Copenhagen Economics

SPENDING ON ORPHAN MEDICINAL PRODUCTS ACROSS EUROPE:

What drives it and is it sustainable?

Malwina Mejer, Copenhagen Economics
Mads Thorkild Nissen, Copenhagen Economics
Julia Sabine Wahl, Copenhagen Economics

9 September 2025

Increase in spending on OMPs

Over the last decade, the number of orphan medicinal products (OMPs) authorised in Europe has been steadily increasing. Since the introduction of incentives for OMP development in the EU in 2000, an impressive stock of 260 OMPs have been authorised in the European Union (EU).[1] The annual share of marketing authorisation attributed to OMPs has increased since 2001 from 7 per cent to 32 per cent in 2024.[2]

Naturally, the increasing number of authorised OMPs has led to an increase in spending on OMPs. Between 2010 and 2017, spending on OMPs increased by an average of 16 per cent per year, a much faster rate when compared to a 2 per cent increase in spending on non-OMPs during the same period.[3]

While this increase in OMP spending has prompted policy discussions in Europe about the sustainability of current funding, we find that the share of pharmaceutical and healthcare spending European countries dedicate to OMPs is still relatively limited. This is especially the case when considering the vast economic cost of associated with living with a rare disease.[4] We also observe large differences between countries in Europe in terms of how much they spend on OMPs as a share of their pharmaceutical budgets.

Against this background, this note investigates OMP spending levels by exploring three questions:

- How much do European societies spend on OMPs today?
- Is the increase in OMP spending threatening the sustainability of healthcare budgets?
- What drives cross-country differences in OMP spending?

To shine light on these questions, we analyse IQVIA data[5] on spending on medicinal products approved by

Acknowledgement. This note was initiated and funded by Alexion, AstraZeneca Rare Disease and developed by Copenhagen Economics. The underlying analyses and views expressed in this note are those of Copenhagen Economics and do not necessarily reflect the opinions of Alexion.

[1] As reported on the EMA website [link].

[2] Copenhagen Economics based on Orphanet Orphan Drugs [link] and EMA data on medicines [link].

[3] C.f. Figure 3 in Mestre-Ferrandiz, J., Palaska, C., Kelly, T., Hutchings, A., & Parnaby, A. (2019). An analysis of orphan medicine expenditure in Europe: is it sustainable? *Orphanet Journal of Rare Diseases*, *14*, 1-15. [link].

[4] The total economic cost associated with living with a rare disease has been estimated at EUR 250bn per year in Europe, with the average per-person-per-year cost being six times greater than the cost of living with a non-rare disease. Source: Charles River Associates (2024). The economic cost of living with a rare disease across Europe. CRA International [link].

[5] This article is based on internal analysis by the authors using IQVIA MIDAS® Quarterly sales value data in local currency USD for the period MAT Q2 2024, which were obtained under license from IQVIA

the European Commission that have an active orphan designation status across 17 European countries.[6] Medical products that have lost their orphan designation, either due to expiry or the withdrawal at the manufacturer's request, are not included in our analysis. IQVIA MIDAS data is an estimate, not a precise reflection of actual spending.[7]

We find that today, countries in Europe spend on average 6.6 per cent of their pharmaceutical budgets on OMPs. We reached these levels over 25 years in response to regulatory incentives, technological advancements and a willingness to invest.

The growth in OMP spending over time is unlikely to threaten the sustainability of pharmaceutical budgets in the future as it must be seen in the context of the pharmaceutical innovation cycle and likely future evolution of R&D in rare diseases – forces that are likely to mitigate OMPs' future budget impact.

Today, European countries differ significantly in terms of the share of their pharmaceutical budgets dedicated to OMPs. We find that these differences are not so much related to differences in countries' ability to afford OMPs, but rather express differences in the effective prioritisation of rare diseases within healthcare budgets and policies.

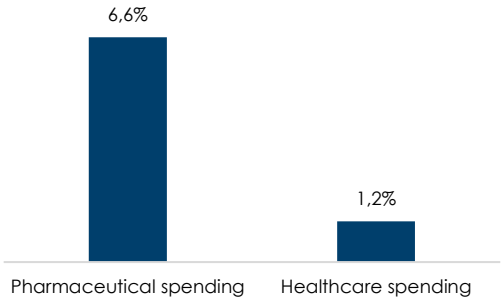
OMP spending remains a small share of pharmaceutical and healthcare spending

On average, European countries spend 6.6 per cent of total pharmaceutical expenditure on OMPs. This amount represents 1.2 per cent of total public healthcare expenditures, see Figure 1.

These levels are noteworthy but not extraordinary, considering that they were reached over 25 years in response to regulatory incentives introduced to address high levels of unmet need, a willingness to invest and technological advances.

First, the steady increase and current level of spending are a result of policies designed to incentivise and spur innovation that were implemented in Europe in 2000 with the Orphan Medicinal Product Regulation.[8] The introduction of market exclusivity, fee reductions, research grants and regulatory support successfully lowered financial barriers to and encouraged investment in OMP development.[9] The impact of these measures has been significant, with a total of over 260 OMPs authorised in the EU to date,[10] providing a treatment option to as many as 30 per cent of people living with a rare disease.[11]

Figure 1
Spending on OMPs as a share of pharmaceutical and healthcare spending



Note: The Figure shows OMP spending as a share of total pharmaceutical spending (as reported by IQVIA MIDAS sales data) and as a share of total public healthcare spending in 2022 (as reported by OECD). To calculate OMP spending as a share of public health spending, we divide the OMP spending (IQVIA MIDAS) by public health spending (OECD).
Source: Copenhagen Economics based on IQVIA MIDAS sales value data for MAT Q2 2024 and OECD Health expenditure and financing [link].

and reflect estimates of real-world activity. Copyright IQVIA. All rights reserved. The statements, findings, conclusions, views, and opinions contained and expressed herein are not necessarily those of IQVIA.

[6] The 17 European countries include: Austria, Belgium, Bulgaria, Croatia, Czechia, Finland, France, Germany, Italy, Norway, Poland, Portugal, Romania, Spain, Sweden, Switzerland and United Kingdom.

[7] First, capture of rare diseases in IQVIA MIDAS varies by country, and sales may not be fully captured due to non-standard distribution channels or limited treatment facilities. Second, IQVIA MIDAS cannot differentiate sales by disease for orphan products approved for multiple indications with different ODD statuses or competition. Finally, IQVIA MIDAS data reflect local industry standard pack prices, which may be list or average invoice prices, excluding confidential rebates or clawbacks. Thus, orphan medicine spend may differ from net prices realised by manufacturers.

[8] Regulation (EC) No 141/2000 of the European Parliament and of the Council of 16 December 1999 on orphan medicinal products. [link].

[9] de Jongh, T. et al (2019). Study to support the evaluation of the EU Orphan Regulation. European Commission. [link].

[10] As reported on the EMA website [link].

[11] Copenhagen Economics based on Orphanet Drug Database and Wakap et al. (2020). Estimating cumulative point prevalence of rare diseases: analysis of the Orphanet database. *European Journal of Human Genetics*, 28(2), 165-173.

Second, the willingness of countries to pay higher prices for OMPs compared to non-OMPs has been a key driver in their development, complementing regulatory incentives. Despite their higher per-patient cost,[12] policymakers, payers, and insurers perceived the total budget impact as low due to the limited number of patients treated and the small number of OMPs authorised in the years following the entry into force of the OMP Regulation.[13]

Third, various technological advances enabled the development of more innovative treatments for rare diseases. For instance, the Human Genome Project provided insights into disease mechanisms and enabled the development of tailored treatments based on individual genome make-up. This greatly benefited the development of treatments for rare diseases, 80 per cent of which have a genetic origin.[14]

OMP spending is unlikely to threaten the sustainability of pharmaceutical budgets

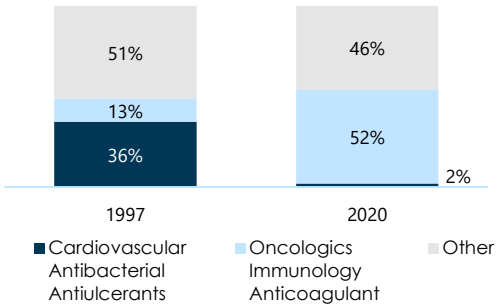
As spending on OMPs increases, some payers are becoming concerned about the potential impact of OMPs on the sustainability of healthcare budgets. However, several reasons should lead us to question the narrative around unsustainable spending trends on OMPs.

First, the medicine innovation cycle implies that the budget impact of OMPs is unlikely to continue growing at the same rate in the future.

The innovation cycle involves first an investment phase, during which the medicine is developed and second a recoupment phase, during which the medicine enjoys intellectual property (IP) protection, also called exclusivity, and where the developer generates revenues that allow them to recoup their investments. Once IP protection expires, the medicine loses exclusivity and faces potential competition from generic or biosimilar versions. The budget impact of a medicinal product is typically highest in the recoupment phase and then drops substantially once exclusivity is lost. This means that, as new classes of successful innovative treatments come to the market, their cumulative budget impact will first be high but then fade over time as exclusivities expire and innovation moves to other areas.[15] In other words, as the market for new innovative medicines matures, budget impacts tend to stabilise.

We observe this when looking at the evolution in the budget impact of different classes of innovative treatments over time. For instance, in 1997, the leading classes of medicines were cardiovascular, antibacterial and anti-ulcer, accounting for 36 per cent of total pharmaceutical spending. In 2020, their budget impact had declined to less than 2 per cent, see Figure 2. This decline was due to loss of exclusivity, generic competition and limited entry of new products.[16]

Figure 2
Changes in the top 3 leading medicine classes



Source: Copenhagen Economics based on IQVIA White Paper (2022), Understanding Net Pharmaceutical Expenditure Dynamics in Europe [link].

While spending on OMPs is still on the rise, it is likely to be subject to the same forces in the long run. During the next decade, 71 per cent more OMPs will lose exclusivity compared to the previous decade.[17] We are therefore likely to see relatively more generic and biosimilar entries in the coming years in Europe compared to the past. With one in two orphan medicines facing generic

[12] In 2019 the average price of medicine for orphan treatment was 4.5 times that of non-orphan medicine. Pearson, C., Schapiro, L., & Pearson, S. D. (2022). The next generation of rare disease drug policy: ensuring both innovation and affordability. *Journal of Comparative Effectiveness Research*, *11*(14), 999-1010. [link].

[13] C.f. Eichler, H. G., Kossmeier, M., Zeitlinger, M., & Schwarzer-Daum, B. (2023). Orphan drugs' clinical uncertainty and prices: Addressing allocative and technical inefficiencies in orphan drug reimbursement. Frontiers in Pharmacology, 14, 1074512. [link].

[14] European Commission, Rare Diseases. [link].

[15] For OMPs, loss of exclusivity can come either from the loss of Orphan Market Exclusivity or the patent protection.

[16] IQVIA White Paper (2022). Understanding Net Pharmaceutical Expenditure Dynamics in Europe. IQVIA. [link]

[17] During the last decade 83 OMPs lost Orphan Market Exclusivity. It will be 142 during the next decade. Copenhagen Economics based on Orphanet Orphan Drugs [link] and EMA data on medicines [link].

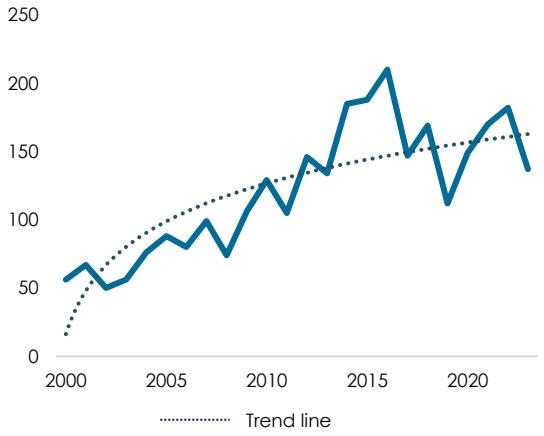
or biosimilar competition upon protection expiry in Europe,[18] this evolution will mitigate the budget impact of OMPs, all else equal.

Second, an increasing share of OMP spending within total pharmaceutical spend does not automatically imply that the increase in OMP spending *drives* an increase in pharmaceutical spending. In fact, spending on non-OMPs has grown at a slower rate than spending on OMPs in recent years. This has implied a "shift in medicines expenditure to more complex diseases with smaller patient populations and higher unmet need."[19]

Third, while the number of OMPs is still on the rise, the number of OMP designations[20] granted by the European Commission has been flattening out in recent years, see Figure 3. As a result, the number of new marketing authorisations with an OMP status is unlikely to grow further, all else equal. One possible reason for this slowdown may be that research and development have first advanced in areas that are the best understood and what is left are areas where it is relatively harder to discover new treatments due to a lack of fundamental research and understanding of disease pathophysiology.[21] Other reasons may include the lack of commercial viability, existing regulatory hurdles, and very small patient population sizes. Such a slowdown means that the budget impact of OMPs will be further mitigated.

Fourth, we may expect that most future OMPs will be developed to target ultra-rare diseases – which we define as diseases with a prevalence rate below 1 in 10,000 – currently lacking authorised treatments.[22] At present, only around 5.4 per cent of these diseases have at least one authorised treatment available.[23] While they account for 96 per cent of all rare diseases, they affect only 20 per cent of people living with a rare disease.[24]

Figure 3
Number of orphan designations granted



Source: Copenhagen Economics based on data compiled from EMA Annual Reports [link].

Developing treatments for such ultra-rare diseases involves significant costs and risks, spread across a smaller patient population, leading to higher prices per treatment. However, given the smaller population size of people living with an ultra-rare disease receiving these treatments, we are likely to observe an overall lower budget impact of OMPs addressing such diseases.

Finally, the share that any type of treatment represents in total pharmaceutical spending highly depends on advances in research and innovation that are inherently difficult to predict. Just a few years ago, few would have predicted the big advances in weight loss treatments we see today, and the rising share of pharmaceutical budgets societies dedicate to them. Innovation can therefore drive rapid change in the way pharmaceutical budgets are allocated.

---

[18] Collins, S., Patel, B., Saada, R., & Kelly, S. (2022). POSA223 Dynamics of EU Market Exclusivity: The Impact of Orphan Designation on Generic or Biosimilar Entry. *Value in Health*, *25*(1), S144. [link].

[19] C.f. page 7 in Mestre-Ferrandiz, J., Palaska, C., Kelly, T., Hutchings, A., & Parnaby, A. (2019). An analysis of orphan medicine expenditure in Europe: is it sustainable?. *Orphanet Journal of Rare Diseases*, *14*, 1-15. [link].

[20] Orphan Designations are granted during the development of medicinal product.

[21] 88 per cent of the rare diseases that lack an authorised treatment also lack research, with 92 per cent having no recent history of clinical trial activity. Source: Le Cam *et al.* (2024) Enabling not rewarding: How to design a high unmet medical needs category to drive, not deter, innovation in orphan medicinal products. [link].

[22] There is no universally accepted definition of ultra-rare diseases. The National Institute for Health and Care Excellence (NICE), for example, identifies them as affecting 0.2 in 10,000 people. Given data limitations, we use 1 in 10,000 as a proxy.

[23] Copenhagen Economics based on Orphanet Orphan Drugs [link] and EMA data on medicines [link].

[24] Wakap et al. (2020). Estimating cumulative point prevalence of rare diseases: analysis of the Orphanet database. *European Journal of Human Genetics*, *28*(2), 165-173. [link].

European countries differ strongly as to their OMP spending

While policymakers raise concerns about the impact of OMPs on pharmaceutical budgets, European countries visibly differ in terms of the share of pharmaceutical budgets they dedicate to OMPs. In our sample, seven countries (France, Belgium, Portugal, Italy, the UK, Germany and Austria) spend over 6 per cent of the pharmaceutical budget on OMPs, another seven spend between 4-6 per cent (Poland, Spain, Czechia, Sweden, Norway, Bulgaria, Switzerland) and three spend below 3 per cent (Croatia, Romania and Finland), see Figure 4 below.

Different OMP spending levels seem to be a matter of prioritisation

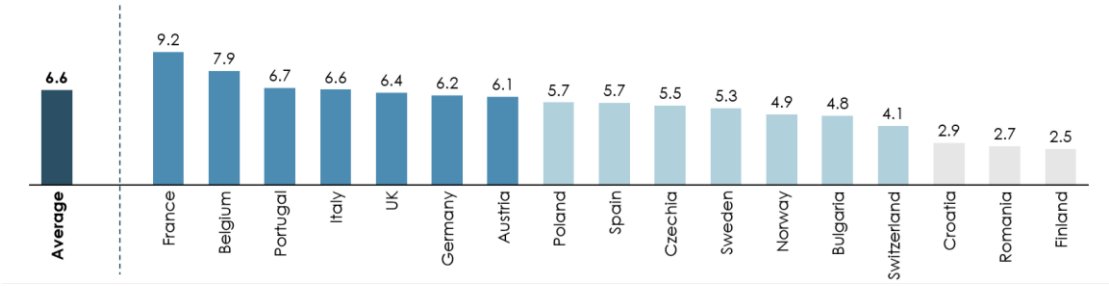
What drives these differences in OMP spending between European countries? More than being related to differences in countries' ability to afford OMPs, we find that spending levels may be related to the effective prioritisation of rare diseases within healthcare budgets. Hence, while today most European countries have a Rare Disease Action Plan in place,[25] some prioritise OMPs both in terms of spending decisions as well as effective policies and infrastructures to deliver OMPs to patients.

Country wealth is not a good predictor of OMP spending

One of the obvious explanations for differences in OMP spending could be countries' wealth, whereby wealthier countries would be able to afford higher-cost medicines to a greater degree than less wealthy countries. However, in our sample, we find no clear relationship between country wealth measured as GDP per capita and OMP spending per capita, see Figure 5 on the next page.

While the least wealthy countries in our sample (Poland, Bulgaria, Croatia, Romania) also have the lowest spending, very wealthy countries (such as Switzerland and Norway) spend relatively little on OMPs. Similarly, among a set of equally wealthy countries, some spend significantly more than others. For instance, with similar GDP per capita, France's and Belgium's OMP spending per capita is more than two-fold that of Sweden and Finland.

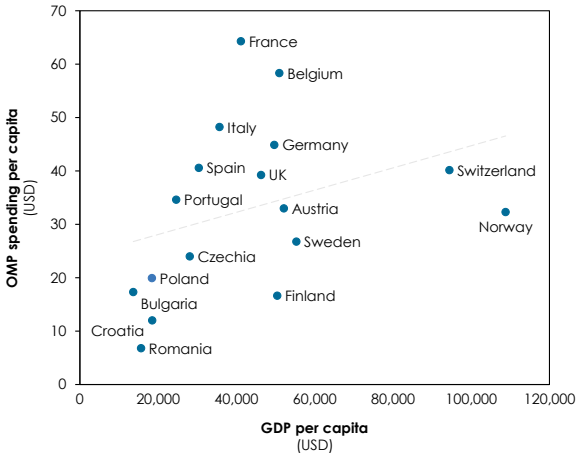
Figure 4
Share of OMP spending in pharmaceutical spending



Source: Copenhagen Economics based on IQVIA MIDAS sales value data for MAT Q2 2024.

[25] Having a National Action Plan on Rare Diseases is not a strict legal requirement under EU legislation. However, the Council Recommendation of 8 June 2009 on an action in the field of rare diseases (2009/C 151/02) strongly encouraged all EU Member States to develop and implement such plans by 2013 to improve coordination, research, and care for rare diseases. While this recommendation is not legally binding, most EU countries have developed National Plans or Strategies in response. For an overview of national plans see EURORDIS website. [link].

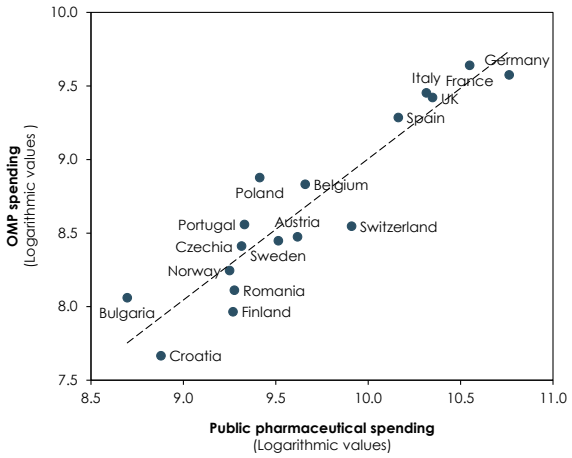
Figure 5
OMP spending and country wealth, per capita



Note: Pearson correlation coefficient r: **0.34**; p-value: **0.125**. The figure shows the relationship between OMP spending (IQVIA MIDAS) and GDP per capita (OECD).

Source: Copenhagen Economics based on IQVIA MIDAS sales value data for MAT Q2 2024 and OECD Annual GDP and components data [link].

Figure 6
OMP and pharmaceutical spending



Note: Pearson correlation coefficient r: **0.93**; p-value: **0.000.** The figure shows the relationship between OMP spending (IQVIA MIDAS) and public pharmaceutical spending (OECD), both presented in logarithmic values.
Source: Copenhagen Economics based on IQVIA MIDAS sales value data for MAT Q2 2024 and OECD Health expenditure and financing data [link].

The fact that the Nordic countries in our sample – Finland, Norway and Sweden – allocate a smaller proportion of their pharmaceutical budgets to OMP spending compared to other Western European countries is a surprising finding given their strong commitment to universal healthcare, high per capita healthcare spending and strong social welfare systems. The reasons behind this Nordic paradox should be further explored.

OMP spending is related to the size of pharmaceutical budgets

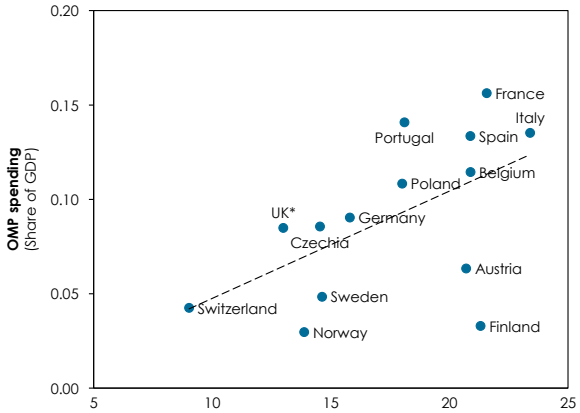
More than a country's wealth, the size of their pharmaceutical budgets seems to drive OMP spending, i.e. we find a strong positive relationship between OMP spending and public pharmaceutical spending see Figure 6. This relationship indicates that healthcare systems that spend more on pharmaceuticals tend to allocate more funding to OMPs. Larger pharmaceutical budgets allow countries to prioritise OMPs.

Moreover, countries with high pharmaceutical spending tend to be larger markets in terms of population. These countries have an advantage in negotiating discounts due to their market size and international influence on pricing. As a result, they may have relatively more funding available to prioritise OMP spending. At the same time, their larger and more competitive pharmaceutical markets may attract greater entry of new products, including OMPs.

OMP spending is related to the size of social spending

Next to pharmaceutical spending, the amount of social spending[26] countries dedicated to supporting vulnerable populations is also positively correlated with spending on OMPs, see Figure 7 on the next page. This may indicate that countries which dedicate more money overall to vulnerable populations are also more willing to address the needs of people living with a rare disease and prioritise spending on OMPs.

Figure 7
OMP spending and social spending

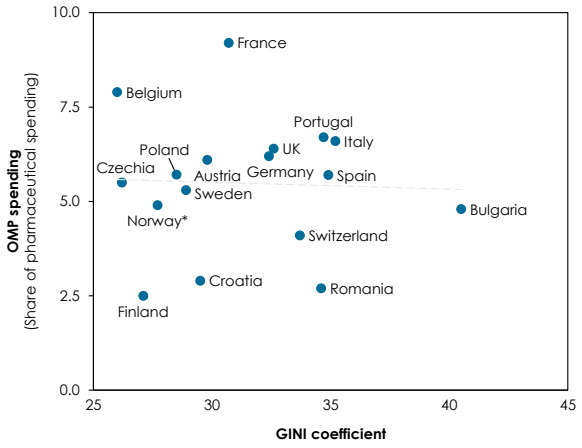


Note: Pearson correlation coefficient r: **0.56**; p-value: **0.013**. The Figure shows the relationship between OMP spending (IQVIA MIDAS sales value data) as a share of GDP in 2022 (OECD) and public social spending net of health in 2022 (OECD). Data on social spending is not available for Bulgaria, Croatia, and Romania and this is why they are left out.
*The most recent data for the UK dates back to 2021.
Source: Copenhagen Economics based on IQVIA MIDAS sales value data for MAT Q2 2024 and OECD Health expenditure and financing [link].

Paradoxically, we find no relationship between the level of OMP spending and income equity levels, as measured by the GINI Index[27]. The lack of correlation can be explained by the fact that lower OMP spenders like Nordic countries and Switzerland exhibit high social equity, whereas higher OMP spenders such as France, Italy, Spain, and Portugal typically have lower levels of social equity, see Figure 8.

These differences may be explained by different decision frameworks for health spending across countries, whereby some countries focus their limited budgets more on raising general population health levels, whereas others have a stronger equity-based focus on improving the situation for specific, underserved cohorts in society.

Figure 8
OMP spending and GINI Index



Note: Pearson correlation coefficient r: **-0.04**; p-value: **0.880**. The figure shows the relationship between OMP spending as a share of pharmaceutical spending (IQVIA MIDAS sales value data) and GINI coefficients (the World Bank).
Source: Copenhagen Economics based on IQVIA MIDAS sales value data for MAT Q2 2024 and World Bank GINI Index [link].

Countries with the highest share of OMP spending have effective policies in place to bring OMPs to people living with a rare disease

A feature that unites countries with high OMP spending seems to be the existence of policies and infrastructures that allow for effectively bringing OMPs to people living with a rare disease.

For instance, we observe that the countries with the largest OMP spending in our sample have particularly effective Early Access Programmes (EAPs) in place. These

[26] Social expenditure reported in the OECD database comprises cash benefits, direct in-kind provision of goods and services, and tax breaks with social purposes. Benefits may be targeted at low-income households, the elderly, disabled, sick, unemployed, or young persons. To be considered "social", programmes have to involve either redistribution of resources across households or compulsory participation.

[27] Gini Index is a measure of income inequality. A Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality.

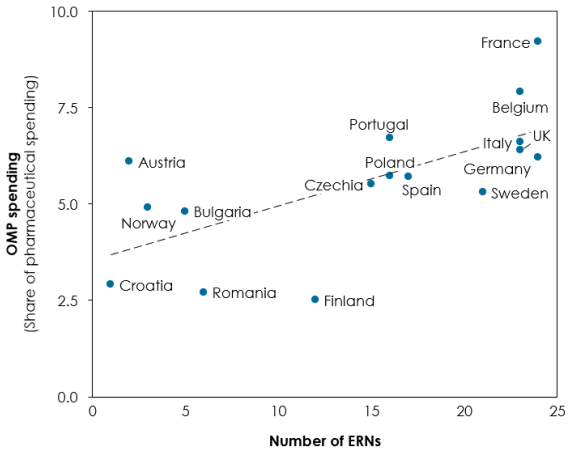
programmes are designed to provide patients with serious or life-threatening conditions paid access to approved treatments even before pricing and reimbursement negotiations are finalised, thereby covering the period between marketing authorisation and reimbursement decision. EAPs signal government's willingness to bring innovative medicines to patients with unmet needs swiftly and to pay for continued access after the reimbursement decision. Belgium, France and Poland have such programmes in place.[28] While Germany does not have such an EAP in place, new medicinal products can be marketed directly after the grant of marketing authorisation in this country.[29]

EAPs provide significant value to people living with rare diseases by accelerating access to innovative therapies. In France, for instance, the Early Access Authorisation (EAA) has been highly effective in providing access to OMPs within three months of receiving marketing authorisation in the EU, demonstrating its effectiveness in bridging the gap between product approval and a reimbursement decision. Between 2018 and 2023, 39 per cent of all OMPs authorised in the EU during this period received EAA in France.[30] This highlights the crucial role of EAPs in ensuring timely treatment availability, reducing delays, and improving outcomes for people living with a rare disease.

Furthermore, countries with broader coverage of European Reference Networks (ERNs) have a larger portion of their pharmaceutical budgets allocated to OMP spending, see Figure 9. ERNs are networks of centres of excellence that specialise in diagnosis and treatment of complex, rare diseases.[31] The presence of healthcare professionals with specialised expertise in diagnosis and treatment is essential to ensure timely and accurate patient care, optimise therapeutic outcomes and facilitate access to appropriate interventions.

Another relevant policy driver, not explored in this note, could be the relationship between OMP spending and the extent to which Health Technology Assessments and pricing and reimbursement decisions account for the specific challenges of OMPs in terms of data uncertainty. We would hypothesise that these factors also play a role in how countries effectively prioritise or de-prioritise OMP spending.

Figure 9
OMP spending and ERN coverage



Note: Pearson correlation coefficient: **0.67**; p-value: **0.001**. The figure shows the relationship between OMP spending as a share of pharmaceutical spending (from IQVIA MIDAS) and the number of ERNs (from the European Commission).
Source: Copenhagen Economics based on IQVIA MIDAS sales value data for MAT Q2 2024 and European Commission, European Reference Networks [link].

OMP spending – a matter of priority

This note shows that the share of pharmaceutical and healthcare spending European countries dedicate to OMPs is still relatively limited, and unlikely to threaten the sustainability of healthcare budgets. How much countries spend on OMPs seems, most of all, to be a political choice combined with effective policies that allow innovative treatments to be delivered to people living with a rare disease.

[28] Kadir et al. (2024). HPR204 Early Access Programmes in Europe Versus Key Markets in Other Regions: An In-Depth Comparison. *Value in Health*, *27*(12), S313. EAPs in the Nordic countries are not funded according to Boyers et al. (2024) Comparing and contrasting Early Access Opportunities across four Nordic countries. [link].

[29] Once an innovative medicinal product has been approved, it is immediately eligible for reimbursement from the statutory health insurance funds, and the pharmaceutical manufacturer can set the price for a fixed period of 12 months after market launch.

[30] Copenhagen Economics based on HAS data [link], see link and Orphanet Orphan Drug database data. This is a conservative estimate, as we match OMP authorisations and EAA decisions over the same period of time.

[31] Since 2017, 24 ERNs have been launched involving more than 900 healthcare teams, located in more than 300 hospitals in 26 European countries. ERNs centres cover 24 areas such as neurological disorders, rare cancers, metabolic conditions and immunodeficiencies. [link].