HEALTHCARE INVESTMENT AND OUTCOMES

IN CENTRAL AND EASTERN EUROPE

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Authors
Dr. Slaveyko Djambazov
Dr. Luka Voncina
Dr. Aleš Rod
Dr. Marcin Czech

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SUMMARY

Health systems in Central and Eastern Europe (CEE) have undergone major reforms in financing, coverage and service delivery and a positive trend is observed regarding investments and outcomes in healthcare. Yet a substantial gap remains compared with the EU4 countries (Germany, France, Italy and Spain). CEE governments still invest a smaller share of GDP on health, populations experience higher levels of treatable mortality and disability, and patients wait longer to access innovative medicines.

In 2023, public health care investment in CEE averaged 5.47% of GDP, compared with 8.17% in EU4. The gap has narrowed only slightly since 2017, from 3 to 2.78 percentage points. In per-capita terms, public health and pharmaceutical spending in CEE remain well below EU4 levels, and OOP payments represent 22% of total health spending versus 15% in EU4, but this masks notable OOP variation across CEE countries.

CEE health outcomes mirror the investment gap: compared with EU4, the CEE region records ~41% higher DALYs and ~137% higher treatable mortality. Moreover, CEE is converging more slowly with EU4 in terms of longevity: life expectancy at birth has increased by ~14% since 1960 in CEE on average versus ~20% in EU4, and a 5-year gap persisted in 2024 (78.2 vs 83.2 years).

Access to innovation is another critical gap. Between 2020 and 2023, patients in CEE on average gained reimbursed access to only 31% of new EMA-authorized medicines, compared with 76% in the EU4. The average time from EMA authorization to reimbursement was 705 days in CEE – 260 days longer than the EU4 average of 445 days.

Demographic change will further strain health systems and public finances. By 2050, the working-age population (15-64) in CEE is projected to fall by 12.9 million people (20%), reducing annual income-tax revenue by an estimated €14.6 billion if current patterns persist. At the same time, age-related per-capita health spending rises steeply after age 55.

The GLOBSEC Healthcare Readiness Index (HRI) 2024 summarizes these challenges: CEE countries score systematically lower than EU4 on both "readiness today" and "readiness tomorrow", underlining the need for sustained investment to close the readiness gap. Despite this, convergence is underway. Public health and pharmaceutical spending in CEE is growing faster than in EU4, and in several markets could reach today's EU4 levels within the next two decades if current trends are maintained. The central message of this report is therefore that health should be treated as a strategic, long-term investment that supports growth, productivity and fiscal stability, not just a short-term cost.

PUBLIC HEALTHCARE INVESTMENT

The EU4 with Germany and France in particular investing above 9.5% of GDP on health (or €4,543 per inhabitant on average) is more than double of what many CEE countries devote. At the same time, these Western economies maintain GDP per capita above the EU average, reflecting stronger economic capacity and healthier, more productive populations. In contrast, lower health investment in CEE correlates with weaker GDP per capita, compounding structural economic disadvantages.

Latvia, Lithuania, Bulgaria, and Romania all spend between 4.3 - 4.9% of GDP on health (or €1,300 per inhabitant on average, which is almost 3.5 times lower than the average in Germany and France), some of the lowest in Europe, while also having GDP per capita well below the EU average (<72–77% of EU average). This means less economic output per person, lower disposable budgets for investments systems — a double drag on competitiveness and human capital retention. Without significant investment increases, these countries risk further demographic decline, brain drain and workforce erosion that undermine growth.

Czechia and Slovenia — the CEE countries closest to EU average health investment (~7%) — also exhibit comparatively higher GDP per capita among CEE peers. This suggests a positive link between social investment and economic performance. Targeted increases in health investments can be a lever to strengthen labor participation, reduce disease burden, and enhance productivity. Still though **the average investment on healthcare per inhabitant is €2,300 which is more than 2-fold lower than the top European economies**.

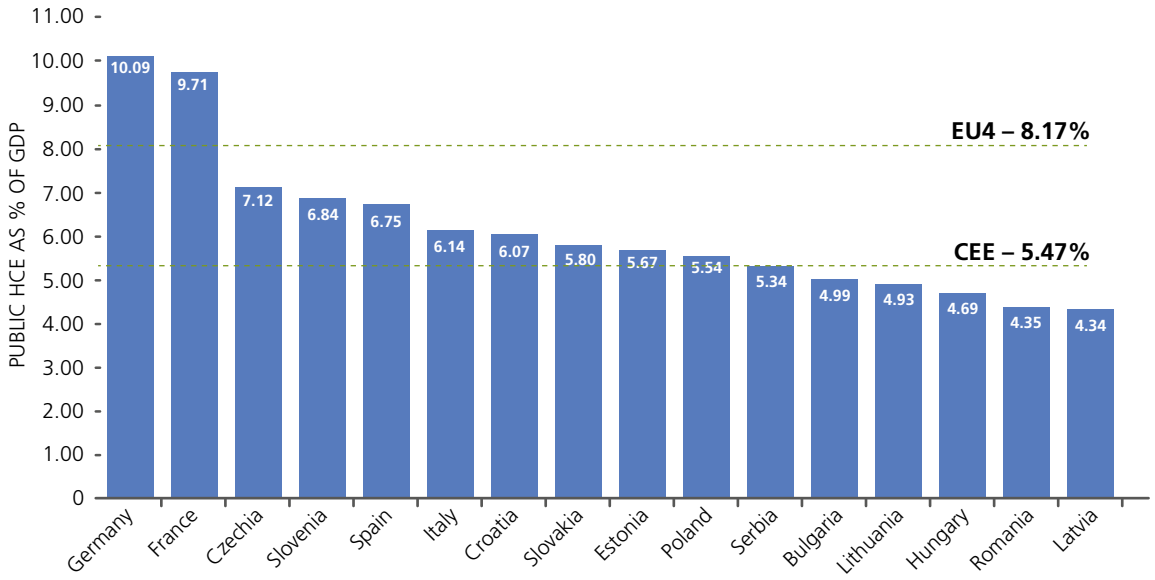

Figure 1. Public healthcare investment as % of GDP

Note: The CEE average health care investments are calculated based on data from Croatia, Czech Republic, Estonia, Hungary, Poland, Romania, Slovakia, Slovenia, Latvia, Lithuania, Serbia and Bulgaria. The EU4 average health care investments are calculated based on data from Germany, Italy, Spain and France
Source: EUROSTAT, Health care expenditure by financing scheme, Total and Government schemes and compulsory contributory health care financing schemes

RAPID GROWTH, DIVERGING PATHS: CEE HEALTHCARE INVESTMENTS UNEVEN RACE TOWARD EU4 LEVELS

CEE countries remain structurally under-invested in healthcare compared to Western Europe. **In 2023, public healthcare investments averaged €1,618 per capita in the CEE region versus €3,221 in the EU4 (Germany, Italy, Spain, France)—approximately half the EU4 level** (Figure 2).

The CEE region demonstrates a higher compound annual growth rate (9.2%) compared to the EU4 (4.9%). However, this accelerated growth alone is insufficient to close the investment gap. Current growth rates are unlikely to persist without sustained, country-specific policy commitments.

Four countries—Slovenia, Poland, Croatia, and Bulgaria—are projected to reach EU4 average investment levels by 2040, but only if current growth rates are sustained. Conversely, Hungary, Romania, and Latvia require accelerated investment to avoid falling further behind. Serbia is projected to reach neither the CEE nor EU4 trajectory this century without fundamental policy changes.

Sustained policy commitment and structural reforms are essential to maintain convergence trajectories and ensure adequate healthcare financing across the region.

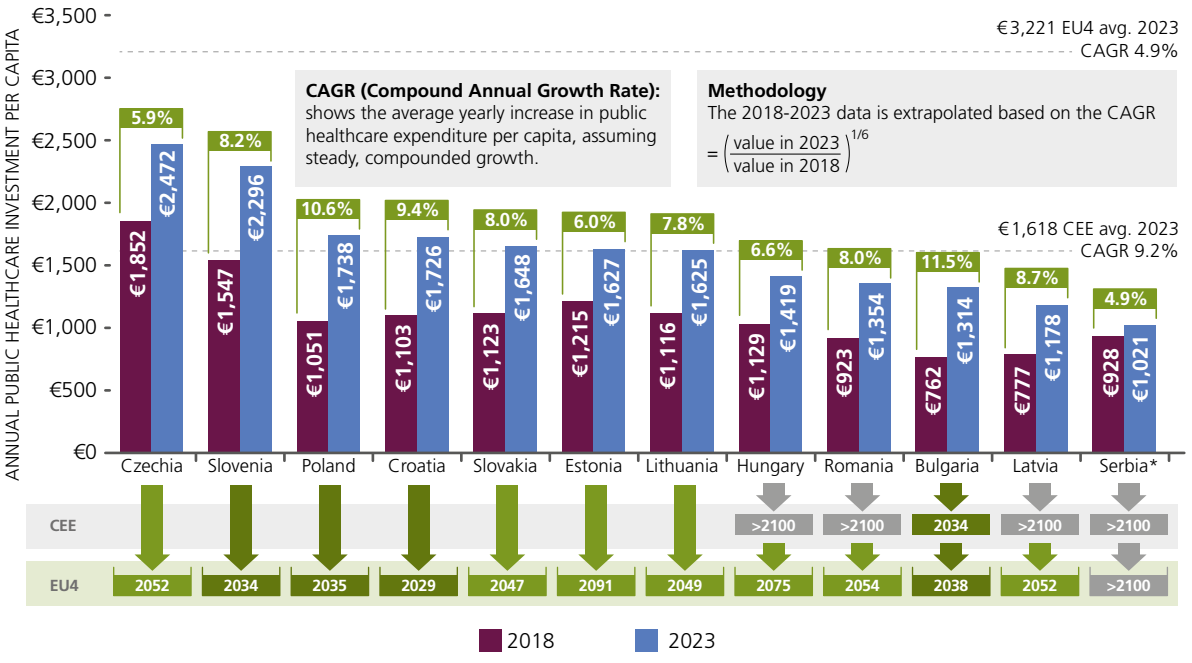

Figure 2. Public healthcare investment per capita by country: retrospective data for 2018-2023 and CAGR based projection for leveling CEE avg. and EU4 avg.

Note: Average values used for EU4 (France, Italy, Spain, Germany) and CEE (Bulgaria, Serbia, Latvia, Lithuania, Romania, Hungary, Croatia, Slovakia, Slovenia, Poland, Estonia, Czechia)
Source: Eurostat data for health care expenditure by financing scheme including government schemes and compulsory contributory health care financing schemes in PPS per inhabitant for 2018-2023

CEE COUNTRIES CONTINUE TO FACE WORSE HEALTH OUTCOMES COMPARED TO THE EU4

Across CEE, health outcomes continue to lag behind Western Europe in ways that are consistent with long-standing investment gaps and slower convergence.

Life expectancy provides a useful summary of population health, capturing both long-run progress and the persistence of gaps between CEE and Western Europe. In this analysis, life expectancy at birth in 2024 is drawn from Eurostat[1], while the historical 1960 baseline is taken from the OECD[2]. Over the period 1960-2024, life expectancy increased by approximately 14% in CEE, compared with ~20% in EU4, indicating slower long-run improvement and incomplete convergence. In absolute numbers, the difference remains substantial in 2024: average life expectancy is 78.2 years in CEE versus 83.2 years in EU4, a gap of 5.0 years.

Within-region variation is also pronounced, underscoring that CEE is not a homogeneous health outcome cluster. Slovenia (82.3 years) and Czechia (80.3) are closest to EU4 levels, whereas Bulgaria (75.9) and Serbia (76.2) remain furthest behind. This dispersion suggests that national policy choices and health-system performance operating within broader socioeconomic constraints can influence outcomes.

To assess the relationship between economic capacity and longevity, life expectancy is examined in respect to GDP per capita (2024) in purchasing power standards (PPS) from Eurostat.[3] The cross-country association is statistically significant (Spearman p = +0.88, p < 0.000006), consistent with extensive evidence that higher income levels are associated with longer life expectancy through multiple channels, including improved living

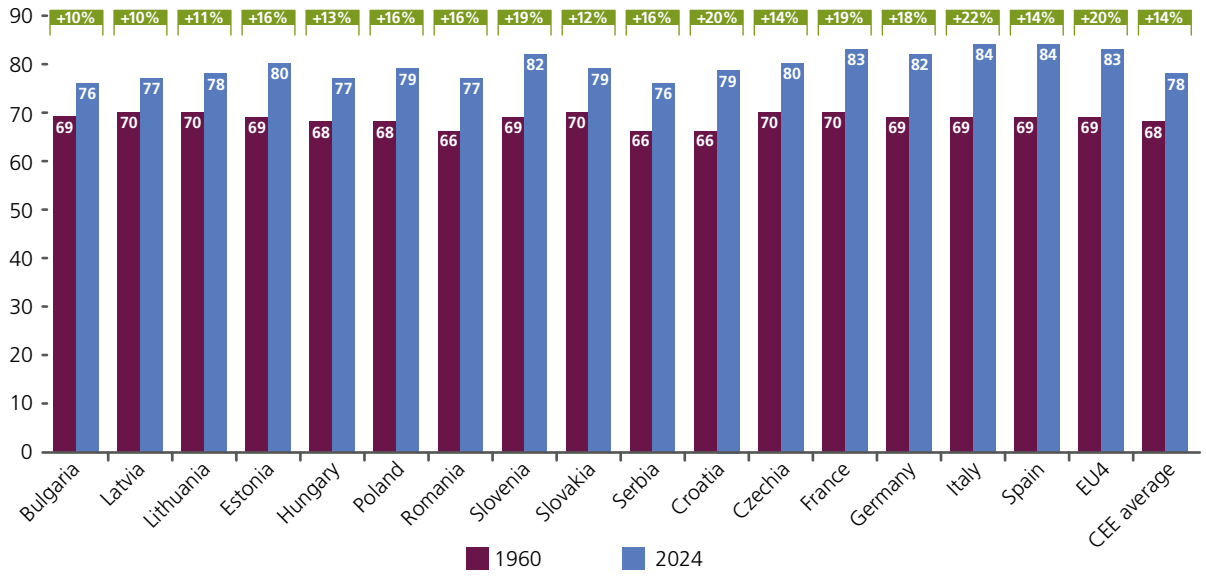

Figure 3. Life expectancy at birth: difference between 1960 and 2024

Note: Average values used for EU4 (France, Italy, Sprain, Germany) and CEE (Bulgaria, Serbia, Latvia, Lithuania, Romania, Hungary, Croatia, Slovakia, Slovenia, Poland, Estonia, Czechia).
Source: Eurostat data for life expectancy at birth (2024) and OECD data for life expectancy at birth (1960)

[1] Eurostat data for life expectancy at birth (2024) by age and sex: https://ec.europa.eu/eurostat/databrowser/view/demo_mlexpec/default/table?lang=en
[2] OECD data for life expectancy at birth (1960): https://data.worldbank.org/indicator/SP.DYN.LE00.IN?end=2023&locations=OE&start=1960&view=chart
[3] Eurostat data for GDP per capita in PPS (2024): https://ec.europa.eu/eurostat/databrowser/view/tec00114/default/table?lang=en

EU4 spends around

50% MORE

in government healthcare investment per capita than CEE

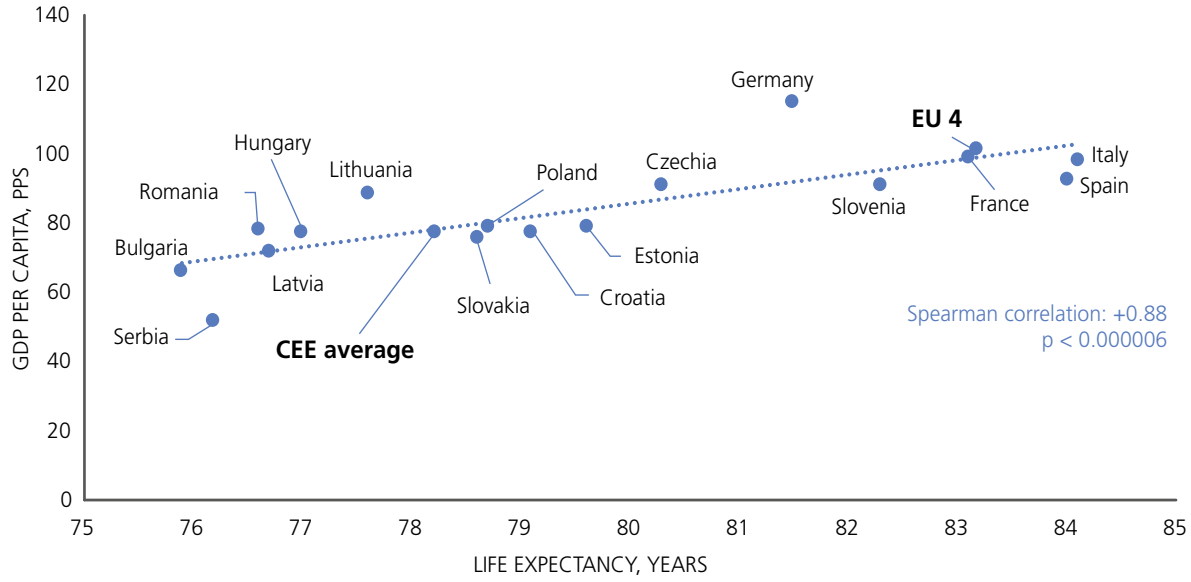

Figure 4. Life expectancy correlation with GDP per capita

Note: Average values used for EU4 (France, Italy, Sprain, Germany) and CEE (Bulgaria, Serbia, Latvia, Lithuania, Romania, Hungary, Croatia, Slovakia, Slovenia, Poland, Estonia, Czechia).
Source: Eurostat data for life expectancy at birth (2024) and for GDP per capita (2024).

conditions and stronger fiscal capacity to finance effective health systems. While this observational correlation is not inherently causal, it underscores how persistent gaps in economic development are mirrored by disparities in longevity.

Crucially, longevity alone understates the scale of the gap. Measures that capture the overall burden of disease such as disability adjusted life years (DALYs), show much larger regional differences: on average, CEE has **~41% higher DALYs per 100,000 people than EU4 and ~137% higher treatable mortality per 100,000** (Table 1, Appendix 1). This underperformance sits alongside a clear investment gap: EU4 spends around **50% more in government healthcare investment per capita** than CEE and **57% more in net public pharmaceutical spending per capita** (Table 1, Appendix 1). Consistent with the correlations shown in the next figures, countries cluster into the following pattern: **EU4 economies concentrate at higher spending and better outcomes**, while the **CEE average sits at lower spending with higher DALYs and treatable deaths**, with notable variation within CEE where higher-investing countries perform closer to the EU4 range and lower-investing countries sit at the high-burden end.

The positive relationship between higher economic performance and better health outcomes like longer life expectancy, less DALYs and fewer treatable deaths has remained since 2016-2017.

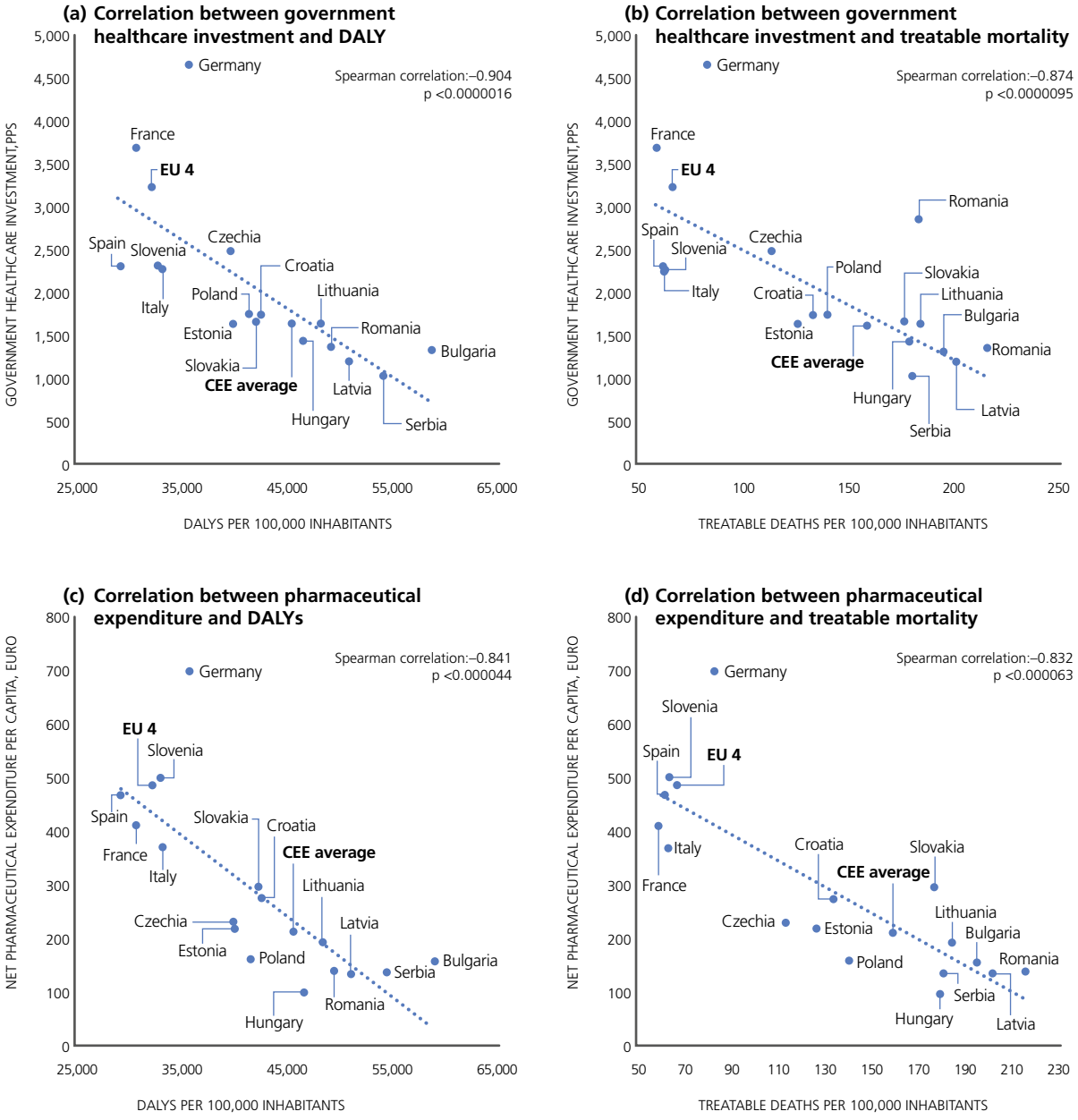

Figure 5. Correlation between a) Disability adjusted life years (DALY) and government healthcare investment (GHCI); b) treatable mortality and GHCI; c) DALY and net pharmaceutical spending; d) treatable mortality and net pharmaceutical spending

Note: Average values used for EU4 (France, Italy, Sprain, Germany) and CEE (Bulgaria, Serbia, Latvia, Lithuania, Romania, Hungary, Croatia, Slovakia, Slovenia, Poland, Estonia, Czechia) PPS (purchasing power standard) is an artificial currency unit used by Eurostat in which national accounts aggregates are expressed when adjusted for price level differences using Purchasing Power Parities (PPPs). Thus, PPPs can be interpreted as the exchange rate of the PPS against the euro. Treatable mortality refers to premature deaths that could have been avoided with timely and effective healthcare interventions, including secondary prevention, after a disease has developed

Source: WHO data for DALY (2021)[4]; Eurostat data for treatable deaths (2022)[5] , IQVIA data for net pharmaceutical expenditure and Eurostat data for GHCE (2023)[6]

[4] WHO data for DALY (2021): https://www.who.int/data/gho/data/themes/mortality-and-global-health-estimates/global-health-estimates-leading-causes-of-dalys
[5] Eurostat data for treatable deaths (2022): https://ec.europa.eu/eurostat/databrowser/view/hlth_cd_apr/default/table?lang=en&category=hlth.hlth_cdeath.hlth_cd_pbt
[6] Eurostat data for GHCE (2023): https://ec.europa.eu/eurostat/databrowser/view/HLTH_SHA11_HF__custom_19754605/default/table

POOR INVESTMENT IN PHARMACEUTICALS IN THE CEE IS DIRECTLY CORRELATED WITH MORE DALYS AND WORSE QUALITY OF LIFE

In 2023, the gap in public net pharmaceutical expenditure between CEE countries and the EU4 remains substantial. Among CEE countries, only Slovenia exceeds the EU4 average. **Overall, CEE governments allocate €218 per capita to pharmaceutical spending – less than half of the €487 per capita invested on average by EU4 countries**.

This lower investment is mirrored in population health outcomes. Bulgaria, Latvia, and Romania, which record the lowest per-capita pharmaceutical expenditure in the region, also face the highest burden of disease, with Disability-Adjusted Life Years (DALYs) per 100,000 inhabitants reaching 58,640 in Bulgaria, 50,873 in Latvia, and 49,224 in Romania. These figures highlight the strong association between limited healthcare investment and poorer health outcomes.

At the same time, it is important to recognize the progress underway. CEE countries have been increasing their pharmaceutical investments at a significantly faster rate than the EU4. **Between the measured years, the CEE recorded an average CAGR of 7.66%, compared with 3.18% in the EU4.** If this momentum is sustained, the CEE region could theoretically close the expenditure gap by 2042 if the pace is kept.

This trajectory demonstrates both the commitment of CEE governments to strengthening healthcare systems and the continued need for targeted investment to ensure equitable access to innovation and to improve population health outcomes across Europe.

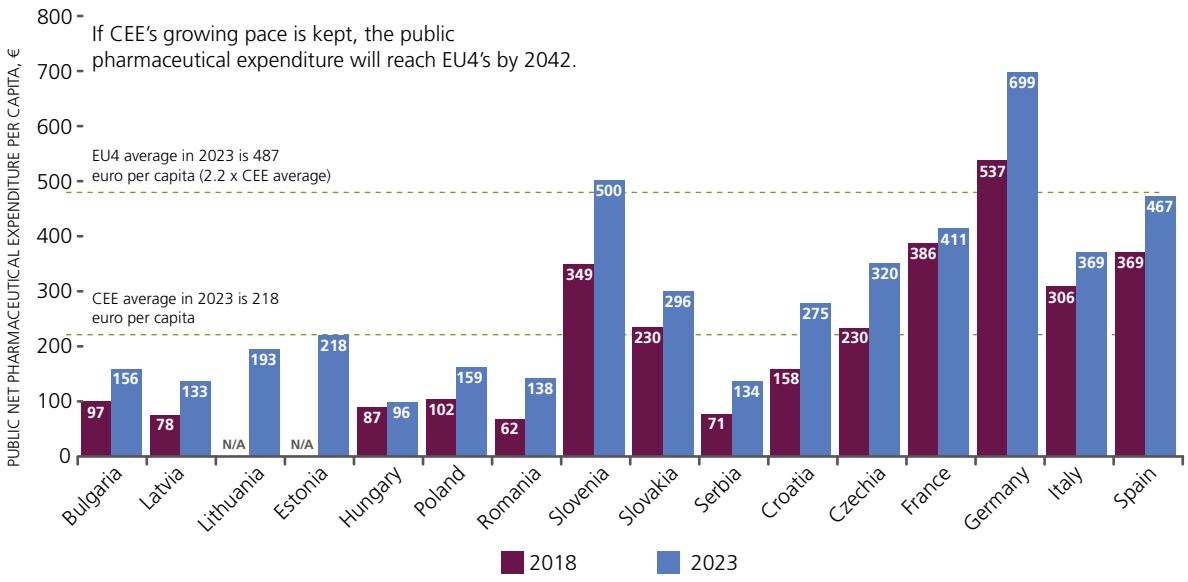

Figure 6. Net pharmaceutical spending (2018-2023)

Note: The EU4 average health care expenditures are calculated based on data from Germany, Italy, Spain and France *Data for 2022.
Source: IQVIA, Public pharmaceutical expenditure per capita in euro.

THE INNOVATION GAP: ACCESS IS STILL UNEVEN IN CEE

Across CEE, access to innovative medicines remains more limited and more delayed than in the EU4. To quantify access, this analysis relies on the EFPIA Patients Waiting to Access Innovative Therapies (W.A.I.T.) Survey for 2020–2023, which measures differences in time to reimbursement across Europe for new medicines authorized by the European Medicines Agency (EMA).[7]

Two complementary metrics are used. First, availability of new medicines captures how many EMA-authorized medicines are accessible to patients in each country. Medicine is considered available on the market if patients can receive the medicine under a reimbursement scheme. Figure 7 reports the number of new EMA-authorized medicines available to patients across countries.

Second, time to availability (Figure 8) captures delays in patient access and is defined as the number of days between EMA market authorization of a medicine and the date it becomes available to patients, which for most countries corresponds to the point at which the product gains access to the reimbursement list. The availability date is defined as the first date when doctors can prescribe, or hospitals can administer the medicine to patients in the country under the applicable reimbursement conditions.

Regional benchmarks are computed as averages within each group: EU4 (Germany, France, Italy, Spain) and CEE (Bulgaria, Serbia, Latvia, Lithuania, Romania, Hungary, Croatia, Slovakia, Slovenia, Poland, Estonia, Czechia). Based on the results, **CEE countries, on average, provide access to 53 of 173 medicines (≈ 31%) compared with 131 of 173 in the EU4 (≈ 76%)**, implying a 45 percentage-point shortfall in the breadth of reimbursed innovative medicines. **Delays are similarly significant: mean time to availability is 705 days in CEE versus 445 days in the EU4, indicating an average 260-day lag in patient access**.

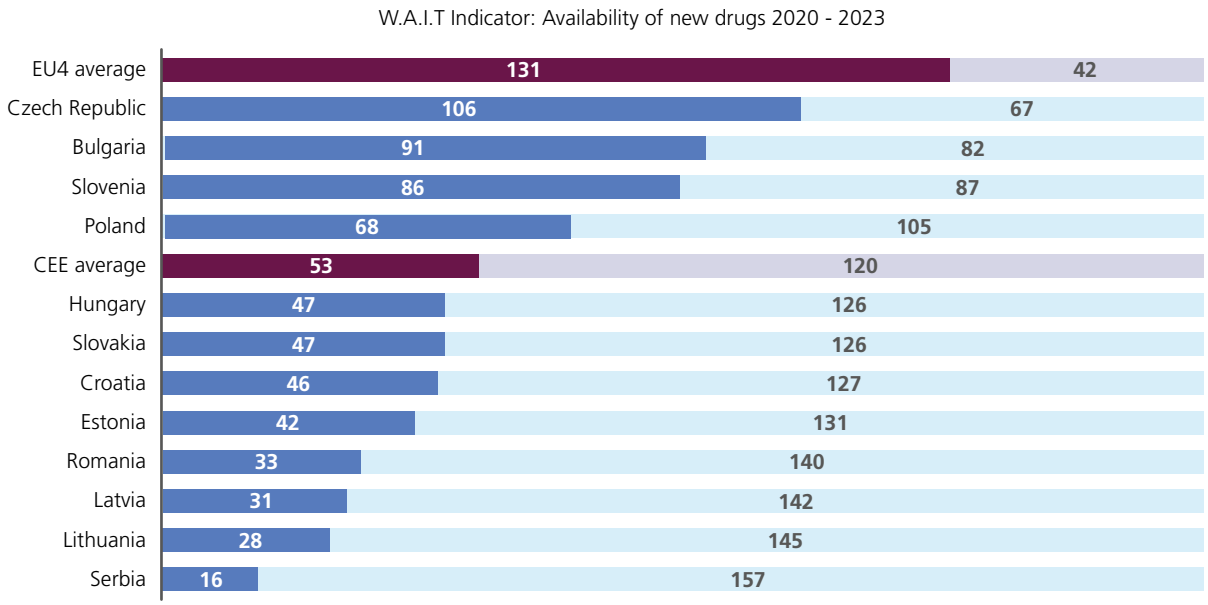

Figure 7. Availability of new EMA-authorized medicines by country

[7] EFPIA Patients W.A.I.T. Indicator 2024 Survey (Published May 2025)

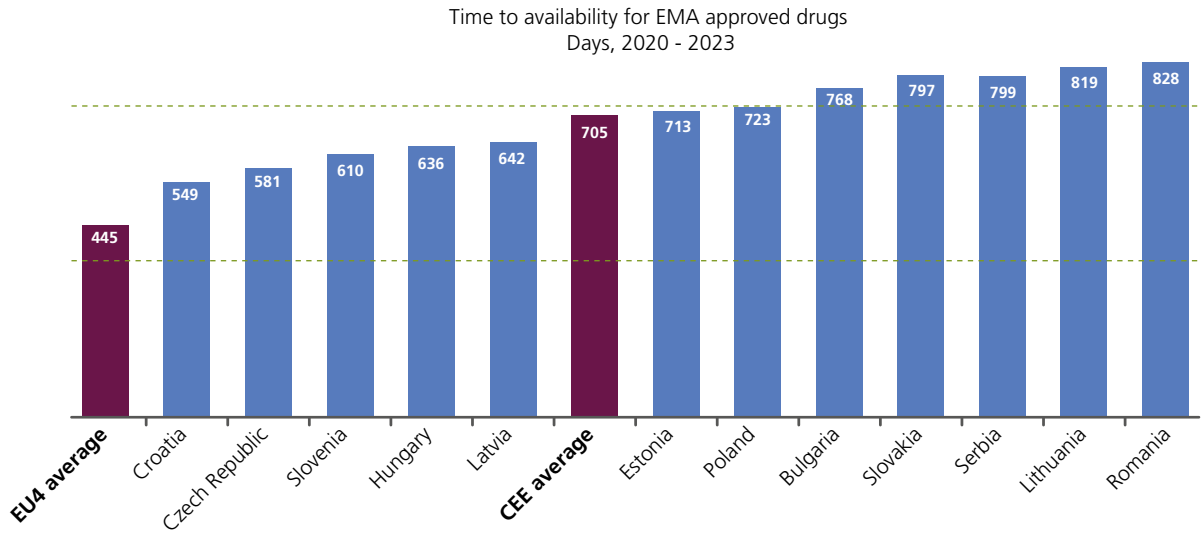

Figure 8. Time to Availability for New EMA-authorized medicines (days)

This gap is not uniform across CEE. To characterize cross-country heterogeneity, countries are grouped according to their deviation from the CEE average on both dimensions (availability and time). This yields four access profiles: (i) limited and delayed access (Estonia, Romania, Slovakia, Lithuania, Serbia), (ii) delayed access (Bulgaria, Poland), (iii) limited access (Croatia, Hungary, Latvia), and (iv) broad and relatively timely access (Czechia, Slovenia). Czechia and Slovenia stand out as the strongest performers within CEE in terms of broad and timely availability, although further improvements are still needed, as outcomes continue to lag behind the EU4 average. In Estonia, Romania, Slovakia, Lithuania and Serbia, access remains limited and delayed, with the longest delays observed in Lithuania and Romania, where the mean time to availability exceeds two years (819 and 828 days, respectively).

These delays are driven by structural barriers, including the price and reimbursement process, the value assessment process, and health system constraints and resources. In some countries, additional layers of decision-making processes can further extend timelines and contribute to regional disparities.[8]

As patient needs increase, health systems face growing pressure. In this context, timely access to innovative therapies becomes a key determinant of system performance. Without reforms to expand access and shorten time to availability, CEE will continue to lag behind the EU4 – deepening disparities in health outcomes and undermining health-system capacity to realize the full clinical and economic value of pharmaceutical innovation.

Compared with the previous W.A.I.T.-based assessment for 2016-2019, the updated W.A.I.T. results for 2020-2023 indicate that access constraints in CEE persist. Specifically, **the share of new EMA-authorized medicines available under reimbursement in CEE remains low, declining from ~34% in 2016-2019 to ~31% in 2020–2023**. Time to availability remains a major challenge. In 2016-2019, CEE countries waited an additional 304 days on average relative to the EU4, whereas in 2020-2023 this excess delay decreased to 223 days - a reduction of 81 days. Despite this, overall waiting times in CEE still remain close to two years or exceed two years in several countries.[9]

It is important to note that the 2016-2019 report used the EU5 as the reference group, whereas the 2020-2023 analysis uses the EU4; the total number of EMA-authorised medicines included in the analysis also differs (N=152 in 2016–2019 vs N=173 in 2020–2023).[10]

[8] The root cause of unavailability and delay to innovative medicines
[9] Healthcare outcomes and expenditure in Central and Eastern Europe – a review
[10] Healthcare outcomes and expenditure in Central and Eastern Europe – a review

OUT-OF-POCKET PAYMENTS PLAY A MAJOR ROLE IN CEE HEALTH FINANCING, LEAVING PATIENTS FINANCIALLY VULNERABLE

Despite structural underinvestment, households are increasingly filling the healthcare financing gap in CEE countries. **Out-of-pocket (OOP) payments constitute 22% of total health spending in the CEE compared with 15% in the EU4** (Figure 9), shifting the burden from pooled financing to individual patients.

Public healthcare expenditure represents only 74% of total spending in the CEE compared to 81% in the EU4. This pattern exhibits substantial cross-country variation, with Serbia, Latvia, Bulgaria, and Lithuania showing particularly low public expenditure shares—below both regional and EU4 averages.

World Health Organization research demonstrates that high OOP levels increase the risk of financial hardship and unmet healthcare needs and are associated with worse health outcomes.[11] While controlled cost-sharing with appropriate safeguards can support efficiency, current CEE OOP levels exceed optimal thresholds.

A disproportionate share of healthcare expenditure growth is being driven by OOP payments rather than strengthened public financing. This unsustainable convergence pattern must be reversed to close the investment gap without transferring costs to households.

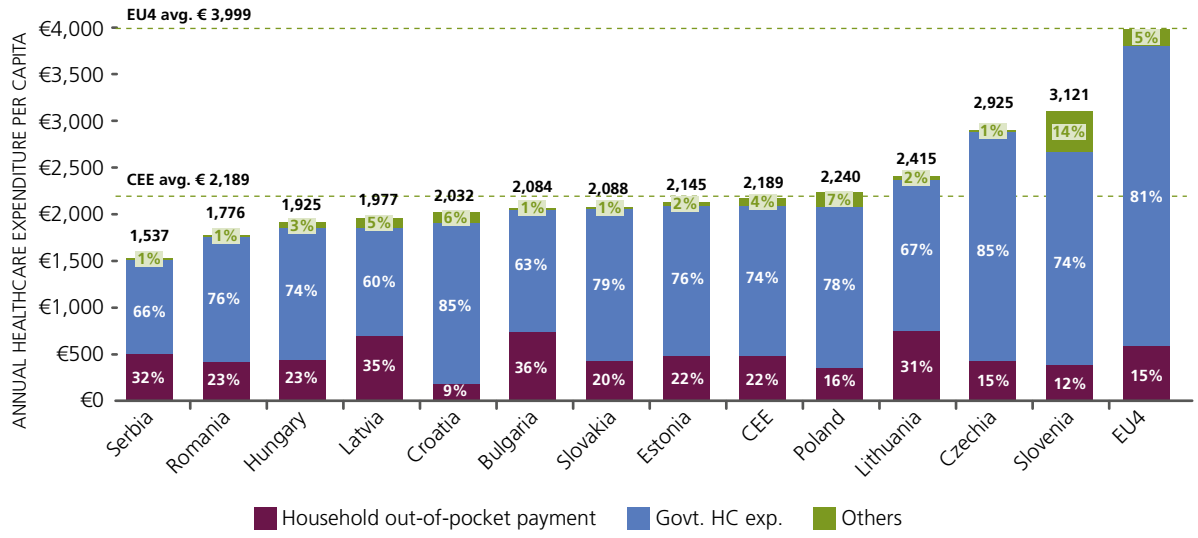

Figure 9. Breakdown of Total Healthcare Expenditure per capita by country for 2023

Note: Average values used for EU4 (France, Italy, Sprain, Germany) and CEE (Bulgaria, Serbia, Latvia, Lithuania, Romania, Hungary, Croatia, Slovakia, Slovenia, Poland, Estonia, Czechia)
Source: Eurostat data for health care expenditure by financing scheme including total, government schemes and compulsory contributory health care financing schemes, and household out-of-pocket payment in PPS per inhabitant for 2023

[11] Can people afford to pay for health care? Evidence on financial protection in 40 countries in Europe. WHO Regional Office for Europe; 2023; https://www.who.int/europe/publications/i/item/9789289060660

DEMOGRAPHIC EROSION THREATENS FISCAL SUSTAINABILITY

Population ageing is a key structural driver of rising healthcare expenditure across Europe. Evidence from the European Commission demonstrates a strong, non-linear relationship between age and healthcare spending, with per-capita costs increasing steadily throughout adulthood and accelerating sharply after the age of 55 (Figure 10).[12] This pattern reflects the growing prevalence of chronic conditions, multimorbidity, and disability at older ages, which require more intensive and resource-consuming care.

Age-specific expenditure profiles indicate that between ages 55 and 85, average healthcare spending per person increases by approximately threefold. While this trajectory is observed across both older EU Member States (EU14) and New Member States (NMS), important differences emerge when expenditure is expressed relative to economic capacity. Peak age-related healthcare spending reaches approximately 13-15% of GDP per capita in NMS countries, compared with 16-20% in EU14 countries. Although these proportions appear broadly comparable, they obscure a fundamental structural disadvantage: lower GDP per capita in NMS countries translates into substantially lower absolute healthcare resources available per person at older ages.

As a result, NMS healthcare systems face significantly higher budgetary pressure relative to available fiscal capacity as the population ages. **The increasing share of individuals aged 75-85 amplifies this imbalance, placing sustained strain on public health budgets and limiting the ability of these systems to absorb future demand growth without compromising coverage or quality of care.**

In parallel with population ageing, CEE is experiencing a pronounced contraction of its working-age population (Figure 11). **Projections indicate that by 2050, the population aged 15-64 in the CEE region will decline by approximately 12.9 million individuals**, corresponding to an average reduction of around 20%. This demographic shift reflects long-term trends of persistently low fertility rates, accelerated population ageing, and sustained outward migration, particularly from CEE countries toward Western Europe.[13]

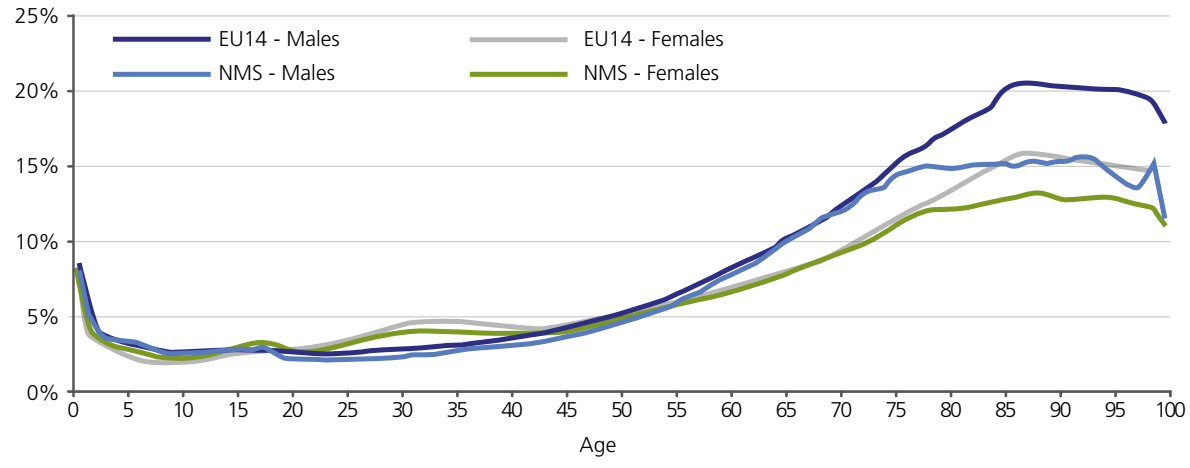

Figure 10. Age-related healthcare spending per capita as proportion of GDP per capita %, 2022

[12] 2024 Ageing Report. Economic and Budgetary Projections for the EU Member States (2022-2070)
[13] 2024 Ageing Report. Economic and Budgetary Projections for the EU Member States (2022-2070)

The magnitude of workforce decline varies across countries, with particularly steep reductions projected in Latvia (31%), Lithuania (28%), Bulgaria (25%), Romania (23%), and Poland (20%). By contrast, larger Western European economies such as France and Italy are projected to experience more modest workforce contractions of approximately 4% and 16%, respectively.

This divergence has important implications for labor supply, economic growth, and the sustainability of public finances in CEE. A declining working-age population reduces the tax base at the same time that age-related public expenditures, particularly for healthcare and long-term care, are expanding rapidly.

The contraction of the working-age population is projected to result in substantial losses in income tax revenue across CEE.[14] **By 2050, annual income tax revenues in the region are estimated to decline by approximately €14.6 billion compared with 2023 levels** (Figure 11).[15] Poland is projected to experience the largest absolute revenue loss (-€6.7 billion), followed by Romania (-€1.9 billion) and Lithuania (-€1.6 billion).

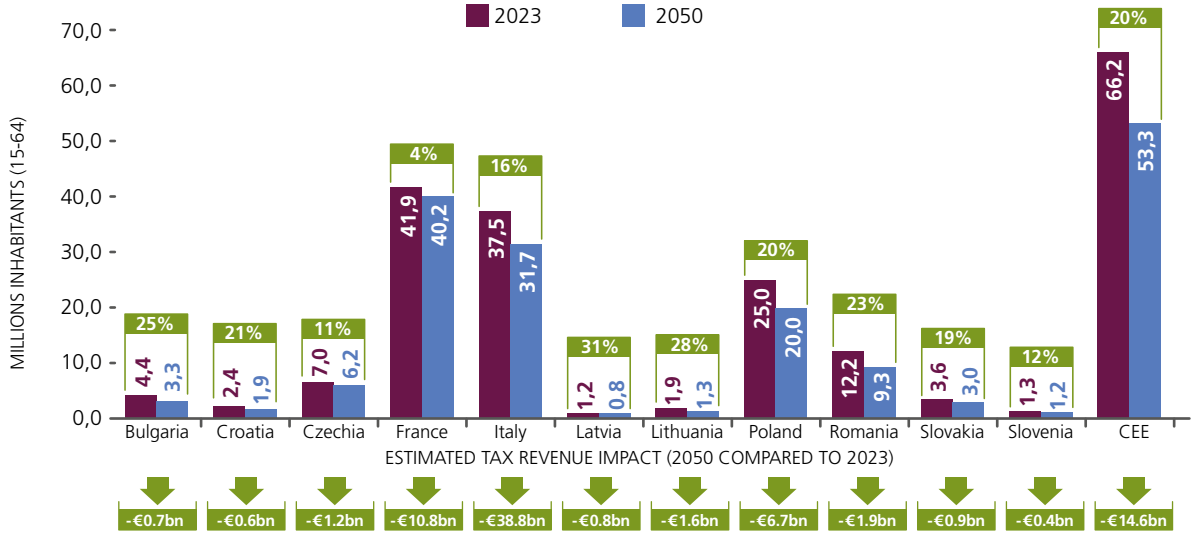

Figure 11. Working age population (15-64), millions, 2023-2050

Although France (-€10.8 billion) and Italy (-€38.8 billion) are projected to incur larger absolute fiscal losses, these occur against a backdrop of significantly smaller workforce reductions and considerably larger economic bases. Consequently, Western European countries are generally better positioned to manage demographic pressures through gradual fiscal adjustment and productivity-driven growth, reflecting larger economic bases, higher labor productivity, and more moderate projected workforce declines.[16] In contrast, CEE countries face a more acute imbalance between rising age-related expenditure needs and declining revenue capacity.

The combined effect of accelerated population ageing, rising healthcare expenditure at older ages, and a shrinking working-age population creates a growing fiscal squeeze in CEE health systems. Without structural reforms, productivity improvements, or targeted investment in cost-effective healthcare interventions, these dynamics risk undermining the long-term fiscal sustainability of public healthcare financing in the region.

[14] Eurostat data for population projections
[15] Eurostat data for tax projections
[16] 2024 Ageing Report. Economic and Budgetary Projections for the EU Member States (2022-2070)

THE PHARMACEUTICAL INDUSTRY IS OFTEN A "HIDDEN PAYER" THROUGH PAYBACKS

In 2023 the industry contribution reaches 1/3 to 1/5 of the public pharmaceutical expenditure. Hungary (30.4%), Romania (25.8%), Bulgaria (23.5%) and Croatia (22.8%) are the CEE countries with the highest industry contribution in 2023. Additionally, Bulgaria has one of the highest CAGR (between 2018 and 2023) regarding the increase of the industry contribution to the net pharmaceutical spending +29.88%. Significant increase in industry contribution is observed across Slovenia (+36.02%), Serbia (+30.77%) and Poland (+17.76%). Such rapid growth is signaling structural underbudgeting, not temporary overspending. This creates a significant unpredictable financial exposure for companies, undermines planning certainty and raises the risk that markets become commercially non-viable.

Public pharmaceutical budgets remain structurally low across much of CEE. Governments increasingly rely on high clawbacks and mandatory rebates to contain overspending. This practice effectively shifts the financing of public health systems from the state to private pharmaceutical companies, turning the industry into a de facto "hidden payer."

As financial pressure on pharmaceutical companies increases, the probability of deferred product launches, limited volumes, or reduced portfolio breadth increases. This directly affects patients, who may experience slower access to innovative and life-saving therapies compared with EU4 countries, where higher public investment reduces reliance on punitive paybacks.

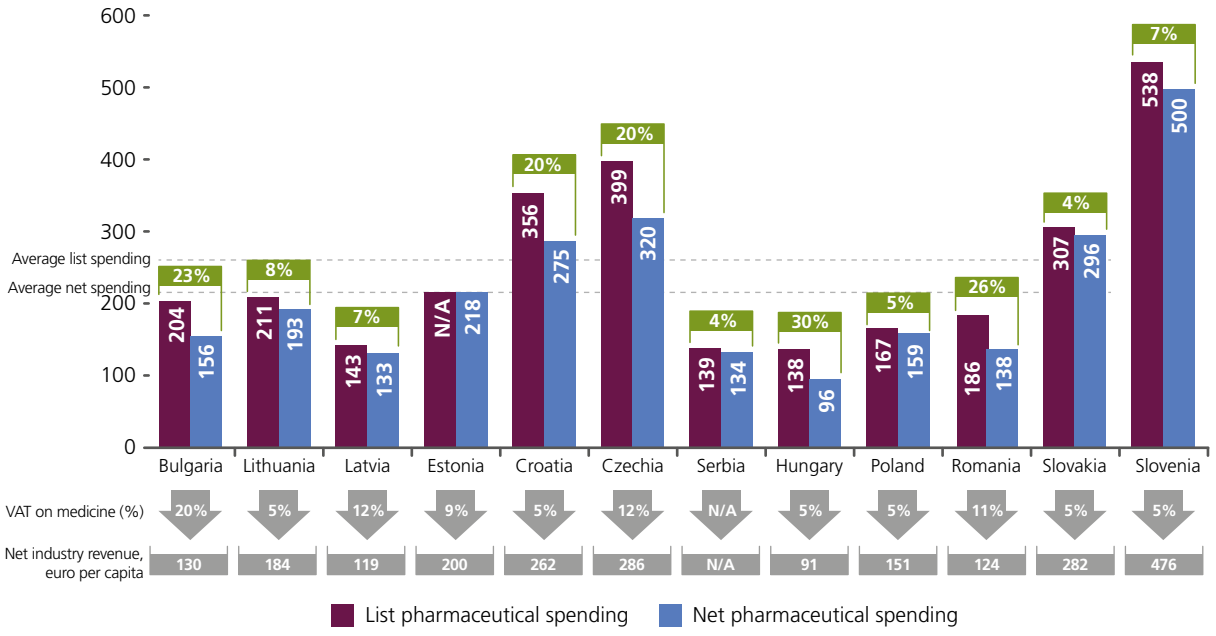

Figure 12. Net pharmaceutical spending and industry contributions, 2023

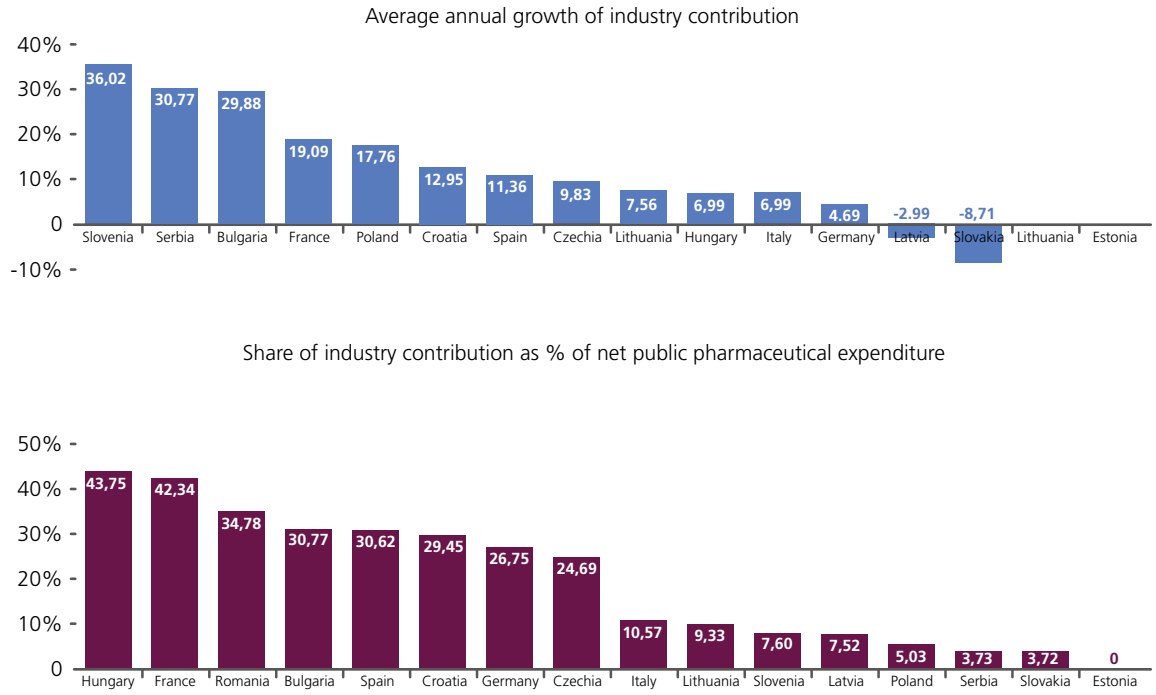

Figure 13. The rapid increase in industry contribution leads to unsustainability in the public pharmaceutical segment.

Source: IQVIA. Top to bottom: CAGR of industry contribution between 2018 and 2023; Industry contribution in 2023 shown as % of net public pharmaceutical expenditure. No data is available for CAGR for Lithuania, Estonia, Czechia for 2023. There was missing data also for the net public pharmaceutical expenditure in Estonia and Czechia for 2023

HEALTH INVESTMENT DRIVES PRODUCTIVITY AND GROWTH

Health spending constitutes productive public investment rather than discretionary cost. Underfunded health systems generate economic consequences through lower labour supply, increased absenteeism, early workforce exits, rising disability claims, and elevated social protection costs.

The GLOBSEC Healthcare Readiness Index (2024) scores the CEE region at 50.9 versus 59.4 for the EU4—a 14% gap (Figure 14). This shortfall is particularly pronounced in preparedness metrics, with CEE countries scoring 22% lower on "Readiness Today" (14.3 versus 18.3) and 21% lower on "Readiness Tomorrow" (36.6 versus 46.5).[17]

For CEE countries experiencing working-age population decline, maintaining workforce health is critical. High-value interventions include prevention and early detection, stronger primary care, timely access to effective medicines, and care pathways reducing avoidable hospitalizations.

Shifting budgets toward these high-impact interventions, paired with accountability and efficient implementation, can make higher public health expenditure both affordable and fiscally sustainable over the medium term.

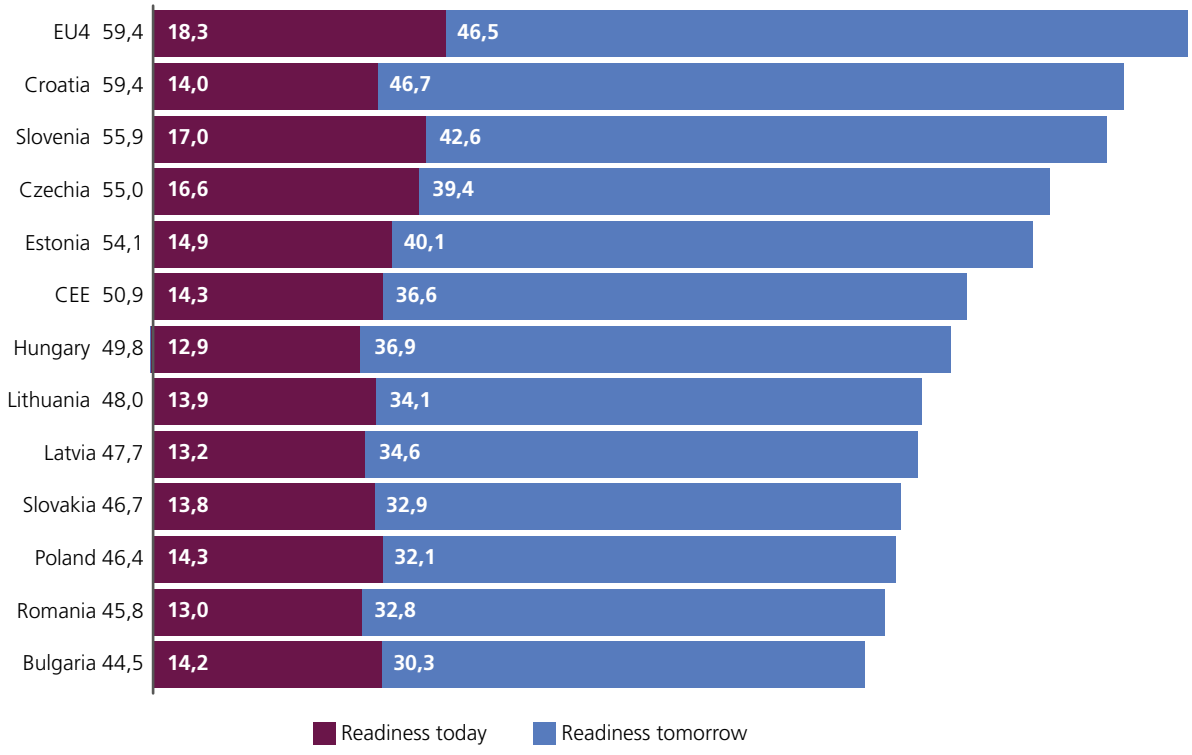

Figure 14. Healthcare Readiness Index 2024 by GLOBSEC

[17] GLOBSEC Healthcare Readiness Index 2024

GOOD PRACTICES IN THE CEE:
DRIVERS OF HEALTHCARE INNOVATION

1 Institutional collaboration and governance

HTA empowerment and stakeholder engagement:
In Poland, the Ministry of Health (MoH) has increased HTA engagement in decision-making, requesting support for prioritization, assessment, and appraisal. Similarly, Slovenia established a trust-based partnership between FarmaForum and the Slovenian HTA Agency, fostering transparent dialogue and involving industry in shaping methodological proposals.

Cross-sector platforms:
Slovenia utilizes a cross-sector platform to position health as a key driver of economic development.

Collaborative pathways:
The Czech Republic successfully introduced an orphan drug pathway through extensive collaboration between the industry, MoH, drug agencies, payers, and patient organizations.

2 Sustainable financing and innovative pricing models

Value-based and individualized agreements:
Croatia has moved away from "one-size-fits-all" linear payback or clawback models, instead requiring individualized contracts for medicinal products that reflect clinical relevance and real-world health outcomes.

Risk sharing and confidentiality:
Poland has widely introduced risk-sharing schemes and structured negotiations to manage effective prices. In Croatia, the introduction of price confidentiality has allowed for more adaptive and sustainable reimbursement structures.

Budget safeguards and reinvestment:
Croatia uses an Expensive Drugs List (EDL) as a strategic safeguard to ensure access to breakthrough therapies during financial pressure. In Poland, close monitoring of budget execution between the MoH and NHF, along with savings generated during COVID, created a "surplus" that enabled a political shift toward new reimbursements.

Predictable funding:
Slovenia has seen a continuous growth in its innovative medicines budget and maintains a policy of no mandatory payback.

3 Access improvement and operational efficiency

Streamlining timelines:
Through joint action between the industry (AIFP) and the drug agency, the Czech Republic improved P&R procedure timelines from an average of 600 days down to 180 days.

Decentralization of care:
The Czech Republic has begun moving products from major oncology centers to regional centers, reducing patient travel and improving quality of life.

Expanding prescribing authority:
Prescription criteria for general practitioners (GPs) in the Czech Republic have been relaxed in certain therapeutic areas, such as cardiovascular health, to expand treatment options.

4 Specialized care and prevention programs

Rare Disease Infrastructure:
Slovenia has established a Rare Disease Think Tank, a National Rare Disease Centre, and a national registry for non-malignant rare diseases. This infrastructure supported the introduction of expanded newborn screening for approximately 50 rare diseases.

Vaccine Evaluation:
The Czech Republic introduced a new HTA evaluation process specifically for voluntary vaccines to improve vaccination rates and access.

5 Communication and public awareness

Value advocacy:
Croatia has launched impactful awareness-building initiatives, including thematic publications and targeted social media campaigns, to foster a more informed environment among policymakers and the public regarding the value of medical innovation.

POLICY SOLUTIONS TO IMPROVE HEALTH OUTCOMES AND BOOST ECONOMIC PERFORMANCE

CEE countries are making meaningful progress in strengthening their health systems. Public health and pharmaceutical expenditures are growing faster than in Western Europe, and several countries are gradually converging toward EU4 levels of investment (in terms of GDP proportion), access, and system performance.

Nevertheless, a significant gap remains. Failing to increase healthcare investment in CEE carries a substantial human and economic cost. If current spending levels persist, the region is projected to accumulate more than 49 million DALYs and experience over 176,000 preventable deaths annually. In contrast, aligning healthcare investment with EU4 levels could avert more than 13 million DALYs and save over 101,000 lives from treatable causes.[18] Given the average GDP per capita of €21,800 in the CEE, this improvement could translate into economic savings of up to €300 billion. The data indicate that CEE healthcare systems - built predominantly on public funding - are no longer able to sustain the economic burden of "doing nothing".

These challenges are further intensified by demographic pressures - an aging population and a shrinking workforce- which increase demand for health services while narrowing the fiscal base available to sustain financing.

The significant effect of innovative medicines offsets risk factors (rebound effect); therefore, it is necessary to put strong emphasis on reducing risk factors such as smoking, obesity, and alcohol consumption to increase the net impact of health investments.

To convert current momentum into lasting convergence, CEE governments need to position health expenditure not only as a social obligation but as a strategic long-term investment in human capital, productivity, and fiscal sustainability. Convergence will require reforms that strengthen the efficiency of public spending, reduce avoidable household cost burdens, and accelerate access to high-value innovations.

Importantly, the net population health and economic gains of pharmaceutical and healthcare investment are maximized when combined with stronger prevention strategies targeting major modifiable risk factors such as smoking, obesity and harmful alcohol consumption.

Strengthening collaboration across all healthcare stakeholders – including public institutions, providers, payers, and industry – will be essential.

With these steps, today's health investments can help CEE countries close the gap, support economic growth, and deliver meaningful improvements in population health and well-being.

[18] Projections regarding averted Disability-Adjusted Life Years (DALYs) and reductions in preventable mortality are provided to illustrate the potential costs of maintaining the status quo. However, these projections are preliminary rather than methodologically robust; they are extrapolated from ecological correlations between health investments and outcomes in Western European countries and thus remain limited by potential multi-variable confounding.

Aligning healthcare investment with EU4 levels could save over

101,000

lives from treatable causes.

KEY POLICY RECOMMENDATIONS

1

Strengthen the sustainability and efficiency of health financing to improve population outcomes. CEE governments should prioritize health spending reforms that improve allocative efficiency, system performance, and long-term fiscal sustainability.

A Increase efficiency and effectiveness of health spending through modernizing governance and system integration. Health systems can achieve better outcomes within constrained budgets by strengthening digital infrastructure, improving analytical capacity to monitor spending efficiency and outcomes, integrating financing across levels of care and using horizon scanning to support forward-looking budget planning. These reforms reduce waste, enhance accountability, and help direct resources toward interventions with the highest health and productivity returns.

B Enhance predictability of pharmaceutical financing and reduce distortionary payback mechanisms. In several CEE countries, heavy reliance on clawbacks, rebates, and ad hoc payback schemes reflect structural underbudgeting and creates uncertainty for both payers and suppliers. More transparent and predictable funding frameworks can strengthen budget planning, support timely access to cost-effective medicines, and reduce incentives for delayed launches or restricted availability, ensuring reimbursement policies remain compatible with sustainable access to innovation.

2

Reduce structural barriers to timely access and availability to innovative medicines. Delayed access to effective therapies remains a major contributor to health inequality across Europe. On average, CEE patients gain reimbursed access to only around one-third of new EMA-authorized medicines, with delays exceeding 600 days. Addressing these gaps requires coordinated reforms in pricing, reimbursement, and system capacity.

A Align financing with long-term value. Traditional siloed budgets often fail to capture the broader system savings generated by effective treatments. CEE countries should explore integrated budgeting, outcomes-based payment models, and multi-year funding approaches to improve resource allocation and better reflect the long-term economic benefits of reducing disease burden and avoidable hospitalization.

B Strengthen HTA frameworks through broader value and real-world evidence. HTA should evolve toward value-based decision making by incorporating real-world data, patient-reported outcomes and wider societal and productivity impacts. Faster and more proportionate assessment pathways for high-unmet-need therapies can support more efficient purchasing decisions while improving equity of access across the region.

C Member States should leverage the outputs of the Joint Clinical Assessment (JCA) by using the JCA report at national level and not duplicating data requests and analyses in the JCA submission dossier. JCA outputs should be seamlessly integrated in national HTA and P&R procedures, leading to faster and more robust decisions at national level.

3

Embed prevention and risk-factor reduction as a core complement to health investment. The long-term health and economic returns of healthcare spending and pharmaceutical innovation are maximized when combined with stronger prevention policies ,incl. vaccines, targeting major modifiable risk factors. CEE countries should scale up tobacco control, obesity and nutrition strategies, alcohol harm reduction, and early detection programs, particularly given ageing populations and the rising burden of chronic disease.

APPENDIX 1

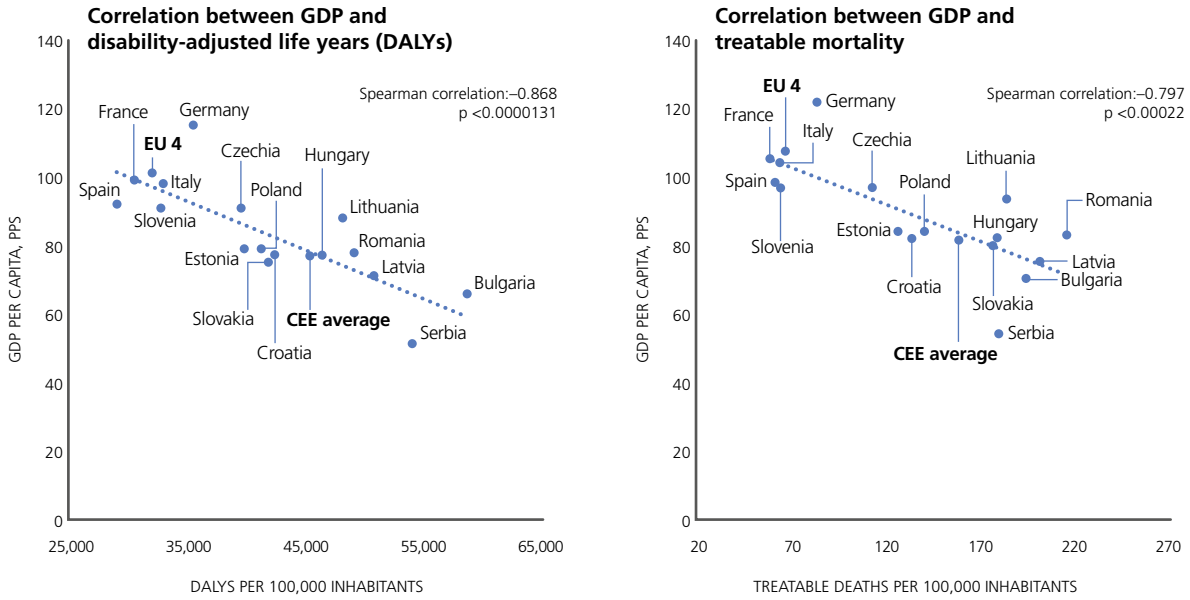

Figure 15. CEE countries have higher rates of disability and treatable deaths as well as lower productivity (GDP per capita) compared to the EU4 average

*Average values used for EU4 (France, Italy, Sprain, Germany) and CEE (Bulgaria, Serbia, Latvia, Lithuania, Romania, Hungary, Croatia, Slovakia, Slovenia, Poland, Estonia, Czechia)
PPS (purchasing power standard) is an artificial currency unit used by Eurostat in which national accounts aggregates are expressed when adjusted for price level differences using Purchasing Power Parities (PPPs). Thus, PPPs can be interpreted as the exchange rate of the PPS against the euro.
Treatable mortality refers to premature deaths that could have been avoided with timely and effective healthcare interventions, including secondary prevention, after a disease has developed
Source: WHO data for DALY (2021); Eurostat data for treatable deaths (2022) and Eurostat data for GDP per capita (2024)

Table 1. Disability adjusted life year (DALY), treatable mortality, net pharmaceutical expenditure and government healthcare investment data for CEE and EU4 countries

Country	DALY per 100 000*	Treatable deaths per 100 000**	Government healthcare investment per capita, PPS***	Net pharmaceutical expenditure, euro per capita****
Bulgaria	58 640	194	1 314	156
Latvia	50 873	201	1 178	133
Lithuania	48 206	183	1 625	193
Estonia	39 941	126	1 627	218
Hungary	46 486	178	1 419	96
Poland	41 453	140	1 738	159
Romania	49 224	215	1 354	138
Slovenia	32 980	64	2 296	500
Slovakia	42 104	176	1 648	296
Serbia	54 104	180	1 021	134
Croatia	42 544	133	1 726	275
Czechia	39 743	113	2 472	230
France	30 756	59	3 680	411
Germany	35 738	83	4 652	699
Italy	33 192	63	2 255	369
Spain	29 331	62	2 296	467
EU 4 average	32 254	67	3 221	487
CEE average	45 525	159	1 618	211
Absolute difference between EU4 and CEE average	-13 270	-92	1 603	276
Difference between EU4 and CEE average, %	-41%	-137%	50%	57%

*WHO data 2021
**Eurostat data 2022
***Eurostat data 2023
****IQVIA data

Overall, CEE governments allocate

€218 PER CAPITA

to pharmaceutical spending – less than half of the €487 per capita invested on average by EU4 countries.