- **A large part of public health spending could not be mapped to children and adolescents due to disaggregate qualitative data.**

Recommendations for short-term action

- Analyzing outputs from existing programs;
- Synthesizing common bottlenecks in data collection systems, to focus in the future on a higher level of data disaggregation;
- Building a robust investment case for spending on prevention for the Ministry of Finance for the next budgetary cycle, in direct dialogue with the Ministry of Finance, and partners such as the National Institute of Public Health, County Public Health Directorates, UNICEF, World Health Organization, professional associations, non-governmental organizations and patients' associations;
- Implementing financial and non-financial incentives for priority preventive activities;
- Developing mechanisms in the Framework Contract to ensure a more active role of family physicians in prevention activities.

Recommendations for medium to long-term action

- Creating the legal foundation for piloting an integrated approach for preventive services e.g. in school settings, based on alternative funding mechanisms and an intersectoral approach;
- Reorganizing the planning and delivery of public health programs in order to improve alignment with population needs;
- Developing a performance monitoring framework for public health programs to allow evidence-informed allocation decisions for better public health results;
- Improving data monitoring mechanisms e.g. by developing links with existing data sets.
- Improving data monitoring mechanisms e.g. by developing links with existing data sets.

6 Limitations

This study presents several limitations, such as the lack of better and more granular data, which are urgently needed for better understanding of trends and patterns in health prevention budget and children outcomes. Many programs and services did not collect data on children, which increased the uncertainty in determining the amount allocated to them.

During the interviews, a lack of children-oriented thinking was observed, which is reflected in the budgeting rules and the division of the collected data.

References

Al-Kuwari, M. G., Abdulmalik, M. A., Al-Mudahka, H. R., Bakri, A. H., Al-Baker, W. A., Abushaikha, S. S., Kandy, M. C., & Gibb, J. (2021). The impact of COVID-19 pandemic on the preventive services in Qatar. Journal of public health research, 10(1), 1910. https://doi.org/10.4081/jphr.2021.1910.

Arksey, H., O'Malley, L. (2005). Scoping studies: towards a methodological framework, International Journal of Social Research Methodology, 8, 1, 19-32.

Black, R. E., Alderman, H., Bhutta, Z. A., Gillespie, S., Haddad, L., Horton, S., Lartey, A., Mannar, V., Ruel, M., Victoria, C., Walker, S., & Webb, P. (2013). Maternal and Child Nutrition. In The Lancet. www.thelancet.com

Branca, F., Piwoz, E., Schultink, W., & Sullivan, L. M. (2015). Nutrition and health in women, children, and adolescent girls. BMJ, 351, h4173. https://doi.org/10.1136/BMJ.H4173.

Casa Națională de Asigurări de Sănătate. (2021). *Ghidul asiguratului*. http://cnas.ro/wp-content/uploads/2021/07/cnas_ghidul_asiguratului_final.pdf

Casa Națională de Asigurări de Sănătate. (2020). Raport de activitate. Ianuarie-decembrie 2020. http://www.casan.ro//theme/cnas/js/ckeditor/filemanager/userfiles/Raport_activitate_CNAS_2020.pdf

Casa Națională de Asigurări de Sănătate. (2019). Raport de activitate al Casei Nationale de Asigurari de Sanatate pentru anul 2019. http://www.casan.ro//theme/cnas/js/ckeditor/filemanager/userfiles/Rap_act/raport_activitate_CNAS_2019_-.pdf

Casa Națională de Asigurări de Sănătate. (2018). Raport de activitate al Casei Nationale de Asigurari de Sanatate. http://www.casan.ro//theme/cnas/js/ckeditor/filemanager/userfiles/Rap_sit/Raport_activitate_CNAS_2018.pdf

CDC. (2009). The Power of Prevention. Chronic disease... the public health challenge of the 21st century.

Clark, H., Coll-Seck, A. M., Banerjee, A., Peterson, S., Dalglish, S. L., Ameratunga, S., Balabanova, D., Bhan, M. K., Bhutta, Z. A., Borrazzo, J., Claeson, M., Doherty, T., El-Jardali, F., George, A. S., Gichaga, A., Gram, L., Hipgrave, D. B., Kwamie, A., Meng, Q., … Costello, A. (2020). A future for the world's children? A WHO–UNICEF–Lancet Commission. *The Lancet*, *395*(10224), 605–658. https://doi.org/10.1016/S0140-6736(19)32540-1

European Commission (2021). State of Health in the EU. ROMANIA Country Health Profile 2021 https://ec.europa.eu/health/system/files/2021-12/2021_chp_romania_english.pdf

Eurostat. (2021a). *3% of healthcare expenditure spent on preventive care - Products Eurostat News - Eurostat*. https://ec.europa.eu/eurostat/web/products-eurostat-news/-/ddn-20210118-1

Eurostat. (2021b). Expenditure for selected health care functions by health care financing schemes. https://ec.europa.eu/eurostat/databrowser/view/HLTH_SHA11_HCHF__custom_1251275/default/table?lang=en

Global Nutrition Report. (2021). *Global Nutrition Report | Country Nutrition Profiles - Global Nutrition Report*. https://globalnutritionreport.org/resources/nutrition-profiles/europe/eastern-europe/romania/

Guvernul. (2008, December 8). *OUG 162 12/11/2008*. Monitorul Oficial. http://legislatie.just.ro/Public/DetaliiDocument/99731

Institutul Național de Sănătate Publică. (2019). *Raportul Național de Sănătate a Copiilor și Tinerilor din ROMÂNIA 2019*. https://ec.europa.eu/health/indicators/echi/list_en

Institutul Național de Statistică. (2020). Activitatea unitatilor sanitare anul 2019. https://insse.ro/cms/sites/default/files/field/publicatii/activitatea_unitatilor_sanitare_anul_2019.pdf

Institutul Național de Statistică. (2019). *SISTEMUL CONTURILOR DE SĂNĂTATE (SCS) ÎN ROMÂNIA-anul 2017*. https://insse.ro/cms/sites/default/files/field/publicatii/sistemul_conturilor_de_sanatate_in_romania_in_anul_2017_editia_2019.pdf

Macrotrends. (2021). Romani Urban Population 1960-2021. https://www.macrotrends.net/countries/ROU/romania/urban-population

Ministerul Finanțelor Publice. (2019). *RAPORT PRIVIND EXECUȚIA BUGETARĂ FINALĂ PE ANUL 2019*.

Ministerul Sănătății. (2021). Comunicate de presa. Ministrul Sanatatii, Ioana Mihaila: vaccinarea gratuita anti-HPV, extinsa la fete pana la 18 ani. http://www.ms.ro/2021/09/03/ministrul-sanatatii-ioana-mihaila-vaccinarea-gratuita-anti-hpv-extinsa-la-fete-pana-la-18-ani/

Ministerul Sănătății. (2020). Comunicat de presă. Creșterea bugetului pentru rețeaua de asistență medicală școlară. http://www.ms.ro/2020/09/10/cresterea-bugetului-pentru-reteaua-de-asistenta-medicala-scolara/

Ministerul Sănătății. (2014). Strategia Națională de Sănătate 2014-2020. http://www.ms.ro/wp-content/uploads/2016/10/Anexa-1-Strategia-Nationala-de-Sanatate-2014-2020.pdf

Pop, T. L., Burlea, M., Falup-Pecurariu, O., Borzan, C., Gabor-Harosa, F., Herdea, V., Pop, C. F., Rajka, D., Ognean, M. L., & Căinap, S. S. (2020). Overview of the pediatric healthcare system in Romania. *Turkish Archives of Pediatrics/Türk Pediatri Arşivi*, *55*(Suppl 1), 69. https://doi.org/10.14744/TURKPEDIATRIARS.2020.77775

Schneider. M.J. (2016). *Introduction to Public Health (5th edition),* Burlington, MA: Jones & Bartlett Learning

Stenberg, K., Axelson, H., Sheehan, P., Anderson, I., Gülmezoglu, A. M., Temmerman, M., Mason, E., Friedman, H. S., Bhutta, Z. A., Lawn, J. E., Sweeny, K., Tulloch, J., Hansen, P., Chopra, M., Gupta, A., Vogel, J. P., Ostergren, M., Rasmussen, B., Levin, C., … Bustreo, F. (2014). Advancing social and economic development by investing in women's and children's health: a new Global Investment Framework. The Lancet, 383(9925), 1333–1354. https://doi.org/10.1016/S0140-6736(13)62231-X

Thousand Days (2021). Why 1.000 Days. https://thousanddays.org/why-1000-days/

UNICEF. (2021a). COVID-19 pandemic leads to major backsliding on childhood vaccination, new WHO, UNICEF data shows. https://www.unicef.org/press-releases/covid-19-pandemic-leads-major-backsliding-childhood-vaccinations-new-who-unicef-data

UNICEF. (2021b). *From Evidence to Action: Putting Subnational Government Budget Data to Work for Children and Youth*. https://www.unicef.org/media/100256/file/Putting-Data-to-Work-for-Children.pdf

UNICEF. (2020). Costs of vaccinating a child. https://www.unicef.org/romania/media/3966/file/Costs%20of%20Vaccinating%20a%20Child%20-%20english.pdf

UNCRC. (2016). *General comment No. 19 (2016) on public budgeting for the realization of children's rights (art. 4)*. UNCRC, United Nations Committee on the Rights of the Child. https://resourcecentre.savethechildren.net/node/10121/pdf/g1616231.pdf

Vlădescu C., Scîntee S.G., Olsavszky V., Hernández-Quevedo C., Sagan A. (2016) Romania: Health system review 2016. Health Systems in Transition. 18(4):1–170

World Food Programme. (2021). *Zero Hunger*. https://www.wfp.org/zero-hunger

World Health Organization, Jowett, Matthew & Kutzin, Joseph. (‽ 2015)‽ . Raising revenues for health in support of UHC: strategic issues for policymakers. World Health Organization. https://apps.who.int/iris/handle/10665/192280

World Health Organization. (2021a). *Noncommunicable diseases*. World Health Organization. https://www.euro.who.int/en/health-topics/noncommunicable-diseases

World Health Organization. (2021b). Second round of the national pulse survey on continuity of essential health services during the COVID-19 pandemic: January-March 2021. Interim report. https://www.who.int/publications/i/item/WHO-2019-nCoV-EHS-continuity-survey-2021.1

World Health Organization. (2021c). Spending on health in Europe: entering a new era. https://www.euro.who.int/en/publications/abstracts/spending-on-health-in-europe-entering-a-new-era-2021

World Health Organization. (2021d). Vaccines and immunization. (https://www.who.int/healthtopics/vaccines-and-immunization#tab=tab_1

World Health Organization. (2020). *THE CASE FOR INVESTING IN PUBLIC HEALTH. The strengthening public health services and capacity*.

World Bank. (2021). Life expectancy at birth, total (years)-Romania. https://data.worldbank.org/indicator/SP.DYN.LE00.IN?end=2019&locations=RO&start=1960

World Bank. (2019).Program appraisal document on a proposed loan in the amount of Eur 500 million to Romania for a Romania Health Program for Results. August 2019. https://documents1.worldbank.org/curated/en/902651569031265960/pdf/Romania-Health-Program-for-Results-Project.pdf

Wilhelm, J. A., & Helleringer, S. (2019). Utilization of non-Ebola health care services during Ebola outbreaks: a systematic review and meta-analysis. Journal of global health, 9(1), 010406. https://doi.org/10.7189/jogh.09.010406

Annexes

Interview guide

1. Introduction

Length: 30-45 minutes

Primary goal: The objective of this interview is to get an overview of the allocation of financial resources for preventive healthcare services aimed at people under 18 (children and adolescents) at national and sub-national level

2. Verbal/written consent

Verbal and written consent was/was not obtained from the participant in the study.

3. Background information

Overview: Please briefly introduce yourself.

4. Financing and budgeting for children and adolescents

What are the sources of financing flows for preventive services aimed at people under 18 years old?

According to the SHA framework, the preventive services are:

1. Information, education and counselling programs (IEC)
2. Immunization programs
3. Early disease detection programs
4. Health condition monitoring programs
5. Epidemiological surveillance, risk and disease control programs

What are the criteria used to decide the annual budget for people under 18 years old?

- ➔ Does the annual budget address all needs of the population?
- ➔ What if the whole budget was already spent in the first half of the year?
- ➔ Are there specific budget lines dedicated to health promotion and disease prevention?

5. Services and prevention programs for children and adolescents

Which programs are aimed at people under 18 are mostly supported by donors?

- ➔ Why these particular programs?
- ➔ What are the donors' interests and incentives for engaging in a particular program?
- ➔ How has the ODA (official development assistance) evolved over time?

6. Assumptions and findings of our research

To be completed after data collection and analysis

7. Vision for promoting prevention for children and adolescents in Romania

Explore what the participants personally think and believe

How do you see equity in the distribution of national resources for people under 18 years old, to counties/ local authorities?

- ➔ **What about income inequality?**

- Vertical equity: people with income pay a larger share for public services
- Horizontal equity: people in the same circumstances should be afforded equal treatment

- ➔ **What about geographical equity?**

- Geographical equity: equal access to preventive services
- Rural vs. urban
- University vs. non university cities

Support and back-up questions

Financing and budgeting for children and adolescents
Are there any guidelines on how local resources should be allocated to people under 18?

- ➔ If yes, which ones?
- ➔ If not, who should set the guideline?

Are reporting timelines and guidelines being followed?

- ➔ If not, why? If yes, how is the process monitored?

Services and prevention programs for children and adolescents

What are the criteria used for budgeting health programs aimed at people under 18?