

A Matter of Life and Death:

An analysis of
infant mortality and
intervention strategies
in Romania

(2014-2024)



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Introduction

Infant mortality serves as the most sensitive barometer of a nation's socioeconomic health, reflecting not merely the efficacy of pediatric care but the very fabric of societal well-being, equity, and governance. This report offers an exhaustive, expert-level analysis of infant mortality in Romania over the decade spanning 2014 to 2024. It goes beyond the descriptive statistics provided by the National Institute of Public Health (INSP) to perform a structural autopsy of the healthcare system, identifying the root causes of Romania's persistent position as an outlier within the European Union.

While the European Union has moved toward a homogenous neonatal survival standard, Romania remains trapped in a paradigm of disparity. Despite a reduction in absolute mortality numbers, the rate of decline has stagnated significantly since 2015. The analysis reveals a conflicting reality: a “European” Romania in the traditionally university-affiliated tertiary Care Centers such as Bucharest, Cluj, Iași, Târgu Mureș (12 in total), where outcomes rival Western standards, and a “rural” Romania where infant survival is impacted by infrastructure deficits, poverty, and gaps in primary care that mirror outcomes in low- and middle-income countries.

This report examines the persistent “policy-practice gap”, highlighting how the implementation of strategic frameworks for regionalization and maternal health is shaped by a complex and fragmented governance landscape. Responsibility for different components of care is distributed across multiple stakeholders with distinct mandates and incentives: local authorities oversee important social and community services and often prioritize immediate local

concerns; primary care operates as a largely self-governed professional system with limited direct influence from central health authorities; hospitals function under mixed governance arrangements involving both local governments and the Ministry of Health; while national authorities remain responsible for overall health outcomes despite having limited direct operational control. In this context, chronic underfunding, healthcare workforce migration and institutional fragmentation collectively contribute to gaps between national policy objectives and their practical implementation.

The report also highlights the important contribution of non-state actors—particularly civil society organizations such as Save the Children and international partners including WHO and UNICEF—in supporting the development of integrated maternal and child health services. Through targeted investments, technical assistance, and programmatic support, these actors help strengthen hospital and community capacity, complement public health systems, and fill critical implementation gaps in areas such as neonatal care, referral systems, and community-based prevention. At the same time, the analysis draws attention to the often “invisible” dimensions of the crisis: the long-term morbidity experienced by surviving children, the absence of structured bereavement and psychosocial support for families, and the moral distress faced by healthcare professionals working in resource-constrained environments. These factors point to substantial social costs—including family trauma, lost human capital, and pressure on already fragile health and social care systems—that extend well beyond the immediate mortality burden.

Section 1

The Scale of the Challenge: Infant and Perinatal Mortality in Romania

To comprehend the depth of the infant mortality crisis in Romania, it is essential to first establish its empirical reality. Statistical data, when analyzed over time and in comparison with European peers, paint the picture of a nation that has made significant strides yet remains an outlier within the European Union. This section describes the

scope and the severity of this public health issue by documenting the infant mortality rates, contextualizing them internationally, and mapping the profound geographical disparities identified in Romania. This statistical foundation sets the stage for the subsequent analysis of the causes and of the systemic failures that drive these figures.

1.1. A Decade of Data: Trends in Infant, Neonatal, and Perinatal Mortality Rates

Over the past decade, Romania's **infant mortality rate (IMR)**—the number of deaths of children under one year of age per 1,000 live births—has followed a trajectory of significant, albeit incomplete, improvement. An analysis of a consolidated time series from multiple international and national sources reveals a consistent downward trend from the beginning of the period. In 2014, the IMR stood at a high of 8.3 deaths per 1,000 live births.¹ This figure steadily decreased over the subsequent years, a continuation of a longer-term positive evolution since the country's accession to the European Union. Based on World Bank (UN IGME) data, Romania reduced its infant mortality rate by 44.7% between 2011 and 2021, compared to an EU average decline of around 15.8% over the same period.² This rapid improvement suggests that initial interventions, particularly those focused on enhancing **acute neonatal care**, yielded substantial results.

However, this positive narrative has been complicated by more recent trends. After years of consistent decline, the IMR has shown signs of stagnation and even a worrying reversal. Data from various sources, including the World Bank, Eurostat, and UNICEF, show the rate hovering between 5.3 and 5.7 deaths per 1,000 live births in the years 2019-2023.³ More pointedly, reports from the non-governmental organization “Salvați Copiii”, citing data provided by Romania's National Institute of Statistics (INS), indicate an increase in the IMR from a low of 5.2‰ in 2021 to 5.7‰ in 2022.⁵ This uptick occurred alongside a precipitous drop in the national birth rate, from 206,826 newborns in 2020 to 193,191 newborns in 2021 followed by just 178,233 in 2022, suggesting that while fewer babies are being born, the risk of dying in the first year of life has increased for newborns.⁵ The most recent available data reported by Romania to Eurostat for 2023 places the rate at 5.6‰.⁴

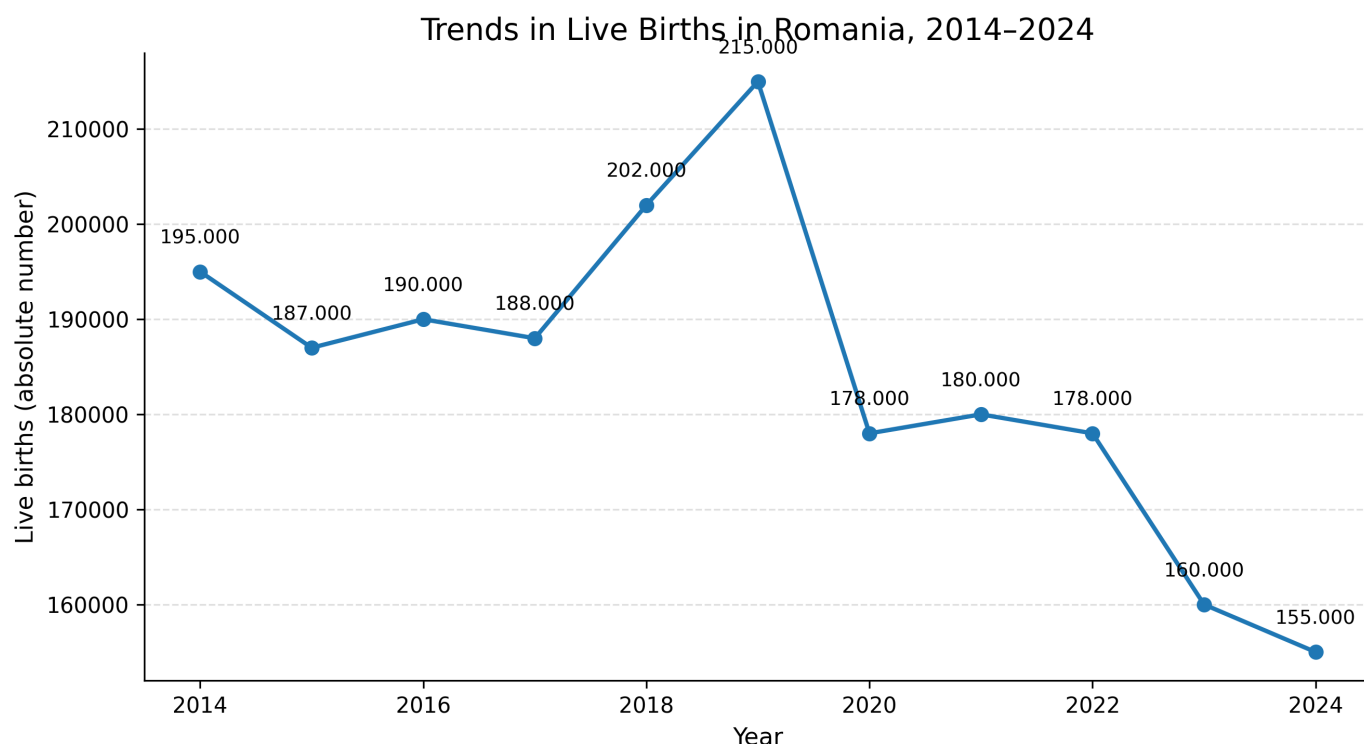


Figure 1. Source: National Institute of Statistics (INS), TEMPO database.

A critical component of the IMR is the **neonatal mortality rate (NMR)**, which measures deaths within the first 28 days of life and accounts for the majority (56% in 2024)¹³ of infant deaths in Romania.⁸ Here too, long-term progress is evident, with the rate falling from 15 deaths per 1,000 live births in 1990 to 3 deaths per 1,000 in 2022, according to UNICEF.⁸ More recent

estimates from the UN Inter-Agency Group for Child Mortality Estimation (UN IGME) place the 2023 NMR at 3.34.⁹ These deaths are predominantly due to conditions arising during the perinatal period, highlighting the critical importance of care during pregnancy, labor, delivery, and the early neonatal transition to extrauterine life.

1.2. Improving Survival But Shifting Morbidity: Neonatal Care Transformation And Measurement Challenges In Romania

Romania's progress in reducing infant mortality must be interpreted within the context of two simultaneous and interacting dynamics: **structural transformation of neonatal care capacity** and **changes in statistical definitions affecting comparability over time**. Together, these factors reshape both the observed trends and their underlying meaning.

Expansion of tertiary neonatal care and system capacity

In the early 2000s, tertiary neonatal intensive care capacity in Romania was largely concentrated in university-affiliated centers (Cluj, Târgu Mureș, București, Iași, Timișoara). By 2026, this network has expanded substantially to approximately 23 tertiary-level neonatology centers nationwide. This expansion reflects increased system capacity to manage high-risk newborns, including extremely preterm infants.

The growth in NICU infrastructure has been associated with improved survival among high-risk neonates, particularly those born at the limits of viability. However, this progress reveals a well-documented epidemiological shift: gains in survival are not matched by equivalent improvements in morbidity-free

survival⁷¹. As seen globally, preterm birth remains the leading cause of under-five mortality and a major contributor to long-term disability .

This divergence highlights a critical point: increasing NICU capacity alone is insufficient. Improvements in outcomes depend on:

- consistent implementation of clinical guidelines,
- standardized care pathways,
- and systematic clinical audit mechanisms.

Currently, the absence of structured audit systems and outcome reporting stratified by gestational age limits the ability to assess performance across centers and to identify effective interventions.

Data system limitations and lack of stratified reporting

A major constraint in Romania's neonatal care system is the **lack of comprehensive, integrated data systems**. Key indicators—such as:

- inborn vs outborn status,
 - gestational age-specific survival,
 - timing of death,
 - and cause-specific mortality including major morbidities
- are not systematically captured or analyzed at national level.

This gap prevents:

- benchmarking between tertiary centres,
- evaluation of referral pathways,
- and monitoring of the regionalized perinatal care system.

More broadly, it reflects a structural issue highlighted in global child mortality analyses: weak vital registration and data systems undermine accurate measurement and policy response.

Methodological break: the 2012 change in live birth definition

Interpretation of long-term mortality trends requires acknowledging a major methodological discontinuity. In 2012, Romania aligned its definition of live birth with international standards, introducing a **legal threshold of 24 completed weeks of gestation for official registration**.⁷

Newborns delivered before this threshold are only included in official statistics if they survive long enough to meet registration criteria. Otherwise, these cases remain documented at clinical level but are excluded from national vital statistics.¹⁰

Prior to this change, extremely preterm infants—although frequently resuscitated and managed in tertiary centers—were inconsistently registered, particularly if they died shortly after birth. In addition, transfers from lower-level facilities were often selective, involving only infants who survived initial stabilization.

The consequence is twofold:

- **historical underestimation of infant mortality**, due to exclusion of the highest-risk group
- **artificial improvement of IMR trends prior to 2012**, followed by a statistical correction

Clinical reality vs legislative framework

Despite the formal 24-week threshold, clinical practice in tertiary centres often extends intensive care to infants born below this limit. This creates a **structural misalignment between legislation and clinical reality**, resulting in:

- inconsistencies in reporting,
- ethical ambiguity in care decisions,
- and lack of transparency in outcome measurement.

This is reflected in a documented **11% increase in early neonatal mortality between 2012 and 2013**, attributable to improved registration rather than a true deterioration in outcomes.

Therefore, part of the observed stagnation in recent years reflects more accurate measurement rather than lack of progress alone—but importantly, not entirely. As global evidence shows, stagnation in neonatal mortality reduction is also a real phenomenon when system-level bottlenecks persist.

A further gap is the **absence of a formal framework for shared decision-making** between clinicians and families at the threshold of viability. Unlike many EU countries, Romania does not systematically integrate parental involvement into decisions regarding initiation or limitation of intensive care for extremely preterm infants. This represents not only a legal gap but also a broader issue of patient-centred care and ethical governance.

Survival gains and shifting morbidity patterns

Evidence from cohort analyses indicates that survival among extremely preterm infants—particularly at 25–26 weeks—has improved over time⁷², with:

- reduced early mortality,
- improved stabilization in the first days of life,
- and convergence of survival rates across gestational age groups.

However, these gains are accompanied by heterogeneous trends in major neonatal morbidities:

- severe intraventricular hemorrhage has decreased,
- necrotizing enterocolitis has increased, likely due to survival of more fragile infants,
- bronchopulmonary dysplasia and retinopathy of prematurity remain largely unchanged.

This confirms a key transition: **the burden of mortality is increasingly being replaced by a burden of morbidity**.

Year	IMR (Eurostat / INS official)	IMR (Macrotrends)	IMR (World Bank / UN IGME) www.childmortality.org Unicef data warehouse
2014	8.9	8.02	8.28
2015	8.2	7.69	7.69
2016	7.5	7.35	7.12
2017	6.8	7.02	6.54
2018	6.5	6.68	5.99
2019	6.0	6.51	5.58
2020	5.8	6.33	5.39
2021	5.6	6.15	5.35
2022	5.2	5.97	5.37
2023	5.6	5.79	5.35
2024	6.6	5.66	-

Table 1: Infant and Neonatal Mortality Rates in Romania, 2014–2024.
Data compiled from multiple sources to illustrate trends

Despite substantial progress over the past two decades, Romania continues to record one of the highest infant mortality rates (IMR) in the European Union. According to Eurostat data, Romania's IMR declined from **8.9 deaths per 1,000 live births in 2014 to 5.2% in 2021**, reflecting improvements in maternal and neonatal care. However, the decline has slowed in recent years, with the rate increasing again to **5.6% in 2023 and 6.6% in 2024** according to national statistics.

1.3. Romania in the European Context: A Persistent Disparity – Romania’s Last-Mile Problem

The true magnitude of Romania’s infant mortality challenge becomes apparent when national statistics are placed in European context. Despite the significant progress achieved over the past two decades, Romania consistently and distressingly records the highest IMR among all European Union member states.¹² This persistent gap highlights a fundamental failure to provide its youngest citizens with a standard of care and a chance of survival comparable to those of their European counterparts.

Even at its lowest level, Romania remained well above the **EU-27 average of approximately 3.3‰**⁴, which means that a child born in Romania still faces a considerably higher risk of dying before their

first birthday than a child born elsewhere in the Union. The contrast with the best-performing countries is even more striking: **Finland and Sweden report infant mortality levels around 2‰**, indicating that **infant mortality in Romania is roughly two to three times higher**.

The disparity is also evident in **neonatal** mortality (deaths in the first 28 days of life), which represents the largest component of infant mortality (>50%) in most European countries. Romania’s neonatal mortality rate (NMR) is approximately 3.3–3.6 deaths per 1,000 live births, compared with around 2.4‰ in the EU overall and roughly 1.4–1.5‰ in the best-performing countries¹⁵.

Country / Region	Infant Mortality Rate (IMR) per 1,000	Neonatal Mortality Rate (NMR) per 1,000
Romania	5.6	3.3
Slovakia	5.3	3.1
Bulgaria	5.1	3.5
EU-27 Average	3.3	2.4
France	3.5	2.3
Germany	3.1	2.2
Sweden	2.2	1.5
Finland	2.0	1.4
Estonia	2.3	1.3

Table 2. IMR and NMR by country 2022 Source: Estimates from the UN Inter-agency Group for Child Mortality Estimation, Levels and Trends in Child Mortality 2023 (reference year 2022 or latest available), complemented with national statistical data for selected countries where indicated.

These patterns suggest that Romania's challenge is no longer primarily related to the availability of advanced clinical care. Instead, the excess mortality reflects what can be described as a **"last-mile delivery problem"** in maternal and newborn health: the health system's difficulty in ensuring that existing services effectively reach mothers and newborns at highest risk. Addressing these "last-mile" barriers—early prenatal care, timely referral of high-risk pregnancies, and equitable access to neonatal services—will be essential for Romania to close its persistent child survival gap with the rest of the European Union.

1.4. The Geography of Risk: County-level and Urban-Rural Disparities

The national average infant mortality rate, while alarming in its European context, continues to obscure profound and persistent internal inequalities within Romania. The risk of infant death is not evenly distributed; rather, it remains geographically and socially concentrated, creating a "postcode lottery" in which a child's probability of survival is strongly determined by their place of residence. This geography of risk becomes even more evident when analyzed using 10-year averages (2015–2024), which eliminate short-term fluctuations and reveal structural disparities across counties and between urban and rural populations.

The **urban-rural divide**¹⁷ remains one of the most consistent and consequential features of Romania's public health landscape. **Over 47% of children live in rural areas**¹⁴, where living conditions are generally poorer and access to preventive, primary, and specialized healthcare is more limited. This structural disadvantage translates directly into higher mortality¹⁶.

Recent data¹³ confirms **a persistent gap of approximately 2–3 deaths per 1,000 live births**, with 2024 rates reaching 7.6‰ in rural areas compared to 5.2‰ in urban areas. This disparity reflects not only differences in access to healthcare services, but also broader social determinants, including maternal education, poverty, transport barriers, and delayed engagement with prenatal care.

Rank	County	Average 2015–2024 (‰)
1	Mureș	~8.8
2	Botoșani	~8.3
3	Sălaj	~8.2
4	Suceava	~8.1
5	Ialomița	~7.9
6	Satu Mare	~7.8
7	Maramureș	~7.7
8	Constanța	~7.6
9	Bihor	~7.4
10	Vâlcea	~7.3
31	Covasna	~5.7
32	Gorj	~5.7
33	Iași	~5.6
34	Dâmbovița	~5.3
35	Teleorman	~5.3
36	Mehedinți	~5.2
37	Ilfov	~4.7
38	Harghita	~4.6
39	Olt	~4.6
40	București	~3.0

Table 3. Mortality average by county. Source: INSP report on infant mortality 2024¹³

At county level, the use of the **10-year average IMR** reveals a pattern of deeply entrenched regional inequalities, far more stable and unsettling than single-year snapshots suggest. While the **best-performing areas—such as Bucharest (~3‰), Ilfov, Olt, and Harghita (<5‰)**—maintain consistently low mortality over the decade, a group of counties emerge as structural high-burden outliers, with average rates exceeding 8‰. These include **Mureș, Botoșani, Sălaj, and Suceava**, where elevated mortality is sustained over time rather than driven by isolated peaks.

Importantly, the presence of such high long-term mortality in counties like Mureș, which benefit from advanced perinatal infrastructure including tertiary maternity and neonatal intensive care, fundamentally challenges the assumption that disparities are primarily driven by hospital capacity. Moreover, since infant mortality in Romania is recorded based on the mother's place of residence rather than the place of delivery, these patterns cannot be attributed to a referral bias or concentration of complex cases. Instead, they point to systemic failures upstream of hospital care.

Additional clusters of above-average mortality (7–8‰) are noted in parts of northeastern and northwestern Romania—including Ialomița, Satu Mare, Maramureș, Constanța, Bihor, and Vâlcea—indicating that the burden is both geographically patterned and socially stratified.

These findings highlight the existence of a multi-tiered system of survival, where outcomes are shaped less by the availability of high-end clinical services and more by unequal access to prevention, early detection, and continuity of care.

Taken together, the evidence reframes Romania's infant mortality challenge: it is no longer primarily a problem of insufficient tertiary care, but rather one of inequitable "last-mile delivery" of maternal and newborn health services. The persistence of high mortality in specific counties and rural populations reflects failures in early pregnancy registration, prenatal monitoring, risk stratification, and community outreach, particularly among vulnerable groups. As such, the national burden of infant mortality is best understood not as a uniform systemic failure, but as a series of localized crises concentrated in disadvantaged populations and territories.

An effective national response must therefore prioritize targeted, place-based, and community-integrated interventions, focusing on bridging the gap between available medical capacity and actual access to care for those most at risk.

Section 2

| Etiology of Infant Mortality

2.1. Conditions Originating in the Perinatal Period: The Primary Driver

The overwhelming majority of infant deaths (more than 60%, if we group perinatal deaths - 40% - and congenital deaths - 25%)⁵⁰ in Romania are attributable to a single, broad category: “certain conditions originating in the perinatal period”, as classified under the ICD-10 codes P00-P96.²¹ This category is the most significant contributor to the country’s high IMR, and conversely, the marked reduction in deaths caused by these conditions has been the main driver of the overall decline in infant mortality observed between 2000 and 2015.

This category is not a single disease but a constellation of issues rooted in the **health of the mother and the circumstances of birth**. The two most critical components are prematurity and low birth weight.¹⁰ These are not illnesses in themselves but states of extreme vulnerability. Premature infants have underdeveloped organs, particularly their lungs, and weakened immune systems, making them susceptible to a cascade of life-threatening complications, from respiratory distress to severe infections.

Closely related are **complications arising during labor and delivery**. These events are often the direct result of inadequate clinical management during labor: failure to initiate tocolysis in order to administer antenatal corticosteroids for preterm births

or MgSO₄ for hypertensive disorders/eclampsia, delays in performing emergency interventions like caesarean sections, or a lack of skilled personnel and equipment for neonatal resuscitation, thermal care and stabilization in the early neonatal period. The significance of intrapartum care is starkly illustrated by WHO data indicating that **one-third of all stillbirths occur during delivery** and are largely avoidable with timely and appropriate medical intervention.²⁵ Therefore, the dominance of this cause of death points directly to deficiencies in clinical practice and in the quality of obstetric and neonatal care provided in maternity facilities.

Neonatal mortality accounts for the majority of infant deaths in Romania, its share in total infant mortality remaining consistently high—rising from approximately 55% in 2010 to around 56–60% in recent years, including 2024. While neonatal mortality rates have declined in absolute terms (from 5.5‰ in 2010 to 3.6‰ in 2024), their sustained proportional dominance reflects a structural concentration of deaths in the earliest period of life. This pattern aligns with the cause-of-death profile, where perinatal conditions and congenital anomalies together account for over 60% of infant deaths. Critically, gaps in antenatal care remain a key upstream determinant: in 2022, 26.4% of pregnant

women did not receive any prenatal consultation, contributing to increased risks of prematurity, perinatal complications, stillbirth, and early neonatal deaths (0–6 days). Notably, more than 60% of deaths in this early neonatal period occur among preterm infants, underscoring the central role of prematurity and the need for timely risk identification, referral, and high-quality perinatal care.

This decline in mortality rates is largely attributable to the “technologization” of care. The focus of the Ministry of Health and of civil society organizations (CSOs) over the last decade has been on equipping university-affiliated tertiary Neonatal Intensive Care Units (NICUs) with ventilators, incubators and advanced medical imaging technologies, ultrasonography equipment capable of supporting the care of Extreme Low Birth Weight (ELBW) infants. However, data from 2022 to 2024 indicate a worrying stagnation, with the mortality rate hovering around 3.5–3.6%.¹ This suggests that the benefits of equipment upgrades have been maximized,

and further decreases are being hindered by other factors such as overcrowding due to the increased number of transfers from primary and secondary levels to tertiary care, but also driven by extended lengths of stay associated with improved survival of infants at very low gestational ages among those extremely preterm newborns. Hospital data reveal a highly skewed utilization pattern in neonatal care: while the average length of stay is approximately 4 days, this masks substantial heterogeneity driven by prematurity and low birth weight. Extremely preterm infants (<1000g) require prolonged hospitalization—on average over 18 days—compared to 3–4 days for term newborns. This implies that a single high-risk neonate consumes the equivalent bed capacity of four to five standard cases. Consequently, neonatal intensive care units operate under structural pressure, where a relatively small cohort of critically ill newborns disproportionately occupies available capacity, with implications for referral efficiency, transfer delays, and access to timely care.

Category	LOS (acute + chronic)	Relative to baseline
Normal newborn (>2499 g)	3.7 days	baseline
2000–2499 g	~10 days	~2.7×
1500–1999 g	~20 days	~5.4×
1250–1499 g	~26 days	~7.0×
1000–1249 g	~30 days	~8.1×
750–999 g	~52 days	~14×
<750 g	~73 days	~20×

Table 4. Source: Author’s calculations based on Romanian DRG national datasets (2025), including acute and chronic neonatal care episodes; length of stay aggregated across the full continuum of care by birthweight category. 2025 yearly indicators by specialty (Neonatology and preterm) www.drg.ro

Furthermore, maintenance costs and expenses related to the utilization of newly acquired medical equipment remain a significant operational challenge for the hospital budget. Conversely, while the workforce has been significantly optimized

in tertiary university centers due to an increased number of neonatologists, it remains a persistent problem in primary level facilities where the on-call schedule in Neonatology is integrated with that of General Pediatrics.

2.2. Post-Neonatal Mortality: The Poverty Indicator

The post-neonatal mortality rate (PNMR) is where Romania diverges most sharply from its European peers. In developed health systems, post-neonatal deaths are rare and typically due to **unavoidable congenital anomalies**. In Romania, they accounted for **over 40% of infant deaths in 2024**¹³.

The primary drivers here are respiratory diseases and infectious and parasitic diseases. **In 2021, respiratory diseases accounted for nearly 19% of deaths**

in the 1-11-month-old age group. This statistic is a direct indictment of social and environmental factors/conditions. It reflects infants returning from the hospital to homes with dampness, mold, and inadequate heating. It reflects a primary care system that does not detect pneumonia early enough to prevent septic shock. The persistence of PNMR at rates around 2.2‰ (urban) to 3.4‰ (rural) in 2024 indicates a failure of the social safety net rather than a faulty hospital system.

2.3. Maternal Age Patterns and System Gaps in Prevention

Between 2014 and 2023, Romania experienced a continued decline in adolescent births alongside a steady increase in births among women aged 40 and above. While this decrease in the number of births among mothers under 18 suggests some behavioral shifts, teenage pregnancy remains structurally entrenched in vulnerable populations, reflecting persistent gaps in preventive services and the absence of sustained, equity-focused reproductive health programs over the past decade⁷⁵. Evidence from Romania highlights that teenage pregnancy is closely linked to poverty, limited access to education and health services, and

insufficient availability of contraceptives in disadvantaged communities, underscoring the need for targeted, multi-sectoral prevention approaches⁵¹.

Recent studies⁷³ draw attention to a far more concerning phenomenon—namely, an increase in parity among adolescent mothers⁷⁴ compared with traditional cohorts. This pattern raises the possibility that repeated adolescent pregnancy may be linked to social identity and status.

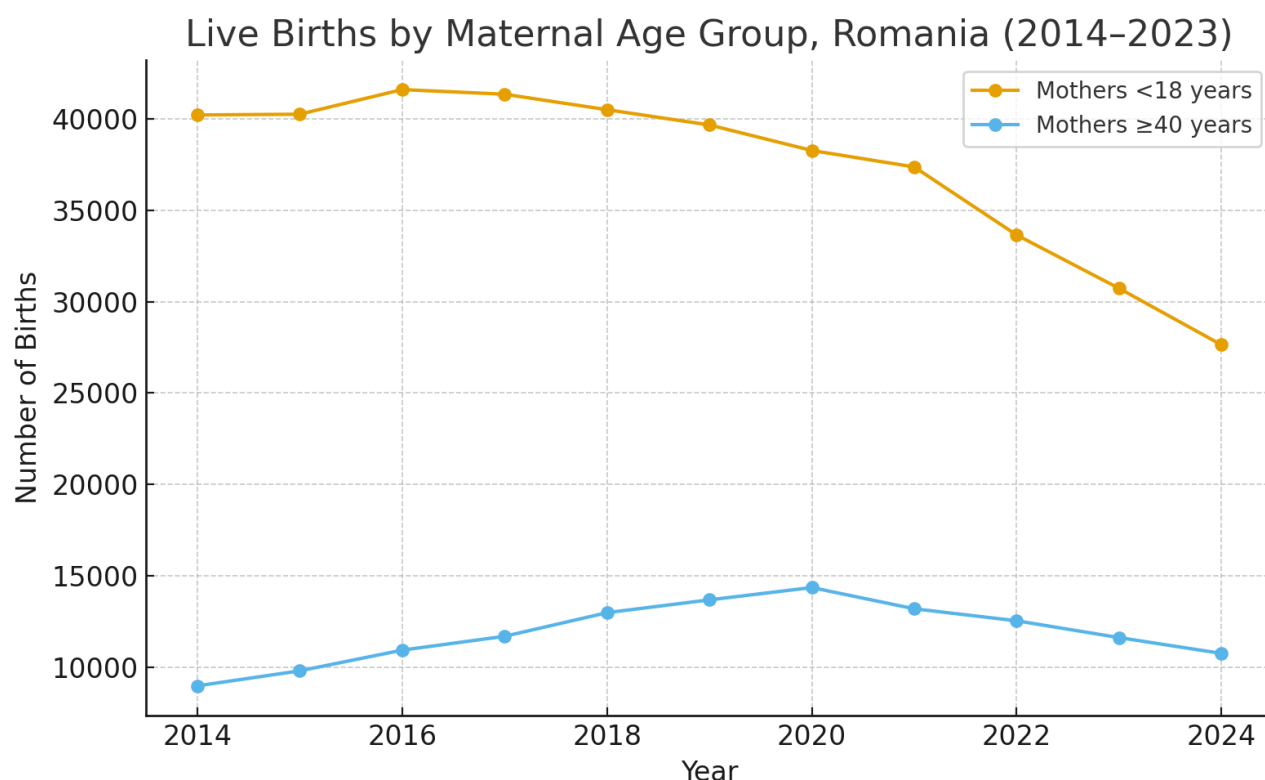


Figure 2. Source: National Institute of Statistics, tempo online - Live births with usual residence in Romania, by live birth order and mother's age group

Moreover, Romanian researchers have demonstrated a clear link between adolescent childbirth and suboptimal antenatal care, as well as an increased likelihood of delivering low birth weight, preterm, or intrauterine growth restricted infants, alongside higher rates of infant mortality.⁷⁶

At the same time, the rise in births among women aged ≥ 40 reflects delayed childbearing and changing reproductive trajectories. This dual trend highlights

a polarization of reproductive behavior, shaped by both social vulnerability and demographic transition. However, these are not independent phenomena but part of a **circular pattern of inequity**, where insufficient preventive services and weak community-level interventions perpetuate cycles of early motherhood, school dropout, and repeated adolescent pregnancies across generations—dynamics explicitly documented in the Romanian policy framework⁵¹.

Birth Order	Mothers < 18 years old	Mothers ≥ 40 years old
First child	154,988	22,803
Second child	41,919	17,591
Third child	7,722	10,112
Fourth child	887	4,594
Fifth child	68	2,803
Sixth child	3	1,926
Seventh – Tenth+ child	1	6,443
Total births (2014–2023)	205,588	65,272

Table 5. Source: National Institute of Statistics, tempo online - Live births with usual residence in Romania, by live birth order and mother's age group

An analysis of maternal age and live birth order further reveals a dual vulnerability profile with direct implications for neonatal outcomes. On one end, a subgroup of adolescent mothers with previous births reflects deep structural disadvantage, characterized by poor access to antenatal care, low health literacy, and systemic exclusion from preventive services. These factors are strongly associated with adverse outcomes such as prematurity, low birth weight, and increased infant mortality, consistent with global evidence linking inequities in access to care with child survival outcomes⁵².

On the other end, older first-time mothers face biologically driven risks—including hypertensive disorders and gestational diabetes—contributing to a higher burden of medically complex pregnancies and neonatal complications.

From a policy perspective, these trends underscore the need for differentiated and equity-oriented interventions. For adolescents, this requires strengthening preventive services, ensuring availability of contraceptives in at-risk communities, and implementing targeted interventions, including integrated education, health, and social support services—as recommended in the national policy framework⁵¹. For older mothers, the focus should remain on optimizing maternal–fetal medicine capacity and ensuring access to high-quality, specialized obstetric and neonatal care.

Consistent with global evidence, reducing preventable newborn and child deaths requires scaling up integrated, high-impact interventions across the continuum of care, including antenatal and postnatal care, skilled birth attendance, and preventive services delivered through primary health care systems, with a strong emphasis on equity and reaching the most vulnerable populations.⁵²

2.4. Birth Setting and Access to Skilled Assistance

National data confirm that childbirth in Romania remains overwhelmingly institutionalized, with the vast majority of deliveries occurring in medical facilities and under professional supervision. Across the period 2014–2024, over 98% of births consistently took place in healthcare units, reflecting strong system penetration of facility-based delivery. However, around 2% of births—representing roughly 6,000–8,000 infants annually—still occur outside medical facilities or without qualified assistance, a pattern largely associated with rural isolation and social vulnerability.

In 2023, out of a total of **164,004 live births**:

- **66.1%** were attended by both doctor and midwife,
- **33.0%** by doctor only,
- **1.5%** by midwife only, and
- **<0.01%** were reported under “other situations”, including unassisted or home births.

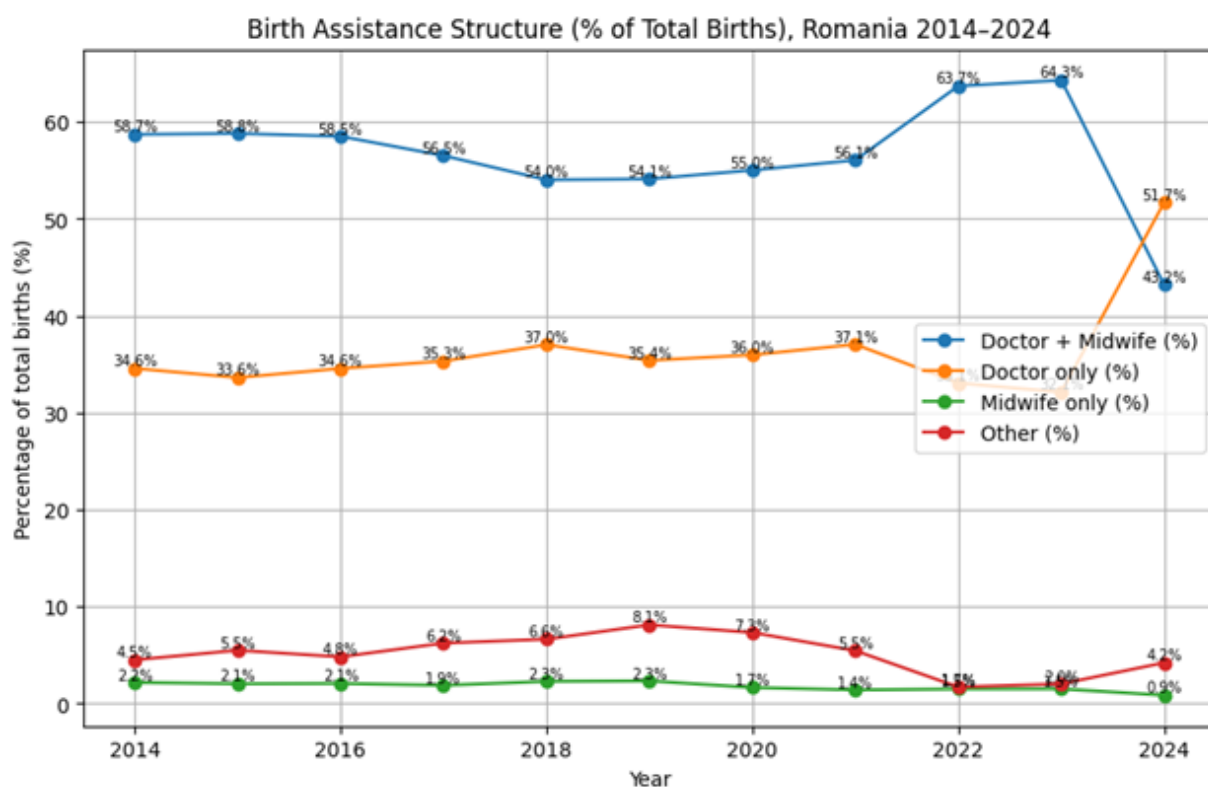


Figure 3. Source: National Institute of Statistics Tempo Online Birth data, by type of assistance

The proportion-based analysis reveals a structural collapse of midwife-led care in Romania rather than a simple decline in absolute numbers. Midwife-only births have halved over the last decade and now represent barely 2% of deliveries, while doctor-only births have surged, exceeding half of all deliveries by 2024.

This reflects not only workforce depletion—driven by the near absence of midwifery training pipelines over the past 10–15 years—but also a systemic shift toward physician-centered, hospital-dependent models of care, undermining team-based perinatal practice and continuity of care.

The small but persistent number of births occurring outside medical facilities represents a critical public health gap. These cases are concentrated in underprivileged rural areas, particularly in the North-East and South regions, where physical access to maternity services is limited and antenatal care coverage remains incomplete.

Many of these deliveries occur among unregistered pregnancies or women with no sustained contact with the health system, specifically lacking engagement with family physicians, community nurses, midwives, and obstetric care providers.

2.5. Regional Disparities and High-Burden “Red Counties”

The geography of infant mortality in Romania reveals a pronounced pattern of territorial inequity. While the Bucharest–Ilfov region, with rates around 2.5‰, aligns with outcomes reported by Western European urban centers, several regions—including the South-East, South-Muntenia, and North-East—consistently record infant mortality rates that are up to two times higher than the national average.

At county level, areas such as Călărași (7.9‰), Tulcea, and Botoșani emerge as persistent high-burden “red counties.”^{1,13} These territories are characterized by structural socioeconomic vulnerabilities, including de-industrialization, high unemployment, and sustained out-migration of healthcare professionals toward major urban centers or abroad.

The persistence of these disparities, despite overall national improvements in infant mortality, indicates a systemic failure of equitable service delivery. It suggests that national maternal and child health policies—while effective at aggregate level—are insufficiently adapted to local contexts and fail to adequately reach peripheral and underserved populations. This reflects broader gaps in territorial planning, workforce distribution, and the capacity of primary and community-level health services to act as effective entry points for maternal and neonatal care.

Section 3

| Root Causes and Systemic Determinants

The medical causes of infant death detailed in the previous section do not occur in a vacuum. They are the clinical manifestations of deeper, systemic failures and societal conditions. To understand why Romania's infant mortality rate remains stubbornly high, it is necessary to look beyond the hospital ward, in pre- and posthospital care, in the community and to examine the

socioeconomic, demographic, and structural determinants that shape the health of mothers and children. This analysis reveals a clear causal chain where poverty, educational deficits, and specific maternal risk factors are amplified by a chronically under-resourced and inequitable healthcare system, creating a perfect storm of vulnerability for the nation's youngest citizens.

3.1. The Socioeconomic Gradient: The Impact of Poverty, Education, and Vulnerable Populations

A powerful socioeconomic gradient dictates the landscape of infant survival in Romania. The risk of death is not randomly distributed but is heavily skewed towards children born into poverty, to mothers with little education, and within marginalized communities. Romania has the highest rate of children at risk of poverty or social exclusion in the European Union, at a staggering 41.5% in 2021, almost double the EU average.⁸ This pervasive poverty is a primary driver of poor health outcomes. It limits access to nutritious food, adequate housing, and transportation to healthcare facilities, and it creates a constant state of stress that can negatively impact pregnancy outcomes.

Maternal education emerges as one of the most critical determinants. There is a stark inverse correlation between a mother's level of education and the risk of her child dying. Data from 2012 showed that the infant mortality rate for mothers with only primary education was 12.8‰, nearly four times higher than the 3.3‰ rate for mothers with university education. Low literacy, identified

as a key risk factor, impedes a mother's ability to understand health information, adhere to prenatal care recommendations, and recognize warning signs in her infant.²² This educational deficit directly translates into higher-risk pregnancies and delayed care-seeking.

These vulnerabilities are compounded for specific populations, most notably the Roma community. Reports from international bodies and national organizations consistently highlight the need for targeted, culturally adapted measures to improve health outcomes for Roma children.²⁸ The use of Roma health mediators is one such strategy aimed at bridging the gap between these marginalized communities and the formal healthcare system, acknowledging that standard approaches are often insufficient to overcome long-standing barriers of discrimination, poverty, and mistrust.²⁸ The disproportionate burden of risk borne by these groups demonstrates that infant mortality is not just a health issue, but also a matter of social justice and equity.

3.2. Maternal Health and Demographics: The Critical Role of prenatal care and teenage pregnancy⁵¹

The health, age, and circumstances of the mother are paramount in determining the outcome of a pregnancy. In Romania, two factors stand out as particularly potent drivers of infant mortality:

1. Inadequate prenatal care
2. A high rate of teenage pregnancy.

Gaps in primary health care (PHC) are central to this challenge. In many rural and underserved communities, limited²⁵ engagement with family physicians, community nurses, and midwives leads to late or absent antenatal care. As a result, key maternal risks—such as infections²⁵, pre-eclampsia, and fetal growth restriction—often remain undetected, contributing directly to prematurity, low birth weight, and early neonatal deaths²². Strengthening PHC as the first point of contact is essential to ensure early pregnancy registration, risk identification, and continuity of care. The Policy Framework to Prevent Teenage Pregnancy and Its Consequences⁵¹ highlights that teenage pregnancy is closely linked to low health literacy and limited access to preventive services, including sexual and reproductive health education and family planning. Adolescent mothers are significantly less likely to access timely antenatal care and face higher risks of adverse birth outcomes.

Effective prevention requires a shift toward community-based, integrated PHC services, combining outreach, health education, and early intervention—particularly for vulnerable populations. As global evidence shows, scaling up antenatal care, skilled birth attendance, and postnatal follow-up through strong primary care systems is one of the most effective strategies to reduce child mortality.

Persistent data quality gaps further obscure the true causes of neonatal death, limiting targeted responses. Addressing infant

mortality in Romania therefore depends not only on hospital care, but on **strengthening PHC, preventive services, and health literacy across the maternal-newborn continuum.**

This problem is critically intertwined with Romania's persistently high rate of teenage pregnancy—among the highest in the European Union¹². Evidence shows that a significant share of adolescent pregnancies are not the result of informed choice, but are closely linked to sexual abuse, exploitation, and underreported gender-based violence, particularly in vulnerable rural and marginalized communities. The UNICEF policy framework emphasizes that early pregnancy in Romania is frequently rooted in structural inequalities, including low educational attainment, poverty, limited access to sexual and reproductive health services, and weak protection mechanisms for minors.

Births to mothers aged 15–19 consistently accounted for around 9–10% of all live births, decreasing only modestly from approximately 9.6% in 2014 to 9.1% in 2024. Births to very young mothers under the age of 15, while numerically small, remained stable at around 0.3–0.4% of total births⁵⁴, indicating a persistent core of extreme vulnerability. Overall, this translates into approximately **one in ten children in Romania being born to an underage mother** throughout the past decade, with only limited progress in reducing this share. The stability of this indicator, even as total births declined sharply, suggests that teenage pregnancy is not simply a

demographic phenomenon but a structural issue concentrated in vulnerable populations, requiring targeted prevention and protection interventions.

Adolescent mothers face a dual vulnerability. Biologically, incomplete physical development increases the risk of complications such as cephalopelvic disproportion, prematurity, and low birth weight²⁵. Socially, these pregnancies are often associated with school dropout, economic dependency, and limited access to prenatal care, further amplifying risks for both mother and child.

Crucially, the policy framework⁵¹ highlights that many adolescent pregnancies occur in contexts of coercion or unequal power relations, and that cases of sexual violence remain substantially underreported due to stigma, lack of trust in institutions, and insufficient identification by frontline services. These dynamics point to a systemic failure of primary prevention and protection systems. Insufficient integration of healthcare, education, and social services limits the ability to identify at-risk adolescents early, to provide

counselling, or to prevent repeat pregnancies. The recurrence of teenage pregnancy further reflects cycles of deprivation, where early motherhood becomes both a consequence and a driver of social exclusion.

Maternal lifestyle factors—such as higher rates of smoking, substance use, and poor nutrition among disadvantaged adolescent mothers—add an additional layer of risk, contributing to outcomes such as low birth weight and sudden infant death²¹.

In order to address this issue, we need to move beyond a purely clinical perspective. The goal of reducing infant mortality linked to teenage pregnancy depends on strengthening PHC-based preventive services, expanding comprehensive sexual education, and reinforcing child protection and gender-based violence response systems. Without tackling these upstream determinants, teenage pregnancy will remain a major and under-recognized pathway to adverse birth outcomes and infant mortality.

3.3. The Romanian Healthcare System: A Landscape of Chronic Underfunding and Structural Gaps

The societal and demographic risk factors are amplified by a healthcare system that is itself a root cause of poor outcomes. Despite being an EU member state, Romania's healthcare system is characterized by chronic underfunding, severe structural deficiencies, and deep-seated inequities that systematically fail its most vulnerable.

The primary engine of healthcare financing in Romania is the FNUASS, managed by the National Health Insurance House (CNAS). For the perinatal sector, this fund supports two distinct packages of services: the “basic package” for insured citizens and the “minimal package” for the uninsured, which critically includes pregnant women and new

mothers regardless of their contribution status.⁵⁵ Under Law 141/2025, the Romanian Government maintained the insured status without the payment of contributions for specific vulnerable categories, including 24,721 pregnant women and new mothers as of mid-2025.⁵⁶ This policy reflects a strategic prioritization of maternal-fetal health as a public interest, aiming at eliminating financial barriers to essential prenatal monitoring and safe delivery.⁵⁸

The budgetary outlook for 2026, as presented by the Ministry of Health, indicates a state of fiscal austerity described as being “stretched to breaking point”.⁵⁸ Despite this, the budget projected for 2026 is

approximately RON 3.5 billion higher than the 2025 execution, allowing for further implementation of reforms initiated under the National Health Strategy 2023–2030.⁵⁸ A pivotal shift in this budgetary cycle is the 35% increase in funding for “Priority Actions” (PAs) which specifically target critical care in areas such as Anesthesia and Intensive Care (ATI) and neonatology.⁵⁸ For 2026, these priority allocations are set to reach RON 475 million, an increase from RON 350 million in 2025 reflecting the rising costs of maintaining high-complexity neonatal life support systems.⁵⁸

The financing of day-to-day perinatal services is governed by the diagnosis-related groups (DRG) system, a prospective payment mechanism where hospitals are reimbursed based on the “case-mix weights”.⁶⁰ The settlement for each discharged case, regardless the time spent in hospital, is calculated by multiplying the hospital's specific cost per weighted case (CPWC) by

the relative value (RV) of the diagnosis.⁶⁰ For 2025, the CPWC for many leading emergency hospitals, such as Alba Iulia, is set at RON 1,738 lei, providing a baseline for calculating the state's contribution to birth costs.⁵⁹

The DRG system reveals significant financial disparities between natural births and surgical interventions, which may influence clinical decision-making. A singular vaginal delivery without complications has a RV of 0.6238, yielding a settlement of approximately RON 1,084.⁶¹ In contrast, a Cesarean section with catastrophic complications has a RV of 2.3123, resulting in a payment of over RON 4,000.⁶⁰ This reimbursement structure creates an economic incentive for hospitals to favor C-sections, contributing to Romania's elective surgery rates, which far exceed WHO recommendations.⁶⁰

Diagnosis Code	Description	Relative Value (RV)	Estimated Settlement (RON) ⁶¹
O1011	C-section with catastrophic complications	2.3123	4,018.78
O1013	C-section without severe complications	1.2223	2,124.36
O3012	Vaginal birth without severe complications	0.7309	1,270.30
O3013	Vaginal birth, singular, no complications	0.6238	1,084.16
P1010	Neonate <750g with significant procedure	12.4375	21,616.38
P1040	Neonate 1500-1999g with significant procedure	9.9109	17,225.14

Table 6. Average/regular neonatal DRGs financing.

For neonatal care, the DRG system recognizes the immense resource intensity of managing low-birth-weight infants. Diagnoses for neonates under 750 grams requiring significant surgical procedures (Code P1010) carry a RV of 12.4375, reflecting the high cost of surfactant therapies, prolonged mechanical ventilation, and continuous parenteral nutrition.⁶¹ However, these decontaminants are often insufficient to cover the actual costs of care in Level III units, are require additional funding from the Ministry of Health's "Priority Actions" budget.¹² The tension between DRG-based reimbursement and the actual clinical cost of saving a micro-preemie is a primary driver of the financial stress reported by major neonatal centers.¹³

The most significant structural intervention in the history of Romanian perinatal care is currently being implemented under the National Recovery and Resilience Plan (PNRR), more specifically under Investment I2.3: "Neonatal Intensive Care Units". With a total budget of EUR 80.2 million (excluding VAT), this initiative aims to modernize and expand 25 neonatal intensive care units (NICUs) across the national territory.⁶² The strategic logic of this investment is to move beyond the simple replacement of obsolete equipment to a comprehensive upgrade of the tertiary referral network, ensuring that the most critical newborns have access to Tier III care. The specific targets of Investment I2.3 include:

1. Increasing the capacity of neonatal intensive care by at least 124 additional beds, equipped with state-of-the-art ventilation and monitoring systems.
2. Refurbishing 90 existing beds to meet modern safety and clinical standards.
3. Improving diagnostic capabilities through advanced screening equipment for retinopathy of prematurity and congenital heart malformations.
4. Acquiring 12 mobile neonatal intensive care units (Level III) to facilitate the safe transfer of high-risk neonates from regional maternities to specialized hubs.
5. Establishing 8 regional training centers for healthcare professionals to foster expertise in advanced neonatal resuscitation and intensive care.

	Implementing Hospital / Unit	Primary Investment Goal	Approved Budget (RON, excl. VAT)
1	"M.S. Curie" Children's Hospital, Bucharest	NICU expansion and Training Center	44,398,345.08
2	"Filantropia" Maternity (ASSMB), Bucharest	New NICU building construction	23,257,089.50
3	Târgu Mureș County Emergency Hospital	NICU modernization and Training Center	21,136,685.00

	Implementing Hospital / Unit	Primary Investment Goal	Approved Budget (RON, excl. VAT)
4	Oradea Municipal Hospital	NICU extension and Regional Training Center	21,694,784.64
5	Craiova County Emergency Hospital	NICU department modernization	14,751,483.30
6	Cluj County Emergency Hospital	Equipment, Training Center, and Screening	14,204,066.77
7	Timișoara County Emergency Hospital	NICU capacity (5 beds) and screening	4,395,227.10
8	Sibiu County Emergency Hospital	Neonatal intensive care unit investment	10,607,294.07
9	Brașov County	"Together with Parents" NICU project	10,739,644.86
10	Bacău County Emergency Hospital	NICU expansion and equipment	6,173,723.60

Table 7. Beneficiaries and the amounts engaged by 12.3 investment⁶³

The implementation of these projects, which reached an 88% fund utilization rate by early 2026, represents a critical shift in the role of the state, from a passive payer of services to an active architect of clinical infrastructure. However, the success of these investments is contingent upon the availability of specialized personnel—a significant bottleneck given the current “specialist desert” in several Romanian counties.⁶⁴ To mitigate this, the regional training centers are designed to operate as hubs for continuing medical education, ensuring that the new high-tech environments are utilized to their full clinical potential.⁶²

This underfunding has two long-term consequences. First, it leads to critical infrastructure and equipment shortages. Hospitals, particularly in poorer regions, lack modern incubators, ventilators, and monitoring equipment essential for saving premature and critically ill newborns.

Equipment/Service	Level III (n=15)	Level II (n=18)	p-value
High Frequency Ventilation (HFOV)	80.00%	44.40%	0.041
Inhaled Nitric Oxide (iNO)	46.70%	0.00%	0.002
Therapeutic Hypothermia	53.30%	11.10%	0.012
Antenatal Counseling	60.00%	22.20%	0.027
Mechanical Ventilation (MV)	100%	77.80%	0.229

Table 8. Equipment and Service Disparities by Maternity Level (2018-2024 Data)⁶⁵

In this context, civil society organizations—most notably Salvați Copiii—have played a vital, child-centered role in safeguarding the right to survival. Acting as flexible and responsive partners, they have helped close critical gaps by rapidly mobilizing resources and directing investments toward the most underserved facilities and communities. This collaboration has enabled the upgrading of a large share of maternity and neonatal

intensive care units over the past decade, contributing to more equitable access to life-saving care. However, while these efforts demonstrate the power of partnership, they also underscore a systemic imbalance: ensuring every newborn’s right to quality care cannot depend on ad hoc or external support, but requires sustained, equitable public investment and accountability across the health system.

3.4. Perinatal and Maternity Human Resources Crisis

Underfunding fuels a massive **human resources crisis**, commonly referred to as a “brain drain” which impacts the perinatal care workforce. The combination of inadequate remuneration and challenging working conditions in hospitals that are not equipped with dedicated facilities for the diagnosis and stabilization of preterm or low birth weight newborns represents a significant barrier to quality perinatal care and prompts an exodus of medical professionals. Neonatology reports the most acute human resource gap in the Romanian health system. National statistics confirm a chronic shortage, with 40% of neonatology positions remaining vacant—the highest deficit across all medical

specialties in the country.⁶⁶ This shortage is multifaceted, involving both a numerical lack of specialists and a qualitative degradation of the working environment.

Tertiary care centers—particularly university-affiliated hospitals—are more successful in attracting and retaining neonatologists, pediatric specialists, and highly trained neonatal nurses. In contrast, workforce shortages are most pronounced in primary (level I) and secondary (level II) facilities, especially in smaller urban areas and rural settings. At the operational level, level II units generally ensure continuous pediatric coverage, whereas level I facilities rely

predominantly on on-call pediatricians for emergency care.

The human resource gap in neonatology is not limited to physician shortages but also includes a critical deficit of qualified neonatal nursing staff. In facilities providing neonatal intensive care, nurse-to-patient ratios remain suboptimal—typically ranging from one nurse per three to five intensive care beds and one nurse per ten to fifteen beds for healthy newborns. These ratios are defined by national regulatory standards, which are periodically updated but have not substantially evolved in relation to staffing needs in neonatal care.

As a result, tertiary centers are generally able to maintain the availability of specialized personnel but tend to absorb a disproportionate share of complex cases, leading to functional overcrowding. Meanwhile, lower-level facilities remain under-resourced and operate with more limited staffing capacity. Suboptimal nurse-to-patient ratios contribute to increased workload, reduced capacity for continuous monitoring, and potential negative effects on the quality and safety of care, particularly for high-risk neonates.

These workforce imbalances weaken the effectiveness of perinatal regionalization. While tertiary centers can sustain specialized coverage, primary and secondary facilities often depend on on-call pediatricians, rotating staff, or temporary personnel, introducing variability in response times and clinical decision-making processes. While neonatologists are in short supply, midwives represent a marginalized and underutilized resource. In many developed healthcare systems, midwives are the primary caregivers for normal pregnancies, but in Romania, the profession has been systematically sidelined. The Faculty of Midwifery and Nursing was established in 2005 with a four-year curriculum, yet most graduates find themselves working in roles

that mirror general nursing rather than independent midwifery practice.⁶⁶

A report by the Graduate Institute in collaboration with the Center for Reproductive Rights highlights a significant discrepancy between Romanian midwifery regulations and international standards set by the International Confederation of Midwives (ICM) and the World Health Organization (WHO).⁶⁶ The primary barriers include:

- **Lack of Autonomy:** Romanian midwives are prohibited from providing life-saving care that is within their international scope of practice unless under the direct supervision of a physician.⁶⁶
- **Regulatory Conflation:** Midwifery is subsumed under the Order of Nurses and Midwives (OAMGMAMR), which dilutes the specific professional identity of midwives and prevents the development of midwifery-led models of care.⁶⁷
- **Prohibition of Independent Birth Attendance:** Independent midwives are banned from attending births without a physician present and are prohibited from prescribing even basic medications.⁶⁷

This marginalization contributes to the extreme medicalization of birth in Romania. Cesarean sections account for 50% of total births, reaching up to 66% in level-III units. Without an autonomous midwifery workforce to support physiological labor, the entire burden of birth management falls to obstetricians, who often default to surgical intervention due to time constraints and the high volume of patients.⁶⁸

The perinatal workforce crisis extends to community level through the stagnation of primary healthcare (PHC). Family doctors (GPs) and community health workers (CHWs) are the first point of contact for pregnant women, yet this sector is facing

a demographic collapse. More than half of Romanian communities either lack a family doctor entirely or have insufficient family doctors.⁷⁰

A projected shortage of 18% of the current family doctor stock is expected within the next decade. This is driven by the fact that a significant share of the current workforce is over 55 years old, with insufficient numbers of young graduates entering the specialty. The crisis is particularly acute in rural areas; in counties like Suceava and Iași, which have the largest populations of children, the number of family doctors and community health workers (CHWs) is critically low compared to the population served.⁷⁰

Also, community health workers are essential for reaching marginalized groups, such as Roma communities and the uninsured (11% of the population).⁷⁰ However, the budget for CHWs has not been increased in recent years, preventing the employment of new workers. This leaves vulnerable pregnant women without the “minimum package” which includes prenatal care and family planning, as they often lack the health literacy or documentation to navigate the system without a mediator.²⁸

PHC Workforce Distribution Pattern ⁷⁰	Observation
Rural Access	Patients must travel >10km in some regions
Workload	Up to 3,000 people per GP in some communes
Pediatric Care Refusal	Some GPs refuse to enroll newborns
School Medicine	Zero school doctors in Călărași county
CHW Coverage	Only 50% of national need is met

Table 9. Source: Building the primary healthcare workforce in Romania to promote child and adolescent: National overview and county case-study report

Structurally, the system is highly centralized and struggles with inefficiency and inequitable access.¹² There are significant **policy-practice gaps**, where laws guaranteeing access to care are not backed by the financial resources or administrative mechanisms to turn them into reality.³⁶ Key professionals like midwives, specialist nurses who are crucial for providing cost-effective

perinatal care in other European systems, are legally recognized but are not formally integrated into the primary care teams funded by the national health insurance system, which limits their role and impact.³⁷ The system, as a whole, is ill-equipped to address the complex needs of its population, perpetuating a cycle of risk and preventable death.

Section 4

A decade of interventions: evaluating national and local responses

In response to its persistently high infant mortality rate, Romania has seen a decade of interventions initiated by the government, international partners, and a vibrant civil society. These efforts have ranged from broad national strategies and large-scale EU-funded projects to targeted, on-the-ground programs led by non-governmental organizations. This section provides a critical

evaluation of these responses, assessing their nature, scale, and effectiveness. The analysis reveals a landscape characterized by ambitious goals but inconsistent implementation, a heavy reliance on external and charitable funding, and a strategic imbalance that has favored reactive, high-tech solutions over proactive, preventive care.

4.1. Governmental Frameworks and National Health Strategies: Ambition vs. Reality

Over the past decade, the Romanian Government has articulated its commitment to improving maternal and child health through a series of national strategies. Key among these have been the **National Health Strategy 2014-2020**¹⁶, which emphasized prevention and improved access for vulnerable groups, and the dedicated **National Health Program for Women and Children**². More recently, these have been succeeded by frameworks with a broader child rights focus, such as the **National Strategy for the Protection and Promotion of Children's Rights "Protected Children, Safe Romania" 2023-2027** and the **Child Guarantee National Action Plan 2023-2030**.²

These strategies set laudable, high-level goals. The Child Guarantee plan, for instance, pledges to reduce avoidable mortality for children of all ages by 20% compared to 2021 levels and to increase early childhood education enrollment.²

However, a critical examination of the policy landscape reveals a significant gap between ambition and reality. A 2022 UNICEF report on financing preventive health services found that national programs often appear fragmented, underfunded, and lack systematically collected data to guide them.³³ There is a notable absence of detailed, publicly available evaluation reports that rigorously assess the specific impact, budgetary execution, and cost-effectiveness of these national programs. This lack of transparent monitoring and evaluation makes it difficult to ascertain whether the stated objectives are being met or whether resources are being allocated effectively, leading to a system where policies exist on paper but their real-world impact remains opaque.

4.2. The Ministry of Health: The Limits of Regionalization

The primary state strategy has been the **regionalization of perinatal care**. This system organizes maternities into three tiers:

Level 1: Local units for low-risk births.

Level 2: County/District hospitals for moderate risk, and moderate premature birth between 32-36 gestational age

Level 3: Regional university centers for high-risk and extreme prematurity before 32 weeks of gestational age

Successes

The concentration of expertise and technology in Level 3 centers has undoubtedly saved thousands of lives. The survival rate of ELBW infants in centers like Bucharest and Cluj is comparable to Western Europe. The performance of other traditionally tertiary level facilities is, unfortunately, jeopardized by overcrowding and underfunding. The system of regionalization of neonatal services and the referral of high-risk pregnancies to these centers is also threatened by the inadequate capacity due to lack of restructuring in line with the growing needs. Bucharest alone hosts more than 20% of all tertiary NICUs, which reflects its role as the national referral hub. The South and West regions together make up 30%, Transylvania hosts 25%, Moldova contributes to 15%, and South-East accounts for 10%, ensuring coverage but with fewer centers per population compared to the capital.

Failures

The system is dangerously top-heavy. The “Born Too Soon” report warns that achieving SDG targets requires functional Level 2 units in every district. The secondary level units should form the backbone of Romanian’s neonatal care system and should handle the majority of preterm and moderately ill newborns. Romania has 40-50 secondary level neonatal care facilities partially unevenly distributed across the regions: North-East 18%, South-East 15%, Transylvania 15%, North-West 12%. Bucharest alone hosts 10% because tertiary care centers dominate the neonatal care here; on the other hand, the West region of the country has 10% of the secondary level facilities, which differentiates this relatively underserved area associated with high neonatal mortality rates. In Romania, Level 2 facilities have been systematically neglected. Many lack essential equipment (incubators, adequate ventilators) and staffing to manage moderate prematurity (32-34 weeks). Consequently, Level 2 facilities often act merely as “transit hubs”, transferring babies to already overcrowded Level 3 centers. This results in dangerous long-distance transfers for fragile infants and separates mothers from their babies.

4.3. The Role of European Union Funding and International Partnerships

Recognizing the scale of the challenge, the European Union and other international partners have made significant financial resources available to Romania to strengthen its health system. This support represents a critical lifeline and a major opportunity for systemic reform. Key funding instruments include:

- **The European Investment Bank (EIB):** Provided loans under the Second Health Sector Reform Project, with a portion of the proceeds used specifically for investments to improve the infrastructure and technology in maternities.
- **The EU Recovery and Resilience Facility (RRF):** Romania's national RRF plan has earmarked approximately EUR 2.1 billion for investments to strengthen the health system. This includes a specific milestone (Milestone 376) for targeted investments in newborn intensive care units.²
- **EU Cohesion Policy Funds (2021-2027):** These funds complement the RRF, with an additional EUR 5.9 billion (including Romanian co-funding) planned for the health system. Crucially, this includes an indicative allocation of EUR 110 million specifically to improve maternal and newborn/child health for vulnerable groups.
- **The EU4Health Program:** Provides further opportunities for funding projects that strengthen health systems.
- **EEA and Norway Grants:** A €40 million program focused on improving access to health services for women and children, strengthening primary care, and supporting community-based services for vulnerable groups, including the Roma population.³⁹

While the availability of substantial funds is undeniable, their impact is contingent on the capacity of Romanian authorities to absorb and deploy them effectively. The persistence of under-equipped hospitals and staff shortages, as detailed in Section 3, suggests a significant bottleneck. There appears to be a “lost in translation” effect, where the massive financial potential of EU support is not fully translated into tangible, on-the-ground improvements, particularly in the most deprived regions. This points less to a lack of available capital and more to challenges in governance, administrative capacity, and strategic allocation at the national level.

4.4. The indispensable contribution of civil society and non-governmental organizations. “The Shadow Ministry of Health”

In the gap between state ambition and systemic reality, Romania’s civil society has emerged as a powerful and indispensable actor in the fight against infant mortality. The work of non-governmental organizations (NGOs) has moved beyond simple advocacy to become a structural component of the healthcare delivery system itself.

The most prominent organization is **Salvați Copiii (Save the Children) Romania**. Since 2010, this organization has undertaken a massive, sustained campaign to modernize the country’s hospitals. It has successfully equipped 122 medical units—including neonatology departments, NICUs, and pediatric sections across all counties—with over 1,700 pieces of vital medical equipment, such as incubators, ventilators, and ultrasound machines. This effort represents a total investment of over €10 million, funded largely through corporate tax redirections and public donations.⁵ The impact is direct and tangible; Salvați Copiii is explicitly credited with having “visibly reduced the infant mortality rate” and ensuring the survival of tens of thousands of children.³⁵

Other organizations play equally vital, albeit different, roles. The **SAMAS Association** focuses on prevention and education, training thousands of healthcare professionals and running perinatal education programs for parents, including introducing the “Baby Box” concept to provide new mothers with essential items and support.⁴⁰

Project HOPE, in partnership with international donors, implemented a highly successful program in the main maternity hospital in the Transylvania region, combining equipment upgrades with a “train-the-trainers” model for neonatal resuscitation and care.⁴¹

The Association of Independent Midwives, with support from UNICEF, delivers training courses for doctors, midwives, and nurses to improve the quality of care and support for mothers and children.⁴²

The Association of Neonatology: Professional bodies have been pivotal in developing clinical guidelines (e.g., surfactant administration, resuscitation protocols) and advocating for the “Golden Hour” of care.

The scale and necessity of these interventions reveal a critical truth about the Romanian health system: it is being propped up by a “charitable subsidy”. While the work of these NGOs is heroic and life-saving, their central role in providing basic infrastructure and training is a stark indictment of the state’s failure to do so. This creates a fragile and unsustainable model where the survival of infants is dependent on the success of NGO fundraising campaigns rather than on a robust, publicly funded, and reliable healthcare system.

4.5. Effectiveness of Specific Interventions: From NICU equipment to perinatal education

An appraisal of the effectiveness of such interventions reveals a clear pattern: downstream, technical interventions have shown demonstrable success, while upstream, preventive measures have had a less clear, though potentially significant, impact.

- **Equipment and Tertiary Care:** The most visible and effective interventions have been those focused on equipping NICUs and improving acute care for critically ill newborns. Project HOPE, implemented in Maternity hospital in Braşov is a powerful example. After the program provided essential equipment and intensive staff training, the hospital's neonatal mortality rate decreased from 9.6‰ in 2007 to 6.9‰ in 2012.⁴¹ Moreover, in this center, mortality among preterm infants delivered before 28 weeks of gestation decreased by 40% in the time span of 10 years⁴⁹. This demonstrates a direct causal link between investment in technology and training at the tertiary level and improved survival rates for high-risk infants. The nationwide equipment drive by Salvaţi Copiii operates on the same principle, providing doctors with the tools they need to manage the immediate crises of prematurity and birth complications.
- **Training and Education:** Programs aimed at upskilling the healthcare workforce have also proven effective. Training in neonatal resuscitation, breastfeeding support, and modern maternal care protocols, as conducted by Project HOPE, SAMAS, and the Association

of Independent Midwives, directly improves the quality of care delivered at the bedside.⁴² Participants in these courses report increased confidence and the adoption of new, evidence-based practices.⁴³ The primary limitation of these programs is their scale; while impactful, they may not be reaching every healthcare professional in every corner of the country, particularly in understaffed rural clinics.

- **Community-Level Interventions:** Programs targeting prevention at community level are crucial for addressing the root causes of mortality. Salvaţi Copiii's project to equip 40 rural medical practices, funded by the OMV Petrom Foundation, showed remarkable results in its first year. It led to a 19% increase in the number of pregnant women attending prenatal check-ups and to a 20% increase in the number of children under five presenting for medical consultations.¹⁵ This demonstrates that improved access and quality at primary care level can directly influence health-seeking behaviors. Similarly, SAMAS's "Baby Box" program provides tangible support and education to new mothers at a critical time.⁴⁰ These interventions are vital, but they often operate as smaller-scale pilot projects rather than as a comprehensive, state-led national strategy, which limits their overall systemic impact. The evidence clearly suggests an imbalance: the system is more adept at rescuing infants in crisis than it is at preventing those crises from occurring in the first place.

4.6. International Frameworks and Funding

The European Union

Through structural funds and the Recovery and Resilience Facility (RRF), the EU has provided capital for infrastructure. However, Romania struggles with “absorption capacity”—the administrative ability to access and spend these funds effectively. The EU also exerts “soft power” through the European Semester reports, which regularly shame Romania for its health outcomes, keeping the issue on the political agenda.

World Health Organization (WHO)

WHO provides the normative framework (e.g., “Every Newborn Action Plan”). Romania’s slow alignment with “Baby-Friendly Hospital” initiatives and updated antenatal care guidelines is largely driven by UNICEF-WHO standards.¹²

UNICEF

UNICEF has focused on the social and community determinants. Their “Minimum Package of Services” (MPS) pilot in Bacău demonstrated that integrated community teams (social worker, community nurse, school counselor) could significantly reduce preventable deaths by addressing poverty and health literacy at household level. This model provides the blueprint for community-based intervention but struggles with national scalability due to funding disputes between local and central authorities.

4.7. Workforce Dynamics: Migration and Burnout

Policy interventions to increase doctor’s wages in 2018 were intended to put an end to the “brain drain” of doctors. While wages in the public sector rose significantly, this did not fully solve the crisis in neonatology.

- **Burnout:** Neonatology is a high-stress specialty involving 24/7 intensive care. The physical and emotional toll leads to high burnout rates.
- **Maldistribution:** Higher wages did not incentivize doctors to move to rural or small-town hospitals (Level 2/1). The lifestyle gap between university centers and provincial towns remains too vast. Consequently, provincial hospitals often have equipment (donated by NGOs) but no doctors to operate it, leaving the “medical desert” intact.

4.8. The “Missing Middle”: The Level 2 Crisis

As identified in UNICEF technical updates for the region, the “Special Newborn Care” (Level 2) is the frontier for reducing mortality.¹ In Romania, the gap between a Level 1 unit (which can basically only dry and wrap a healthy newborn baby) and a Level 3 unit (which can perform high-frequency ventilation) is too wide. An illustrative example is a level II NICU center located in the central region of the country, where investments made by non-governmental organizations and companies—Save the Children, Vodafone, and ROMGAZ—have totaled approximately a quarter of a million euros over the past ten years. This center

conducts research activities due to its affiliation with the medical university. In a comparative study carried out over a 10-year period, the authors demonstrate that among the most vulnerable group—pregnant adolescents admitted for delivery in their Center—the rate of antenatal care services was markedly improved, accompanied by reductions in preterm birth rates and in the proportion of newborns with low birth weight in the last decade. The same trend analysis reports a substantial increase in the number of infants who accessed neonatal intensive care services, serving as an indicator of the effective use of allocated resources.⁷⁷

Equipment Gaps

Many level 2 units face shortages across several domains, notably in stabilization equipment (monitors, pulse oximeters, blood gas analyzers), non-invasive ventilation (CPAP) devices or blenders to safely administer oxygen (preventing blindness caused by retinopathy), incubators for thermal care; infusion pumps and availability of essential first-line drugs. The hidden costs of newly modern newborn-dedicated equipment received from ONG donations respectively, maintenance and monitoring sensors, and disposable breathing circuits - items often unavailable and excluded from small hospitals budgets - constitute another critical issue that warrants attention.

Staffing Ratios

The shortage of neonatologists, many leaving institutions due to resource constraints and insufficient managerial support for specialized neonatal care, is a recognized phenomenon. International standards suggest a 1:3 or 1:4 nurse-to-patient ratio for special care.¹ In Romanian provincial hospitals, this ratio can be 1:10 or worse during night shifts, making safe monitoring impossible.

Section 5

The Hidden Cost: Morbidity and Quality of Survival

Reducing mortality is only the first step. The “Born Too Soon” report warns of the “epidemic of survival with disability”. Romania faces a significant burden of morbidity among extremely low birth weight survivors and neonatal intensive care unit graduates. The lack of structured databased and specific indicators reporting severe morbidity linked to NICU survivors hinder the systematic monitoring of outcomes across tertiary centers. With the exception of limited findings reported by a few centers, often derived from small cohorts that exclude transfers from secondary and

primary facilities to tertiary care centers, the actual price paid in terms of severe morbidity among premature survivors is not well established. Post-NICU discharge morbidity of term and preterm newborns impacts the infant mortality rates worldwide. Loss to follow-up among these survivors after discharge from NICU facilities carries two major risks. First, it results in missed therapeutic windows that could modify the children's long-term prognosis. Second, it eliminates the opportunity to adjust and optimize beneficial interventions through periodic audit based on outcome data.

5.1. Retinopathy of Prematurity (ROP)

Retinopathy of prematurity (ROP) has emerged as a significant and increasingly visible morbidity among extremely preterm survivors in Romania. Improvements in neonatal survival—particularly among very low birth weight and extremely preterm infants—have been accompanied by a corresponding rise in ROP incidence, a pattern consistently described in middle-income settings undergoing rapid gains in survival. This epidemiological transition reflects a well-documented “survival-quality gap,” whereby mortality declines precede improvements in the quality of neonatal care.

Romania is currently positioned within this transition phase. International evidence shows that countries expanding survival of high-risk newborns without simultaneous optimization of neonatal care practices—

particularly oxygen therapy—may experience a transient increase in severe ROP, including preventable blindness. This risk is especially pronounced in systems with uneven distribution of equipment, protocols, and trained personnel.

Romania has established a national ROP screening and treatment programme, initiated in 2002 and progressively expanded under the coordination of the National Institute for Mother and Child Health. The programme includes systematic screening of at-risk preterm infants, access to laser treatment in regional centers, and broader screening criteria adapted to national epidemiology. Despite these efforts, evidence from Romanian tertiary centers indicates ROP incidence rates ranging between 15%⁷⁸ and 25%⁷¹ among preterm cohorts—levels that

remain higher than those reported in most European countries.

A key structural limitation is the concentration of screening and treatment capacity in tertiary centers, while primary and secondary level facilities often lack essential equipment and standardized practices for safe oxygen administration. The absence of oxygen blenders and continuous pulse oximetry in lower-level units increases the risk of uncontrolled oxygen exposure prior to transfer, a critical and modifiable determinant of severe ROP.

From a policy perspective, ROP represents a sentinel indicator of neonatal care quality and system performance. Effective control requires a shift from reactive management to proactive quality improvement. The first essential step is the routine reporting of ROP incidence stratified by gestational

age and birth weight, enabling meaningful benchmarking and identification of high-risk practices. This should be followed by structured clinical audits and implementation of targeted interventions, particularly focusing on oxygen management protocols, staff training, and adherence to evidence-based neonatal care standards.

Strengthening capacity at primary and secondary levels is critical. This includes ensuring availability of appropriate equipment, continuous professional training, and integration of ROP prevention into broader neonatal quality improvement frameworks. Given that ROP is largely preventable, failure to address these gaps risks transforming gains in survival into long-term disability, with significant implications for individuals, families, and the health system.

5.2. Neurodevelopmental Outcomes

Despite improvements in neonatal survival, Romania lacks a coordinated system to ensure continuity of care and monitor neurodevelopmental outcomes among preterm and high-risk infants.

- **Fragmented service coordination:** Linkages between neonatal intensive care, pediatric services, primary care, and community providers are not clearly defined or consistently implemented, resulting in discontinuities across levels of care.
- **Absence of a continuum of care:** Care pathways are concentrated around the neonatal period, with no structured extension into infancy and early childhood, particularly for high-risk populations.
- **Limited postnatal follow-up:** Systematic post-discharge monitoring for neurodevelopmental outcomes is

not uniformly implemented⁷⁹, leading to delayed or missed identification of developmental impairments⁸⁰.

- **Weak community and home-based care integration:** Community health services and home-based follow-up mechanisms are insufficiently developed and poorly connected to facility-based care, particularly in rural and underserved areas.
- **Lack of national outcome tracking:** There is no centralized registry for NICU graduates or standardized system for capturing long-term neurodevelopmental outcomes, limiting visibility of morbidity and system performance.

This combination of gaps constrains the health system's ability to ensure continuity of care and to accurately assess and respond to the growing burden of neurodevelopmental morbidity.

5.3. Ethical distress and palliative care

For infants with life-limiting conditions or extreme prematurity at the edge of viability (22-24 weeks), Romanian health professionals face profound ethical dilemmas.

- **The “Heroic” Culture:** The clinical practice often defaults to aggressive resuscitation regardless of prognosis, partly due to a lack of legal clarity and fear of litigation.
- **Lack of palliative infrastructure:** There is almost no infrastructure for neonatal palliative care. Families are often faced with a binary choice: indefinite intensive care or discharge home with

no support. The concept of a “good death” or “comfort care” is not integrated into the neonatal curriculum, leaving families traumatized and clinicians in moral distress. A distinguishing feature separating Romania from other developed European nations is the lack of family involvement in the decision-making process concerning the management of periviable newborns. The absence of established protocols for the active management of extreme preterm births at the lower threshold of gestational viability facilitates the occurrence of survivors with severe morbidity due to insufficient or delayed interventions.

Section 6

Recommendations for the next decade

The analysis above has established that Romania's infant mortality crisis, while improved, persists as the most severe in the European Union. It is a multifaceted problem born from the convergence of socioeconomic vulnerability, specific maternal risk factors, and a healthcare system under chronic strain. This concluding

section synthesizes these findings into a coherent diagnosis of the core challenges and proposes a detailed, evidence-based, and multi-pronged strategy for the coming decade. The recommendations are designed to be specific, actionable, and directly targeted at the root causes and systemic gaps identified throughout this report.

6.1. Bridging the Gaps: A Synthesis of Key Findings and Unaddressed Challenges

The central finding of this report is that Romania's struggle with infant mortality is the story of **a two-speed health system** and of profound strategic imbalance. On one hand, significant progress has been made in the domain of acute, tertiary neonatal care. The Neonatal Intensive Care Units (NICUs) created and equipped in major centers, driven largely by extraordinary efforts of non-governmental organizations, have demonstrably saved lives and contributed to the long-term decline in the IMR. This is the "high-speed" system: reactive, technology-intensive, and concentrated in specialized hubs.

However, this progress has now hit a wall. The recent stagnation and reversal of the IMR trend indicate that the system has reached the limits of what can be achieved by focusing primarily on downstream interventions. The "low-speed" system—the primary and preventive care infrastructure, particularly in rural, poor, and marginalized communities—is failing. This part of the system is the "factory" that produces the high volume of at-risk pregnancies, premature

births, and perinatal complications that ultimately overwhelm the improved but still fragile tertiary care network.

The unaddressed challenges are therefore systemic, social, and economic, not just medical. They include:

- **The Failure of Primary Prevention:** The system is not adequately preventing the conditions that lead to infant death, from teenage pregnancy and congenital anomalies to maternal infections.
- **The Persistence of Inequity:** Deep geographic and socioeconomic disparities mean that access to even basic care is a lottery, with children in poor, rural counties facing a dramatically higher risk of death.
- **The Unsustainability of the Current Model:** The heavy reliance on NGO charity to provide essential hospital infrastructure and on EU funds that face absorption challenges is not a viable long-term strategy for a sovereign state.

- **The Human Capital Crisis:** The ongoing “brain drain” of healthcare professionals hollows out the system’s capacity to deliver quality care, regardless of equipment or funding.

Addressing these challenges requires moving beyond the current paradigm. It demands a strategic shift from a model focused on rescuing critically ill newborns to one that is equally, if not more, focused on ensuring that fewer babies are born critically ill in the first place.

6.2. A Proposed Multi-Pronged Strategy for Reducing Perinatal and Infant Mortality

To break the current deadlock and align Romania with European standards of infant survival, a **comprehensive, state-led, multi-pronged strategy is required**. Such a strategy must address the interconnected failures across **primary care, hospital services, public health, and governance**, recognizing that improvements in outcomes depend on coordinated action across the entire continuum of care.

A central pillar of this effort is the prevention of preterm birth, which remains a major driver of perinatal and infant mortality. Accelerating progress in this area requires a targeted focus on context-specific risk factors, including socioeconomic vulnerability, limited access to antenatal care, adolescent pregnancy, and maternal health conditions.

At the same time, greater attention must be given to the dual nature of preterm birth:

- **Spontaneous preterm birth**, linked to maternal, environmental, and health system factors;
- **Provider-initiated preterm birth**, including medically unnecessary early deliveries, particularly non-medically indicated caesarean sections.

The persistence of provider-driven preterm deliveries reflects systemic issues related to clinical practice patterns, financial incentives, and governance, and contributes to avoidable neonatal morbidity and mortality. Without addressing both spontaneous and iatrogenic pathways, reductions in preterm birth—and consequently infant mortality—will remain limited.

This integrated perspective underscores that preterm birth prevention is not a standalone intervention, but a cross-cutting priority that must be embedded within broader health system reform, linking maternal care, obstetric practice, neonatal services, and public health functions.

Recommendation Cluster A: Rebuild the Foundation: Strengthening Primary and Prenatal Care in Rural and Marginalized Communities

The front line in the fight against infant mortality is not the NICU facility, but the local family doctor's practice and the community. The highest returns on investment will come from strengthening this foundation.

- **Targeted Recruitment and Retention of Primary Care Physicians.** The state must launch a dedicated national program to counteract the “brain drain” at the local level. This program should offer a robust package of financial incentives (e.g., significant salary bonuses and other benefits) and professional support (e.g., guaranteed access to continuing education, telemedicine links to specialists) to recruit and retain family doctors in the most underserved counties identified in Section 1.3, such as Sălaj, Mehedinți, Botoșani and Tulcea.⁵
- **Formal Integration and Funding of Community Health Teams.** The proven effectiveness of community health mediators (especially for Roma populations) and independent midwives must be leveraged systemically.²⁷ The Ministry of Health and the National Health Insurance House should amend regulations to formally integrate and provide public funding for these professionals as part of the primary care team in designated vulnerable communities. Their role would be to conduct outreach, provide health education, and ensure continuity of care for high-risk families.³⁸
- **A Universal, Risk-Stratified Prenatal Care Package.** The state must guarantee a truly free and accessible prenatal care package that goes beyond passive availability. This should be a universal entitlement, but implemented with a risk-stratified approach. For high-risk pregnancies—identified based on factors like teenage pregnancy, poverty, low education, or previous poor outcomes—the package must include proactive outreach, including home visits by the newly integrated community health teams, to overcome barriers of cost, transportation, and health literacy.²⁵
- **Education Reform:** The Ministry of Education must implement age-appropriate health and reproductive education to tackle the teenage pregnancy crisis.

Recommendation Cluster B: Ensure Systemic Resilience: Sustainable Investment in Hospital Infrastructure and Human Capital

While prevention is key, a robust hospital system remains essential. This system must be built on sustainable state investment, not on charity.

- **A State-Led National Modernization Strategy for Maternities.** The

Government must develop a transparent, multiannual national strategy to modernize and equip all public maternity and NICU facilities. This plan must be funded primarily by dedicated EU funds (RRF, Cohesion Policy) and by the state budget, with the explicit goal of transitioning away from dependency on NGO support.² The allocation of funds must be transparent and prioritize the high-mortality counties to address regional disparities.

- **A National Retention Strategy for Specialist Doctors.** Addressing the human resources crisis requires a dedicated strategy to retain specialist obstetricians, neonatologists, and anesthetists. This must include nationally competitive wages, clear career paths, investment in modern working conditions, and opportunities for continuing professional development to make working in the Romanian public system a more attractive long-term proposition.¹²

- **Mandate and Fund Regional Perinatal Networks.** To ensure that high-risk pregnancies are managed in appropriately equipped facilities, the Ministry of Health should mandate and fund the creation of formal regional perinatal networks. These networks would

establish clear protocols for the referral of high-risk mothers from smaller, local hospitals to designated secondary and tertiary centers, improving coordination and ensuring that complex cases receive the highest level of care.⁴³ It is essential to initiate systematic recording of specific indicators that reflect the performance of the perinatal medicine network, specifically in utero transfers of high-risk cases towards facilities adequately equipped with the necessary neonatal intensive care services. Furthermore, the implementation of medical guidelines regarding premature births and prematurely born infants at the institutional level of maternity units should be documented and reviewed. Beneficial therapies that have demonstrated their efficacy by reducing mortality and morbidity in premature infants are known and included in medical guidelines, but unfortunately not applied (antenatal corticosteroids, tocolysis, and magnesium sulfate among pregnant women with risk of preterm births)⁴⁹. Monitoring key indicators would enable a higher degree of implementation if regular confidential benchmarking reports were presented to centers.

- **Upgrade Level 2 Units:** The Ministry of Health must prioritize the “Missing Middle”. Level 2 units must be equipped and staffed to handle

moderate prematurity (CPAP, antibiotics, phototherapy) to decompress Level 3 centers and keep babies closer to home. This aligns with the specific recommendations for the ECA region. Systematic recording of data regarding the transfer to and from secondary level facilities must be initiated as a matter of priority. Regular analysis and benchmark reporting of key interventions (i.e., thermal control, safety oxygen supplementation, nutritional support, audiologic and ophthalmologic screening, breastfeeding initiation) could enhance adherence and ultimately expand the number of beneficiaries.

- **Regionalize Expertise:** Implement “hub and spoke” models where Level 3 specialists rotate into Level 2 units for training and quality assurance. Telemedicine has been adopted across the majority of tertiary care centers and in more than half of the secondary care centers. However, the absence of standard guidelines and operational frameworks for its application remain a significant limitation, particularly given the proven effectiveness of this instrument in developed healthcare systems.

Recommendation Cluster C: Prioritize Prevention: Enhancing Public Health Education

A significant share of infant mortality is preventable through low-cost, high-impact public health and education initiatives.

- **Action 1: Mandate and Fund Comprehensive Health Education in Schools.** To address the root cause of high teenage pregnancy rates, the Ministry of Education, in partnership with the Ministry of Health, must mandate and fund the implementation of a comprehensive, evidence-based sexual and reproductive health education curriculum in all schools, overcoming existing political and social resistance.²⁸
- **Action 2: Launch a National Safe Infant Care Campaign.** The Ministry of Health should develop and launch a sustained, nationwide public health campaign, modeled on the successful “Back to Sleep” initiatives from the ‘90s. This campaign should use multiple media channels to educate all new parents on SIDS risk reduction (safe sleep practices, bedding), the dangers of maternal and passive smoking, and the early signs of common infant illnesses.²¹
- **Action 3: Strengthen Primary Prevention of Congenital Anomalies.** To address the slow decline in mortality caused congenital defects, public health efforts must promote and ensure free, easy access to folic acid supplementation for all women of childbearing age. Concurrently, the national prenatal screening program must be strengthened and made universally accessible to ensure early detection and appropriate management of anomalies.²²
- **Mandatory Follow-Up Registry:** Establish a national digital registry for the long-term follow-up of high-risk infants. This is essential for quality control and benchmarking centers against one another.

Recommendation Cluster D: Evidence-based Governance: Improving Data, Monitoring, and Accountability

Effective policy requires accurate data and robust accountability mechanisms. The current system is lacking in both.

- **Create a Unified National Perinatal Database.** The National Institute of Public Health should be tasked and funded to create a single, unified, and publicly accessible national perinatal and infant mortality database. This system must use standardized WHO definitions to resolve current inconsistencies and must provide data disaggregated by county, urban/rural residence, cause of death, and key maternal socioeconomic and demographic characteristics. This is essential for accurate monitoring and targeted policymaking.¹⁰
- **Establish Mandatory Perinatal Mortality Review Committees.** Learning from every death is critical. A mandatory, independent perinatal mortality review should be established for every stillbirth and infant death. These reviews, conducted at the local or regional level using a standardized methodology, would aim to identify preventable factors, system failures, and opportunities for quality improvement, shifting the focus from blame to systemic learning.⁴⁸
- **Mandate Transparent Public Reporting.** To ensure accountability, the government must require transparent, public, annual reporting on the progress, outcomes, and detailed budgetary execution of all national and EU-funded programs related to maternal and child health. This would allow for independent evaluation and ensure that policy is continuously adjusted based on evidence of what is—and is not—working.³³

Romania's high infant mortality rate is not an intractable fate but a solvable problem. It is the direct and measurable consequence of specific policy choices, investment priorities, and systemic inequities that have been allowed to persist for too long. The progress achieved since the country's EU accession is real, and the life-saving work of civil society is heroic. However, the challenge has now evolved. The era of achieving rapid gains by addressing the most acute failures in tertiary care is over. The next decade of progress depends entirely on a fundamental strategic

shift towards systemic reform. This requires a determined, state-led effort to rebuild the foundations of primary and preventive care, to invest sustainably in the public health infrastructure, and to govern by evidence and accountability. Only by making the health of mothers and children in its most vulnerable communities a genuine national priority can Romania finally close the gap with its European peers and ensure that every child, regardless of where they are born, has a true and equal chance at life.

Conclusion

| The cost of inaction

The story of infant mortality in Romania over the last decade is one of incomplete modernization. Islands of excellence have been successfully built—high-performance neonatal intensive care units in university centers capable of saving extremely preterm infants at standards comparable to Western Europe. Yet the system has failed to build the bridges that would connect these capabilities to all those in need. The gap is no longer one of knowledge or technology, but of **delivery, coordination, and reach**.

Today, infants in Romania do not die because medical science is unavailable. They die because the system fails to deliver it continuously, equitably, and on time. Survival is still too often shaped by a “postal code lottery”—reflecting entrenched geographical disparities, fragmented care pathways, and inconsistent access across the continuum from pregnancy to the first year of life. These inequities are not confined to rural populations alone; they cut across disadvantaged communities, peri-urban areas, and vulnerable social groups, wherever systems fail to function cohesively.

Breakdowns occur at every level: delayed or absent antenatal care, insufficient risk identification, weak referral systems, overstretched transport infrastructure, under-resourced local facilities, and a near absence of structured postnatal follow-up and community-based care. The result is a system where excellence exists, but continuity does not—and where outcomes depend less on clinical capability than on whether a patient successfully navigates a fragmented pathway.

This is, fundamentally, **a last-mile delivery failure in a high-income country**

context. Romania has largely solved the “what works” question; it has not solved the “how it reaches everyone” challenge. Without an integrated continuum of care—linking primary care, maternity services, neonatal care, and community follow-up—avoidable deaths will persist despite available solutions.

The cost of inaction is substantial and cumulative. It is measured not only in preventable deaths, but in lifelong disability among survivors of suboptimal care, in lost human capital, and in widening social inequities that perpetuate intergenerational disadvantage. Each missed intervention represents both a human tragedy and a systemic inefficiency, placing avoidable long-term burdens on the health and social protection systems.

Addressing these failures requires a paradigm shift that extends beyond the health sector alone. It demands coordinated action across government: infrastructure that ensures timely access to care, education systems that improve maternal health literacy, and social protection mechanisms that reduce vulnerability. As emphasized in the global “Born Too Soon” agenda, accountability must move from commitment to implementation.

For Romania, accountability means refusing to accept that a child’s chance of survival is determined by geography or circumstance. It requires transforming a system of isolated excellence into one of **universal reach, continuity, and equity**. Without these structural changes, the next decade risks replicating the last: a plateau in national indicators that continues to conceal a persistent, preventable inequity in child survival.

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