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In-depth analysis: high profits made with Humira

Follow-up to Zorgvuldig Advies' first report in response to AbbVie's 'Statement of Defence'

28 april 2025

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Reading Guide

This report is an English translation of the original report. It should be noted that this version provides a synopsis of the full report and is therefore shorter than the original. The report is a follow-up to our first report (Zorgvuldig Advies; 'Displacement of care due to high profits' ®; February 2023) commissioned by the Pharmaceutical Accountability Foundation. We have reviewed AbbVie's Statement of Defence and the accompanying expert reports by Copenhagen Economics (hereafter CE). Based on these documents, we have prepared this report 'In-depth analysis: high profits made with Humira'.

The report starts with a management summary, which forms a coherent integral response to the main criticisms in AbbVie's Statement of Defence. In Chapter 1, we provide a brief review of our earlier 2023 report. Based on AbbVie's comments, we have adjusted or corrected some calculations, leading in some cases to nuances, enhancements or adjustments.

Some of AbbVie's comments give rise to new or additional calculations. These are included in Chapter 2, where we also present some in-depth and expanded analyses. For example, we compare the pricing and profit margins of Humira to those of other biologicals targeting similar indications. From this we can conclude that while there were competing agents *on* the market, actual competition among biological drug providers *for* patients, hospitals or the market as a whole, was limited.

Management summary

The objective of this report is to respond to the Statement of Defence, and the accompanying expert reports, insofar as they comment on the first report of Zorgvuldig Advies from 2023. This concerns Chapter 4 of the Statement of Defence in particular. To this end, we have further deepened, expanded and, where necessary, adjusted our reasoning. This deepening came about based on additional literature review, interviews with healthcare procurers and hospital pharmacists, and consultation with experts associated with the Pharmaceutical Accountability Foundations.

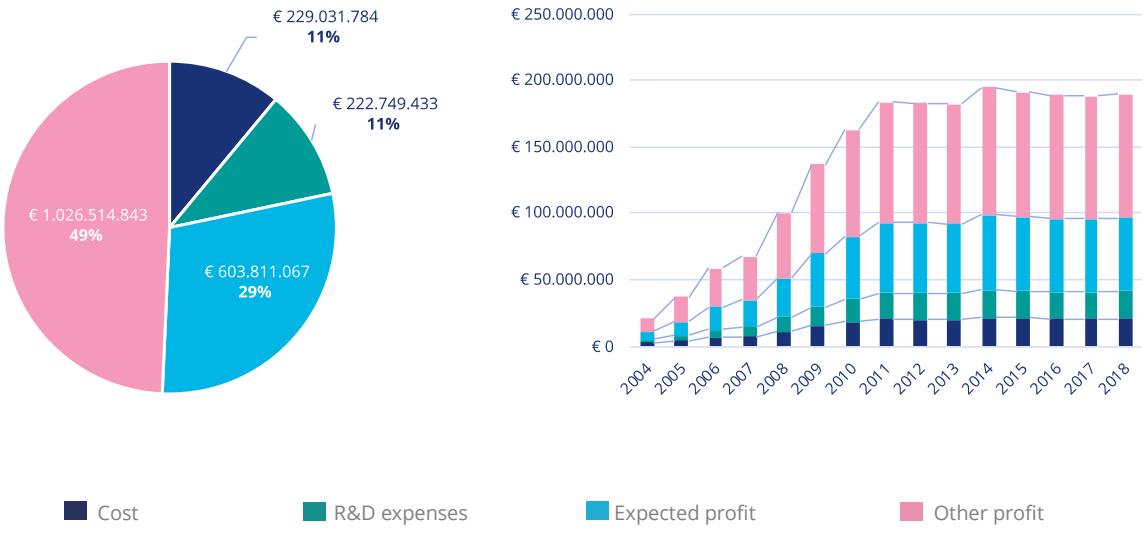
New estimate of sales and profits made with Humira

Based on new insights from this deepening, Zorgvuldig Advies adjusts some of the estimates from the initial report. The new estimates are as follows:

- The **sales** of Humira in the Netherlands from 2004 to 2018 were **EUR 2.1 billion.**
- Our estimate of the **cost of production and sales** attributable to Dutch sales of Humira in the relevant period was **EUR 229 million** (calculation rate: 11% of sales);
- We allocate **Research & Development (R&D) investments** to Dutch sales of Humira in the relevant period of **EUR 222 million** (calculation rate rounded: 11% of sales);
- We quantify the **expected profit that AbbVie would generate with Humira in the Netherlands** over the period 2004-2018 at **EUR 603 million** (calculation rate: 29% of sales);
- Consequently, we calculate that Abbvie's **remaining profit** made with Humira in the Netherlands was **EUR 1.0 billion** (this is 49% of sales).

Figure1: Diagram of distribution of items for 2004 to 2018 after adjusting for sales and expected profit.

Total sales: EUR 2.082.107.128



The rationale and explanations for the new estimates are explained in further detail in Chapter 1: Review and adjustments to the report of Zorgvuldig Advies.

Refutation by point of criticism

Based on the format of AbbVie's Statement of Defence[1], we briefly describe the main conclusions below:

There is no uniform or generally acceptable methodology for the price setting of an innovative drug.

AbbVie states that value-based pricing - as opposed to a 'cost-plus' approach - is the proper methodology for pricing an innovative drug. It further claims that Zorgvuldig Advies used a cost-plus methodology in its original report. However, the purpose of our initial report was not to establish a ('correct') price, but to provide an insight into the sales and profits with Humira in the Netherlands.

To determine the profit achieved with Humira in the Netherlands, we have deducted related costs, investments in research and development (R&D), and other relevant expenses from the total sales in the Netherlands (see: Review and adjustments to the report of Zorgvuldig Advies). Although AbbVie states that this methodology amounts to a cost-plus approach, we did not aim or choose to follow this methodology, nor did we use or specify this term ourselves.

Moreover, it is important to note that there is no standard or widely accepted methodology for drug pricing. In any case, the assumption that a value-based approach automatically leads to the development of drugs for the greatest medical need is not inherently valid. Indeed, research indicates that this relationship is not unambiguous. For example, an analysis by SiRM (2022)[2] shows that, in practice, pricing models more often target drugs with the highest expected returns than those with the most societal or medical added value. Moreover, some countries that contribute heavily to global drug sales do not use *value-based pricing*, such as Germany and the United States. And even in the Netherlands, where there is a maximum threshold for drugs for 'value-based pricing', there are many examples where the government has decided to negotiate the price of the drug 'in de sluis',[3] despite a cost-effective price. In addition, a study by Utrecht University, published in The British Medical Journal (BMJ), shows that drugs with a high added value tend to generate higher revenues, but that low value-added drugs usually generate sufficient revenues to cover R&D costs.[4] [5] Finally, value-based pricing can be problematic for drugs that have a high degree of exclusivity and/or monopoly position acquired through their patents, and are reimbursed in a system where health insurers are tasked with keeping healthcare spending affordable and accessible.

Transparent justification of a cost-based price, the reasonableness of a price and the relationship between price and profit play a role in the social debate.

The revenue after deducting costs for development and production of a drug is profit for the company. Formal health-economic analyses describe whether a price falls below a maximum cost-effectiveness limit, but not how much space remains below that limit to create a fair distribution between the manufacturer and society. The call for greater transparency in the price setting process plays a major role in the broader social debate in that regard.

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[1] The structure of the headings is similar to AbbVie's Statement of Defence: we use similar headings, adapted to the nature of our rebuttals. (See Appendix 1: Table of)

[2] SiRM. (2022). *The financial ecosystem of pharmaceutical R&D*. Strategies in Regulated Markets. https://www.sirm.nl/docs/The-financial-ecosystem-of-pharmaceutical-RD_2022-06-21-193729_afll.pdf?v=1675090798

[3] The Minister of Health, Welfare and Sport (VWS) can temporarily exclude new, expensive medicines used in hospitals from the basic health insurance package. The medicine is then placed in the 'sluis' for expensive medicines. The Dutch Health Care Institute then advises the minister on whether or not the drug should be reimbursed. The minister can also negotiate the price with the manufacturer.

[4] Naci, H., Khang, P. V., Mossialos, E., et al. (2024). Drug development priorities reflect market prospects more than health needs: A cross-sectional study of new medicines approved in the EU, 2012-2021. *BMJ, 384*, e077391. https://doi.

[5] Persson, U., Jönsson, B., & Drummond, M. (2024). Do drug prices reflect their value? BMJ, 384, q511. https://doi.org/10.1136/bmj.q511

After all, questions about the reasonableness of prices, the underlying costs, and the relationship between price and profit relate to public interests of accessibility and affordability. The price of a drug is not just a matter of policy; it is also the result of market forces, bargaining power, and conscious decisions made by manufacturers. When prices are significantly higher than the actual development and production costs, this can lead to an inefficient use of public resources and the displacement of other desirable care or (semi-) public expenditures.

The value report by Copenhagen Economics, commissioned by AbbVie, concludes that Humira has generated significant social value - including in terms of improved patient outcomes, reduced healthcare consumption and economic benefits such as labour force participation. They use (with argumentation) the *human capital method* in this report. In the Netherlands, the friction cost method is more common and recommended by the Dutch National Health Care Institute. The calculated societal value therefore comes out to be over EUR 500 million lower. Moreover, Zorgvuldig Advies does not dispute that there has been significant added value of Humira as a drug for patients and society. The question is whether all the value created should be fully absorbed by the manufacturer.

Zorgvuldig Advies based the R&D costs on data from the study in which AbbVie provided their own information

AbbVie argues that not all relevant R&D costs were included - such as failed development projects - and therefore the conclusions from our first report would not be tenable. This criticism is not justified. The used R&D figures are based on US Congress research, for which AbbVie itself provided the data.[6] Until AbbVie provides additional transparency about its actual R&D costs, we have no choice but to rely on these public, undisputed, reliable sources.

Because of the non-transparent figures, we have used a generously estimated 'expected profit' for pharmaceutical companies in our calculations, which specifically includes a mark-up for the higher development risk. By comparison, in other industries a net profit margin of 10% is considered average and 20% excellent.[7]

Additionally, large pharmaceutical companies develop relatively few truly innovative drugs entirely in-house. Research shows that they largely fill their pipeline through the acquisition of external innovations with significantly lower risks than in-house development.[8] In a similar fashion, AbbVie acquired Humira from Knoll.

Zorgvuldig Advies has adequately considered all R&D costs for Humira

AbbVie argues that the costs of failed development projects, expansion of indication and related studies have not been adequately accounted for in our analysis. That criticism, however, is not justified. Our calculations take a generous approach to R&D costs, including the full acquisition price of Knoll Pharmaceuticals – the party responsible for early research on Humira - as well as other expenses made public by AbbVie. In addition, we rely on reliable and public sources information. Until AbbVie provides itemized disclosure of actual R&D expenditures, this is the information we will have to rely on.

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[6] From: *Drug Pricing Investigation AbbVie - Humira and Imbruvica,* U.S. House of Representatives (2021).
[7] See, for example, https://fortus.nl/kennisbank/winstmarge/ and https://www.dezaak.nl/financien/geldzaken/5-vragen-over-winstmarge-berekenen/ . Based on CBS Statline, the average percentage of pre-tax earnings for the manufacturing sector is 8.0% in 2022.
[8] McKinsey & Company. *Innovation sourcing in biopharma: Four practices to maximize success*. Accessed April 9, 2025, from https://www.mckinsey.com/industries/life-sciences/our-insights/innovation-sourcing-in-biopharma-four-practices-to-maximize-success

While indication expansions may involve investments in follow-up research, these costs cannot directly be attributed entirely to AbbVie without further justification. Such pathways are regularly co-funded with public funds, through, for example, academic research or national programs funded in the Netherlands through ZonMw (such as Goed Gebruik Geneesmiddelen, GGG [Adequate Use of Medication]). Moreover, it is unclear to what extent the over 280 studies mentioned by AbbVie, were fully or partially funded or conducted by AbbVie. AbbVie did not provide further information on this either. According to public sources, such as ClinicalTrials.gov, out of a total of over 700 Humira-related studies worldwide, only a third were conducted or sponsored by AbbVie itself. The majority were facilitated by independent or public parties. This highlights that the development of additional indications for Humira was largely, in many cases, made possible in part by public or independent funding - and thus not exclusively by AbbVie itself.

In practice, the further development of a medicine for use in additional indications is associated with lower costs, as the safety and efficacy of the drug have already been established. While these lower investments result in higher profits for companies, the resulting financial benefits are rarely passed on to society in the form of lower prices as volumes increase, which would be expected in a normally functioning market.

Additional notes on the calculations of Zorgvuldig Advies

AbbVie's Statement of Defence points out that there are several issues that we should have included in the calculations or that we made incorrect assumptions, resulting in lower actual revenues and higher costs. Apart from the fact that, again, no new data has been made available, we show in the further analysis that any corrections are materially marginal and ultimately strengthen the robustness of our calculations.

Additional analyses

Further explanation of price setting and market behaviour

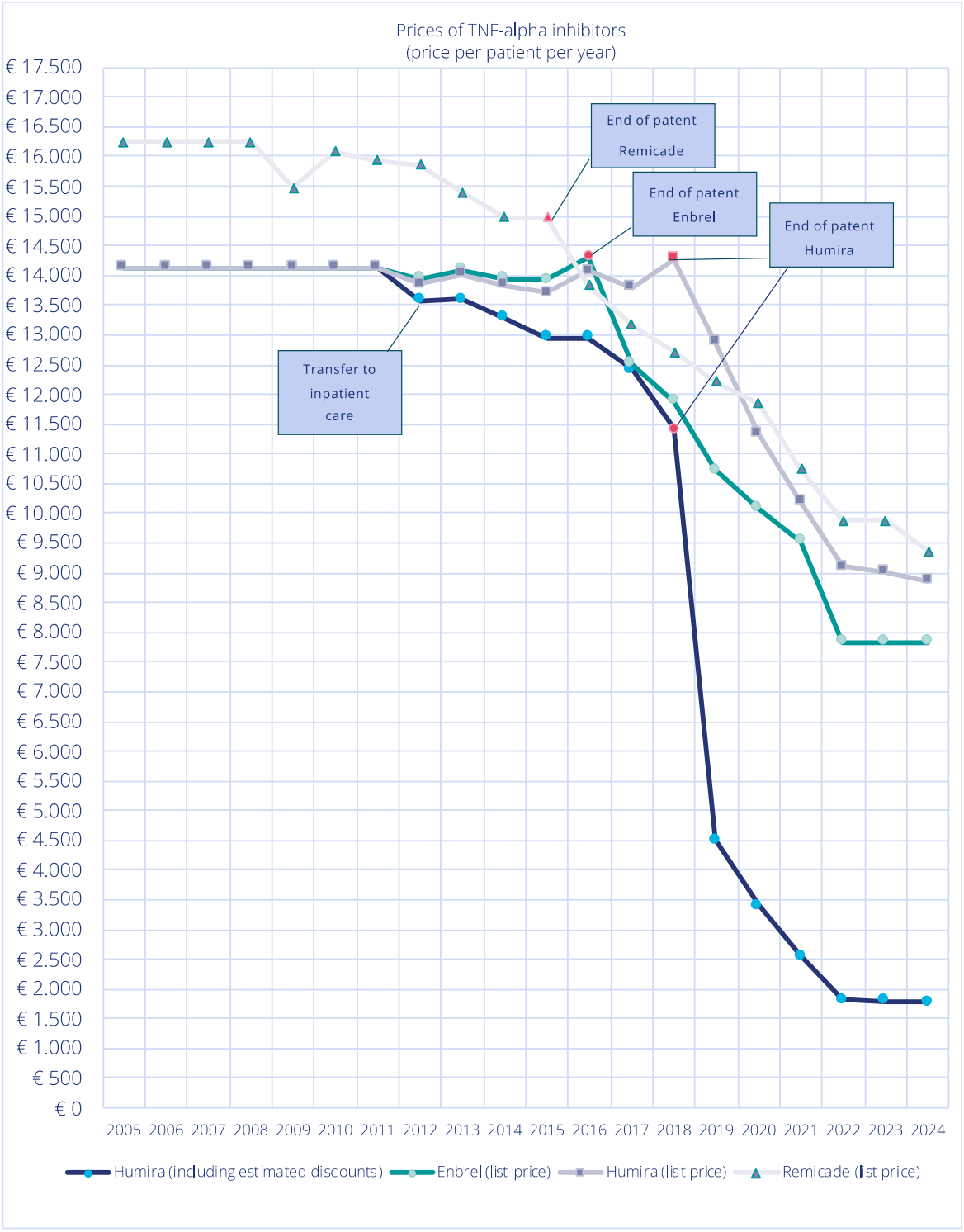
AbbVie states in its Statement of Defence that we did not include any discounts negotiated with hospitals in our calculations. Although this data is not publicly available, we have attempted to make an estimate of the discounts provided by AbbVie. We did this by conducting interviews with healthcare procurers at health insurance companies and hospital pharmacists involved in purchasing Humira during the relevant period. We spoke to them about the Humira procurement process, AbbVie's behaviour as a pharmaceutical company and the possible effect of Humira's price on displacement of care. These conversations revealed that discounts were negotiated only from the transfer to inpatient care in 2012 and were estimated at 7.5% on average. We adjusted our calculations to include this percentage.

The interviews also show that the market behaviour of the originator TNF-alpha inhibitors indicates market power of the producers of these drugs. There was hardly any competitive pressure (on price) until the admission of biosimilars to the market.

Comparison of drugs: Humira, Enbrel and Remicade

In response to Copenhagen Economics' analysis suggesting that Humira’s price dropped due to competition following Enbrel's loss of exclusivity in 2016, our comprehensive analysis provides a more nuanced perspective.

Figure 2 : Comparison of the price per patient per year for the drugs Humira, Enbrel and Remicade. Prices are based on list price, the estimated discounts have been included for Humira (see dark blue)



Our comparison of annual treatment costs per patient for Humira, Enbrel and Remicade (2005-2024) shows that the price of Humira responds primarily to (imminent) competition from biosimilars, much less to the pricing behaviour of fellow originators.

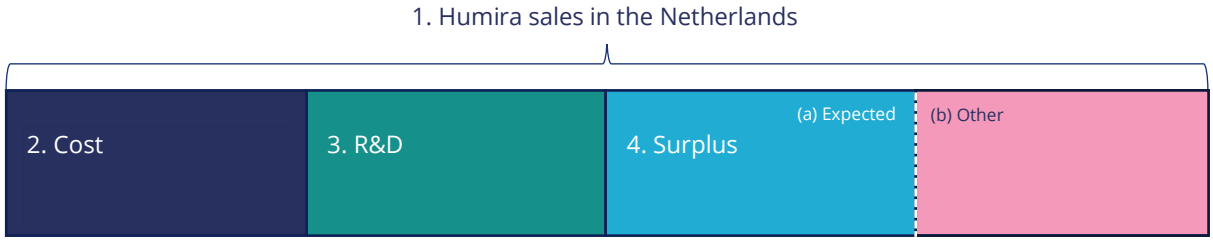
1 Review and adjustments to the report of Zorgvuldig Advies

In February 2023, Zorgvuldig Advies wrote the report 'Displacement of care due to high profits' on sales and profits made with Humira. This report was written on behalf of the Pharmaceutical Accountability Foundation.

The Pharmaceutical Accountability Foundations commissioned Zorgvuldig Advies to conduct an economic analysis of the potentioal displacement of legally insured basic care due to the pricing and profit margins of the drug Humira. And, if so, the assignment to express that displacement in euros and healthy life years lost. Below is a brief review of the 2023 report and some limited corrections to the earlier calculations.

The economic analysis is as follows: we establish what 1) the revenue was of Humira in the Netherlands. To determine what profit was made in the process, 2) the costs associated with the production and sale of Humira in the Netherlands must be clear. We then look at 3) the investments made in research and development (R&D). What remains is 4) a surplus. We divide the surplus into 4a) an 'expected profit' that has been made, and 4b) a part 'other profit' (or: excess profit) that may be added.

Figure 3 : Structure of the analysis



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The exact figures are mostly confidential or not available. For the calculation, we therefore have to make estimates based on various public sources. We make choices for the analyses based on literature and precedents. We present the results in rounded figures with a margin of uncertainty.

Several analysis steps involve choices regarding the sources and assumptions in the analysis. We summarize these choices in a robust analysis scenario, or an analysis scenario in which AbbVie is disadvantaged as little as possible by our calculations. The scenario provides an overview analysis based on coherent choices. This allows us to properly compare outcomes and reach conclusions regarding the potential displacement of care.

In the previous report, we developed two calculation alternatives in the earlier report based on certain alternative choices that are more at the extreme end of the spectrum in terms of the measure of costs and R&D expenditures. From AbbVie's Statement of Defence, it appears that this robustness analysis is also erroneously interpreted by them as realistic, and because its outcome is so different from the other scenario, AbbVie seems to want to give the impression that our study results lack integrity or are not (or cannot be) reliable.

However, the second calculation variant - the so-called '40.7% production cost scenario' - is based on all pharmaceutical companies, including, for example, manufacturers of generic drugs whose added value is much smaller than that of innovative drugs, whose innovative nature is limited, and margins are therefore significantly lower. Partly for this reason, production costs make a substantially larger percentage of total sales. This variant is

therefore not suitable for the case at hand. After all, Humira is widely recognized as one of the most profitable blockbuster drugs in the world.[9] Assuming a cost percentage of 40.7% is therefore not realistic and - as it turns out - also proved confusing. We therefore leave this calculation variant aside here. Moreover, the variant with production costs of 11% was itself proposed by AbbVie to the US Congress. We do have one reservation, which we will explain in more detail below.

Step 1. Humira sales in the Netherlands

Figures from the Foundation for Pharmaceutical Statistics (SFK) (2003 to 2011) and the GIP database (2013 to 2018) were used to determine the healthcare expenditure incurred in the Netherlands for the purchase of Humira.

Healthcare expenditure incurred in the Netherlands to purchase Humira was determined using figures from the Foundation for Pharmaceutical Statistics (SFK) (2003 to 2011) and the GIP database (2013 to 2018). Figures on expenditure in 2012 are missing; we estimated these by averaging sales from 2011 and 2013. This yields no deviation in the trend. We have assumed expenditure excluding VAT. Until almost the end of 2018, Humira was protected with patent rights, and we assume that the expenditure went entirely to the manufacturer. From 2018, *biosimilars* entered the market. We calculate that EUR 2.3 billion was spent on Humira in the Dutch healthcare system from 2004 to 2018.

Based on AbbVie's comments in the Statement of Defence and our own research (see Estimation of Humira discounts (2004 - 2018) and influencing factors), we believe that there have been discounts since 2012 that do not benefit AbbVie.

The Sales of Humira in the 2023 Zorgvuldig Advies report was based on list prices and not on actual prices paid after negotiations and applications of discounts. To estimate the discount, we interviewed experts within care procurement about the actual discounts that were most likely negotiated. Based on these conversations, we estimate an average discount over the period 2012 through 2018 of 7.5%. We subtract this average discount estimate from AbbVie's sales of Humira in the Netherlands during that period. See Further explanation of pricing and market behaviour for a detailed explanation. After this adjustment, ***sales were EUR 2.1 billion****.*

In short, we correct the Humira sales by 7.5% to include the estimated discounts [possibly] given in 2004 through 2018. After this correction, sales were EUR 2.1 billion.

Step 2. Cost of selling Humira in the Netherlands

Estimating the costs associated with manufacturing and selling Humira is the most difficult to do. The information from AbbVie's annual reports is not sufficiently useful because it a) involves costs for the entire company, and not costs specifically attributable to Humira, and b) it includes all kinds of financial transactions as costs that could be seen as *inefficiencies* in economic terms from the public interest.

To estimate the costs associated with the production and sale of Humira, two calculation variants with different sources were used in the previous report. As just explained, we will use only the first - robust - calculation variant for the remainder.

[9] Statista: https://www.statista.com/statistics/1089322/top-drugs-by-lifetime-sales-globally/

A US Congress investigated Humira's prices and profits, and indicates in its investigative report, based on information supplied by AbbVie itself, that the *total cost of production and sales* is 11% of Humira sales.[10]

AbbVie makes several arguments that our estimate of 11% is incorrect. The decision to use the estimate of 11% for the period 2004–2018 is based on the fact that this benchmark comes from reliable, public sources that specifically relate to Humira. The available data for the years 2009–2018 therefore provide the most concrete basis for a substantiated estimate of the costs, focused on this medicine and not on the entire AbbVie portfolio. No comparable, specific information is available in the public data for the earlier years. It is plausible that the total costs associated with the production and sales for Humira in the Netherlands in the period under review could indeed be slightly higher than our estimate, but that an exact estimate can only be made if AbbVie provides more information. This is a possible adjustment of a few percentage points, far from the 40.7% cost of sales variant previously discussed and abandoned. In the absence of better information, we stick to the estimate of an 11% cost level of sales.

As a result of the discounts in the sales calculations, the costs of Humira have also been revised. Indeed, if sales are lower, and costs are assumed as a percentage of sales, these costs will also be lower. Based on a calculation percentage of 11%, converted to Dutch sales, the ***costs (of production and sales)*** *are* ***EUR 229 million****.*

In short, based on the information provided by AbbVie itself in the US Congress, the costs (production and sales) of Humira in the Netherlands are EUR 229 million.[11]

Step 3. Investment in Research and Development.

AbbVie tells the US Congressional Committee that it spent USD 5.2 billion on R&D for Humira worldwide between 2009 and 2018. This amounts to an average of over USD 519 million per year, which in euros amounts to over EUR 409 million per year. Allocating this annual amount to the period 2003 to 2018 and adding it to the purchase price for the patent on Adalimumab of USD 6.9 billion (converted to EUR 5.4 billion), we arrive at total R&D costs of over EUR 11.6 billion worldwide (this is 10.7% of the worldwide revenue generated with Humira). Converted to Dutch sales, this amounts to EUR 241 million (or 11% of total Dutch sales). The Knoll acquisition also included the rights to adalimumab. By allocating the entire acquisition amount, which also includes other assets and costs not specifically attributable to Humira, to Humira, we are using a broad estimate in favour of AbbVie.

Assuming a calculation rate of 10.7%, converted to Dutch sales, ***R&D costs*** *are estimated to be* ***EUR 222 million****.*

It should be noted that this is a very large amount, given the results of studies on the average cost of bringing new drugs to market, which show that the highest estimate of this amounts to EUR 2.6 billion. The estimate was made in the RVS opinion cited earlier.[12] This report dates from 2017, with inflation it comes to EUR 2.78 billion, the amount we use in this calculation.

[10] From: *Drug Pricing Investigation (Majority Staff Report),* U.S. House of Representatives, Committee on Oversight and Reform (2021). P.183
[11] Note: As highlighted earlier in this chapter, the alternative calculation variant (cost percentage of 40.7%) that we described in the first report for illustrative purposes has been abandoned here to avoid confusion. We use only the data provided by AbbVie itself for the purpose of research for the US Congress
[12] Public Health & Society Council, Opinion *Development of New Medicines - Better, Faster, Cheaper*, 2017.

New research is available since the last report. A study published in JAMA shows that the median cost of developing a biologic drug is EUR 2.8 billion, compared with EUR 2.0 billion for a molecular drug.[13] Additional, a survey by Deloitte shows that the average cost of developing a drug is EUR 1.97 billion.[14] These studies confirm the estimate given above.

The high sum that we attribute as total R&D costs also includes investments in further development, e.g., aimed at admitting new indications after the drug was already fully developed and admitted to the market. By calculating with the complete acquisition costs of Knoll (EUR 5.4 billion), we use a large margin in favour of AbbVie (almost twice the median estimates from research) for a robust estimate.

In short, we calculate an R&D investment of EUR 222 million (a calculation rate of 10.7% of total Dutch sales) in the Netherlands in the period 2003 to 2018. This is a large margin for a robust estimate.

Step 4. Surplus: Expected profit and other profit

The revenue after deducting costs and R&D investments is the surplus, or profit. The surplus can be divided into 'expected profit' and 'other profit'. Expected profit refers to a profit margin that can be expected with a drug like Humira and/or a company like AbbVie. As it is difficult to compare profit margins on a product (after all, this is often confidential company information), we look for sources that provide average profit margins for the industry as a whole. In the case of Humira, this is justified because in some years Humira accounted for almost two-thirds of AbbVie's total sales.[15]

We use several sources for this estimation to provide a robust estimate:

1) The article by Ledley et al. in JAMA[16] which examined the profits of (large) pharmaceutical companies between 2000 and 2018 and found a range of 13.8% - 7.7% net income margin and an EBITDA range of 29.4% - 19%. Incidentally, these averages are substantially higher than the averages of other large S&P500 companies (EBITDA averaging 19.0%)
2) A study by Gupta[17] giving a range of profits at pharmaceutical companies (not specifically differentiating innovative pharmacies) of 20 - 25%.
3) The European Commission's 'Aspen Report'[18] which compared major international generic drug manufacturers and found a median profit margin of 23%.
4) There are several sources for investors calculating average profit margins for industries. For example, CIS Markets finds a historical *EBITDA margin statistic* averaging 25.47% for the *biotechnology and parmaceutical industry*.[19]

[13] From: *Differential legal protections for biologics vs small-molecule drugs in the US.* JAMA (2024) https://doi.org/10.1001/jama.2024.12345
[14] From: *Measuring the return from pharmaceutical innovation 2024: A new era of opportunity*. Deloitte (2024) https://www2.deloitte.com/content/dam/Deloitte/us/Documents/life-sciences-health-care/us-rd-roi-15th-edition.pdf
[15] See: Statista AbbVie - Statistics & Facts
[16] From: *Profitability of large pharmaceutical companies compared with other large public companies,* JAMA (2020a).
[17] From: Donkey stretching, A study of profit, power and regulation in the Dutch healthcare sector, Gupta Strategists (2017).
[18] From: *Case AT.40393 - Aspen*, European Commission (2021).
[19] See, for example: https:(accessed April 22, 2025)

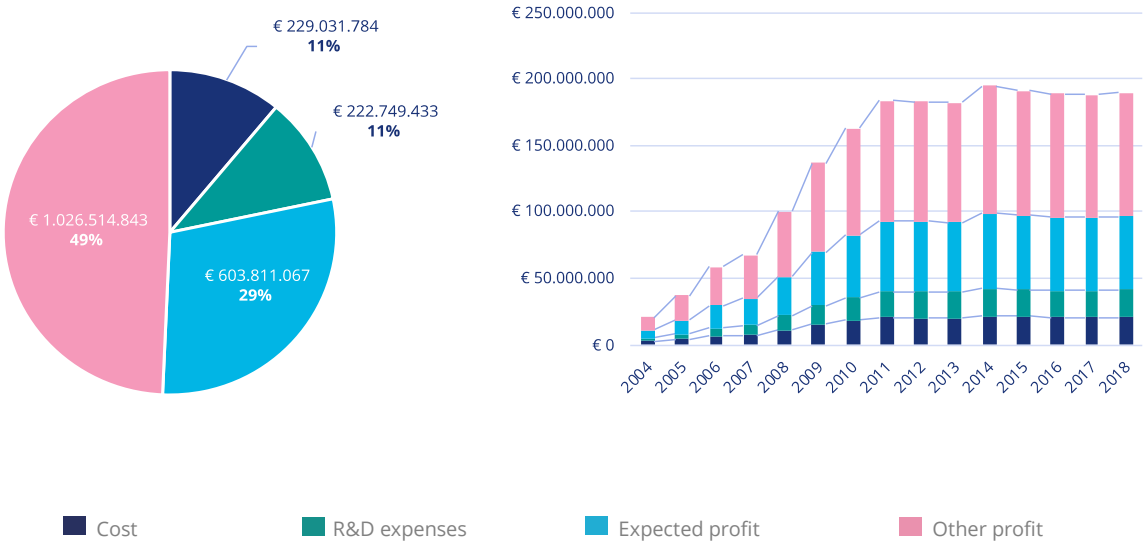
We have searched for objective, publicly available sources, based on research or broad, widely used inventories that provide guidance for determining reasonable or average profit margins of comparable companies. Profit margins above these are considered 'other profits'.

In the Statement of Defence, AbbVie correctly notes that Zorgvuldig Advies compares different measures of profitability. In the previous report, we used the net margin of 13%, whereas the comparison becomes more consistent by using the EBITDA percentage. In response to this observation, we have adjusted our calculation. Instead of using a 'high average' of 25% as 'expected profit' for innovative pharmaceutical companies, ***we use an EBITDA percentage of 29% for the calculations****, as reported in Ledley's article.[20] In doing so, we deliberately choose the highest value from all available sources, in favour of AbbVie. Using this percentage, the '****expected profit****' is* ***EUR 603 million****.*

*Based on this adjustment, total '****other profit' on Humira in the Netherlands for the period 2004-2018*** *comes* ***to approximately EUR 1.0 billion - corresponding to 49% of total Humira sales in the Netherlands***

Figure 4 : Diagram distribution of items for 2004 to 2018 after adjusting for sales and expected earnings.

Total sales: EUR 2,082,107,128



By comparison, in the original calculation the 'other profit' amounted to EUR 1.2 billion, or 53% of sales (seeAppendix 2: Previous estimates from Zorgvuldig Advies 2023 report.) This result shows that even after corrections based on criticisms raised by AbbVie, the 'other profit' still amounts to about half of sales.

In short, we adjust the expected profit margin[21] from 25% to 29%, bringing the 'expected profit' to EUR 603 million. On this basis, we calculate the 'other profit' for Humira in the Netherlands to be approximately EUR 1.0 billion over the period 2004 to 2018. This corresponds to 49% of total Dutch Humira sales in that period.

[20] From: *Profitability of large pharmaceutical companies compared with other large public companies,* JAMA (2020a).
[21] In this report, by 'profit margin' we basically refer to the standard measure EBITDA (*Earnings Before Interest, Taxes, Depreciation and Amortization*), unless otherwise stated. This choice works to AbbVie's advantage.

Leads to observation: displacement of care

The starting point is that the total budget for the legally insured basic healthcare expenditure in the Netherlands is *de facto* capped in various ways. Humira is a (cost-)effective therapy, so it is important that Dutch citizens have access to this drug. But the premise means that spending on 'other profits' for Humira could be seen as displacing care, because this spending could have been spent elsewhere - for example on equally desirable cost-effective care.

The displacement of care, defined as the 'other profit', with the recalculation as further explained, comes to EUR 1.0 billion (49% of Dutch sales). The displacement of care due to the 'other profit' can also be expressed in *Quality Adjusted Life Years* (QALYs). The report 'Verdringing binnen de ziekenhuizorg' (Care Institute, 2018)[22] calculated what we, as a society, are willing to pay for a year of life gained in good health for people with a high disease burden.

Considering the marginal cost-effectiveness of EUR 73,600 mentioned therein, the potentially displaced care due to the 'other profit' results in a ***loss of approximately 13,950 healthy life years (QALYs)****.*

Conclusion

If additional care had been effectively delivered with that money, 13,950 healthy life years were expected to have been 'gained'. While profit is necessary to stimulate innovation, our analysis shows that a total of nineteen[23] new drugs could have been developed with this 'other profit. In reality, six new drugs were introduced to the Dutch market during that period.

[22] Care Institute of the Netherlands. (2018, April 17). *Crowding within hospital care.* https://www.zorginstituutnederland.nl/publicaties/publicatie/2018/04/17/verdringing-binnen-de-ziekenhuiszorg

[23] This is based on the new calculations, in the previous report (Zorgvuldig Advies, 2023) the calculation came to 20 drugs

Summary table

The table below summarizes the key figures relevant in the client's case study.

Note: *Almost all amounts and other figures in this report are estimates. Because AbbVie does not publish all the figures, we rely on sources that are publicly available and make educated estimates based on them using a transparent methodology. This means that while we believe the figures give a good indication of the amounts quoted, the reader should not assume that they are accurate to the euro. Hence, we will round off amounts in the text to millions of euros or billions to one decimal place.*

Table1 : Summary table of key figures.

Estimates sales Humira	**Source/unit of measurement**	**Figures Netherlands** 2004 to 2018
Total sales Humira	SFK, GIP database; Annual reports AbbVie/Abbott including discounts estimated from expert interviews	€ 2.082.107.128
Cost	Evidence provided by AbbVie to US Congress as source: **11%** of sales	€ 229.031.784
R&D expenditures	Estimate based on AbbVie's exhibits to US Congress; R&D expenditures on Humira (extrapolated to Relevant Period and allocated to Dutch Humira sales) and acquisition costs Humira patent: **10.7%** of sales	€ 222.749.433
'Expected' profit	Calculation based on highest estimate from literature average profits innovative pharmaceutical producers: **29%** of sales	€ 603.811.067
'Other' profit	Other profit comes to **49.3%** of sales	€ 1.026.514.

2 Additional analyses

Further explanation of pricing and market behaviour

Zorgvuldig Advies spoke to several experts within healthcare procurement about the actual discounts that hospitals could negotiate. We spoke with four healthcare procurers from health insurance companies: two from one of the big four insurance companies, and two from a smaller health insurance company. These individuals were all active (in part) as healthcare procurers for specialist medical care, and/or inpatient drugs in the period 2012 - 2018.

In addition, we conducted interviews with two hospital pharmacists and a healthcare procurer at a top clinical hospital, all of whom focused on procurement of TNF-alpha inhibitors for (part of) the 2012 - 2018 period.

The interviews were recorded and transcribed to be used as background information for Zorgvuldig Advies and for the use of specific quotes in this report. The quotes were presented to and approved by the respective interviewees. Because some interviewees preferred not to have their name mentioned in this report, we have anonymized the quotes. We can share the names with the court only upon request.

In addition, we use the ACM report on TNF-alpha inhibitors as a source to estimate the discounts that hospitals were able to negotiate.[24]

Estimation of Humira discounts (2004 - 2018) and influencing factors

Between 2004 and 2012, Humira was dispensed through public pharmacies (outpatient). During this period there were (virtually) no discounts; manufacturers did not negotiate with pharmacies, which meant the full list price was paid, as health insurers state. From 2012, when Humira came to fall under hospital (inpatient) budgets, some space for price negotiations emerged.

In the first years after the transfer, discounts were were estimated to be 4% to 6%, based on the interviews, rising to an average of 8% to 10% in the period 2016 - 2017. This is consistent with the ACM's estimate, which cites discounts averaging from 5% to 10% from 2015.[25] In some cases, hospitals who purchased a high volume of TNF-alpha inhibitors and actively included Humira as a preferred drug in their formulary were able to agree on a discount of up to around 20% from 2017.

Several factors influenced the height of the discount. One important element was the preference policy, whereby Humira was positioned as the first-choice drug. The number of patients treated with Humira also played a role, as did the form of the contract. Multi-year contracts, for example, offered more space for price agreements. From 2017, as the end of the patent approached, discounts were offered more frequently to maintain market share. One condition for these discounts was that these contracts were longer-term to make sure hospitals would continue to purchase Humira at the agreed price even after the entry of significantly cheaper biosimilars. However, interviews with hospital pharmacists show that the maximum discount was realized only to a limited extent; the majority of hospitals had to settle for significantly lower discounts.

[24] ACM. (2018). *Competition in the TNF-alpha inhibitor market: biosimilars and barriers to entry*. Accessed from: https://www.acm.nl
[25] idem, p.24

You could get a little discount if you put your product as a first choice [...] Then maybe you could still do a little magic with the first choice

Hospital pharmacist hospital group

In 2012, the discount was 4% to 5%, later rising to 20% in 2017. But I had an exceptional contract, because we made really strict choices. That was kind of unique, I think. I think that between 2012 and 2018 you would end up with about 8% to 9%, with outliers up to 20% at hospitals that made firm choices.

Healthcare procurer top clinical hospital

I think we were initially at 0%, then for several years we were between 5 and 10%, and at about 20% toward the patent expiration. Until 2016, I got a discount of 3.5%. In 2017, I got a contract in which that was already increasing toward 20%.

Hospital pharmacist regional hospital

The maximum discount I saw did not exceed 10% compared to the list price [AIP]. We saw very clearly that that discount really did correlate with the increase in the volume of products.

Healthcare procurer health insurance company

These discounts were collected by the prescribing hospitals that agreed to them. So, AbbVie's sales revenue was reduced by these discounts. Since we have multiple sources that indicate that in the period 2012 to 2016 the rebates averaged between 4% and 6%, in the period 2016 - 2017 around 8% to 10%, and from 2017 onwards for some hospitals rising to 20%, we arrive at an estimate of an average discount over the period 2012 to 2018 of 7.5%. We subtract this average estimated discount from the sales made by AbbVie in that period (seeStep 1. Humira sales in the Netherlands).

Choice process and switching behaviour around Humira

The initial choice for a certain (originator) TNF-alpha inhibitor, such as Humira, Enbrel or Remicade, was based primarily on medical considerations. Factors such as method of administration, indication and effectiveness were ultimately decisive. Healthcare procurers at health insurance companies and hospital pharmacies mentioned that as a result of the different forms of administration there was some competition between subcutaneous drugs such as Humira and Enbrel, but not with intravenous drugs such as Remicade. The ACM also highlights the limited degree of therapeutic competition.[26] Hospitals' assortments generally included all of the listed agents and hospitals selected based on medically relevant considerations.

At the same time, hospitals were negotiating discounts with manufacturers in exchange for preferential positions within treatment policies. In that context, AbbVie tried to reach agreements whereby a significant proportion of new patients (say, 70%) would start on Humira.

Hospitals received hefty discounts only if they chose a drug as their preferred product. Pharmaceutical companies like AbbVie wanted at least 70% of new patients to start on their drug. We did try to play off parties, but that was very difficult. Because the populations for Enbrel and Humira were about the same size in most hospitals. Then you shoot yourself in the foot, because then you're not going to get a discount for all of the patients who were on the other drug [Enbrel]. Then maybe you could move around a bit with the preferred product in different indications, but you had to own both.

Healthcare procurer top clinical hospital

In terms of switching behaviour, switching to another drug did not occur in chronic patients who were well adjusted to a particular drug, but switching based on medically necessary care considerations did occur, for example in the case of antibody development. As a result, hospitals should have had and did always have stocks of both Humira and similar drugs. On the other hand, switching based on price was less common. Switching existing patients to biosimilars occurred only to a limited extent; physicians and professionals were often reluctant, in part because of concerns about efficacy and safety, which healthcare procurers said was fueled by communication from the manufacturer. If the decision for a drug other than Humira was made at all, it was done primarily for new patients and not for existing users.

What is always the discussion with biosimilars is that I think medical specialists are influenced by the pharmaceutical industry about drugs not being easily interchangeable. The execution of phase 4 studies was also really inhibited at that time. We found that the data we needed to be a part of the conversation as health insurers was lacking - and it was lacking on purpose.

[26] ACM (2018), p.26

Healthcare procurer health insurance company

Unrest was created even among hospitals and patients through media coverage on sudden price drops of Humira (80%), which led to patients wanting to switch back to the originator product.

Hospital pharmacist hospital group

The ACM confirms limited interchangeability and low price competition among TNF-alpha inhibitors:[27]

> *When adalimumab went off patent, four drugs approached the Dutch market, of which three actually end up entering the market, and prices fell significantly. Several market participants surveyed as part of the sector inquiry indicated that the form of administration (IV or subcutaneous) and the number of competitors entering the market, among other factors, helped determine how quickly and how much prices fell.*

Based on the interviews we conducted and the ACM report, we conclude that there was little competitive pressure. The low level of competition that did exist, did not stem from the prices charged, but rather from the form of administration and medical effectiveness of the drug chosen.

Budgetary effects of price changes

Until 2012, because of outpatient funding, there were no direct savings effects for health insurers. At the time, discounts landed with pharmacies. After the transfer to the inpatient domain in 2012, health insurers started working with integral financing agreements for hospitals. In hospitals that worked with post-calculation, the insurer reimbursed exactly the amount the hospital had paid. In other cases, with fixed rates, a lower purchasing price could have created space to fund other care.

Purchasers at health insurers mention that if Humira had been offered at a lower price at the time, this could have contributed to solve bottlenecks in the healthcare system, by facilitating broader care purchasing or shorter waiting times in other forms of care for example.

And if there wouldn't have been any [bottlenecks], you would have set a lower insurance premium. If there wouldn't have been any bottlenecks, there would been other societal benefits.

[27] ACM. (2018). *Competition in the TNF-alpha inhibitor market: biosimilars and barriers to entry*. Accessed at: https://www.acm.nl. p.25

Healthcare procurer health insurance company

Regarding this point, AbbVie argues that no displacement could have occurred because it concerns an add-on drug. To this, one of the interviewees said:

I think we have a societal goal together to keep healthcare both accessible and affordable, and both aspects were not optimal now. So, from a societal perspective, we shouldn't say that there is a baseline situation and anything that is a cent cheaper is better. No, we should look at what the social optimum could be. Otherwise, it means that we allow patients who use Humira a bigger slice of the pie than other patients, and I think that is ethically irresponsible.

Healthcare procurer health insurance company

This view is consistent with the NZa's position on expensive drugs and displacement of care.[28]

Behaviour in the market as a whole

AbbVie offered little discount until patent expiration. Only when the first biosimilars entered the market did an active pricing strategy become apparent. The company chose to maintain market share through long-term contracts and volume discounts - an approach that, incidentally, is similar to the behaviour of other pharmaceutical companies such as Pfizer or MSD, but, according to some health care purchasers, took a more 'aggressive' approach than other pharmaceutical companies. One hospital pharmacist in charge of healthcare purchasing for a large group of hospitals said the following about AbbVie's behaviour shortly before patent expiration:

I do think AbbVie is pretty rigid in that regard. There was considerable pressure. When, after patent expiration, the news came out that Humira had suddenly become much cheaper and an 80% discount was mentioned, they got a very interesting position. Patients also took to this, because they now had the perception that Humira was being offered for 20% less compared to before patent expiration. That did cause a big hassle for the acceptance of the biosimilar, despite the fact that we had already made a decision to deploy the biosimilars as much as possible. Not just then, but really up to a year after that.

Hospital pharmacist hospital group

A specific feature in the Humira's case was that there was no immediate follow-up product at patent expiration, which may have provided additional incentive to defend market position. In addition, healthcare procurers indicate that AbbVie tried to influence prescribers and professional associations, and that investment in studies on safely switching patients from Humira to biosimilars did not really gain

[28] NZa. (2025). *NZa response to request for position on expensive drugs and displacement of care*-20250416. Accessed at

momentum. There was relatively little investment in phase 4 studies that could substantiate this practice. The active and rational strategy adopted by several pharmaceutical companies during that period proved successful for a long time and dampened the decline in sales of the spécialités after patent expiration.

Overall assessment of Humira and AbbVie's pricing policy

Humira is widely recognized as a very effective drug and has had a great positive impact for many patients. At the same time, looking back, there has always been relatively widespread criticism from healthcare purchasers of the utilised pricing policy, according to the interviewees. They refer to the long retention of high prices, late introduction of price competition, influence on prescription behaviour and the limited scope for transparent market forces.

Although Humira, Enbrel, and Remicade technically fall within the same class of TNF-alpha inhibitors, we conclude, based on the interviews, price and market behaviour, and the ACM report, that there was little effective price competition among these drugs in the period before the patent ended. This is due to differences in form of administration (subcutaneous versus intravenous), indication breadth, and how physicians were accustomed to prescribing a particular drug.

As one healthcare pharmacist interviewed explains, the drugs were in a situation that can be characterized as an oligopoly: there was some choice, but because of guidelines, clinical preferences and limited interchangeability, it was not easy to switch between agents based on price. Other interviewees also emphasize that with existing patients, the decision to switch based on price was almost never made and that market relationships were determined more by early access, brand preference and physician behaviour than by competitive pressure on price.

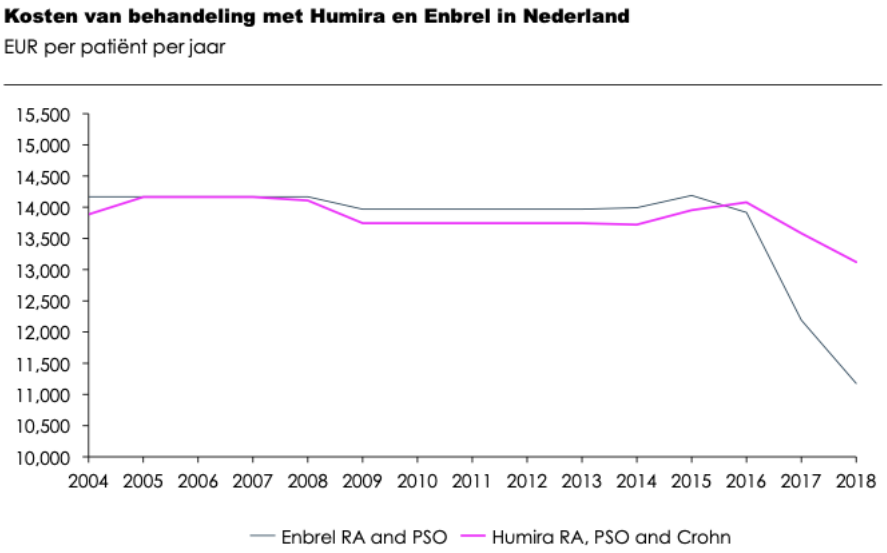
In addition, it is evident that pharmaceutical companies themselves had little incentive to compete in price as long as biosimilars were not available. Not only would lowering prices hurt margins in the specific patient group and barely increase market share, but margins in other indication areas and in reference countries would also be put under pressure. This interpretation was confirmed in interviews with healthcare purchasers and hospital pharmacists.

Several interviews indicate that societal benefits were missed due to the high price. After conducting interviews with the parties involved, we find that the originator drugs available at the time all had significant market power in the sense that the suppliers behaved independently of competitors, hospitals, patients and healthcare purchasers to a significant degree.

Price per patient per year of the drugs: Humira, Enbrel and Remicade

7.81 [...] Price changes implemented by its competitors thus directly affect the pricing that AbbVie applies.

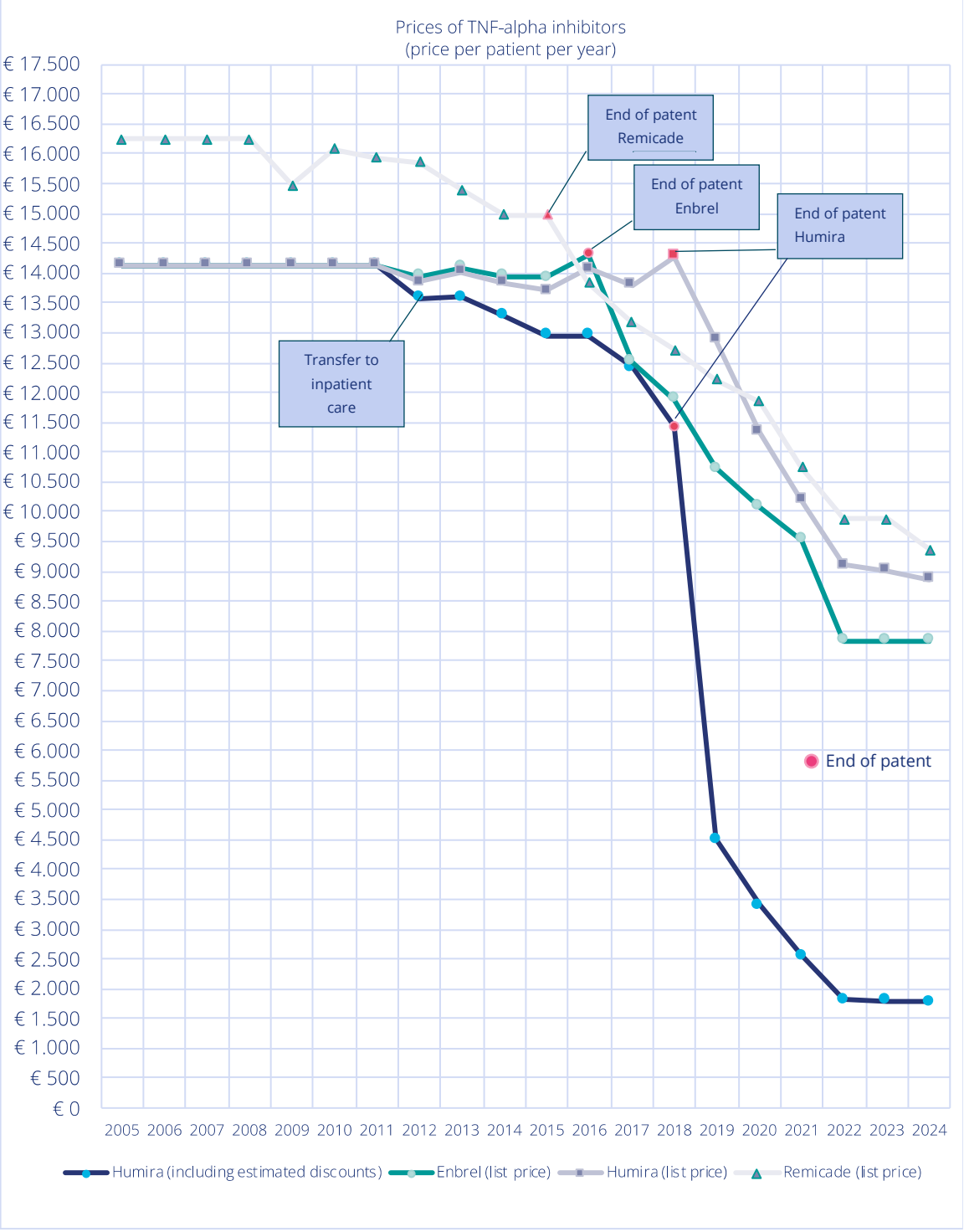
7.82 An illustrative example: in 2016, Pfizer lost exclusivity on Enbrel, a key competitor to Humira. This opened up the market for biosimilars, which, as is common in the pharmaceutical sector, led to a significant drop in the price of Enbrel. As a result of this price reduction, the net price of Humira that hospitals paid (i.e., not the AIP but the negotiated actual price) also fell. The Copenhagen Economics chart from the Price Report comparing treatment costs for Humira and Enbrel in the Netherlands shows this price trend:



While it is true that the price of Humira (with discounts) showed a decline after the loss of exclusivity from Enbrel in 2016, a closer analysis of price trends over a longer period suggests a somewhat more nuanced picture than Copenhagen Economics paints with the figure above, which could lead an inattentive reader down the wrong track. Below, we outline a graph with the same data, but now with full y-axis, a longer x-axis and a more complete picture of available drugs on the market. This provides more context and clarity[29]:

[29] Averaged over the years 2012 to 2018, the discount amounts to 7.5%. For the specific numbers and calculations behind the graph, seeAppendix 3: Calculations and data behind 'Price per patient per year of the drugs Humira, Enbrel and Remicade' .

Figure 5: Price per patient per year for the three drugs: Humira, Enbrel and Remicade. Drug prices are based on list price (AIP price), only for Humira are discounts included (dark blue)



Our analysis, which compares the annual treatment costs per patient for Remicade, Enbrel and Humira from 2005 through 2024 , shows that although the list price of Humira decreased briefly after Enbrel's patent expiration, it then returned to its original level, and was even higher than before (see Figure 5 and Table 3). Until 2015, when Remicade's patent expired, the (visible) prices of the three off-patent drugs showed little or no reaction to each other, a sign of well-understood strategic self-interest and lack of competition. It is only after the introduction of biosimilars that we see the prices drop, and even then, with some delays.

What is particularly relevant is how the price, including discounts, has developed. We see a decline from 2016 onwards, as also described in the previous chapter. In this context, the experts that were interviewed mainly indicated that the driving factor behind the higher discounts was the upcoming patent expiry and the resulting imminent market entry of biosimilars. The decline in sales seen from 2017 and beyond shows that serious competition on price did not occur until the introduction of biosimilars. Also, the latest NZa report on Humira sales also shows that the 'sales drop' after 2018 was somewhat muted, probably due to the multi-year contracts that were signed with hospitals starting in 2017. Discounts given for Enbrel and Remicade are not known to us, but it is certain that discounts were given in a similar pattern. We see that the visible and invisible (including discounts) price levels of the three drugs seem to react mainly to the imminent expiration of the patent, and much less to the price movements of the other originators. This is also because the actual prices actually paid often occur 'underwater'.

Attachments

Appendix 1: Table of the headings in Statement of Defence and current report

The table below lists the titles used for the headings from AbbVie's Statement of Defence in addition to the titles we use in the construction in this report.

	Titles AbbVie	Titles report Zorgvuldig Advies
a	Value-based pricing as opposed to cost-plus is the proper methodology for pricing an innovative drug	There is no uniform or generally acceptable methodology for setting the price of an innovative drug
b	Calculation of value of Humira based on principles of health economics supports pricing for Humira	Transparent justification of a price based on underlying costs, the reasonableness of a price and the relationship between price and profit play a role in the broader social debate.
c	Flaws in methodology for determining R&D costs involved: Zorgvuldig Advies fails to include all relevant R&D costs, including those of failed and future development projects	Zorgvuldig Advies based the R&D costs on data from the study in which AbbVie provided its own information on R&D expenditures for Humira.
d	Inadequate consideration of all R&D for Humira	Zorgvuldig Advies has adequately considered all R&D costs for Humira
e	Flaws in the calculations of Zorgvuldig Advies	Additional notes on the calculations of Zorgvuldig Advies

Appendix 2: Previous estimates from Zorgvuldig Advies 2023 report.

Below are the figures as estimated in the 2023 Zorgvuldig Advies report. The table shows the sources/measurement units used at the time.

Table 2 : Summary table of key figures from the Zorgvuldig Advies 2023 report.

Accumulation of Humira sales	**Source/unit of measurement**	**Figures Netherlands** 2004 to 2018
Total sales Humira	SFK, GIP database; Annual reports from AbbVie/Abbott including discounts estimated from expert interviews	€ 2.250.926.625, -
Cost	Evidence provided by AbbVie to the US Congress as source: **11%** of sales	€ 247.601.929, -
R&D expenditures	Estimate based on supporting documents AbbVie shared with the US Congress; R&D spending on Humira and cost Humira patent: **10.7%** of sales	€ 240.849.149, -
'Expected' profit	Calculation based on highest estimate from literature regarding average profits for innovative pharmaceutical producers: **25%** of sales	€ 562.731.656, -
'Other' profit	Other profit comes to **53,3%** of sales	€ 1.199.743.891, -

Appendix 3: Calculations and data behind 'Price per patient per year of the drugs Humira, Enbrel and Remicade'

Calculations

- For the calculations, we used the list prices (AIP) from the Z-index. We took the average of the AIP price per year for the drugs Humira, Enbrel and Remicade. This did not include possible discounts as we do not have this information.
- The price per patient was calculated based on the dosage per patient, as determined according ri the Pharmacotherapeutic Compass and the Pharmacotherapeutic Report of the Dutch Health Care Institute. We have retained the indication Rheumatoid Arthritis. This corresponds to the following dosages:
    - **Humira:** Dosage of 40 mg every two weeks
    - **Enbrel:** Dosage of 50 mg once a week
    - **Remicade**: Calculation based on a mean weight of 70 kg and a dose of 5 mg/kg body weight. During remission induction (first 6 weeks) the administration frequency is 2 times in 6 weeks, followed by maintenance treatment of 1 time in 8 weeks. These data were then used to calculate the price per patient per year
- Using the list price and dosage, the price per patient per year was calculated.
- For Humira, based on the information from the expert interviews, we also calculated the price per patient including estimated discounts. SeeEstimation of Humira discounts (2004 - 2018) and influencing factors for a detailed explanation.

Comparison with the calculations of the NZa

The NZa recently published a report showing the use of and expenditure on seven expensive drugs in hospital care in the Netherlands over the years, including adalimumab.[30] Although the results of NZa are different - since they have used other data sources (such as actual euros spent divided by the number of unique patients) to which we do not have access - the ratios between them and our findings remain similar. In addition, our analysis is mirrored to that of Copenhagen Economics. For the relevant years, our results closely match their findings for Humira and Enbrel.

[30] Dutch Healthcare Authority. (2025, April 10). *From patent to competition - Analysis of expenditure and use 7 expensive drugs in hospital treatment.* https://puc.overheid.nl/nza/doc/PUC_788427_22/1/:contentReference[oaicite:1]

The data behind the graphs

The numbers below represent those used to create the graphs related to the prices of TNF-alpha inhibitors (Figure 2 from the management summary and Figure 5 at the end of this report).

Table 3 : List price per patient per year, for the drugs Humira, Enbrel and Remicade. For Humira, we take the estimated discounts. Drug prices are based on the list price (AIP price).

Year	Price per patient per year Humira	Humira discounts*	Price Humira incl. estimated discounts	Price per patient per year Remicade	Price per patient per year Enbrel
2005	€ 14.125,28	0%	€ 14.125,28	€ 35.822,66	€ 14.130,22
2006	€ 14.125,28	0%	€ 14.125,28	€ 35.822,66	€ 14.130,22
2007	€ 14.125,28	0%	€ 14.125,28	€ 16.255,64	€ 14.130,22
2008	€ 14.125,28	0%	€ 14.125,28	€ 16.255,64	€ 14.130,22
2009	€ 14.125,28	0%	€ 14.125,28	€ 16.255,52	€ 14.130,22
2010	€ 14.125,28	0%	€ 14.125,28	€ 16.255,64	€ 14.130,22
2011	€ 14.125,28	0%	€ 14.125,28	€ 16.255,59	€ 14.130,22
2012	€ 13.855,66	2%	€ 13.578,55	€ 16.255,59	€ 13.945,49
2013	€ 14.021,80	3%	€ 13.601,15	€ 16.255,54	€ 14.089,27
2014	€ 13.830,96	4%	€ 13.277,72	€ 15.479,77	€ 13.940,16
2015	€ 13.707,20	6%	€ 12.953,30	€ 16.083,73	€ 13.930,80
2016	€ 14.074,19	8%	€ 12.948,25	€ 15.941,17	€ 14.315,08
2017	€ 13.794,17	10%	€ 12.414,75	€ 15.870,12	€ 12.509,64
2018	€ 14.282,91	20%	€ 11.426,33	€ 15.397,17	€ 11.887,72
2019	€ 12.876,85	65%	€ 4.506,90	€ 14.979,17	€ 10.726,82
2020	€ 11.326,34	70%	€ 3.397,90	€ 14.973,30	€ 10.077,99
2021	€ 10.193,64	75%	€ 2.548,41	€ 13.842,13	€ 9.535,24
2022	€ 9.100,21	80%	€ 1.820,04	€ 13.173,61	€ 7.839,52
2023	€ 9.011,13	80%	€ 1.802,23	€ 12.718,96	€ 7.839,52
2024	€ 8.867,92	80%	€ 1.773,58	€ 12.220,58	€ 7.839,52

* Discounts are estimated by Zorgvuldig Advies based on described sources. Over the years 2012 to 2016, the discounts average 4% - 6%, in the period 2016 - 2017 around 8% -10%. For the period 2012 to 2018 we estimate a discount of 7.5%.[31] From 2017 on, the discounts reached to 20% for some hospitals but with possible price agreements for three years. After the entry of biosimilars starting in 2018, discounts went up to 80% of the list price. Because the multi-year contracts caused a gradual decline in sales, which we also see in the NZa[32] figures on spending on Humira in that period, we let the discounts increase in steps in the years after 2018. The estimated revenue in that period is thus consistent with the information from the interviews and the figures from the NZa memorandum.

[31] SeeFurther explanation of pricing and market behaviour for the explanation behind the percentages.
[32] NZa. (2025). *NZa response to request for position on expensive drugs and displacement of care*-20250416.

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Colophon

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