



Public Health
Babeş-Bolyai University

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FINANCIAL RESOURCE ALLOCATION FOR CHILD HEALTH IN THE ROMANIAN HEALTHCARE SYSTEM



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Acknowledgements

The authors acknowledge and are grateful for the support received from relevant national key decision makers in documenting and developing the current paper.

The views expressed in this paper are those of the authors and do not necessarily reflect the position of UNICEF.

March 2022

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EXECUTIVE SUMMARY

Efficient allocation of different types of resources for the primary, secondary and tertiary care is crucial for adequate child health and development in Romania. Child health has direct impact both on current social costs and the future of society (1).

This research was conducted in **March-October 2021** by the Public Health Department of Babeş-Bolyai University, in collaboration with UNICEF in Romania, with a view to explore resource allocation for child and adolescent health at primary, secondary and tertiary care levels. The main objective of this research is to capture and describe an overview of resource allocation and spending for the health of children under 18 and of resource distribution at primary, secondary and tertiary care levels.

In Romania, health services are mainly financed by public revenue (mostly from the SNHIF budget), supplemented by amounts transferred from the state budget, local public administration budget and direct payments (2). **In 2015, Romania recorded the lowest health spending per capita in the EU**, less than one third of the average reported at the European Union level (3). A breakdown of health spending at national level in 2018 shows that, of the total spending, **45% went to hospital care**, followed by medical supplies (26%), outpatient services (18%) and long-term care (6%) (4).

The analysis revealed an increase in the total budget allocated to the national programs implemented by the Ministry of Health, from RON 307,889,000 in 2018 to RON 1,501,944,000 in 2020. Amounts allocated for national health promotion programs for children aged 0-18 decreased between 2018-2020, from RON 15,732,000 to RON 15,317,000.

Despite a budget increase, we note a significant difference in the number of school medical offices in urban areas compared to rural areas, the latter accounting for only 1% of the total school medical services. In 22 counties there are no nurses working in school medical offices and 11 counties report one or two nurses. We see notable differences in the average cost per patient for endoprostheses for children, **where costs decreased drastically**, a decrease that can be attributed to the interruption of non-emergency services during the pandemic. A huge difference between 2018 and 2019 was also reported for severe congenital malformations, under the same program **"National program for orthopedics"**, where **costs per patient dropped most**.

For routine physical examinations, **health services were reimbursed only for 33-34% of the children in their first year of life**, when there should be 6 physical examinations, in total amount of RON 9.6 million in 2018 and just over RON 11 million in 2019 and 2020. The percentage of children for whom services are reimbursed decreases with age, so that in the second year of life **at least one of the 3 routine physical examinations is reimbursed for only 21-23% of the children aged 12 to 24 months**: for 15-17% of the children aged 24 months, for 14-16% of the children aged 3 years, and from the age of **4 to 18 years old, reimbursements are capped at 12% of the eligible children per year**. This percentage is worrying because the first 1000 days of life, from conception to the age of 2, are the fundamental period for healthy child development. Proper nutrition during this period is crucial for brain development and prevention of long-term deficiencies (5).

For the general population, outpatient expenses for clinical specialties increased by 12.95% between 2018 and 2019 and by 16.7% between 2019 and 2020. The same trend was identified for

paraclinical services expenses, which increased slightly by 3.51% in 2019 and by 4.1% in 2020. Indicator analysis identified a decrease in the amounts allocated for healthcare in multipurpose centers, with a decrease in expenditure from RON 119,157 thousand to RON 112,834 thousand between 2019 and 2020.

For **dental services**, although between 2018 and 2019 there was a slight increase in the NHIH spending by 9.83%, in 2020 the trend is reversed, the amount allocated decreasing by 12.13% compared to the previous year. This can be attributed to the school closures, as most of the reimbursed dental services are for children.

This research could not generate the exact figure for the amounts paid for hospital care for children, but, if we presume the same share of patients under 18 years of age compared to those over 18 years of age, we can estimate that the amount dedicated to hospital care for children **exceeds RON 1 billion/year for hospital care for acute patients alone.** However, at national level, we note a negative trend both for the number of discharged patients and for patients under 18. Between 2018 and 2019, we note a slight reduction in the number, while in 2020 it decreases almost by half.

Although the total number of pediatric admissions is at 54% of the 2018 level, in-hospital deaths of children under 5 years of age decreased by 9% in 2020 compared to 2018. A possible explanation is that hospital admissions were avoided in 2020.

Resource allocation in the health system is disproportionate and inefficient. The value of tertiary care services is at least ten times higher than that of primary and secondary care. At the same time, almost all services are curative and very limited resources are allocated to prevention, despite the fact that Romania aims to reverse the pyramid of healthcare services, according to the National Health Strategy 2014-2020.



ACRONYMS

LPAA	Local Public Administration Authority
NAQMH	National Authority for Quality Management in Healthcare
HIH	Health Insurance House
NHIH	National Health Insurance House
ED	Emergency Department
PHD	Public Health Directorate
ECD	Early Childhood Development
SNHIF	Single National Health Insurance Fund
HCI	Human Capital Index
NIPH	National Institute for Public Health
NIS	National Institute of Statistics
MoH	Ministry of Health
WHO	World Health Organization
NGO	Non-Governmental Organization
UN	United Nations
GDP	Gross Domestic Product
NHP	National Health Programs
HPHE	Health Promotion and Health Education
NSFM	National Society of Family Medicine
NSPHMPDB	National School of Public Health, Management and Professional Development Bucharest
EU	European Union
ER	Emergency Room
OR	Own Revenue



Introduction

Efficient allocation of different types of resources for the primary, secondary and tertiary care is crucial for adequate child health and development in Romania. Child health has direct impact both on current social costs and the future of society [\(1\)](#). Investments in child health trigger many beneficial effects on the economy, leading to reduced healthcare costs, increased labor market participation of parents, etc. [\(6\)](#). Countries can therefore prosper by investing in their young population, children and adolescents. In 2017, Romania registered **the lowest Human Capital Index score (0.60) - HCI** in the European Union, with a major difference from the average score of 0.75 [\(7\)](#). This score indicates that a child born in this country will be 60% productive when reaching adulthood, if he or she benefits only from comprehensive, high-quality health and education services [\(8\)](#).

Early childhood development is of particular importance in the functioning of human capital. It is the provision of a range of healthcare, education or social assistance and protection services for children from the prenatal period until they start school. Despite additional efforts made by the Romanian government to foster ECD in recent years, currently, **Romania does not have an explicit ECD multisectoral strategy**, although some public programs and policies in the field have been launched [\(8\)](#).

In addition to the need to define the legal framework and to strengthen cross-sectoral coordination, financial investment in ECD also involves issues that are essential for securing resources to achieve the objectives. Financial investment in ECD may lead to high long-term returns (e.g., addressing multiple priorities with single investments) and long-lasting intergenerational benefits [\(8\)](#).

Although the economic growth foreseen for Romania for 2020 in the pre-pandemic period was 4.1%, this trend was reversed due to the major impact of the COVID-19 pandemic, with expected declines of about 5% [\(9\)](#).

At national level, just like in the case of adult population, children's access to preventive and primary healthcare services is unevenly distributed. Access to health services is particularly low in rural or remote areas, marginalized communities, low-income families or other vulnerable groups. Differences are due to shortages of health workers, first aid clinics or to formal and informal costs [\(10\)](#).

This research was conducted in *March-October 2021* by the Public Health Department of Babeş-Bolyai University, in collaboration with UNICEF Romania, with a view to explore resource allocation for child and adolescent health at primary, secondary and tertiary care levels. The main objective of this research is **to capture and describe an overview of resource allocation and spending for the health of children under 18 and of resource distribution at primary, secondary and tertiary care levels**.





Research methodology

The research used a combined approach, involving quantitative (secondary data collection and analysis) and qualitative (semi-structured interviews conducted and analyzed) research methods. The indicators used to analyze resource allocation for child health at primary, secondary and tertiary care levels were determined based on literature review and consultation with experts in the field.

We collected available data for the years **2018-2020**, included in the health sector strategic reports, national data reports, as well as public information from the websites of various institutions such as: MoH, NHIH, NIPH, NIS, NSPHMPDB. In order to obtain non-public data, the research team submitted data requests to the institutions above.

One of the limitations of this study was that, due to a lack of systematic data collection procedures, it was not possible to obtain indicators of interest from certain institutions. Also, personnel changes in central institutions and the lack of staff specialized in the management and provision of statistical indicators limited this analysis. Although initially we intended to include in our analysis services provided by private actors, these are not reflected in the final report due to the lack of response from representatives of private providers, i.e., the PALMED Association.

To gain an overall picture of financial resource allocation for child health, semi-structured interviews were conducted with nine experts, selected based of their expertise in healthcare and knowledge of the topic. Annex 2 provides a list of institutions that participated in the qualitative component.

The study was submitted to the Ethics Committee of the Public Health Department, which issued Opinion number #2021-210803-011.



Legislative background and regulations

In the EU Member States, the most widely used mechanisms for financing health services rely on state budget revenues or private and social health insurance. In Romania, health services are mainly financed by public revenue (mostly from the SNHIF budget), supplemented by amounts transferred from the state budget, local public administration budget and direct payments (2).

In terms of health spending per capita, at the European level, we note increases by 2.3% per year between 2000 and 2018, while the GDP per capita increased by 1.5% (11). **In 2015, Romania recorded the lowest health spending per capita in the EU** (RON 3,682.94), less than one third of the average reported at the European Union level (3). Over time, the percentage of GDP allocated to health spending in Romania decreased from 5.7% in 2010 to 4.9% in 2015 (3), and then in 2019 it returned to the 2010 level of 5.7% (12).

In 2018, the largest share of health spending (64%) was allocated from social health insurance contributions, followed by funding from direct payments (19%), government schemes (16%) and voluntary health insurance (1%) (4).

A breakdown of health spending at national level in 2018 shows that, of the total spending, **45% went to hospital care**, followed by medical supplies (26%), outpatient services (18%) and long-term care (6%) (4).

Compared to 2020, the Ministry of Health budget increased by 93% in 2021, mainly due to the COVID-19 pandemic. The changes occurred in the budgets for 2020 and 2021, covering COVID-19 specific activities, consisted mainly in:

- **MOH budget:** additional budget in 2021 for: vaccination, payment of staff in vaccination centres and payment of COVID-19 vaccines (13);
- **budgets for new programs:** subprogram for priority diseases (e.g., RT-PCR testing; priority actions for emerging and re-emerging diseases) (14);
- **NHIF budget:** in 2020, there were significantly more payments for sick leave, risk incentives, 75%-85% bonus for work performed in the context of the COVID-19 pandemic, etc. (15).

Table 1 shows the annual evolution of the MoH and SNHIF budgets for the period 2018-2021

Table 1: MoH and SNHIF health budget

Health budgets (thousands RON)	2018	2019	2020	2021
Ministry of Health (16)	8,767,989	11,137,470	11,581,518	22,464,842
SNHIF (17)	35,912,876	39,233,377	45,630,743	47,428,364

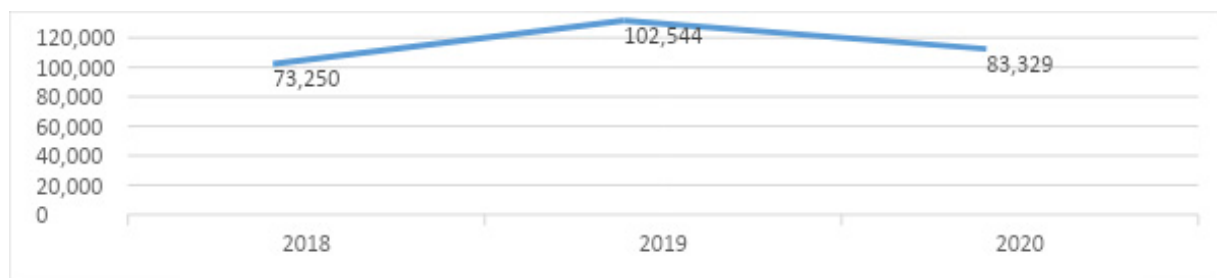
Source: Ministry of Finance, NHIF

Emergency Ordinance 97/2021 amending the state budget for 2021 allocated additional amounts to the MoH budget (RON 4,881,260 thousand) and to the SNHIF budget (RON 2,604,003 thousand).

In terms of investments made in child-friendly infrastructure, especially in children's hospitals, the amounts allocated in 2018 reached RON 73.25 thousand, increasing to RON 102.544 thousand in 2019 and then decreasing to RON 83.329 thousand in 2020 (Annex 8). These amounts include all sources of funding: state budget, local budgets, own revenues, NGO contributions.

Figure 1: Investments made in child-friendly infrastructure (thousand RON)

Source: MoH - Expenditure monitoring



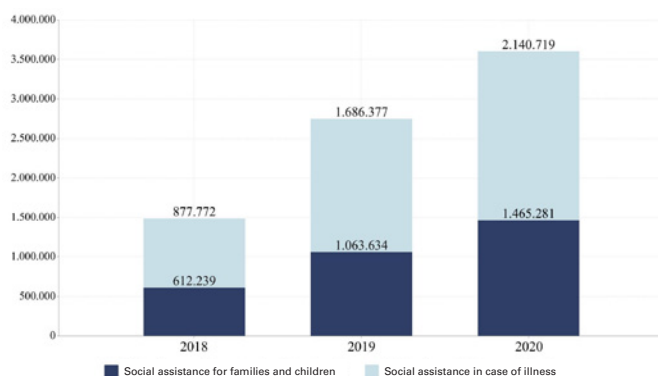
The analysis indicates that NHIH spending from SNHIF underwent significant changes between 2018 and 2020. There was an increase in total expenditure by 19.94% in 2019 compared to 2018, then in 2020 this increase reached 8.17% compared to the previous year. **The health spending mentioned targets the general population and does not reflect any specific allocation of funds for children aged 0-18.** Table 2 details the differences in the amounts spent from the total budget.

Table 2: Health budget - NHIH (thousand RON)

	2018	2019	Evoluție 2018/2019	2020	Evoluție 2019/2020
Total budget NHIH	34,854.140.24	41,803.359.14	↑19.94%	45,219.043.34	↑8.17%

Source: NHIH

As part of the SNHIF budget, expenses under the chapter Insurance and Social Assistance is broken down into expenses on social assistance in the event of illness and expenses on social assistance for families and children. Revenues for this type of budget represent "the contribution for leave and allowances owed by insured individuals to the health insurance houses on a contractual basis" and "the amounts distributed to the SNHIF budget from the employee insurance contribution" (18). According to NHIH, in 2020, the budget appropriations for insurance and social assistance expenses amounted to RON 3,606,000 thousand, of which payments were made in amount of RON 3,604,409 thousand. In the same year, **the amount of RON 1,465,281 thousand was allocated for social assistance for families and children, with 99.99% budget execution** (18). Compared to 2018, in 2019 the amount for social assistance in case of illness increased by 92%, an upward trend which continued in 2020, with an increase by 26%. Thus, it obvious that budget allocations for the health system increased in 2019, both for the Ministry of Health and for NHIH.

Figure 2: Budget appropriations for insurance and social assistance (thousand RON)

Source: NHIH

The analysis showed that between **2018 and 2019 payments for medicines and medical devices increased slightly, but decreased significantly in 2020: by 16.86% for medicines and by 3.3% for medical devices. It should be noted, however, that these amounts allocated are representative for the general population and do not include payments made specifically for children aged 0-18.** Although data are not presented specifically for children, in medical practice, according to the experts interviewed, children and pregnant women are given priority for medical services, in the absence of specific legal provisions to this effect.

Table 3: Payments made for medicines and medical devices, included in SNHIF

Payments made (thousand RON)	2018	2019	2020
Medicines	5,007,779	6 480,843	5,388,243
Medical devices	204,551	216,205	208,999

Source: NHIH



Financial resource allocation for child health at primary, secondary and tertiary care levels

A. Primary care

Primary care includes the provision of first point of care services, regardless the type of health problem, with healthcare workers and patients maintaining a continuous relationship, in the presence or absence of a patient's illness.

The specialist provider in this segment of healthcare is the family medicine office; activities in such offices are carried out by family physicians, their employees and external collaborators. The family medicine office may provide preventive, curative, home care services, etc. Preventive healthcare services in pre-school, school and university settings are provided by the medical offices organized in pre-school, school and university facilities (19).

According to *Law 95 of 2006*, the family medicine office may earn revenues by concluding agreements with health insurance houses, territorial public health authorities, public institutions subordinated to the Ministry of Health, but also from direct payments made by beneficiaries of medical services, etc. (19).

Romania has the second lowest share of health spending allocated to primary and outpatient care in the EU (20), and according to data provided by the Organization for Economic Co-operation and Development (2020), **Romania reports the lowest share allocated specifically to primary care in the total health budget (8.4%)** (4) from all EU Member States. At national level, more than **42%** of the resources allocated to health are directed towards hospital services (20).

The results of the analysis suggested an increase in primary care spending from the NHIH budget, with amounts 24.48% higher in 2019 and 7.99% higher in 2020 compared to previous years. The figures presented in the table below reflect the amounts for the general population; the amounts spent for children under 18 are not specified. The budget execution is 99% for 2018 and 2019, decreasing to 98% in 2020, which is partly attributable to the impossibility of assessing the necessary resources for primary care in the context of the pandemic. In absolute value, non-executed amounts in the budgets allocated by NHIH for primary care increased from RON 12,600 thousand in 2018, RON 3,948 thousand in 2019 to RON 38,150 thousand in 2020.

Table 4: Primary care spending (thousand RON)

Primary care	2018	2019	2020
Budget appropriations	2,072,706	2,568,443	2,807,530
Payments made	2,060,106	2,564,495	2,769,380

Source: NHIH

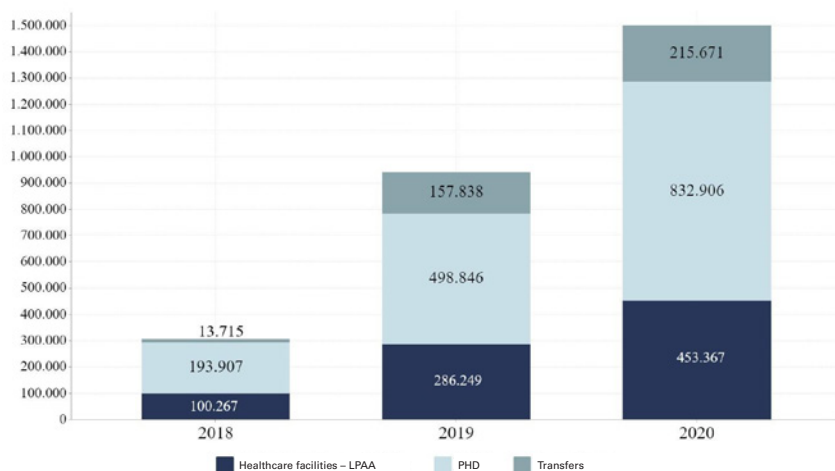
1. National prevention programs for children under 18

Essential health programs for pregnant women and children are fully institutionalized and relate to:

- antenatal care;
- the accompaniment of the woman by qualified personnel during child delivery;
- infant/child immunization;
- monitoring health status and well-being throughout childhood (8).

The analysis indicates that, between 2018 and 2020, the total budget allocated to national programs implemented by the Ministry of Health increased from RON 307,889,000 to RON 1,501,944,000. Amounts allocated to national health promotion programs for children under 18 varied from RON 15,732,000 in 2018 to RON 15,317,000 in 2020. We note a decreasing trend in budget allocations, similar to the evolution of the number of births, except for 2019, when the allocated budget was RON 17,826,000.

Figure 3: Total budget allocated to health promotion programs for children (thousand RON)



Source: MoH

Between 2018 and 2019, we note an increase in the MoH budget allocated to national prevention programs for children and women. The trend reversed between 2019 and 2020, when most budgets allocated to national programs for children and women were significantly reduced. The most important budget cuts were from the program for the prevention of complications, through early diagnosis and monitoring of epilepsy and non-epileptic manifestations in children and dietary treatment of epilepsy (47%), followed by the program for the prevention of retinopathy of prematurity and its complications, through neonatal screening, laser therapy, and monitoring of the evolution of the disease (-33.5%), prevention of associated morbidity and complications, through early diagnosis, as well as monitoring of chronic diseases in children (-32.3%) and prevention of hearing impairment through hearing screening in newborns (-32.2%)¹.

¹ For more information on preventive national health programs, see the report produced by UNICEF together with the Public Health Department ("Mapping and analysis of financial flows in preventive health services for children and young adults at national and sub-national levels in Romania").

Strengthening and substantiating the budget allocated to prevention programs for children under 18

According to the experts interviewed for this study, the funding of prevention programs for children is based on **historical budgeting**, which is generally adjusted with other emerging priorities of the Ministry of Health. **They maintained the need to change this budgeting principle in the framework agreement for 2022, and confirmed the need to strengthen the budget according to the current health needs of the population and to the morbidity and mortality rates in the eight regions of the country.**

The criteria for budgeting national prevention programs for children also include: existing resources and services (in hospitals), medical facilities and equipment, available healthcare professionals (e.g., physicians) or data on the demands and needs of the target population.

Financial flows for preventive services for children include reimbursements for healthcare services paid by MoF, the National Immunization Program (payment of vaccination services by NHIH and payment of vaccines by MoH), but also the increased child supervision, paid by MoF, through home visits paid by NHIH starting with 1 July 2021 (visit frequency to be increased from one home visit per quarter to one home visit per month).

The experts interviewed are of the opinion that **funds allocated for prevention activities for the pediatric population are insufficient** (especially in family or school offices), and existing funds are *“unevenly distributed, concentrated especially in large cities”*. The national prevention programs are also *rather limited*, with funding described as *‘insufficiently substantiated’* due to the limitations imposed by the lack of systematically collected up-to-date data on population health.

Participants in interviews identified the low demand for some national prevention programs and poor health education among the population as factors leading to program underfunding. They highlighted the need to better inform population, especially on the importance of prevention and its prioritization.

In view of primary care, better substantiation of requests for budget increases would help improve the funding of preventive services for children under 18, and this should be organized systematically, building on an evidence-based information gathering process.

2. National immunization program

The costs of routine vaccinations and primary healthcare services for children or of reproductive health services for women are covered by the state budget, with national health spending much lower than the average in other EU Member States (8).

An analysis of the data provided by NIPH indicates **a drastic reduction in the number of children aged 0-5 years old vaccinated according to the national immunization schedule** between 2018 and 2020. For children under 1 year of age, the vaccination rate decreased significantly between 2018 and 2019 for the majority of mandatory vaccines, except for the BCG vaccine rate, which showed a slight increase by 0.31% (Table 5). Between 2019 and 2020, the rate of vaccinated children under 12 months of age increased slightly, by 3.9%, for the three-dose pediatric Hep B vaccine.

Table 5: National vaccination rates - children aged 12, 18 and 24 months (%)

	Beneficiaries	Children up to 12 months of age			Children up to 18 months of age			Children up to 24 months of age		
		2018	2019	2020	2018	2019	2020	2018	2019	2020
1	BCG (bacillus Calmette-Guérin) tuberculosis vaccine	96	96.3	96.6	96	96.3	96.6	95.8	96.7	96.8
2	Hepatitis B vaccine	81.8	72.8	76.7	92.6	90.1	84.3	93.4	92.3	87.4
3	Diphtheria-tetanus-acellular pertussis vaccine	79.5	77	77.6	86.2	87.8	86.7	87.7	90.5	89.3
4	Polio vaccine	79.5	77	77.6	86.2	87.8	86.7	87.7	90.5	89.3
5	Haemophilus influenzae type B vaccine	79.5	77	77.6	86.2	87.8	86.7	87.7	90.5	89.3
6	Measles, mumps and rubella vaccine	80.6	75.1	74.5	89.6	89.5	87.3	90.2	92.2	89.8
7	Pneumococcal vaccine	N/A	75	76.6	N/A	N/A	85	N/A	N/A	88.1

Source: NIPH

At national level, vaccination rates for children aged 0-18 months show a slight increase in 2019 compared to the previous year, except for vaccination rates against the Hepatitis B virus (decrease by 2.7%) and MMR (decrease by 0.11%). Between 2019 and 2020, we note a **sharp decrease in all vaccination rates**, by up to 6.44% for the Hepatitis B vaccine and by 2.46% for the MMR vaccine. Although between 2018 and 2019 the vaccination rates for 24-month-old children show a slight increase at national level, the trend reversed in 2020, when most rates declined significantly - by 5.31% for the Hepatitis B vaccine or by 2.6% for the MMR vaccine. The MMR vaccination rate also drops for children aged 5 years old, with the percentage decreasing by 6.3 in 2019 and by 0.92 in 2020.

The experts interviewed highlighted that some parents are poorly informed about vaccination and choose not to consent to vaccinate their children, often based on information that has not been scientifically validated. This phenomenon is increasingly prevalent in rural areas, where population is even less informed.

3. School medical offices

Given the limited network of school physicians, often underfunded and under-resourced, and the lack of a coherent development strategy in this area, **disease prevention and child health promotion are two components that are insufficiently addressed in the educational environment** (1). According to a 2020 press release, MoH intends to increase the budget for school health services in order to ensure the necessary health workers in school medical and dental offices (22).

In Romania, in 2019, there were 2,758 school medical offices, of which only 27% employed school physicians; the other school medical offices relied on nurses, community nurses and family physicians.

Among the beneficiaries of health services in 2016, there were 294,480 preschoolers, 1,580,224 school students and 328,789 higher education students, a total of 2,203,493. In the previous year (2015), a total of 566,863 prevention activities were organized and carried out in school medical offices, with the highest number of actions reported in Cluj County (141,571 actions) and Bistrita-Năsăud County (110,174 actions). Conversely, the counties with fewest prevention activities implemented in 2015 with the support of school medical offices were Mureş County (no action reported) and Vâlcea county (only one prevention activity).

At national level, we note a significant difference in the number of school medical offices in urban areas compared to rural areas, the latter accounting for only 1% of the total school medical services.

In 22 counties there are no nurses working in school medical offices and 11 counties report one or two nurses, according to data provided by MoH.

The experts interviewed highlighted the inequitable access to health services for children living in rural areas, and the fact that access to such services in the future could be facilitated by supplementing the human resources available in school medical offices.

4. Curative national programs for children under 18

According to Order No. 245/2017, national curative health programs are defined as **multiannual actions aimed at providing specific treatment for diseases with strong impact on public health**. They are funded by SNHIF and other sources, including donations or sponsorships. Both adults, and children and young people benefit from these programs.

Table 6: Beneficiaries of curative health programs

	Curative national health programs	Adults	Children and young people*	No. of patients treated under curative NHPs - 2020 -
1	National program for cardiovascular disease	✓	✓	23,018
2	National program for endocrine disorders	✓		4,677
3	National program for diabetes mellitus	✓	✓	1,245,898
4	National program for diagnosis and treatment using high-performance equipment	✓	✓	3,103
5	National oncology program	✓	✓	153,416
6	National program for orthopedics	✓	✓	14,555
7	National mental health program	✓	✓	13,900
8	National program for renal replacement therapy	✓	✓	16,643

9	National program for intensive care in liver failure	✓		38
10	National program for transplantation of human tissues, organs and cells	✓		4,626
11	National program for the treatment of neurological diseases	✓		5,257
12	National program for the treatment hemophilia and thalassemia	✓	✓	1,029
13	National program for the treatment of deafness		✓	329
14	National program for the treatment of rare disorders	✓	✓	3,578
Total				1,493,005

Source: adapted from NIPH table

*This category includes persons under 18 years of age

As regards the curative national health programs, the indicators for child-specific subprograms were reported by NHIH for 2018 and 2020. The table below provides information on financial indicators, the costs of medicines/health supplies paid from the SNHIF budget and the average cost per patient (23). To these amounts we should add those allocated to curative national programs aimed at the treatment of children and adults; **these amounts cannot be disaggregated, although they have beneficiaries under 18 years of age.** Examples of programs where data are not monitored separately for children: medicines provided under the diabetes mellitus program, national mental health programs, national program for the treatment of deafness with hearing aids.

Table 7: Indicators of curative national health programs (thousand RON)

Name of program	Curative health subprogram/activity	Cost of medicines/health supplies paid from the SNHIF budget (RON)	Average cost/patient (RON) paid in the year	
			2018	2020
National program for cardiovascular disease	Children cvs*	3,323,196.68	10,995.32	10,352.64
	Heart defects children	418,450.40	8,163.83	6,749.20

National program for the diagnosis and treatment of rare disorders	Mucoviscidosis children	11,231,252.70	26,206.52	28,148.50
National program for orthopedics	Endoprotheses children	97.34	6,542.45	97.34
	Tumors children	256,502.32	67,102.58	51,300.46
	Implant seg CHILDREN	160,213.30	9,601.37	9,424.31
	Children with severe congenital malformations	33,750.00	89,498.81	11,250.00
National program for diagnosis and treatment using high-performance equipment	Subprogram for the treatment of congenital or acquired hydrocephalus in children	257,477.10	1,835.43	1,879.39
National program for diabetes mellitus	Children tests	4,689,808.97	1,578.95	1,197.60

Source: NHIH
*cvs - cardiovascular surgery

We see notable differences in the average cost per patient for endoprotheses for children, where costs decreased drastically, a decrease that can be attributed to the interruption of non-emergency services during the pandemic. A huge difference between 2018 and 2019 was also reported for severe congenital malformations, under the same "National program for orthopedics", where costs per patient dropped most.

5. Preventive services

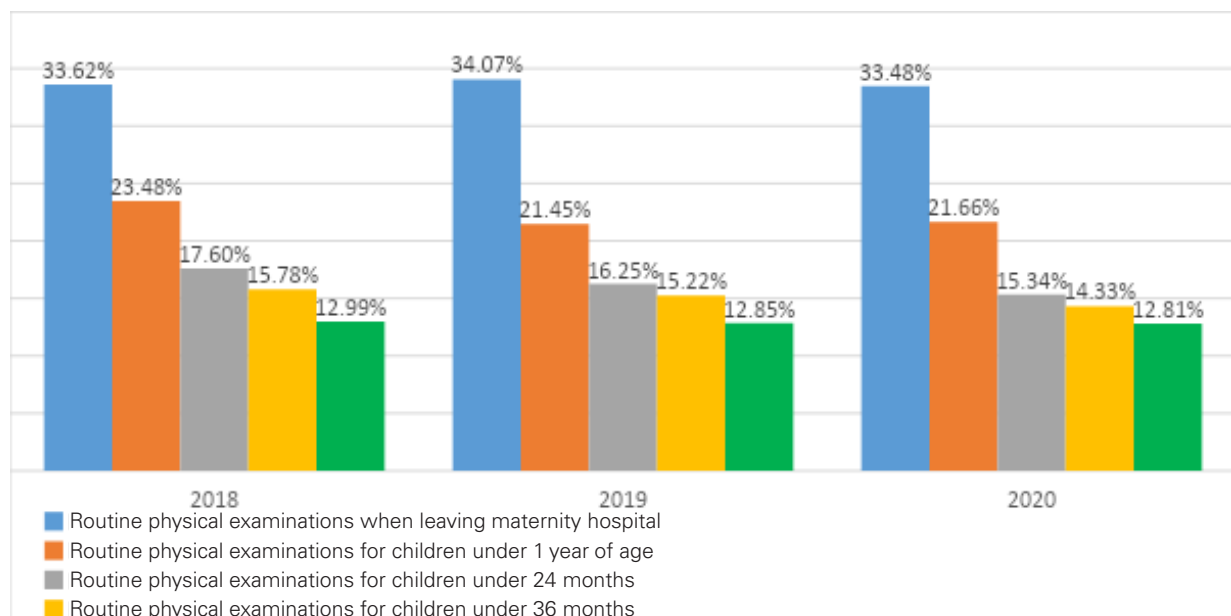
According to the framework agreement for family medicine offices, routine physical examinations are reimbursed for children under 18 years of age, more often before the age of 1 and once a year after the age of 2. The total costs of routine physical examinations were RON 18,470 thousand in 2018, RON 22,579 thousand in 2019 and RON 22,410 thousand in 2020. In 2018, Romania spent an average of RON 15.85 per child aged 0 to 3 years old years for routine physical examinations, and in 2019, RON 18.8/child. Also, for children aged 4 to 18 years old, costs in amount of RON 1.96/child were reimbursed in 2018 and RON 2.5 in 2019 and 2020. We note an increase in reimbursements due to the increase in the value of the point/service in 2019.

For routine physical examinations (six physicals), **health services were reimbursed only for 33-34% of the children in their first year of life.** These accounted for RON 9.6 million in 2018 and just over 11 million in 2019 and 2020. The percentage of children for whom services are reimbursed decreases with age, so that in the second year of life **at least one of the 3 routine physical examinations is reimbursed for only 21-23% of the children aged 12 to 24 months:** for 15-17% of the children aged 24 months, for 14-16% of the children aged 3 years, and from the age of **4 to 18 years old, reimbursements are capped at 12% of the eligible children per year.** These services are not capped by the framework agreement, the only limitation being the consultation time allocated per patient.

The vaccination rate in Romania is around 90%, and vaccine administration is a moment when children have contact with family physicians, therefore we should note that a possible explanation for the low number of such services is the fact that they are provided at the same time as vaccine administration, and are not reimbursed. The figure below shows both the total number of preventive services for children under 18 and the amount obtained by dividing the total number of services by the total underage population, for 2018-2021.

We note a decrease in the total number of preventive services, except for three cases: routine physical examinations for children aged 12 months (where we note an increase between 2019 and 2020, from 60,936 to 63,644); routine physical examinations for children aged 4 months (an increase in the total number of services, from 65,064 to 65,832 between 2019 and 2020) and routine physical examinations for children aged 2 months (an increase from 65,135 in 2019 to 66,958 in 2020). The total number of other preventive services decreased from one year to the next, with the most significant decrease between 2020 and 2021 in routine physical examinations for children aged 4 to 18 years old (the total number of such services decreased by 200,528 during this period).

Figure 4: Disbursement of pediatric routine physical examinations (percentage of pediatric population)



Source: NHIH

B. Secondary care

Secondary care includes healthcare services provided by specialist outpatient care services, which may be independent or integrated in hospitals, diagnostic and treatment centers and specialist medical practices (24).

According to Law 95 of 2006, facilities providing specialist outpatient care services may earn revenues from contracts with health insurance houses, private insurers, local public administration authorities, as "*consideration for services provided to patients as part of services not contracted with third-party payers and borne by them*", donations, sponsorships, etc. In Romania, secondary and tertiary care still have priority in terms of resource allocation for healthcare at national level. Children and their families have face barriers in accessing secondary care services due to their underdevelopment at national level, their predominantly urban coverage and low access under the national health insurance system (1).

In 2020, various health measures were implemented in response to the SARS-CoV-2 pandemic. According to GEO 70/2020, additional outpatient paraclinical investigations were covered by monthly supplements to the amounts contracted with the health insurance houses. These investigations were necessary to monitor patients diagnosed with COVID-19 after discharge, but also patients with oncological diseases, rare diseases, diabetes, cardiovascular diseases, neurological diseases and cerebrovascular diseases (25).

According to available data, spending on outpatient services for clinical specialties increased by 12.95% between 2018 and 2019 and by 16.7% between 2019 and 2020. The same trend was identified for paraclinical services spending, which increased slightly by 3.51% in 2019 and by 4.1% in 2020. Indicator analysis identified a decrease in the amounts allocated for healthcare in multifunctional centers, with a decrease in expenditure from RON 119,157 thousand to RON 112,834 thousand between 2019 and 2020. The table below details the amounts allocated for this type of assistance, for the general population; **these are not amounts specifically addressed to children under 18.**

Table 8: Spending on outpatient, paraclinical services and for care in multipurpose centers (thousand RON)

	2018	2019	2020
Outpatient spending on clinical specialties	1,161,762	1,312,164	1,531,331
Paraclinical spending	765,483	792,317	824,764
Spending on healthcare services in multipurpose centres	118,047	119,157	112,834

Source: NHIH

Hemodialysis

There were also increases in hemodialysis spending, in 2019 by 9.96% and in 2020 by 9.01% compared to previous years. Dialysis services actually delivered were reimbursed by the health insurance houses according to GEO 70/2020.

Dental services

Due to limited funds, SNHIF covers a low number of dental services. **The basic service package includes a limited range of dental services, which are free of charge for persons under 18 years of age.** (Annex 6 provides more information on the dental services covered by the basic service package).

Dental offices in schools and universities are funded from the state budget (26). For dental services, despite the slight increase by 9.83% in NHIH spending between 2018 and 2019, in 2020 the trend reversed and the amount allocated decreased by 12.13% compared to the previous year. This can be attributed to the school closures, as most of the reimbursed dental services are for children. These services are accessible based on the fees charged by providers, with only a very small share (less than 10%) of the RON 1.3 billion market (46) covered from the fund managed by NHIH, RON 104,316 thousand in 2018, RON 114,566 thousand in 2019 and RON 100,667 thousand in 2020 (figures for the general population, not amounts specifically addressed to children under 18).

With regard to secondary care, according to the experts interviewed, barriers often arise in rural areas, where population cannot access outpatient care services, making it difficult to follow up on diseases that are common even among children (e.g., psychomotor or neurological disorders in children, pediatric rehabilitation).

The analysis indicated that inequitable access to healthcare services among rural population, especially to specialist services or to inpatient care.

C. Tertiary care

Tertiary care includes healthcare services (24) provided by hospitals, which are accountable for the quality of care, compliance with requirements on accommodation, food, hygiene, nosocomial infections prevention, and damages caused to patients (19).

In tertiary care, 10% **of the hospital admissions recorded at national level were children** (1). The health system in Romania does not integrate the three levels of care, and fosters an excessive focus on tertiary care, neglecting preventive services (26). Barriers to accessing tertiary care included the quality of care and the continuity of care after hospitalization (1). After Malta, Romania had the highest infant mortality rate in the EU in 2019, 5.8 per 1000 live births, compared to the EU average of 3.4 (27). The main causes of infant mortality in Romania are conditions originating in the perinatal period and respiratory diseases (28).

Hospital care spending (for the general population) increased by 4.65% between 2018 and 2019 and by 6.8% between 2019 and 2020.

Spending on recovery/rehabilitation facilities decreased significantly: from RON 48,411 thousand in 2018 to RON 46,565 thousand in 2019 and RON 40,952 thousand in 2020. Home care spending also decreased between 2018 and 2019 and will increase slightly in 2020. Spending was rather constant for healthcare services granted on the basis of international documents between 2018 and 2020. These amounts are representative for the general population, not only for children. It is clear that the COVID-19 pandemic has not affected the provision of these services, on the contrary, except for the spending for recovery facilities, such costs increased.

Table 9: Spending on tertiary care (thousand RON)

	2018	2019	2020
Spending on tertiary care	10,265,601	10,743,171	11,473,303
Spending on health recovery/ rehabilitation facilities	48,411	46,565	40,952
Spending on home care services	39,505	36,067	39,006
Spending on healthcare services granted on the basis of international documents	450,026	450,147	450,151

Source: NHIH

This research could not generate the exact figure for the amounts paid for hospital care for children, but, if we presume the same share of patients under 18 years of age compared to those over 18 years of age, we can estimate that the amount dedicated to hospital care for children exceeds RON 1 billion/year for hospital care for acute patients alone.

According to data provided by NSPHMPDB, at national level, we note a downward trend both for the number of discharged patients and for patients under 18. Between 2018 and 2019, we note a slight reduction in the number, while in 2020 it decreases almost by half. 2020 is an exception due to the COVID-19 pandemic, as the number of avoidable hospital admissions decreased greatly and some hospital facilities were not available for chronic patients. Table 10 details such significant differences.

Table 10: Number of patients discharged, at national level

	2018	2019	2020	Difference 2020-2019 (%)
Total number of patients discharged	4,018,986	4,036,083	2,422,744	39.9
Number of patients under 18 discharged	420,350	418,088	228,357	45.3
Patients over 18 discharged	3,598,636	3,617,995	2,194,387	39.3

Source: NSPHMPDB/NIPH

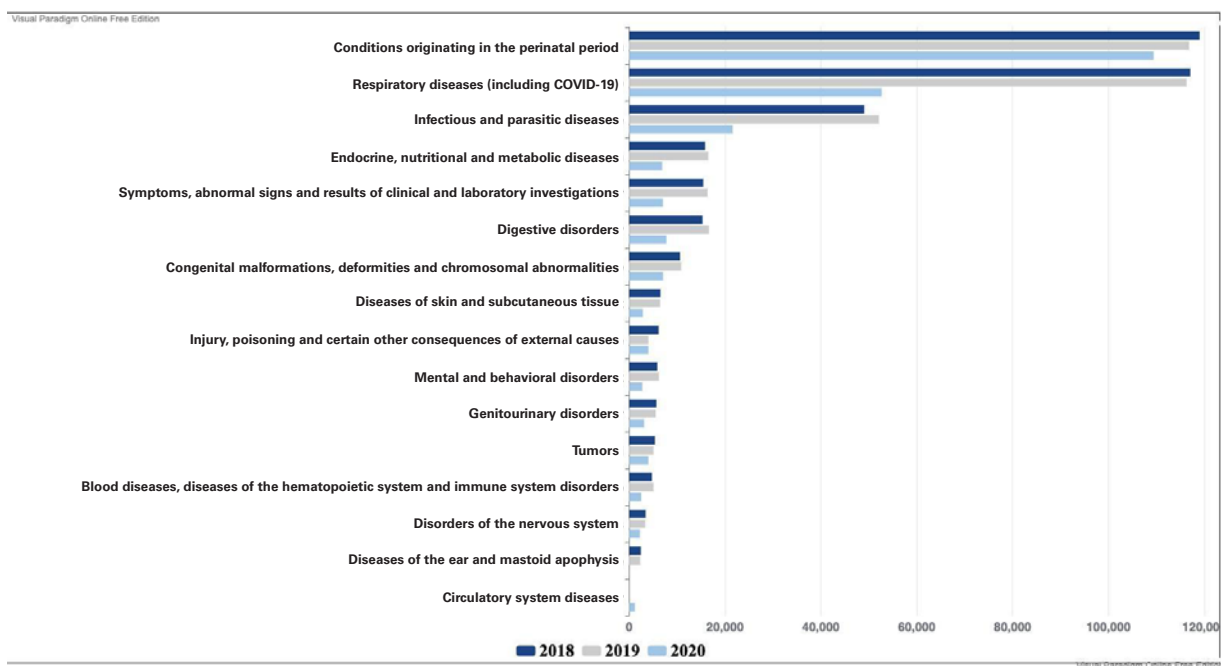
As for readmissions, according to data received at the National School of Public Health, Management and Professional Development Bucharest, we have more than 37,345 children with at least one readmission in 2019. Of these, 1 045 (2.79%), were readmitted for mild protein-energy malnutrition, 839 (2.3%) for unspecified bacterial infections, 639 (1.71%) for rotavirus enteritis, 372 (1%) for moderate protein-energy malnutrition and 191 (0.5%) for severe protein-energy malnutrition, 208 (0.56%) for imminent miscarriage, 223 (0.6%) for false labor before 37 weeks of pregnancy.

Another significant share, 2,012 readmissions (4.5%) of all readmissions, is represented by psychiatric and neuropsychiatric conditions that should not be addressed in inpatient episodes, such as: expres-

sive language disorder - 302 readmissions, specific developmental disorder of motor function - 458 readmissions, mixed specific developmental disorder - 400 readmissions, disturbance of activity and attention - 384 readmissions, hyperkinetic conduct disorder - 166 readmissions, other childhood emotional disorders - 196 readmissions and non-specific childhood emotional disorder - 106 readmissions.

Taking into account the main hospital discharge reasons for children aged 0 to 4 years old in Romania, data provided by NIPH revealed a significant increase in discharge shares between 2018 and 2019 for diseases such as: digestive disorders (8.61%), blood diseases, diseases of the hematopoietic system and immune system disorders (7.09%), infectious and parasitic diseases (6.24%), symptoms, abnormal signs and results of clinical and laboratory investigations (5.77%), mental and behavioral disorders (5.33%), endocrine, nutritional and metabolic diseases (4.39%), congenital malformations, deformities and chromosomal abnormalities (2.23%). All diseases mentioned above showed decreasing percentages in 2020 compared to the previous year, with the largest decrease in infectious and parasitic diseases - 58.58%. According to discussions with specialists, this can be attributed to the measures taken in the context of the COVID-19 pandemic: face masks, social distancing, hand hygiene, etc. The figure below illustrates the main 15 hospital discharge reasons for children under 5 years old and their evolution between 2018 and 2020:

Figure 5: Number of discharges of children aged 0-4 years old and main causes



Source: NHIH

Considering the number of hospital days spent by children under 18 in medical wards of different specialties, in 2020, the largest decrease in hospital days was reported by infectious diseases wards, where the percentage decreased by up to 76.12%.

The number of hospital days in pediatric neurology wards increased significantly between 2018 and 2019 (by 21.67%). More specifically, in 2019, the number of patients admitted to pediatric neurology wards increased by 11,199 patients, compared to the previous year. The upward trend was reversed between 2019 and 2020, when the percentage of hospital days decreased by 51.18% (32,179 hospital days difference between 2019 and 2020).

For otorhinolaryngology wards, between 2018 and 2019, data showed an increase in hospital days, from 28,251 days to 33,306 days (17.89%). Subsequently, between 2019 and 2020, the number decreased significantly by 17,607 hospital days (52.86%).

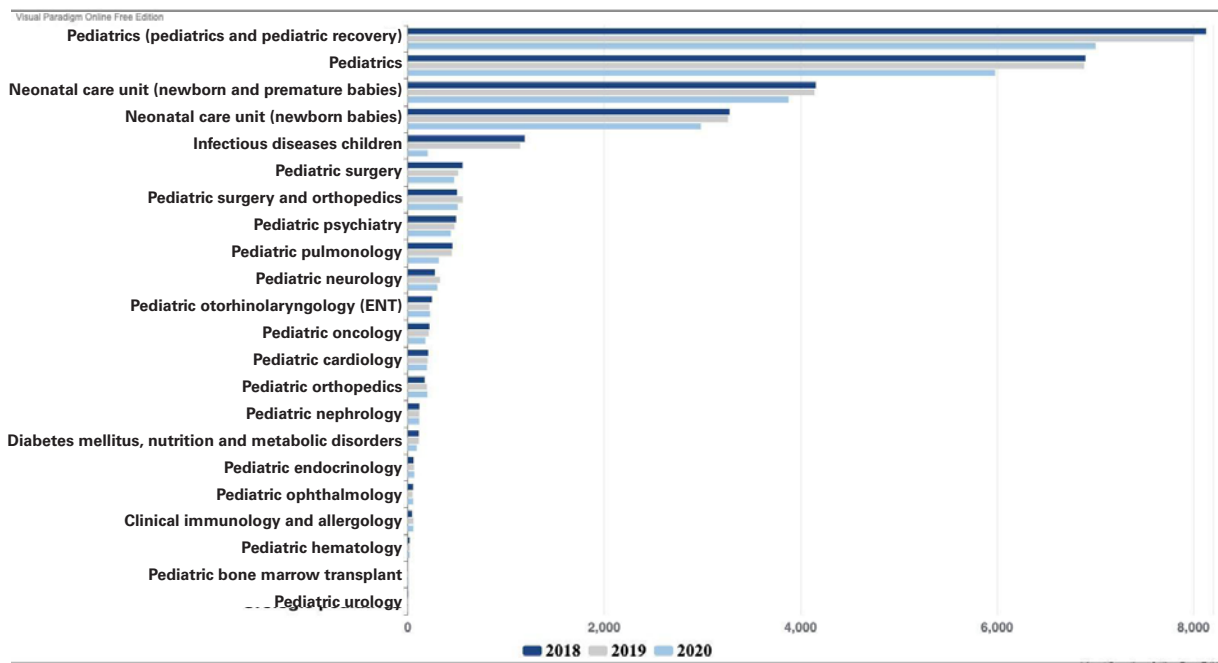
An increase in the number of days, followed by a sharp decrease, was also evident in pediatric hematology departments - between 2018 and 2019 there was an increase by 5.45%, followed by a decrease by 50.22% in 2020.

The same trend was noted for pediatric surgery and orthopedics. First, we noted an increase by 4.54% in the number of days spent by children in this ward (2019, compared to 2018), followed by a decrease by 37.35% in 2020.

The number of pediatric beds remained constant between 2018 and 2019 (18,380), decreasing to 17,232 pediatric beds in 2020.

In terms of number of pediatric beds in medical wards, between 2018 and 2019, there were slight increases in the number of beds for the following wards: clinical immunology and allergology (28.89%), pediatric neurology (18.77%), pediatric orthopedics (13.29%), pediatric surgery and orthopedics (11.53%) and pediatric endocrinology (10.17%). Subsequently, between 2019 and 2020, the number of beds decreased significantly (by up to 82.18% for the pediatric infectious diseases ward) for most medical wards. Among the wards where the number of beds increased, we mention: pediatric ophthalmology (6 additional beds - 12%), pediatric endocrinology (3 additional beds - 4.62%), pediatric otorhinolaryngology (ENT) (7 additional beds - 3.17%) and pediatric orthopedics (4 additional beds - 2.04%).

Figure 6: Number of beds for pediatric wards



Source: NHIH

Although between 2018 and 2019 the percentage of patients under 18 treated in infectious diseases wards showed a slight increase by 0.96%, between 2019 and 2020, these wards reported the steepest decline (75.45%) from all medical wards providing care for children under 18.

Between 2018 and 2019, there was a significant increase in the percentage of children accessing the healthcare services provided by pediatric neurology wards (28.68%), a trend that reversed in 2020 - when the number of patients treated in this ward decreased by 51.71%. The pediatric endocrinology wards also reported fluctuations in the number of patients treated between 2018 and 2020. While in 2019 there was an increase by 15.16%, the following year showed a significant decrease by up to 56.37%.

The same phenomenon of an increase followed by a sudden decrease in the number of patients under 18 years of age was also reported by the pediatric hematology wards. Between 2018 and 2019, the percentage increased by 10.08%, only to fall by 58.33% in 2020.

The number of patients under 18 treated the ophthalmology wards increased from 1,375 in 2018 to 1,489 in 2019, by 8.29%, then the number dropped to 929, a decrease by 37.61%.

A similar trend could be identified in the pediatric surgery and orthopedics department, where the number of patients treated increased between 2018 and 2019, from 22,563 to 24,178 (7.16%), and then dropped in 2020 to 14,900, a decrease by 38.37%.

Moreover, the number of patients under 18 treated in pediatric cardiology wards increased from 2018 to 2019 by 5.52%, followed by a sharp decline by 57.4% in 2020.

Tabelul 11: Indicatori asistență terțiară (număr total)

	Indicator	2018	2019	2020
1	Number of beds	27,206	27,042	23,321
2	Number of patients	1,077,234	1,069,922	625,316
3	Number of hospital days	5,273,959	5,105,056	3,107,540

Source: NHIH

The top 20 conditions causing multiple admissions to pediatric hospitals include many infectious causes (diarrheal diseases, infectious diseases, pneumonia), but also malnutrition. Both types of conditions are avoidable through primary prevention. At the same time, among causes for high frequency of multiple hospitalizations, we note the diseases related to preterm birth.

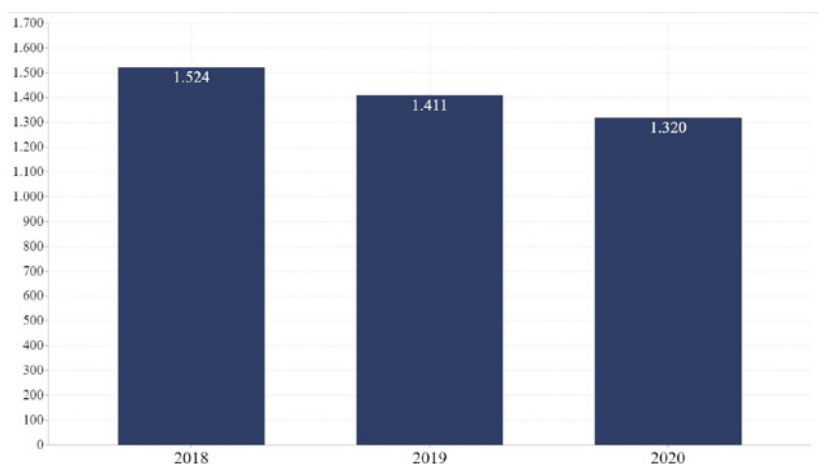
Child mortality rates

As regards child mortality, according to data provided by NIPH, the number of deaths among children under the age of one year old decreased from 1,227 in 2018 to 1,152 in 2019 and to 1,097 in 2020. The infant mortality rate for **children under the age of one year old** decreased slightly, from 5.9‰ in 2018 to 5.7‰ in 2019, then increased in 2020 to 6.1‰.

Indicator	U.M.	2018	2019	2020
Number of deaths of children aged 0-1 years old	total number	1227	1152	1097
Total infant mortality rate (children under 1 year of age)	rate/1000 births	5.9	5.7	6.1
Infant mortality rate 0-6 days	rate/1000 births	2.2	2.2	2.4
Infant mortality rate 0-27 days	rate/1000 births	3.4	3.3	3.6
Infant mortality rate 28-365 days	rate/1000 births	2.5	2.4	2.6
Number of deaths of children under 5	number	1524	1411	1320
Total mortality rate among children under 5	rate/1000 births	7.4	6.9	7.4
Total mortality rate among children under 5	rate/1000 inhabitants	1.5	1.3	1.3
Total mortality rate among children aged 1-4 years old	rate/1000 inhabitants	0.4	0.3	0.3

Taking into consideration **children aged 0 to 6 days**, the mortality rate remains constant between 2018 and 2019 at 2.2%, increasing to 2.4% in 2020. For **children aged 0 to 27 days**, the mortality rate decreased slightly in 2019 (3.3%) compared to 2018 (3.4%), rising to 3.6% in 2020. The infant mortality rate for **children aged 28 to 365 days** also shows slight fluctuations between 2018 and 2020, from 2.5% to 2.4%, reaching a higher value - 2.6% - in 2020. The number of deaths among **children aged 0-5 years old** decreased from 1,524 in 2018 to 1,411 in 2019 and to 1,320 in 2020.

Figure 7: Number of deaths among children aged 0-5 years old



Source: NHIH

The overall mortality rate for **children under 5 years of age** decreased from 7.4% in 2018 to 6.9% in 2019 and then increased again to 7.4%. For **children aged 1 to 4 years of age**, the overall mortality rate remains constant: 0.4% in 2018 and 0.3% in 2019 and 2020.

Causes of death for children under 5 years of age

Pneumonia caused by unspecified microorganisms was one of the most common causes of death among children under 5 years of age, accounting for 16.7% of all deaths, along other causes such as non-traumatic intracranial hemorrhage of the fetus and newborn (8.3%), other respiratory disorders arising in the perinatal period (5.1%) or neonatal respiratory distress syndrome (4.8%).

If we take the period between 2018 and 2019 as baseline, the percentage of deaths caused by neonatal respiratory distress syndrome among children under 5 years of age increased by 49%, non-traumatic intracranial hemorrhage of the fetus and newborn by 14%, respiratory failure not elsewhere classified by 134%, other congenital malformations not elsewhere classified by 72%, congenital malformation of the cardiac septum by 35%, other causes of death poorly defined/unspecified by 21%.

In 2020, the percentage of deaths caused by other congenital heart defects increased by 99.99%, congenital pneumopathy, congenital malformations of the heart chambers and septal defects (0.64pp), congenital malformations of the musculoskeletal system not elsewhere classified (0.53pp) or newborn respiratory distress syndrome (0.4pp).

Table 12: Tertiary care hospitalization and deaths indicators (total number)

	Indicator	2018	2019	2020
1	Number of patients under 18 discharged and reported at national level	420,350	418,088	228,357
2	Number of re-admissions in 30 days children. at national level	82,925	80,985	42,396
3	Average length of stay for patients under 18 years of age	5.23	5.05	5.41
4	Number of episodes with long-term hospitalization (> 14 days)- continuous acute patients	9,795	8,782	6,921
5	Total number of long-term hospital days (> 14 days)-continuous acute patients	259,656	237,190	193,816
6	Number of children admitted with COVID-19	N/A	N/A	7,029
7	Number of in-hospital deaths for children aged 0-1 years	560	499	530
8	In-hospital death rate for children aged 0-1 years	0.43%	0.40%	0.69%
9	In-hospital death rate for children aged 0-6 days	0.73%	0.81%	1.06%
10	In-hospital death rate for children aged 0-27 days	0.76%	0.82%	1.10%
11	In-hospital death rate for children aged 28-365 days	0.26%	0.20%	40.88%
12	In-hospital death rate for children under 5 years of age	0.22%	0.19%	39.94%

Source: NSPHMPDB

Although the total number of child admissions is at 54% of the 2018 level, in-hospital deaths under one year of age decreased by 6% in 2020 compared to 2018. A possible explanation is that unnecessary hospital admissions were avoided in 2020.

In 2020, we note a significant increase in the share of surgical mortality, or rather deaths caused by a lack of necessary surgical interventions. The main causes of death are perinatal asphyxia and heart defects.

For the population aged 0-18 years old, the budget for preventive health programs is based on risk exposure rates for various diseases, and the budget for curative health programs is based on disease incidence. Other determinants are the existing medical protocols, as well as estimates of the need for *medicines, medical supplies and any investigations required for the number of cases in question*. If, at the end of the year, curative health programs report unused financial resources, they may or may not be used for the same purposes in the following year.

As regards tertiary care, since October 2020, patients diagnosed with various diseases (e.g., cardiovascular, oncological, rare diseases, cerebrovascular diseases) could access medical services (imaging investigations, paraclinical services, medical tests) without being on a priority waiting list. Moreover, in order to ensure that children have adequate access to curative medical services, NHIH reimburses medicines used to treat rare diseases under the curative national health programs. NHIH benefits from foreign funds to implement four projects aimed at improving the health of the general population and in particular the population under 18.

In the case of tertiary care, in general, interviewed experts pointed to **minimum investment level for hospitals** (especially small hospitals), and the only sustainable investments mentioned were those initiated by UNICEF under the project aiming to provide rooming-in wards for infants and mothers. They also pointed out that budget design and substantiation for hospital services for children under 18 do not take into account quality indicators or a comprehensive analysis of under-funded sectors for further improvement of the healthcare services provided. Moreover, they feel that funds allocation for prevention in hospitals is deficient and that such activities are only supported by other funding from NGOs (e.g., Save the Children).

According to respondents, although NHIH issued the insured patient guide for all local health actors, which includes all service packages and related procedures a person (including a child under 18 years of age) can benefit from as part of primary care, paraclinical care, hospital care, medical tests and so on, **there is currently no guide on the use and management of financial resources**.



Conclusions

- The allocation of financial resources and, implicitly, of other resources (human resources, infrastructure) in the health system is disproportionate, unprioritized, inequitable and therefore inefficient. The value of tertiary care services is at least ten times higher than that of primary and secondary care. At the same time, most of the services are curative (hospitalizations of acute and chronic patients, day hospital investigations and treatments, national curative programs, etc.) and very limited resources are allocated to prevention (~RON 16 million each year, excluding vaccination), despite the fact that Romania aims to reverse the pyramid of healthcare services, according to the National Health Strategy 2014-2020. For comparison purposes, although not defined as a preventive program, the milk and roll program has a preventive role as well and had a budget of RON 181 million in 2021.
- Although the National Health Strategy 2014-2020 aims at the development of health services in rural areas, we note that rural areas are deprived of health services, lacking almost completely hospital services and school health services; the only specialist services available are family medicine and community health services, but even these do not cover all communities, being much undersized, so that the entire health system in rural areas relies on community healthcare, which is extremely underfunded.
- Less than 1% of the budgets allocated by NHIH for curative national programs - approximately RON 58,000,000 (0.88%) - can be identified as targeting children.
- Preventive services are a minor health spending representing less than 5% of the total health spending, and covering a very small fraction of the population under 18 years of age.
- Tertiary care services receive the largest share of the financial resources allocated for health, 95%, both in terms of service reimbursement and investment.
- A very large share of tertiary care services for children are for preventable conditions that are not treated in tertiary care services for acute patients. 9.4% of readmissions are for preventable conditions (malnutrition, rotavirus infections, pregnancy-related conditions), not taking into account a very high share of readmissions for pediatric neurology/psychiatry diagnoses (4.5%) that should not be treated by large-scale hospitalization.
- Specialist or emergency medical services are absent in the rural areas of Romania. There are very few facilities that can handle emergencies, and no pediatric facilities. Most of the work is focused on patient transfer to the nearest urban ED or ER, using ambulance services or SMURD first aid teams. There is no disaggregated information available on the costs associated with patient transport, as in recent years SMURD first aid teams cover most of the country and are funded from local budgets.
- The analysis could not identify all financial resources allocated to children, because they are part of budgets/funding/programs that target the general population or a specific condition, without any breakdown by age group.





VI Recomandări

Good child and adolescent health requires that their needs be met through access to healthcare, disease and risk exposure prevention, and health promotion activities. WHO provides a number of recommendations in a 2020 publication that mentions the need to invest in children's health, including the following: to increase funds for child health and well-being and to promote legislation to allocate funding for the health of children with disabilities (29).

Recommendations aligned with the European Commission requirements:

- To increase emergency care coverage in rural, remote or underprivileged areas. To change health resource allocation so that they serve the population efficiently and according to needs. A suggestion on better allocation of child health resources, made during an interview with experts, was to develop financial analyses which include the appropriations and use of financial resources across different levels of care. Also, in the context of the development of a new health program, respondents maintained that the steps initiated should include a data collection stage to identify the magnitude of health problems among children, an analysis of such data and a proposal from the specialist MoH pediatric committee, or a national audit based on statistical indicators.
- To set up school medical offices where schools exist, especially in rural areas, and use their capacity for primary prevention, e.g., for malnutrition. This intervention should be linked with a preventive program to increase calorie intake, which would help avoid admissions for this condition.
- To increase the number of routine physical examinations carried out in medical practices to cover the entire population of minors. A solution to improve the coverage of such services is to have them provided by school medical offices, which, in turn, conclude contracts with the health insurance houses. At the same time, if they have contracts with the insurance houses, they can diversify their services for children, and NHIH should either contract services dedicated to pupils or to prevention, or add a chapter for school medicine under primary healthcare in the contract.
- To increase the primary care budget and to extend services in rural areas (potentially by directing financial resources from taxes, excise duties, levies or other contributions for products that harm consumer health to national prevention programs).
- To increase investment and financial resource allocation for investments in rural health services, both through private and entrepreneurial initiative (e.g., NRDP axes 6.2 and 6.4) and through major investments for underserved areas and school medicine and community healthcare.
- To allocate a minimum percentage of the health budget to the pediatric population at all levels of care. To collect and centralize quantitative indicators on the 0-17 age group, on reimbursements for medicines and medical devices for the same age group, for all health programs.



- To increase transparency of public data related to healthcare services provided to pediatric patients, both quantitatively and qualitatively - there is no public data dedicated to pediatric patients. Any budget allocation should have outcome indicators and at least yearly evaluations of indicator achievement, as the reimbursable or non-reimbursable foreign funds. In order to talk about data quality, we need data available, which is not the case at the moment. This requires dedicated analyses, as well as mechanisms to control and verify data quality. As a starting point, the use of the <http://monitorizarecheltuieli.ms.ro/> centralizator platform can be extended to be available for tracking outcome indicators of any budget allocation in the health sector, by types of services and activities.
- To set up a decentralized body empowered to manage child welfare, by integrating preventive and curative programs, medical rehabilitation, social protection, planning and reimbursement of health services for children: quantification of costs, community-based services school - home - meal - hospital.
- To amend Law 500/2002 to enable multiannual planning of the health services budget.





References

1. Ministerul Muncii și Protecției Sociale. Strategia Națională pentru Protecția și Promovarea Drepturilor Copilului 2014-2020. 2014 [cited 2021 Aug 23]; Available from: http://www.mmuncii.ro/j33/images/Documente/Transparenta/2014/2014-02-03_Anexa1_HG_Strategie_protectia_copilului.pdf
2. Iliescu A-M. FINANȚAREA SISTEMULUI DE SĂNĂTATE ÎN ROMÂNIA PRIN VENITURI PUBLICE [Internet]. 2012 [cited 2021 Sep 8]. Available from: <http://journal.managementinhealth.com/index.php/rms/article/viewFile/245/768/>
3. OECD, European Observatory on Health Systems and Policies. State of Health in the EU. 2017 [cited 2021 Aug 23]; Available from: <http://dx.doi.org/10.1787/888933623324>
4. OECD, European Union. Health at a Glance: Europe 2020 STATE OF HEALTH IN THE EU CYCLE. 2020 [cited 2021 Aug 11]; Available from: <https://doi.org/10.1787/82129230-en>.
5. Cusick S, Georgieff MK. The first 1,000 days of life: The brain's window of opportunity [Internet]. 2013 [cited 2021 Oct 27]. Available from: <https://www.unicef-irc.org/article/958-the-first-1000-days-of-life-the-brains-window-of-opportunity.html>
6. Belli PC, Bustreo F, Preker A. Investing in children's health: What are the economic benefits? Bull World Health Organ [Internet]. 2005 [cited 2021 Aug 9];83(10):777–84. Available from: https://www.who.int/bulletin/volumes/83/10/777.pdf?mod=article_inline#:~:text=These intermediate channels include improvements,participation of children in activities (
7. World Bank. Human Capital Index and Components, 2018 [Internet]. 2018 [cited 2021 Aug 23]. Available from: <https://www.worldbank.org/en/data/interactive/2018/10/18/human-capital-index-and-components-2018>
8. The World Bank. Romania - Early Childhood Development [Internet]. 2019 [cited 2021 Aug 17]. Available from: <https://documents1.worldbank.org/curated/en/196571582622778718/pdf/SABER-Early-Childhood-Development-Country-Report-Romania-2019.pdf>
9. World Bank. PROVIDER PAYMENT REFORMS FOR IMPROVED PRIMARY HEALTH CARE IN ROMANIA D I S C U S S I O N P A P E R A u g u s t 2 0 2 1. 2021 Aug [cited 2021 Sep 27]; Available from: <https://openknowledge.worldbank.org/bitstream/handle/10986/36189/Provider-Payment-Reforms-for-Improved-Primary-Health-Care-in-Romania.pdf?sequence=1&isAllowed=y>
10. Comisia Europeană. Investiția în Copii: întreruperea ciclului de reproducere a dezavantajelor. Un studiu asupra politicilor naționale: România. 2014; Available from: <http://ec.europa.eu/social/BlobServlet?docId=11656&langId=en>
11. WHO. Spending on health in Europe: entering a new era (2021) [Internet]. 2021 [cited 2021 Aug 23]. Available from: <https://www.euro.who.int/en/publications/abstracts/spending-on-health-in-europe-entering-a-new-era-2021>

12. OECD. Health resources - Health spending - OECD Data [Internet]. 2021 [cited 2021 Aug 23]. Available from: <https://data.oecd.org/healthres/health-spending.htm#indicator-chart>
13. Guvernul României. ORDONANȚĂ DE URGENȚĂ nr. 7 din 8 februarie 2021 [Internet]. 2021 [cited 2021 Oct 27]. Available from: <https://legislatie.just.ro/Public/DetaliiDocumentAfis/237245>
14. Ministerul Sănătății. ORDIN nr. 377 din 30 martie 2017 [Internet]. 2017 [cited 2021 Oct 27]. Available from: <https://legislatie.just.ro/Public/DetaliiDocumentAfis/187865>
15. Ministerul Sănătății. ORDIN nr. 489 din 23 martie 2020 [Internet]. 2020 [cited 2021 Oct 27]. Available from: <http://legislatie.just.ro/Public/DetaliiDocument/224503>
16. Ministerul Finanțelor. Bugetul de stat [Internet]. 2021 [cited 2021 Aug 23]. Available from: <https://mfinante.gov.ro/domenii/buget>
17. CNAS. FNUASS – Casa Națională de Asigurări de Sănătate [Internet]. 2021 [cited 2021 Aug 23]. Available from: <https://cnas.ro/fnuass/>
18. CNAS. Raport de activitate ianuarie - decembrie 2020 [Internet]. 2020 [cited 2021 Aug 23]. Available from: http://www.casan.ro//theme/cnas/js/ckeditor/filemanager/userfiles/Raport_activitate_CNAS_2020.pdf
19. Parlamentul României. LEGE 95 14/04/2006 [Internet]. 2015 [cited 2021 Aug 23]. Available from: <http://legislatie.just.ro/Public/DetaliiDocument/71139>
20. European Commission. State of Health in the EU. 2019 [cited 2021 Jul 29]; Available from: https://ec.europa.eu/health/sites/default/files/state/docs/2019_chp_romania_english.pdf
21. Ministerul Sănătății. HOTĂRÂRE PRIVIND APROBAREA PROGRAMELOR NAȚIONALE DE SĂNĂTATE. 2020 [cited 2021 Sep 28]; Available from: <http://www.ms.ro/wp-content/uploads/2020/03/HG-PNS-15.03.-2020-.pdf>
22. Ministerul Sănătății. Creșterea bugetului pentru rețeaua de asistență medicală școlară – Ministerul Sănătății [Internet]. 2020 [cited 2021 Oct 14]. Available from: <http://www.ms.ro/2020/09/10/cresterea-bugetului-pentru-reteaua-de-asistenta-medicala-scolara/>
23. CNAS. Rapoarte de activitate – Casa Națională de Asigurări de Sănătate [Internet]. 2021 [cited 2021 Aug 24]. Available from: <https://cnas.ro/rapoarte-de-activitate/>
24. Pop TL, Burlea M, Falup-Pecurariu O, Borzan C, Gabor-Harosa F, Herdea V, et al. Overview of the pediatric healthcare system in Romania. Turkish Arch Pediatr Pediatr Arşivi [Internet]. 2020 [cited 2021 Aug 4];55(Suppl 1):69. Available from: /pmc/articles/PMC7488180/
25. Guvernul României. Ordonanță De Urgență nr. 70 din 14 mai 2020 [Internet]. 2020 [cited 2021 Oct 15]. Available from: <http://legislatie.just.ro/Public/DetaliiDocument/225600>
26. Vladescu C, Scintee SG, Olsavszky V, Hernandez-Quevedo C, Sagan A. Romania: Health System Review. Health Syst Transit. 2016;18(4):1–170.

27. European Commission. Infant mortality sharply declined over the past decades - Products Eurostat News - Eurostat [Internet]. 2021 [cited 2021 Sep 28]. Available from: <https://ec.europa.eu/eurostat/web/products-eurostat-news/-/ddn-20210604-1>
28. INSP. MINISTERUL SĂNĂTĂȚII INSTITUTUL NAȚIONAL DE SĂNĂTATE PUBLICĂ CENTRUL NAȚIONAL DE STATISTICĂ ȘI INFORMATICĂ ÎN SĂNĂTATE PUBLICĂ MORTALITATEA INFANTILĂ ÎN ROMÂNIA. 2019 [cited 2021 Sep 28]; Available from: <https://cnsisp.insp.gov.ro/wp-content/uploads/2020/10/MORTALITATEA-INFANTILA-2019-1.pdf>
29. WHO. Investing in our future: A comprehensive agenda for the health and well-being of children and adolescents [Internet]. 2020 [cited 2021 Aug 9]. Available from: https://cdn.who.int/media/docs/default-source/a-future-for-children/investing-in-our-future-a-comprehensive-agenda-for-the-health-and-well-being-of-children-and-adolescents.pdf?sfvrsn=32caab32_1
30. WHO. Human Resources For Health [Internet]. 2009 [cited 2021 Aug 23]. Available from: https://www.who.int/healthinfo/statistics/toolkit_hss/EN_PDF_Toolkit_HSS_HumanResources_oct08.pdf
31. WHO. REPORT OF THE WHO INFORMAL CONSULTATION ON SCHISTOSOMIASIS CONTROL [Internet]. 1998 [cited 2021 Aug 23]. Available from: http://apps.who.int/iris/bitstream/handle/10665/65978/WHO_CDS_CPC_SIP_99.2.pdf;jsessionid=B57B83FD70CBB-C4245D6A7FF21CFF56C?sequence=1
32. UNICEF. UNICEF's Engagements in Influencing Domestic Public Finance for Children (PF4C) A Global Programme Framework. 2017 [cited 2021 Oct 15]; Available from: https://www.unicef.org/sites/default/files/2019-12/UNICEF_Public_Finance_for_Children.pdf
33. Financial Market. Ce este si cum se calculeaza Produsul intern brut (PIB) | Financial Market [Internet]. 2021 [cited 2021 Oct 15]. Available from: <https://www.financialmarket.ro/terms/produsul-intern-brut-pib/>
34. Guvernul României. ORD DE URGENTA 57 03/07/2019 [Internet]. 2019 [cited 2021 Oct 15]. Available from: <http://legislatie.just.ro/Public/DetaliiDocumentAfis/215925>
35. United Nations. Addis Ababa Action Agenda ... Sustainable Development Knowledge Platform [Internet]. 2015 [cited 2021 Sep 27]. Available from: <https://sustainabledevelopment.un.org/frameworks/addisababaactionagenda>
36. Salvați Copiii România. Convenția ONU cu privire la drepturile copilului [Internet]. [cited 2021 Sep 28]. Available from: <https://www.salvaticopiii.ro/ce-facem/drepturile-copilului/conven-tia-onu-cu-privire-la-drepturile-copilului>
37. Parlamentul României. LEGE (R) 272 21/06/2004 [Internet]. 2014 [cited 2021 Aug 23]. Available from: <http://legislatie.just.ro/Public/DetaliiDocument/156097>
38. Parlamentul României. Legea bugetului de stat pe anul 2021 [Internet]. 2021 [cited 2021 Aug 23]. Available from: https://static.anaf.ro/static/10/Anaf/legislatie/L_15_2021.pdf
39. Ministerul Sănătății. Planul Multianual Integrat de Promovare a Sănătății și Educație pentru Sănătate. 2014 [cited 2021 Aug 23]; Available from: <http://old.ms.ro/upload/plan-integrat-tipar-mic-ultima-versiune.pdf>

40. United Nations. General comment No. 19 (2016) on public budgeting for the realization of children's rights (art. 4) [Internet]. 2016 [cited 2021 Sep 27]. Available from: <https://docstore.ohchr.org/SelfServices/FilesHandler.ashx?enc=6QkG1d%2FPPrICAqhKb7yhsqlkirKQZLK2M-58RF%2F5F0vHXnExBBGbM8arvsXxpbQtFqy5IM9wjdpzdQWNBmhRXY5GddCXwk43ltcb-NBFLtyueX%2B6YpzPjHmwp3k68ATyNj>
41. OECD, Eurostat, WHO. A System of Health Accounts 2011: Revised edition | READ online [Internet]. 2017 [cited 2021 Aug 23]. Available from: https://read.oecd-ilibrary.org/social-issues-migration-health/a-system-of-health-accounts-2011_9789264270985-en#page22
42. Narcisa Murgea M. MODALITĂȚI DE FINANȚARE A SISTEMELOR DE SĂNĂTATE. 2016 [cited 2021 Sep 8]; Available from: https://umfcd.ro/wp-content/uploads/2016/11/Finatarea_sistemelor_de_sanatate-315-337.pdf
43. Indaco Systems. Finanțarea spitalelor | Lege 95/2006 actualizată 2021 - [Lege5.ro](http://lege5.ro) [Internet]. 2021 [cited 2021 Sep 28]. Available from: <https://lege5.ro/gratuit/g42tmnjsgj/finantarea-spitalelor-lege-95-2006?dp=hazdanbyhe4te>
44. BULIGESCU B, ESPINOZA PEÑA H. Informal payments in Romanian health care system. A sample selection correction [Internet]. 2020 [cited 2021 Sep 10]. Available from: <https://arsociologie.ro/revistasociologieromaneasca/sr/article/view/1688/1611>
45. CNAS. Tarif servicii stomatologice [Internet]. [cited 2021 Oct 27]. Available from: http://www.casan.ro/casbt//theme/cnas/js/ckeditor/filemanager/userfiles/servicii/tarif_servicii_stomatologie_nou.pdf
46. Loredana Săndulescu. (2019). Studiu piața serviciilor stomatologice în România. <https://www.revistabiz.ro/studiu-piata-serviciilor-stomatologice-in-romania/>



Annexes

ANNEX 1

Glossary of terms

Financial resources	represent the necessary funds to carry out activities in the health sector. In Romania, the health system is financed from four main sources: social health insurance, state budget, local budgets and 'out-of-pocket expenses' (26).
Human resources	in the health system include health workforce, such as physicians, nurses, pharmacists, dentists, and ancillary and management personnel (30).
Material resources	or physical resources include several categories: buildings/facilities, medicines, medical supplies, etc. These types of resources are the physical basis for the provision of healthcare services (31).
Public funding for children	means all activities carried out to influence the mobilization, allocation and use of domestic public financial resources to achieve equitable and sustainable child outcomes (32).
Budget execution	is the activity of collecting budget revenue and making payments for the expenses approved by the budget (<i>Law 273/2006 and Law 500 /2002</i>).
Financial execution	means the implementation of a project/program/package, including budget execution, as well as the achievement of the indicators assumed in the financing project/program/package.
Gross domestic product (GDP)	is an indicator measuring the national economy. It represents the value of all services and goods produced within the economy, less the value of those services and goods used in such production (33).
Local public administration authority (LPAA)	" <i>public authority acting for the organization of the enforcement or for the effective enforcement of the law or for the provision of public services</i> ". Local public administration authorities are represented by local councils, mayors and county councils (34).
Local public administration (LPA)	" <i>all activities carried out, as a public authority, to organize the enforcement and to effectively enforce the law and to provide public services in order to satisfy the local public interest</i> " (34).

ANNEX 2

List of institutions participating in the qualitative research

As part of the qualitative data research component, representatives of the following institutions participated in the interviews:

1	Ministry of Health
2	National Health Insurance House
3	National Institute for Public Health
4	National Institute of Statistics
5	National Authority for Quality Management in Healthcare
6	National School of Public Health, Management and Professional Development Bucharest
7	PHD Cluj
8	PHD Alba
9	Bihor Health Insurance House

ANNEX 3

Legislative background

Abeba The Addis Ababa Action Agenda is a blueprint to finance sustainable development created by the UN in 2015, and a foundation for implementing the sustainable development agenda adopted by the UN General Assembly. This framework highlights **the need to invest in children and youth to achieve equitable and sustainable development for present and future generations**. It also addresses aspects related to domestic resource mobilization and the tracking and reporting of public spending (35).

Romania, along with 195 other countries, adopted the **Convention on the Rights of the Child**, drafted by the UN Committee on the Rights of the Child to support the child's rights to education, harmonious development and family life (35). Romania was among the first countries to ratify this convention, which stipulates that **"the child shall be treated with respect, and the State has the obligation to ensure the fullest development, to comply with the rights of the child and child protection rules"** (36).

In Romania, the rights of the child are ensured by **Law 272/2004 on the protection and promotion of the rights of the child**. This law guarantees the right of the child to benefit from all medical services necessary to ensure optimal health; the costs are borne by the state budget and by the single national health insurance fund (37).

Article 265 of **Law No 95/2006 on healthcare reform** stipulates the main components of the Single National Health Insurance Fund. These include:

"contributions from individuals; amounts to be distributed to the fund from the employment insurance contribution; subsidies from the state budget; interest, donations, sponsorships, revenue obtained from the operation of the assets of owned by NHIH and the insurance houses, and other revenues, pursuant to law; amounts from the own revenues of the Ministry of Health" (19).

Law 15/2021 of 8 March 2021 includes provisions on the revenue allocated to the state budget, by chapters and sub-chapters, as well as on expenses by purpose, on the SNHIF budgets, foreign appropriations, non-reimbursable foreign funds and activities financed entirely with own revenue (38)

Pursuant to **Decision No. 1028 of 18 November 2014, the National Strategy for the Protection and Promotion of Children's Rights 2014-2020** was approved with a view to improve child health and well-being in Romania. This provided an effective framework for the implementation of the national public initiatives for children included in the Government Program. The strategy aims to promote investment in child development and well-being, with activities based on an integrated and holistic approach across all state authorities and institutions.

One of the priorities included in Romania's Government Program is the development of national prevention and health education programs, which are mentioned both by Romania's National Health Strategy 2014-2020 and by the Multiannual Plan for the Promotion of a Healthy Lifestyle and WHO recommendations.

National strategy for the protection and promotion of children's rights

The National Strategy for the Protection and Promotion of Children's Rights 2014-2020 aims to promote investment in child development and well-being. One of the strategy objectives is to increase the local coverage of services, and one of the actions envisaged for this objective is to increase child access to preventive and curative healthcare services. The Chapter "Budget Implications" mentions that objectives shall be achieved "within the budgets of the ministries and public institutions involved". Also, in Romania, European Funds continue to be among the most important instruments for the protection and promotion of the rights of children (1).

The integrated multiannual plan for health promotion and health education is a framework document that includes a number of measures with a view to "*steadily increase the proportion of population with health-promoting behaviors*" and to reduce the pace of morbidity and mortality increases caused by mainly non-communicable diseases and to reduce disease burden on the population. The population groups targeted by this plan are children, people in rural communities, vulnerable groups and pregnant women (39).

A 2016 Committee publication provides a guide to public budget allocations for the realization of children's rights and domestic mobilization of additional resources, covering the steps of the entire process (40).

ANNEX 4

Health system and health financing

The provision of health services in Romania is coordinated by the Ministry of Health (MoH), monitored by the National Institute of Public Health (NIPH), implemented by the Public Health Directorates (PHD) and financed by the National Health Insurance House (NHIH). NHIH is a key actor that manages and regulates the social health insurance system and is represented at regional level by the County Health Insurance Houses (9). The Romanian health system is structured across three levels of care - primary, secondary and tertiary.

A System of Health Accounts was used to systematically track spending in the health system over the period 2018-2020, with a view to address resource allocation for child health across the primary, secondary and tertiary care. It is a statistical tool that describes the financial flows for health products and services (41). Under the System of Health Accounts, **health spending** measures a final consumption of health products and services. More specifically, they include both expenses on healthcare services and goods, prevention and public health programs and expenses on health services administration (4). Specialist literature identifies three main types of health resources: **financial**, **human** and **physical** resources.

Health financing includes the range of methods and actions used to collect the necessary funds for the health sector, then and allocate and use such funds to improve population health. According to specialist literature, the target group accessing health services, the costs of healthcare and the quality of services are influenced and determined by the financing method chosen, which should be aligned with the type of health system organization (42).

The main health financing methods are:

- a) **state budget funds** - among the main sources of these funds are general taxes, special health taxes or other budget revenues;
- b) **social health insurance funds** - managed by the government through government agencies or by public or private insurance companies;
- c) **private health insurance funds** - generally provided by not-for-profit or for-profit insurance companies, individually or for groups, with insurance premiums calculated according to the individual's health risks;
- d) **direct payments** - full payment for services, copayment (a fixed amount partially covering the service used) or coinsurance (a predetermined percentage of the cost of the healthcare service); (42)
- e) **local public authorities funds** - to cover hospital management and operation expenses (e.g. supplies, services, wages, investments, repairs) or school health services expenses (43).

Thus, in terms of health financing, literature suggests analyzing both the financing schemes (which include the financing arrangements by which health services are paid for and made available to the population - social health insurance) and the types of revenues of the financing schemes (social

insurance contributions) (41). Financing schemes can include both “government schemes, compulsory health insurance and voluntary health insurance and private funds such as household payments, NGOs and private corporations”. (4)

Informal payments are amounts paid by patients to healthcare staff to access health services that are free of charge in the public health system, and this practice is most common in Central and Eastern Europe. Specialist literature shows that more than 40% of the adult population has made informal payments for quality healthcare services in Romania. A study published in 2020 showed that the likelihood of informal payments is mainly influenced by perceptions on healthcare providers, many of whom are characterized as corrupt. The same study found that younger people and people connected with members of the health workforce are more likely to provide informal payments (44).

Payments made for insurance and social assistance, included in SNHIF

Payments made (thousand RON)	2018	2019	2020
Insurance and social assistance of which:	1,488,817	2,748,774	3,604,409
1, Family and child welfare	612,239	1,063,524	1,465,145
2, Social assistance in case of illness	877,772	1,686,216	2,140,621

Source: NHIH

According to data provided by NIPH, the percentage allocated to **current expenditure on public health paid** by the central and local government and by the social insurance funds in total health spending increased slightly from 79.73% in 2018 to 80.47% in 2019. Also, health spending per capita increased by 16.65% between 2018 and 2019 (from RON 2,166.87/capita to RON 2,527.55/capita).

ANNEX 5

Secondary care

Dental practices

The basic dental care package includes the following therapeutic procedures paid from the NHIH fund for children under 18 (45):

	Therapeutic services	100% reimbursed by NHIH, for children under 18 (RON)
1	Examination- includes dental impression, as appropriate, oncology control and hygienization ²	133
2	Treatment of simple cavities	94
2.1	Root canal obturation after treatment of pulp disease or necrosis	120
3	Treatment of pulp disease with pulpal anesthesia	97
4	Soothing dressing/endodontic drainage	39
5	Treatment of pulp necrosi	109
6	Treatment of apical periodontitis- incision- with anesthesia	109
7	Treatment of periodontal disease with anesthesia	94
8	Extraction of primary teeth with anesthesia	20
9	Extraction of permanent teeth with anesthesia	70
10	Alveolar curettage and treatment of bleeding ³	86
11	Operculectomy for children	47
12	Temporomandibular joint dislocation reduction	62
13	Physiognomic prosthetics components (acrylate/composite)	78
14	Semi-physiognomic prosthetics components (metal + acrylate/composite)	170
15	Crown dental restoration after a root canal	100
16	Treatment of functional disorders with orthodontic appliances, including crossbite treatment retainers/braces + cover piece	546
17	Crossbite treatment with spatula exercises	20
18	Appliances and devices used in the treatment of congenital malformations	780
19	Orthodontic dental polishing/tooth	20
20	Orthodontic appliance repair	390
21	Mobile space maintainers	468
22.	Dental sealants/tooth ⁴	78

² An examination is performed every 6 months for children up to the age of 18.

³ If this therapeutic procedure is carried out in the same session with a tooth extraction, the service will not be reimbursed by NHIH.

⁴ Acest serviciu stomatologic este decontat odată la 2 ani.

In 2016, the total number of children receiving dental care nationwide was 1,457,121, of which: 148,002 preschoolers, 1,049,294 pupils and 259,825 higher education students. According to data provided by MoH, 197,365 preventive interventions were carried out in dental offices during the previous year (2015). According to MoH data, at national level, 6534 students were regularly examined in dental clinics, and oro-dental examinations were performed for 166 primary and secondary school students.

At national level, 445 school dentists provided healthcare services (employed and paid from the state budget by MoH transfer) for pre-school children and school pupils, and 66 while for higher education students. The municipality of Bucharest had the highest number of school dentists (111) for pre-school children and school pupils, as opposed to counties like Harghita or Ilfov, where there are no school dentists. The number of school dentists providing dental services for higher education students is significantly lower, so that in the majority of counties (26) there are no school dentists working in the school medical offices.

In 2016, the number of dental nurses working in school dental offices reached 376 for preschoolers and pupils and only 40 for higher education students. In counties like Bihor, Harghita, Ilfov, Satu Mare or Vaslui there are no nurses providing care to preschoolers, pupils or students.

Table 13: Number of school dental offices, doctors and nurses working in dental offices

Indicator	2017	2018	2019	2020
School dental offices	445	N/A	431	N/A
Doctors in school dental offices	511	N/A	473	N/A
Nurses in school dental offices	416	N/A	339	N/A

Source: MoH - Directorate General for Healthcare and Public Health

ANNEX 6

Tertiary care

Child mortality rates

If we take the period between 2018 and 2019 as baseline, the percentage of deaths caused by neonatal respiratory distress syndrome among children under 5 years of age increased by 49% (1.4pp), non-traumatic intracranial hemorrhage of the fetus and newborn by 14% (1.29pp), respiratory failure not elsewhere classified by 134% (1.21pp), other congenital malformations not elsewhere classified by 72% (0.8pp), congenital malformation of the cardiac septum by 35% (0.56pp), other causes of death poorly defined/unspecified by 21% (0.56pp) pulmonary hemorrhage occurring in the perinatal period (0.48pp) or airway foreign bodies (0.45pp).

In 2020, the percentage of deaths caused by perinatal asphyxia increased by 0.5% (1.1pp), other congenital heart defects by 21% (1.04pp), congenital pneumopathy by 41% (0.7pp), congenital malformations of the heart chambers and septal defects by 11% (0.64pp), congenital malformations of the musculoskeletal system not elsewhere classified by 42% (0.53pp) or respiratory distress syndrome by 49% (0.4pp).

ANNEX 7

Table 14: Capital expenditure

	HEALTH FACILITY WITH BEDS	COUNTY	Budget (thousand RON)		
			2018	2019	2020
1	National Clinical Centre for Neuropsychomotor Recovery in Children Dr, N, Robănescu	Bucharest	4,905	7,211	7,191
2	Teaching Medical Centre for Evaluation and Recovery for Children and Teenagers "Cristian Şerban" Buziaş	Timiş	605	531	388
3	Deleni TB Prevention Centre for Children	Iaşi	0	0	0
4	Buşteni Children's Balneal Sanatorium	Prahova	159	180	4
5	Children's Emergency Clinical Hospital	Cluj	4,124	7,994	4,118
6	Gomoiu Children's Clinical Hospital, Bucharest City Hall	Bucharest	7,464	9,271	287
7	Children's Clinical Hospital Sibiu	Sibiu	7,246	5,646	18,183
8	Children's Emergency Clinical Hospital Braşov	Braşov	1,406	1,525	1,454
9	Grigore Alexandrescu Children's Emergency Clinical Hospital	Bucharest	19,951	28,599	3,932
10	Children's Emergency Clinical Hospital M,S, Curie	Bucharest	237	6,339	11,519
11	Children's Emergency Clinical Hospital SF MARIA Iaşi	Iaşi	216	1,320	3,076
12	Children's Emergency Clinical Hospital St, Ioan Galaţi	Galaţi	4,098	6,474	7,854
13	Children's Emergency Clinical Hospital Timişoara	Timis	9,184	6,772	5,498
14	Pediatric Hospital Pitesti	Argeş	4,400	8,396	5,624
15	Pediatric Hospital Ploieşti	Prahova	9,255	12,287	14,200
	TOTAL		73,250	102,544	83,329

