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A Systemic Analysis of the Treatment of Patients with Retinal Diseases— AMD and DME—in Poland

ORGANIZATION AND OPERATION OF THE SYSTEM

COST OF ILLNESS

CHALLENGES AND PROPOSED CHANGES



April 2026

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Publisher:

Public Health Foundation
[Fundacja Zdrowia Publicznego]

Report partner:

Roche Poland

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Wstęp 5

Obraz choroby (AMD i DME) 6

SCIENTIFIC PATRONAGE Wpływ AMD i DME na jakość życia pacjentów..... 7 AUTHOR TEAM REPORT PARTNER

Leczenie AMD i DME w Europie..... 9



Realizacja leczenia AMD i DME w Polsce 11

Podstawowa opieka zdrowotna (POZ)..... 13

Ambulatoryjna opieka specjalistyczna (AOS)..... 14

Leczenie szpitalne..... 15

Programy lekowe..... 16

Rehabilitacja lecznicza 26

Wyniki badania ankietowego 28

Organizacja wizyt w ośrodku 30

Aktywność zawodowa chorych 31

Wpływ nAMD/DME na życie codziennie pacjentów i ich rodzin 33



Retina AMD Polska we wynikające z AMD/DME..... 35

Koszty AMD i DME w 2024 roku 38

Koszty bezpośrednie NFZ..... 38

Koszty bezpośrednie pacjentów 39

Koszty pośrednie AMD i DME 40



FEDERACJA PRZEDSIĘBIORCÓW MD i DME..... 51

Transfer środków społecznych..... 51

Model opieki nad pacjentem z AMD/DME 53

Obecna sytuacja dotycząca leczenia AMD i DME w Polsce..... 53

Opracowany model 54

Prognozowane korzyści z zastosowania modelu..... 55

Komentarze przedstawicieli środowiska medycznego 57

Komentarz przedstawicieli środowiska Pacjentów 65

Ocena społeczno-ekonomicznego wpływu zastosowania innowacyjnych terapii 67

Bibliografia 74

Spis wykresów i rysunków 78



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POLSKIE STOWARZYSZENIE DIABETYKÓW



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TABLE OF CONTENTS

Introduction	5
Clinical Presentation (AMD and DME).....	6
The impact of AMD and DME on Patients' Quality of Life	7
Treatment of AMD and DME in Europe	9
Treatment of AMD and DME in Poland	11
Primary Health Care (POZ).....	13
Outpatient Specialist Care (AOS)	14
Inpatient Treatment.....	15
Drug Programs	16
Medical Rehabilitation.....	26
Survey Results	28
Scheduling Visits to the Center	30
Patients' Employment Status.....	31
The impact of nAMD/DME on the daily lives of patients and their families.....	33
The financial burden associated with nAMD/DME.....	35
AMD AND DME COSTS IN 2024	38
Direct costs of the NFZ.....	38
Patients' direct costs.....	39
Indirect costs of AMD and DME.....	40
Summary of AMD and DME costs.....	50
Transfer of Social Funds	51
A Model for the Care of Patients with AMD/DME	53
The Current Situation Regarding the Treatment of AMD and DME in Poland	53
The developed model	54
Expected benefits of using the model	55
Comments from representatives of the medical community (in alphabetical order)	57
Commentary from patient advocacy groups	65
References	74
List of charts and figures.....	78

INTRODUCTION

Retinal diseases are a major health problem worldwide, as they lead to significant vision loss and, in advanced stages, can even result in irreversible blindness^{1,2}. Serious, common retinal diseases—particularly in developed countries—include age-related macular degeneration (AMD) and diabetic macular edema (DME)³. Both of these conditions are associated with a serious risk of deterioration in patients' vision and pose a significant therapeutic challenge in modern ophthalmology.

Retinal diseases affect a large number of patients. In 2024, the number of people treated under the National Health Fund (Narodowy Fundusz Zdrowia, NFZ) with a diagnosis of AMD or DME was 339 thousand⁴. Such a large patient population, combined with such serious health consequences (possible partial or total loss of vision), highlights the need for effective treatment to mitigate the social impact of AMD and DME.

An important component of the treatment of retinal diseases is the B.70 drug program (B.70 DP), which enables the treatment of patients with neovascular AMD and those with DME. This program is the largest drug program in Poland in terms of the number of patients treated. According to data from the System and Implementation Analysis Database (BASiW), patients treated under B.70 DP accounted for 20% of patients treated under all 127 drug programs in 2024⁵.

Ensuring effective treatment—especially under the B.70 drug program—for such a large population of patients with retinal diseases may pose a serious challenge for the Polish healthcare system.

CLINICAL PRESENTATION (AMD AND DME)

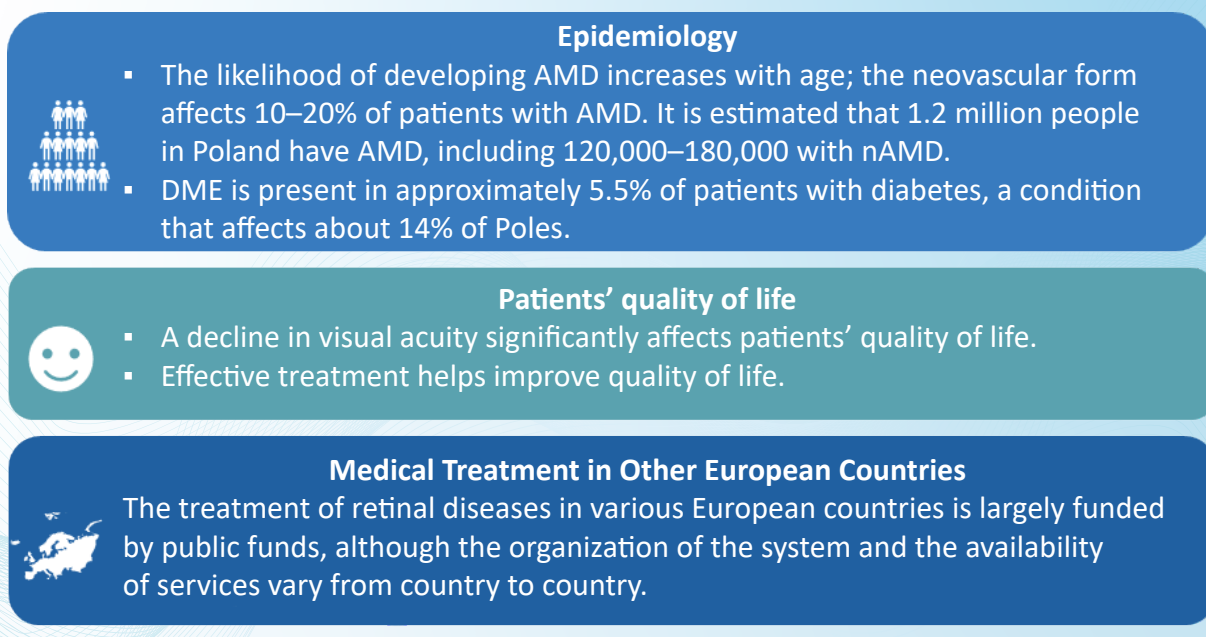


Figure 1. Summary: Clinical Presentation (AMD and DME)

Age-related macular degeneration (AMD) is closely linked to age: it is estimated to affect approximately 12% of people aged 60, 18% of people in their 70s, and as many as 32–42% of people in their 80s⁶. Most often, the disease takes the form of the so-called “dry” type, characterized by the gradual accumulation of deposits beneath the retina and the death of retinal pigment epithelial cells and photoreceptors. This process leads to a gradual decline in vision⁷. The “wet” form of the disease, known as exudative age-related macular degeneration (nAMD), which is less common (about 10–20% of all AMD cases), has a much more dynamic course. In this condition, abnormal, leaky blood vessels form in the eye, from which proteins, fluids, and blood leak out. Accumulated fluid leaks cause swelling, hemorrhages, and scarring within the macula. Without appropriate intervention, the patient may experience rapid, and sometimes even sudden, vision loss⁸. The wet form leads to rapid vision loss and accounts for up to 90% of cases of vision loss resulting from macular degeneration⁹. Unlike the dry form, the wet form can be effectively treated to inhibit pathological angiogenesis using innovative intravitreal therapies, such as vascular endothelial growth factor (VEGF) inhibitors¹⁰.

It is estimated that approximately 1.2 million people in Poland currently have AMD, and about 100,000 new patients are diagnosed each year. The exudative form of AMD affects approximately 10–15% of all patients, which means that currently, about 120,000–180,000 people in Poland have nAMD¹¹. According to experts, the annual number of new cases of exudative AMD in Poland is approximately 10,000–15,000¹².

Diabetic macular edema (DME) is the most common cause of significant visual impairment in patients with diabetes¹³. Here, macular edema, as in nAMD, is also a consequence of increased permeability, occlusion, and damage to the retinal capillaries caused by excessive VEGF expression. However, the underlying cause of the anomaly is not advanced age, but hyperglycemia, which impairs the permeability and elasticity of the vascular membrane¹³. According to the latest estimates, DME affects approximately 5.5% of people with diabetes¹⁴. Given that chronic hyperglycemia may affect as many as approximately 14% of Poles (8–9% of the population has already been diagnosed with diabetes, and another few percent are unaware of their condition), the number of people at risk of vision loss due to DME in Poland is alarming¹⁵.

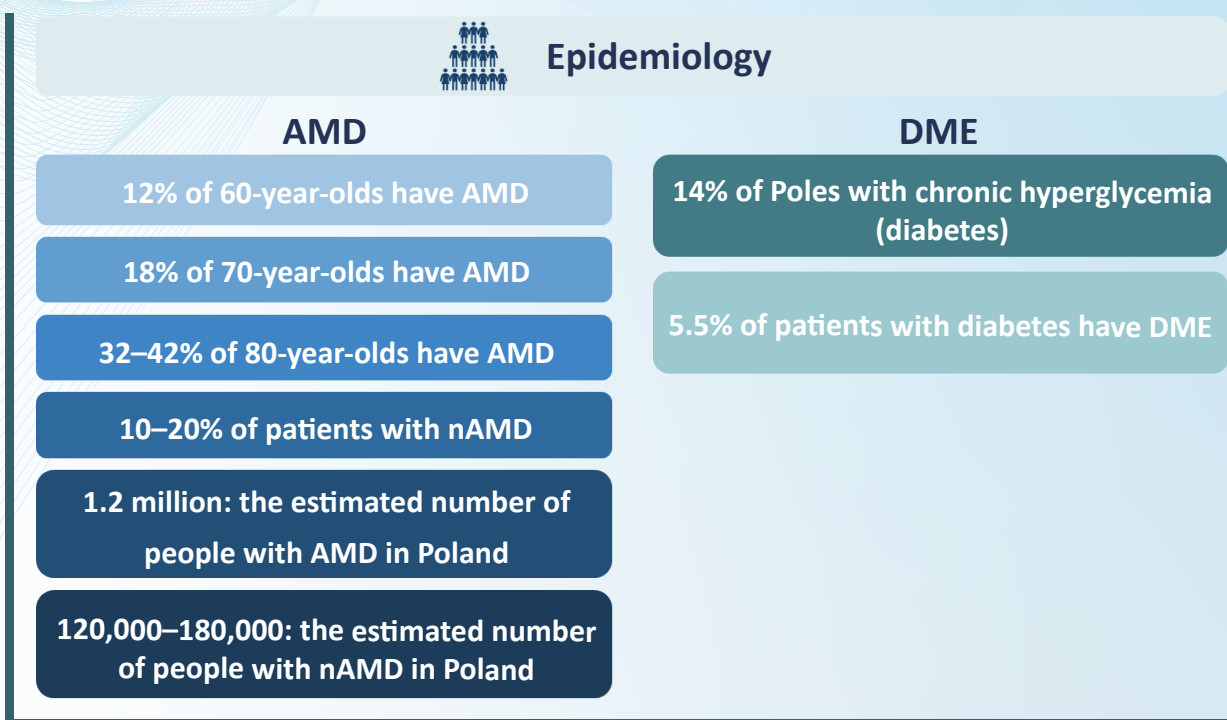


Figure 2. Epidemiology of AMD and DME

The impact of AMD and DME on Patients' Quality of Life

Retinal diseases significantly reduce quality of life. They impair vision, which is essential for performing everyday activities such as reading, recognizing faces, and getting around. Vision problems limit independence, which contributes to feelings of helplessness and frustration, often leading to social isolation¹⁶.

A study conducted among 92 patients with nAMD (mean age 78 years) showed that poorer visual function was associated with a lower quality of life and greater limitations in daily functioning.

The use of the standardized NEI VFQ-25 questionnaire, developed by the National Eye Institute and designed specifically to assess vision-related quality of life, revealed that factors such as lower visual acuity, slower reading speed, and reduced contrast sensitivity contribute to an increase in the number of days on which patients reported significant difficulties in their daily functioning¹⁷. These parameters were also associated with lower quality of life scores on the NEI VFQ-25 questionnaire.

Retinal diseases not only cause physical limitations but also significantly impair patients' mental well-being. This was confirmed by the results of a study published in 2024, which showed that patients with limited independence due to impaired near vision are significantly more likely to exhibit signs of depression. As many as 85 of the 143 patients with AMD (59% of patients) scored high enough on the NEI VFQ-25 questionnaire to meet the criteria for a diagnosis of depression, and the poorer a patient's visual acuity, the greater the likelihood of mood disorders¹⁶.

A prospective cohort study conducted in Finland, which examined the impact of intravitreal injections on the quality of life of 95 geriatric patients with nAMD, demonstrated that patients' psychological well-being improves when the treatment proves effective¹⁸. A similar study conducted on a population of 576 patients in Japan yielded comparable results: a significant improvement in vision-related quality of life after 12 months of treatment correlated with an improvement in visual acuity¹⁹.

Diabetic macular edema is also associated with a significant reduction in patients' quality of life, as confirmed by a large cross-sectional study (involving nearly 1,700 patients) of people with type 2 diabetes conducted in China. Individuals with DME showed a decrease in their NEI VFQ-25 questionnaire scores, and this decrease was greater the more advanced the disease was: in cases of severe, bilateral DME, the questionnaire score dropped as low as 82.7, while in individuals without complications, it averaged 92.0²⁰.

In summarizing the assessment of the impact of retinal diseases on patients' lives, it should be emphasized that, in addition to the practical aspect (i.e., difficulties in physical functioning following vision loss), the psychological aspect of the disease is equally important for patients with AMD and DME. A decline in quality of life, leading to emotional problems, including depression, is an inherent consequence of the ophthalmic disorders in question, and every effort must be made to provide adequate support to those at risk of vision loss, including innovative therapies that halt or delay the progression of the disease.

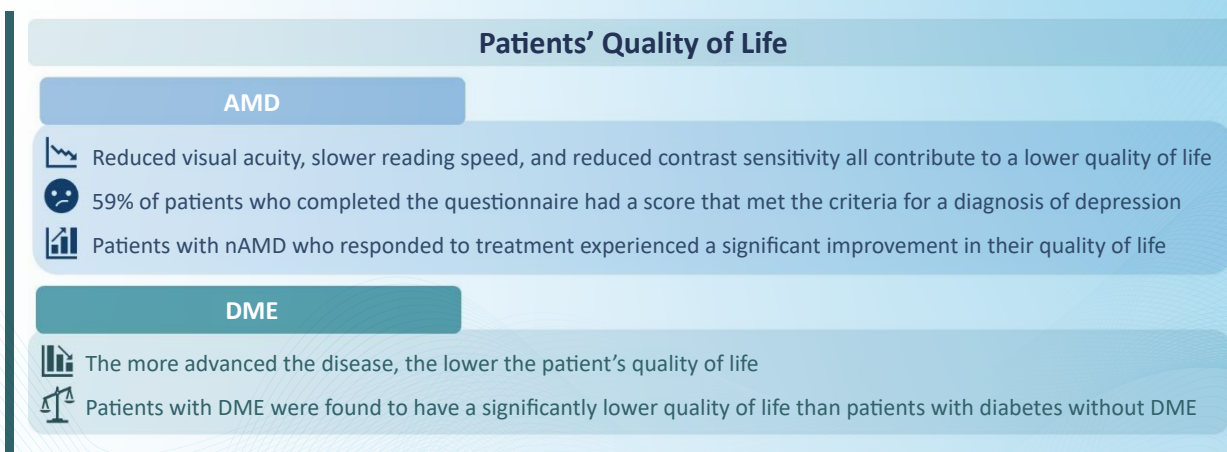


Figure 3. Quality of life for patients with AMD or DME

Treatment of AMD and DME in Europe

The treatment of retinal diseases in various European countries is largely funded by public funds, although the organization of the system and the availability of services vary from country to country.

In the United Kingdom, the burden of eye diseases is increasing, partly due to the aging population (19% of the population there is over 65 years of age). Although treatments and procedures, such as cataract surgery and anti-VEGF injections, are fully funded by public funds, access to preventive and ophthalmic services outside Scotland is partially fee-based, which may limit the early detection of diseases. One of the key challenges is the increase in the prevalence of late-stage AMD, which is projected to continue rising in the coming years. Currently, approximately 640,000 people in this country are living with late-stage AMD, making it the third leading cause of preventable vision loss, after cataracts and glaucoma²¹.

In Italy, where the age structure is even more skewed toward older people (23.6% of the population is over 65), the burden of eye diseases is steadily increasing. Although access to services and the quality of care in ophthalmology vary by region, treatments and procedures—such as eye surgery and anti-VEGF injections—are fully covered by public funds in each region. In 2019, approximately 160,000 patients began treatment with VEGF inhibitors nationwide. The treatment is effective enough to result in a decrease in the prevalence of visual impairment among Italian seniors after adjustment for age²¹.

Sweden (where 20% of the population is over 65) provides broad access to publicly funded ophthalmological services, although patients are responsible for a small out-of-pocket cost until they exceed the copayment thresholds (for intravitreal injections, the threshold is

SEK 1,200, or approximately USD 138). In 2020, more than 92,000 anti-VEGF injections were administered there to treat exudative AMD. It is estimated that by 2040, the number of people with late-stage AMD in Sweden will increase by 75%²¹.

In Denmark, systematic ophthalmic monitoring of patients with diabetes is conducted, allowing for the early detection of DME. Anti-VEGF injections are fully covered; about half of patients remain on the treatment for at least two years^{22,23}.

A common feature of these systems is the widespread coverage of costly retinal treatments, alongside challenges related to aging populations and the growing demand for treatment.

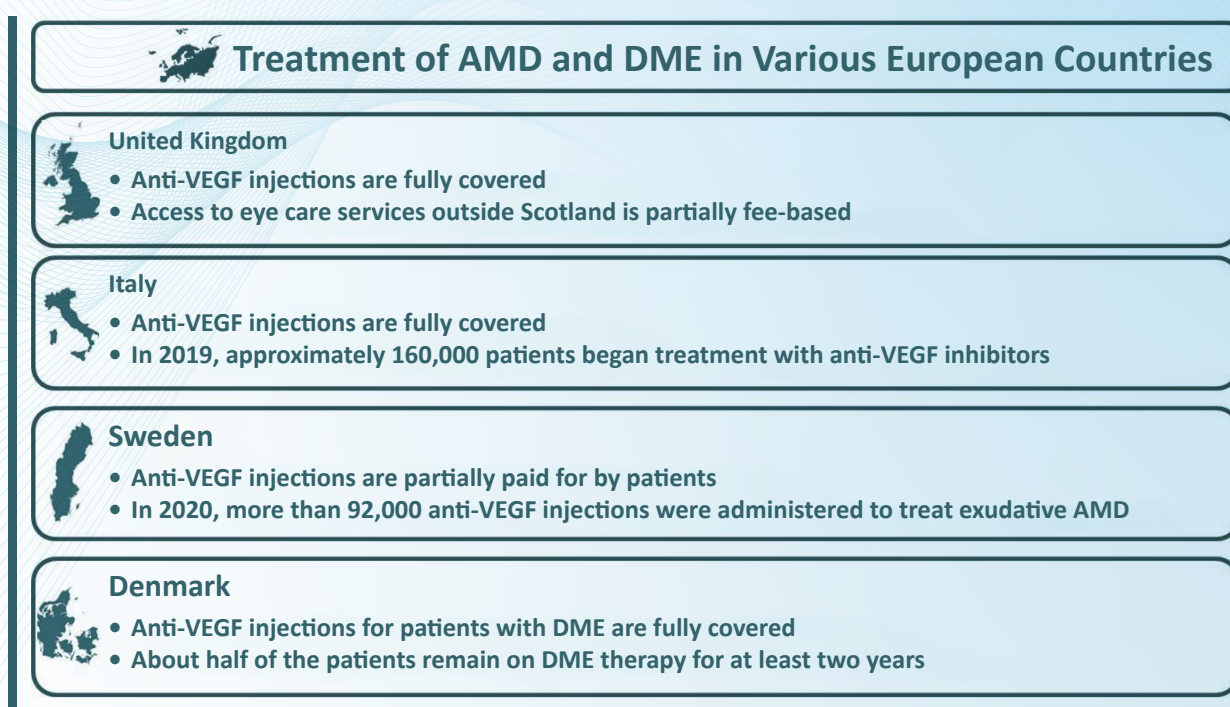


Figure 4. Examples of AMD and DME Treatment in Various European Countries

TREATMENT OF AMD AND DME IN POLAND

Treatment of AMD and DME in Poland, 2019–2024

↑ 49% - increase in the total patient population (from 228,000 to 339,000)

AOS

↑ 44% - increase in the patient population (from 204,000 to 294,000)
 ↑ 10% - increase in the number of healthcare providers (from 1,270 to 1,400)
 ↑ 131% - increase in the caseload of healthcare providers (from 161 to 211 patients)
 ↑ 208% - increase in the value of reimbursements (from PLN 56 million to PLN 174 million)

Inpatient treatment (excluding drug programs)

↑ 82% - increase in the patient population (from 13,400 to 24,300)
 ↑ 24% - increase in the number of healthcare providers (from 177 to 220)
 ↑ 46% - increase in the caseload of healthcare providers (from 75 to 111 patients)
 ↑ 138% - increase in the value of reimbursements (from PLN 36 million to PLN 85 million)

Drug Programs (B.70 and B.120)

↑ 119% - increase in the patient population (from 27,000 to 59,300)
 ↑ 24% - increase in the number of healthcare providers (from 170 to 210)
 ↑ 178% - increase in the caseload of healthcare providers (from 159 to 282 patients)
 ↑ 173% - increase in the value of reimbursements (from PLN 193 million to PLN 527 million)

Rehabilitation

↑ 91% - increase in the patient population (from 179 to 341)
 ↓ -7% - decrease in the number of healthcare providers (from 14 to 13)
 ↑ 100% - increase in the caseload of healthcare providers (from 13 to 26 patients)
 ↑ 113% - increase in the value of reimbursements (from PLN 113,000 to PLN 241,000)

Figure 5. Summary: Treatment of AMD and DME in Poland

Treatment for AMD and DME in Poland is provided as part of:

- Primary Health Care (POZ);
- Outpatient Specialist Care (AOS);
- Inpatient treatment (including under drug programs);
- Therapeutic rehabilitation.

According to NFZ data, the number of patients with AMD (ICD-10: H35.3) in 2024 in Poland, who were reported to have received at least one service covered by the NFZ, was 289,107.

Patients with this diagnosis accounted for more than half (53%) of the population with the broader diagnosis of “Other retinal disorders” (ICD-10: H35)^{4,24}.

Due to the nature of reporting disease diagnoses to the NFZ (according to the ICD-10 classification, extended to three or five characters), there are no data on the number of patients treated under the NFZ with a diagnosis of exudative AMD alone (ICD-10: H35.31). Data on the nAMD population are available only for patients treated under the B.70 drug program and are presented in the “Drug Programs” subsection. In the remainder of this chapter, the data presented refer to the entire population of patients with AMD (both forms of the disease—dry and wet AMD), with the sole exception of data regarding the drug program (patients with nAMD).

The population of patients treated for DME (ICD-10: H36.0) in 2024 in Poland was 50,035 according to the NFZ. Patients with this diagnosis accounted for 57% of the patient population with the broader diagnosis of “Retinal disorders in diseases classified elsewhere” (ICD-10: H36)^{4,24}.

The total population of patients with AMD and DME in Poland in 2024 was over 339,000. Compared to 2019, the number of patients with these diseases in Poland increased by as much as 49%^{4,24}.

Number of patients treated for a given diagnosis

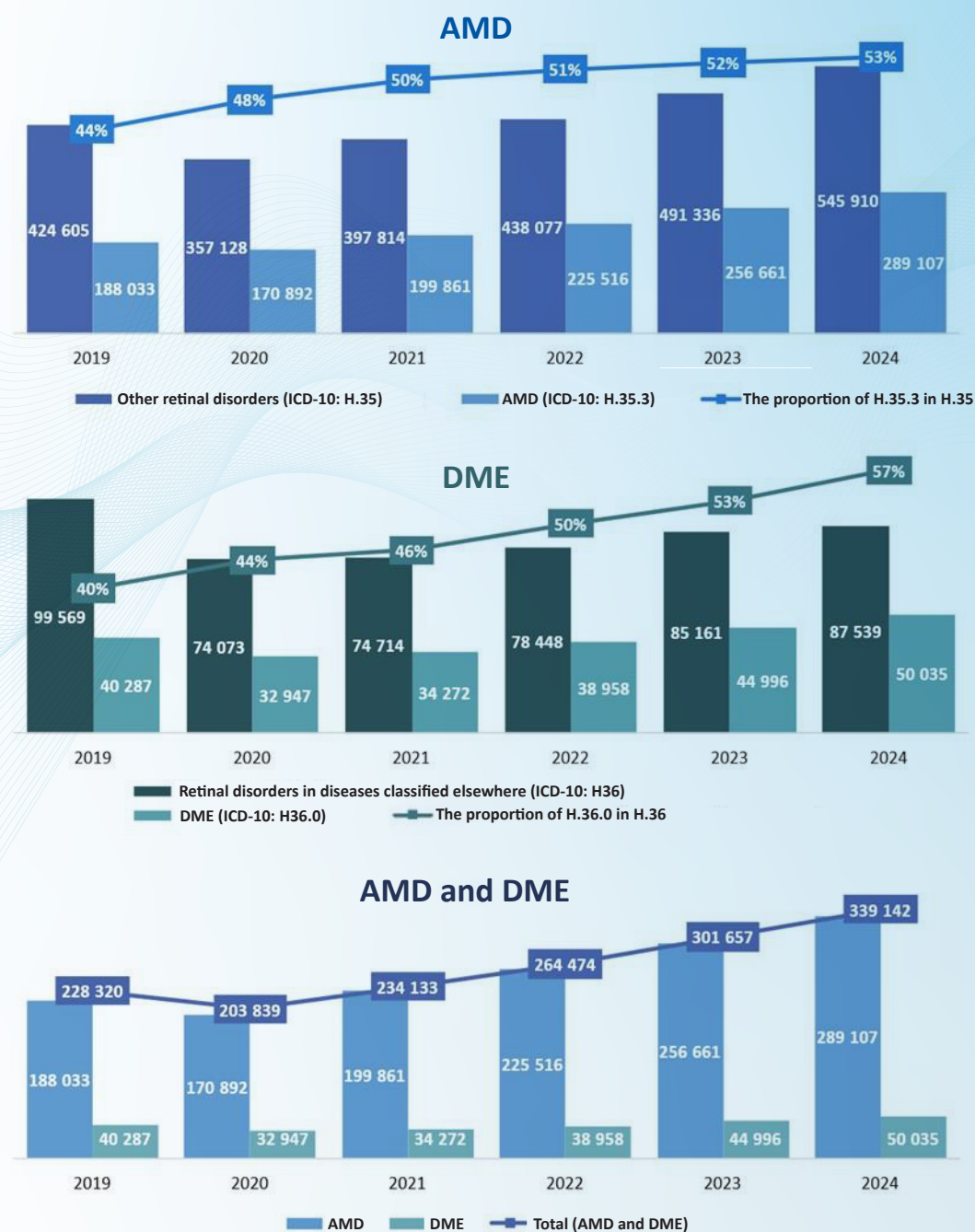


Chart 1. Number of patients treated for a given diagnosis from 2019 to 2024, according to NFZ data

Primary Health Care (POZ)

The main goal of primary care for AMD and DME is early diagnosis of the disease. According to Professor Robert Rejdak, patients themselves often wait too long before seeing an ophthalmologist about their symptoms. The professor noted that Poles also do not typically

¹Prof. Robert Rejdak, M.D., Ph.D. – ophthalmologist, head of the General Ophthalmology Clinic at the University Clinical Hospital No. 1 in Lublin

have their eyes screened for macular diseases. Early diagnosis of the disease and the implementation of effective treatment are crucial for halting its progression²⁵.

Outpatient Specialist Care (AOS)

As part of Outpatient Specialist Care (AOS), patients with AMD and DME are provided with access to specialists (ophthalmologists) and specialized diagnostic tests such as optical coherence tomography (OCT) or fluorescein angiography.

According to data provided by the NFZ, the number of patients diagnosed with AMD or DME has increased in recent years. In 2019, approximately 204,000 patients with these diagnoses were treated under the AOS program, and in 2024, that number rose to over 294,000 patients, representing a 44% increase in the number of patients. A much smaller increase was recorded in the number of healthcare providers. In 2019, treatment for AMD and DME under the AOS was provided by 1,272 healthcare providers, and by 2024, that number had increased by only 10% to 1,395 healthcare providers²⁶.

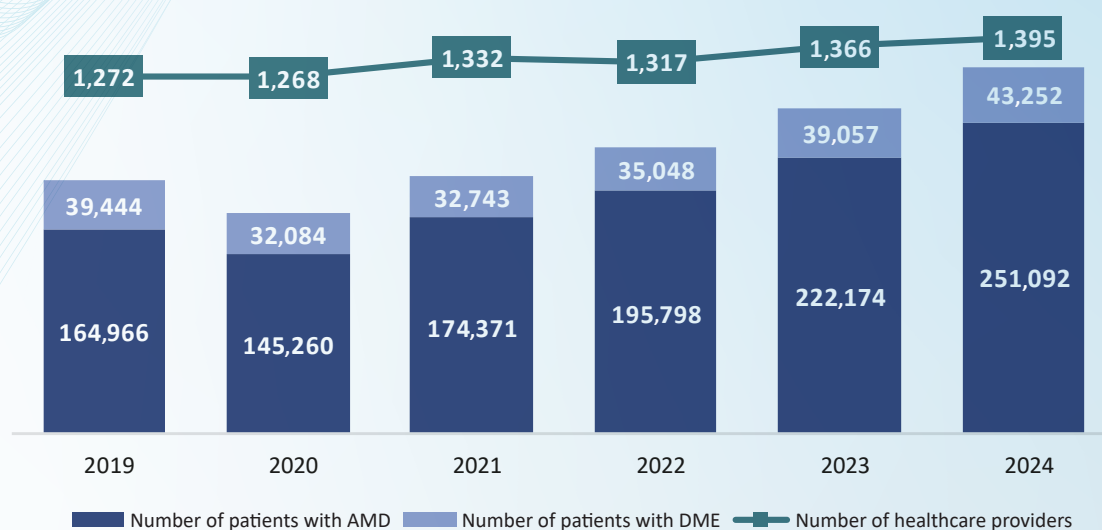


Chart 2. Number of healthcare providers and patients treated under the AOS program with a diagnosis of AMD and DME from 2019 to 2024, according to data provided by the NFZ

An increase was also recorded in the value of reimbursements for services provided to patients with AMD and DME under the AOS. In 2019, the value of reimbursements was over PLN 56 million, and by 2024, it had more than tripled to PLN 174 million. The observed increase is not solely due to the rise in the number of patients during those years, but also to a more than twofold increase in the average reimbursement amount per patient (from PLN 276 in 2019 to PLN 590 in 2024)²⁶. In addition, as of July 2021, the NFZ lifted the limits on access to specialists under the AOS program, which, of course, also contributed to an increase in demand for this category of services.

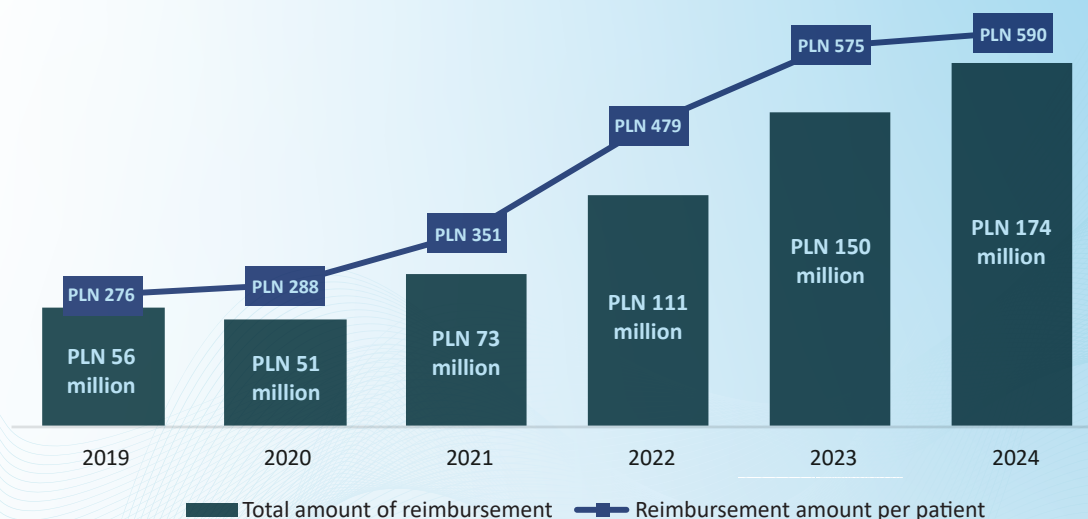


Chart 3. Total reimbursement amount and average reimbursement per patient for services provided under the AOS to patients diagnosed with AMD and DME from 2019 to 2024, according to data provided by the NFZ

Inpatient Treatment

The “inpatient treatment outside the drug program” benefit covers patients with dry AMD and patients with exudative AMD who do not meet the eligibility criteria for the drug program or who have been excluded from it.

Data provided by the NFZ show that the number of patients receiving inpatient care outside the drug reimbursement program has nearly doubled in recent years. In 2019, approximately 13,000 patients with these diagnoses were treated, and by 2024, that number had risen to over 24,000 patients. During those years, the number of healthcare providers offering inpatient care outside the drug program increased by 24% (from 177 facilities in 2019 to 220 facilities in 2024)²⁶.

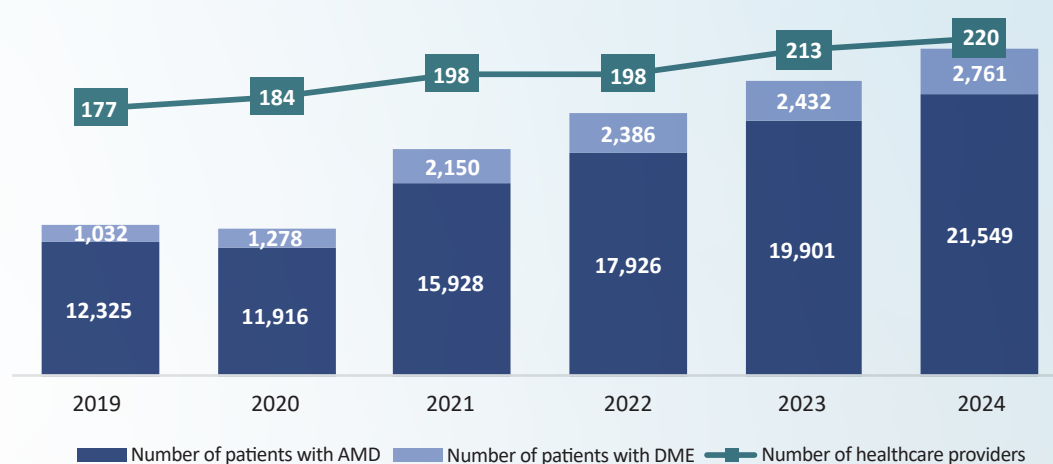


Chart 4. Number of healthcare providers and patients treated as inpatients outside the drug reimbursement program with a diagnosis of AMD and DME from 2019 to 2024, according to data provided by the NFZ

An increase was also observed in the value of reimbursements for services provided to patients with AMD and DME as part of inpatient treatment outside the drug program between 2019 and 2024. In 2019, the total value of reimbursements was nearly PLN 36 million, and by 2024, that figure had more than doubled to over PLN 85 million. The average reimbursement per patient for services provided as part of inpatient care outside the drug program increased by more than 30% (from PLN 2,700 in 2019 to PLN 3,500 in 2024)²⁶.

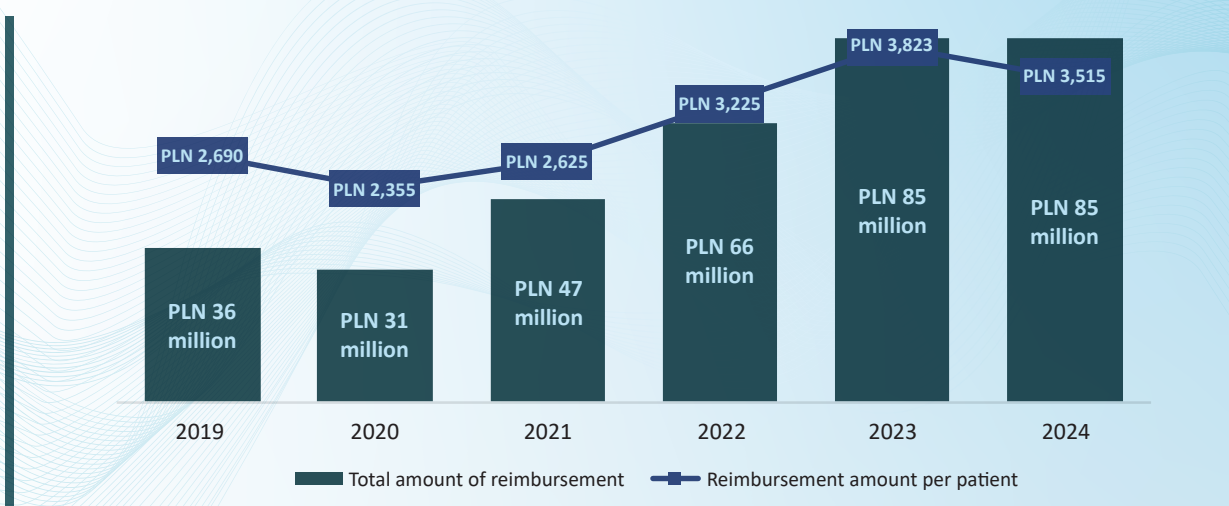


Chart 5. Total reimbursement amount and average reimbursement per patient for services provided as part of inpatient care outside the drug program to patients diagnosed with AMD and DME in 2019–2024, according to data provided by the NFZ

Drug Programs

On May 1, 2015, the B.70 drug program Treatment of the neovascular (exudative) form of age-related macular degeneration (AMD) (ICD-10: H35.3) was introduced²⁷. However, treatment of patients with DME under the drug program has been available since July 1, 2021, initially under drug program B.120 Treatment of diabetic macular edema (DME) (ICD-10: H36.0)²⁸. As of July 1, 2022, the two programs were merged into a single drug program B.70 Treatment of patients with retinal diseases (ICD-10: H35.3, H36.0)²⁹.

According to the program's provisions, the patient population with AMD treated under B.70 DP includes only patients with the neovascular (exudative) form of age-related macular degeneration (nAMD)³⁰.

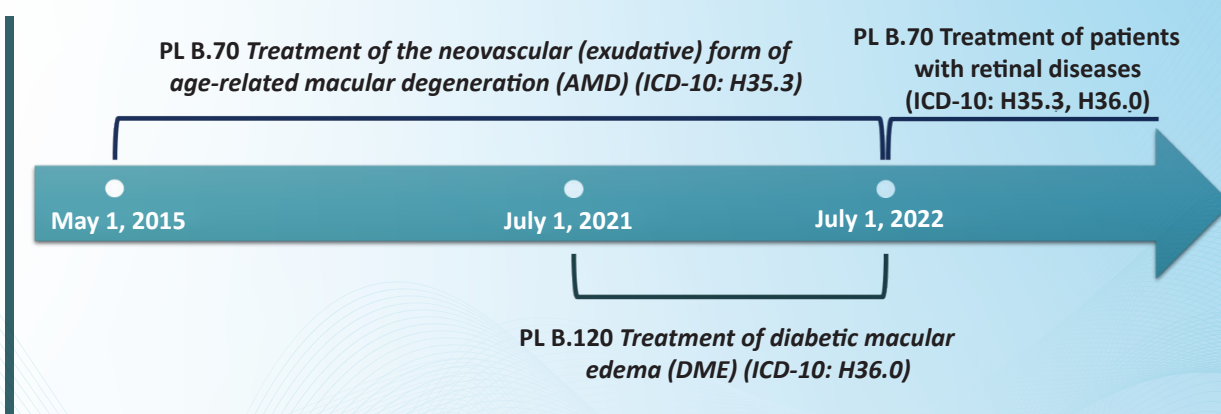


Figure 6. Timeline of the B.70 and B.120 Drug Programs

Since the B.120 program ran for only one year (from July 2021 to June 2022), the data for both programs (B.70 and B.120) were analyzed together in the report.

Between 2019 and 2024, the number of patients with retinal diseases enrolled in the drug programs more than doubled (from 27,000 to 59,200). During these years, there has also been an increase in the number of healthcare providers treating patients with retinal diseases under drug programs (from 170 centers in 2019 to 210 centers in 2024)²⁶.

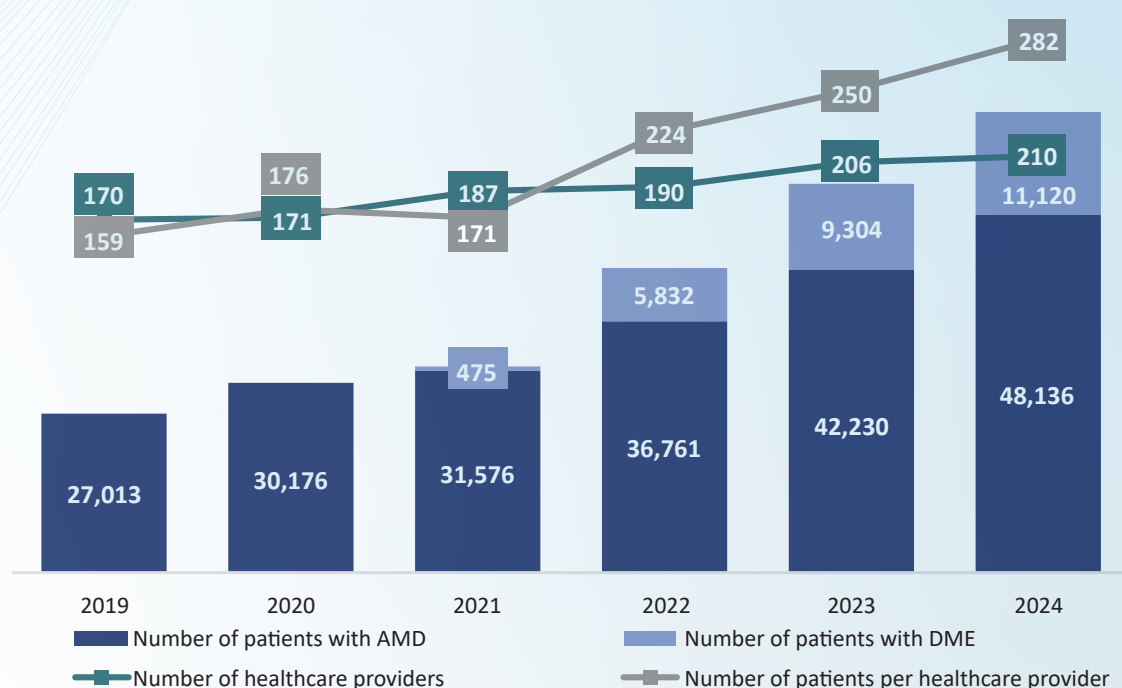


Chart 6. Number of patients, number of healthcare providers, and caseload of healthcare providers in the B.70 and B.120 drug programs, according to data provided by the NFZ

A more than twofold increase in the number of patients in drug programs, coupled with a significantly lower increase in the number of healthcare providers (by 24%), has led to an increase in the average caseload per healthcare provider (the number of patients per provider).

In 2019, there were 159 patients per healthcare provider, while in 2024, that number had risen to 282 patients, representing a 78% increase in caseload²⁶.

Over the years analyzed, there was also a more than 2.5-fold increase in the value of reimbursements for services provided under drug programs (from PLN 193 million in 2019 to PLN 527 million in 2024). The average reimbursement amount per patient increased by 24% (from PLN 7,100 in 2019 to PLN 8,900 in 2024)²⁶.

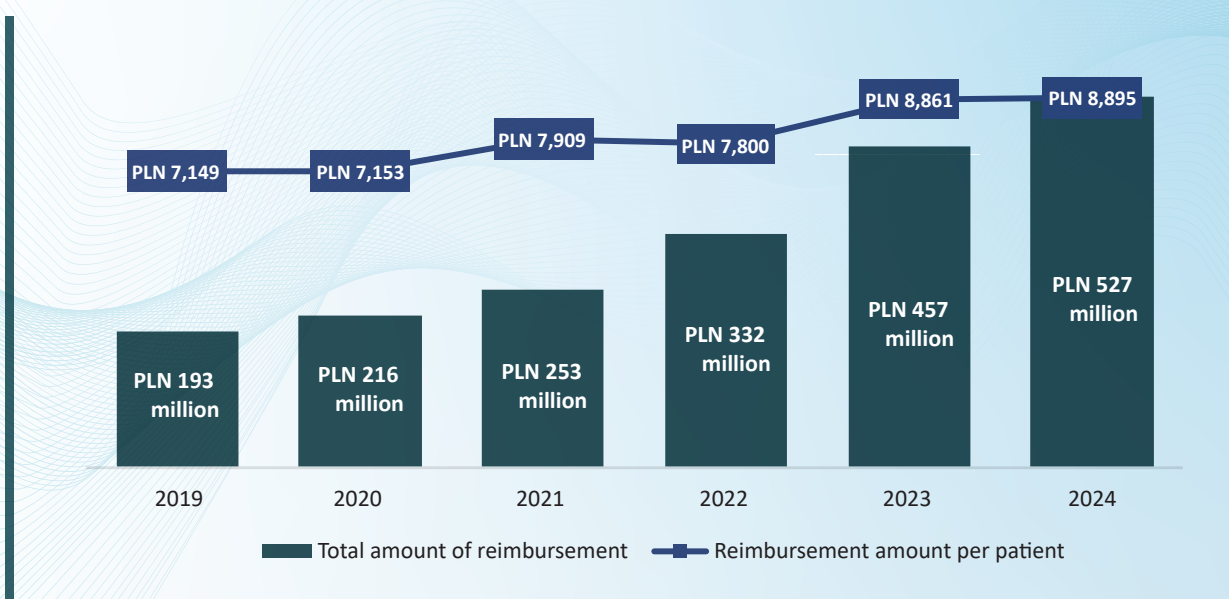


Chart 7. Total reimbursement amount and average reimbursement per patient for services provided under drug programs to patients diagnosed with AMD and DME from 2019 to 2024, according to data provided by the NFZ

Implementation of the B.70 Drug Program by Province

The administration of the medication to a patient under the B.70 drug program takes place exclusively at the center as part of the “Outpatient Admission” service; therefore, the provision of this service reflects the delivery of treatment under the B.70 drug program.

An analysis of the provision of the Outpatient Admission service under the B.70 drug program in 2024 shows that the largest number of patients were treated in the Śląskie (8,226 patients) and the Mazowieckie (7,705 patients) provinces. The lowest number of patients was recorded in the Opolskie (907 patients) and Świętokrzyskie (1,492 patients) provinces⁵.

The provinces with the most centers implementing the B.70 program were: Dolnośląskie (23 centers), Śląskie (22 centers), and Mazowieckie (20 centers). The fewest centers implemented the program in the following provinces: Opolskie (4 centers), Lubuskie (5 centers), and Warmińsko-Mazurskie (6 centers)⁵.

When comparing provinces in terms of the average caseload per center (the number of patients per healthcare provider), the highest caseload (over 350 patients per center) was observed in the Mazowieckie, Śląskie, and Łódzkie provinces, while the lowest caseload per center (fewer than 150 patients per center) was recorded in the Świętokrzyskie and Podkarpackie provinces. The average caseload across Poland was 270 patients per center. Based on the analyzed data, significant differences in the caseload of healthcare providers can be observed across provinces (from 145 people per center in the Podkarpackie Voivodeship to 385 people per center in the Mazowieckie Voivodeship)⁵.

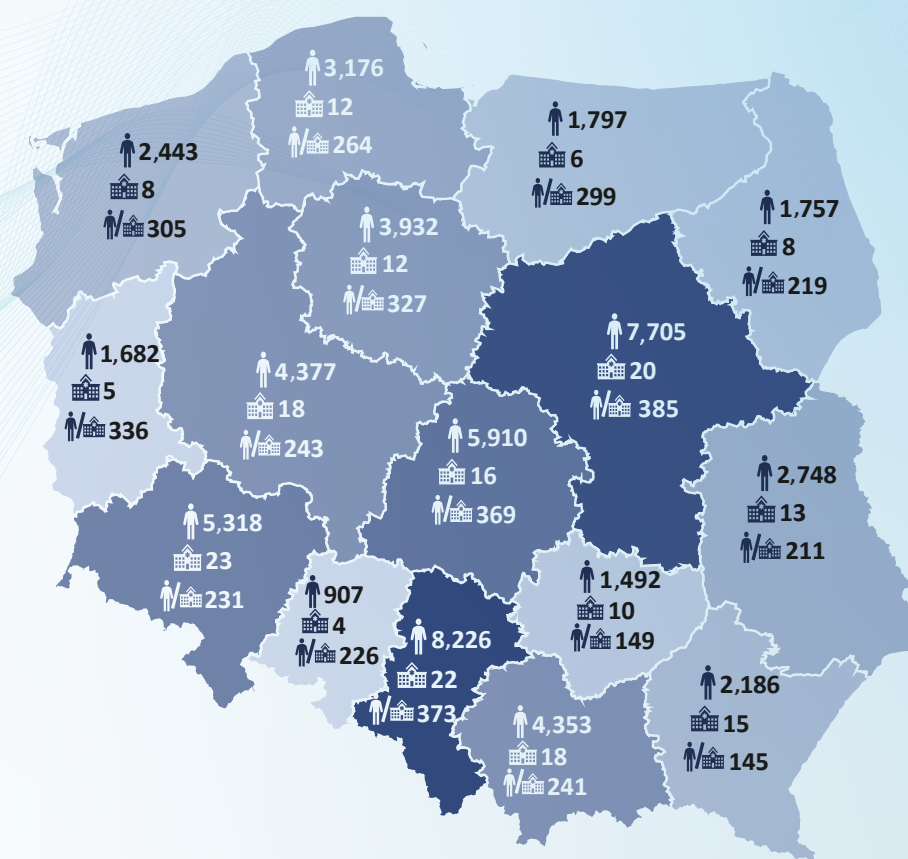


Figure 7. Service delivery: Outpatient admissions under the B.70 drug program in 2024 by province, according to BASiW

Geographic Availability of the B.70 Drug Program

The most recent data (as of October 9, 2025) regarding the availability of the B.70 regional drug program, available on the BASiW platform, pertain to 2023; therefore, the analysis is based on data from that year.

In 2023, 206 centers provided services under the B.70 drug program. The average distance from the municipality to the nearest unit (service provider) implementing the program was 31 km, while the maximum distance was as much as 115 km. The average travel time by car

from the municipality to the nearest center was 38 minutes, while the maximum travel time to the nearest unit was 125 minutes. It should be noted that the actual distances and travel times for patients to reach these centers are likely longer, because, as the analysis shows, some patients choose to seek treatment outside the province where they live³¹.

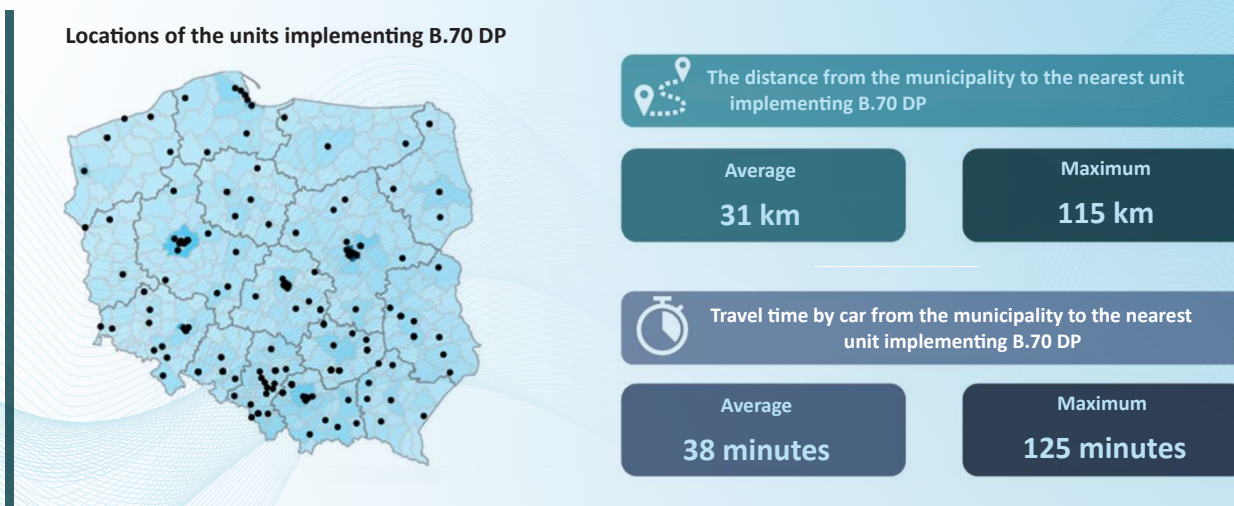


Figure 8. Geographic availability of the B.70 drug program in 2023 according to BASiW

Benefits under drug programs

Under both drug programs (B.70 and B.120), the following types of benefits could be billed between 2019 and 2024:

- *Eligibility assessment;*
- *Diagnostics in the drug program;*
- *Outpatient admission of the patient.*

Eligibility assessment

Between 2019 and 2024, there was a nearly threefold increase in the number of services involving eligibility assessment, and the number of patients who received such services also rose, indicating an increase in the number of new patients in the drug program. The number of services provided for each of the years analyzed was higher than the number of patients who received the service, which may indicate that some patients are excluded from the program and then re-enrolled, or that the second enrollment covers the patient's other eye⁵.

Between 2019 and 2024, there was also a more than fivefold increase in the value of reimbursements for this type of service, which resulted not only from an increase in the number of services provided but also from an increase in the average reimbursement amount per service. In 2019, the reimbursement amount for a single "Eligibility assessment" service was PLN 338, and by 2024, it had risen to PLN 590⁵.

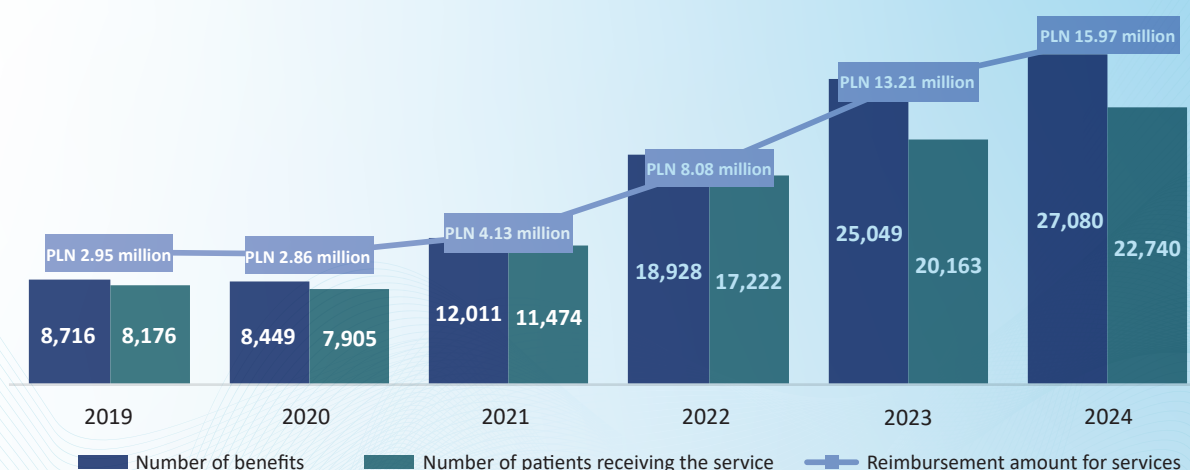


Chart 8. Implementation of services related to eligibility assessment under drug programs B.70 and B.120 for the years 2019–2024, according to BASiW

Diagnostics in the drug program

Between 2019 and 2024, there was a more than 2.5-fold increase in the number of diagnostic services covered by the drug program, which was the result of a nearly 2.3-fold increase in the number of patients receiving this service. The number of patients in each year who received diagnostic services under the drug program was lower than the total number of patients in the drug program in that year. The percentage of patients receiving this type of service between 2019 and 2024 ranged from 93% to 97%, indicating that not all patients in the drug program underwent diagnostic testing under the program⁵.

Between 2019 and 2024, there was also a nearly threefold increase in the value of reimbursements for diagnostic services (from PLN 39.1 million to PLN 116.6 million)⁵.

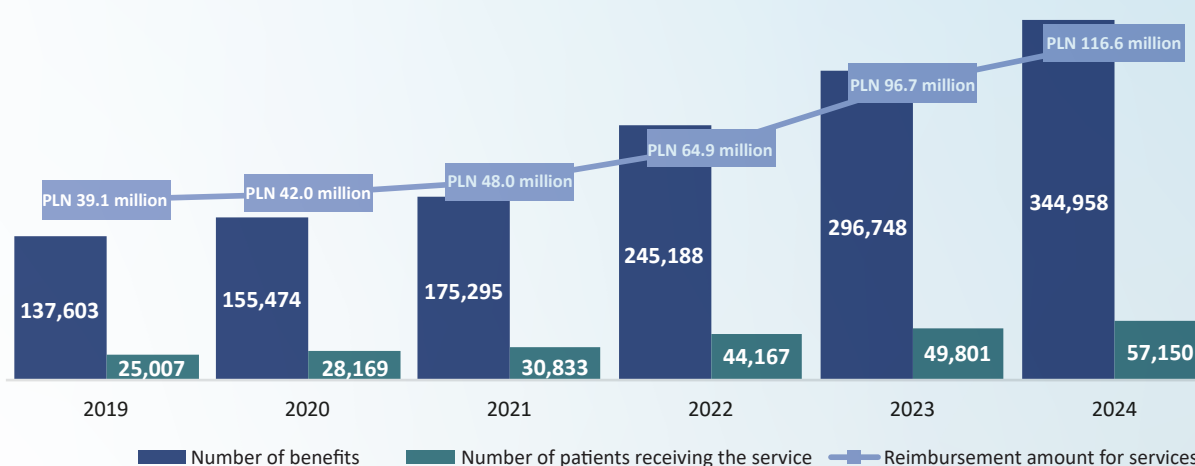


Chart 9. Provision of diagnostic services under drug programs B.70 and B.120 for 2019–2024, according to BASiW

Outpatient admission of the patient

For the service category *Outpatient admission of the patient* between 2019 and 2024, there has been more than a twofold increase in both the number of services and the number of patients. It should be noted that the number of patients covered by this range of services was slightly lower than the number of patients enrolled in the program(s) in a given year. The proportion of patients receiving this type of service out of the total number of patients in the program from 2019 to 2024 ranged from 97% to 99%. Since this is the only billable form of patient admission during which medication is administered, it can be assumed that some patients in the program did not receive medication that year. This situation may arise because a patient was enrolled in the program at the end of the year and the first administration of the drug was scheduled for the following year, or because a patient was removed from the program at the beginning of the year—before the first dose was administered that year⁵.

From 2019 to 2024, with regard to service category *Outpatient admission of the patient*, there has also been a more than fourfold increase in the value of reimbursements for these services (from PLN 49 million to PLN 206 million)⁵.

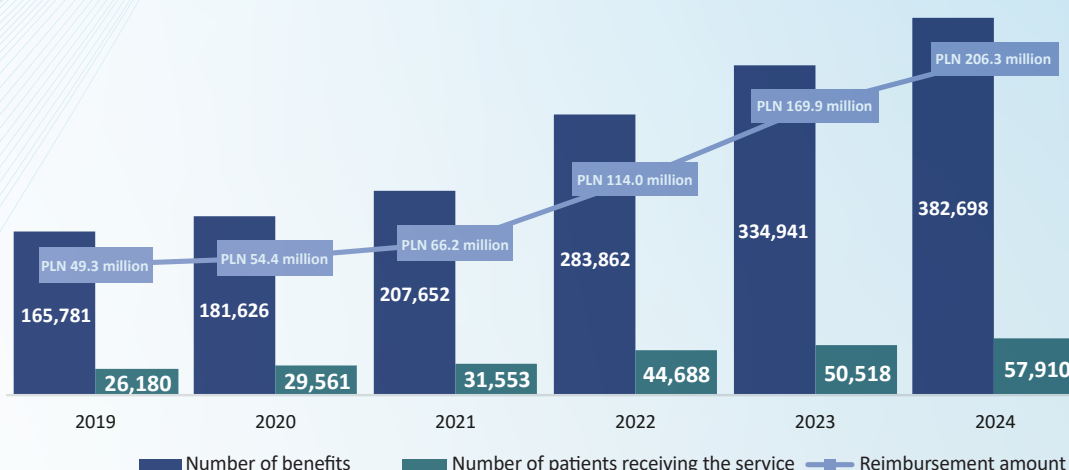


Chart 10. Implementation of services classified as outpatient admission of the patient under drug programs B.70 and B.120 for the years 2019–2024, according to BASiW

Medications in the B.70 Drug Program

According to the Minister of Health's announcement regarding the list of reimbursed drugs as of October 1, 2025, there are 6 active substances available under the B.70 drug program, of which 2 (bevacizumab and dexamethasone) are used only to treat DME³⁰.

The dosage of medications varies depending on the phase of treatment (loading [initial] and maintenance) and the disease (wet AMD or DME).

For patients with nAMD, for most drugs—with the exception of ranibizumab—the loading phase consists of 3 doses administered at intervals of 28–35 days. Maintenance doses are administered every 8–20 weeks, depending on the drug. In the case of ranibizumab, regardless of the treatment phase, the drug should be administered at least every 4 weeks³⁰.

Drug Dosage for Patients with nAMD			
Active substance	Single dose	Saturation phase	Maintenance phase
Aflibercept	2 mg	3 doses administered 28–35 days apart	recommended: every 8 weeks (permitted: every 4–16 weeks)
Aflibercept	8 mg	3 doses administered 28–35 days apart	every 8 weeks, with a maximum extension to 20 weeks in patients with no disease activity
Brolucizumab	6 mg	3 doses administered 28–35 days apart	every 8–12 weeks
Faricimab	6 mg	3 doses administered 28–35 days apart	recommended: 16 weeks (in patients with no disease activity) or every 8 weeks or every 12 weeks (in patients with active disease) (permitted: every 8–16 weeks)
Ranibizumab	0.5 mg	at least every 4 weeks (the interval may be extended by 2 or 4 weeks on a one-time basis)	

Figure 9. Drug dosage for patients with nAMD according to the drug program provisions as of October 1, 2025*

For the treatment of DME, therapy begins with 5 doses of bevacizumab administered at intervals of 28–35 days. In patients who have experienced a cardiovascular event within the past 6 months and are at risk of a worsening of their general condition if treatment with anti-VEGF drugs is initiated, treatment should be administered using an implantable dexamethasone. For this indication, the dosage during the loading phase varies depending on the medication (from 3 to 5 loading doses). The frequency of maintenance dose administration ranges from 4 to 20 weeks, depending on the medication and disease activity. Treatment with dexamethasone involves a single administration of the implant; however, the physician may decide to administer the medication again³⁰.

Drug dosage for patients with DME			
Active substance	Single dose	Saturation phase	Maintenance phase
Aflibercept	2 mg	5 doses administered 28–35 days apart	recommended: every 8 weeks (permitted: every 4–16 weeks)
Aflibercept	8 mg	3 doses administered 28–35 days apart	every 8 weeks, with a maximum extension to 20 weeks in patients with no disease activity
Brolucizumab	1.25 mg	5 doses administered 28–35 days apart	at least every 8 weeks (if treatment is effective, this interval may be extended after 12 months of treatment)
Brolucizumab	6 mg	5 doses, 6 weeks apart	every 8 weeks (if there is no disease activity after 12 months of treatment, the interval between doses may be extended to 16 weeks)
Dexamethasone	700 µg (implant)	one-time application (subsequent applications are subject to a physician's decision, but no more frequently than every 4 months, with the possibility of extending the interval to 9 months)	
Faricimab	6 mg	3 or 4 doses administered 28–35 days apart	every 4–16 weeks
Ranibizumab	0.5 mg	at least every 4 weeks (the interval may be extended by 2 or 4 weeks on a one-time basis)	

Figure 10. Drug dosage for patients with DME according to the drug program provisions as of October 1, 2025*

*The table does not reflect the changes to dosing intervals announced in the Ministry of Health's notice dated January 1, 2026.

Drug Reimbursement Amounts

Between 2019 and 2024, due to the increase in the number of patients in the program, there has also been an increase in the value of reimbursements for medications administered under the program. In 2019, more than PLN 101 million was allocated for drug reimbursements under the B.70 drug program, and in 2024, that amount was more than twice as much—PLN 212 million. An opposite trend can be observed in the case of drug reimbursement amounts per patient. In 2019, the average amount of drug reimbursement per patient was PLN 4,088, while in 2024, that amount was PLN 3,732. This decline may be the result of several factors, including, among others: a different number of patients newly enrolled in the PL B.70 program (patients enrolled during the year receive a different number of drug doses than those treated for a full 12 months), the introduction of new drugs into the program, changes in drug prices over subsequent years, and modifications to the recommended dosing intervals^{5,32}.

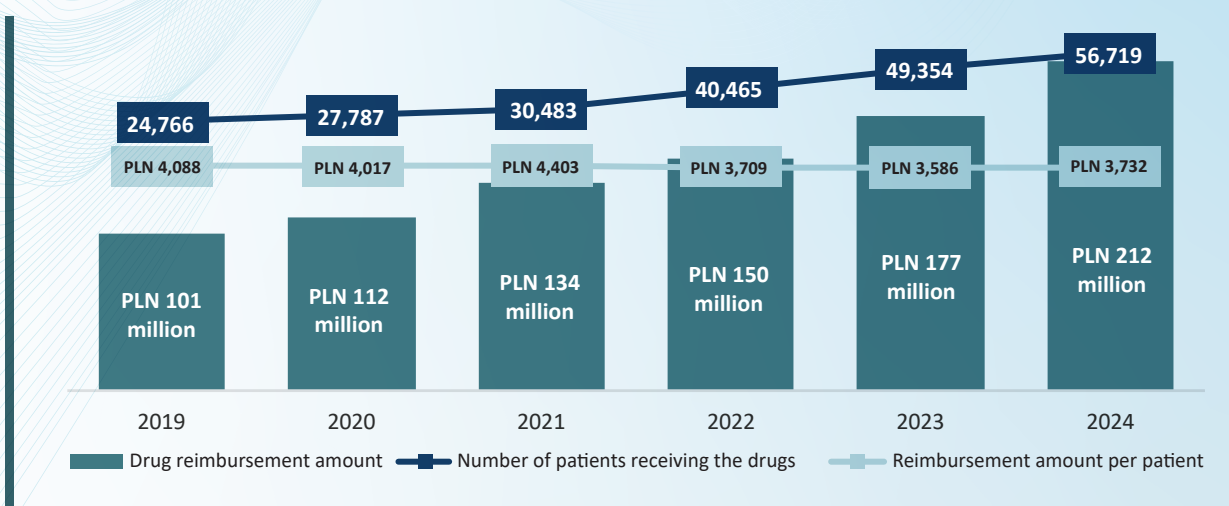


Chart 11. The value of drug reimbursements, the number of patients receiving drugs, and the average value of drug reimbursement per patient in the drug program for 2019–2024, according to BASiW and NFZ statistics

In 2024, six active substances were available under the B.70 drug program. The largest number of patients were treated with aflibercept (available in two doses starting in October 2024: 2 mg and 8 mg) (41,609 patients), and the fewest with dexamethasone (1,208 patients). Aflibercept (PLN 162.7 million) accounted for the largest share of the total value of drug reimbursements under the program (as much as 77%), while bevacizumab had the lowest reimbursement value (PLN 0.09 million). When comparing the average drug reimbursement amounts per patient, the highest amount was recorded for dexamethasone (PLN 5,989), while the lowest was for bevacizumab (PLN 11). This low value for bevacizumab is likely due to the availability of reimbursed equivalents of this substance³².

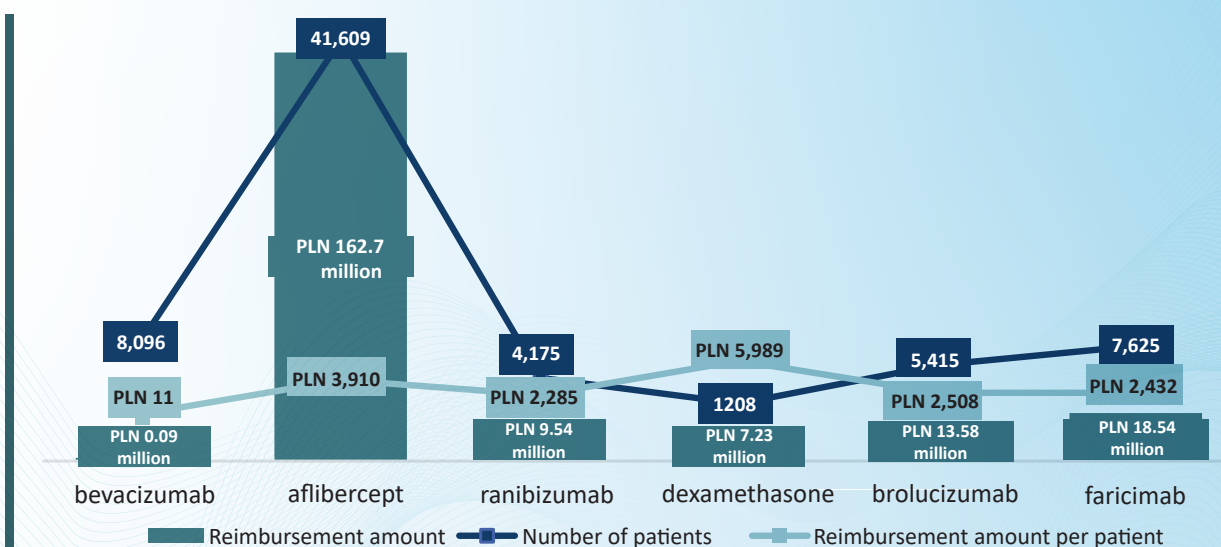


Chart 12. Number of patients, reimbursement amount, and average reimbursement amount by active substance used in the B.70 drug program in 2024, according to NFZ statistics

Waiting time for treatment

According to data from the NFZ Treatment Waiting Times Information System, the average wait time for treatment under Program B.70 in Poland, as of August 31, 2025, was 5.8 days, and the number of patients on the waiting list was 992. 204 healthcare providers treated patients under B.70 DP in Poland in August 2025³³.

The longest wait times and the largest number of people waiting were recorded in the Śląskie province (average wait time: 9.5 days; number of people on the waiting list: 149). The shortest waiting time and the smallest number of people waiting were observed in the Warmińsko-Mazurskie province (1.1 days with 2 people waiting)³³.



Figure 11. Average waiting time, number of patients on the waiting list, and healthcare providers delivering services under the B.70 drug program as of August 31, 2025, according to the NFZ Treatment Waiting Times Information System

Medical Rehabilitation

Therapeutic rehabilitation for patients with AMD and DME is based primarily on vision therapy, which is designed to help people with low vision overcome the effects of their visual impairments through rehabilitative exercises and the selection of appropriate assistive devices (e.g., magnifying glasses, reading stands, talking watches, liquid-level sensors). An important part of rehabilitation is also learning to use available communication techniques, including Braille, as well as computer techniques, software, and apps. Vision rehabilitation initiated early enough for people with AMD and DME allows them to maintain their independence to the greatest extent possible³⁴.

Data provided by the NFZ show that only a small percentage of patients take advantage of this form of treatment support. In 2019, 179 patients with AMD or DME received medical rehabilitation, and by 2024, that number had risen to 341 patients. The number of healthcare providers offering medical rehabilitation services to patients with AMD and DME is also small. Across Poland in 2024, only 13 centers provided this service²⁶.

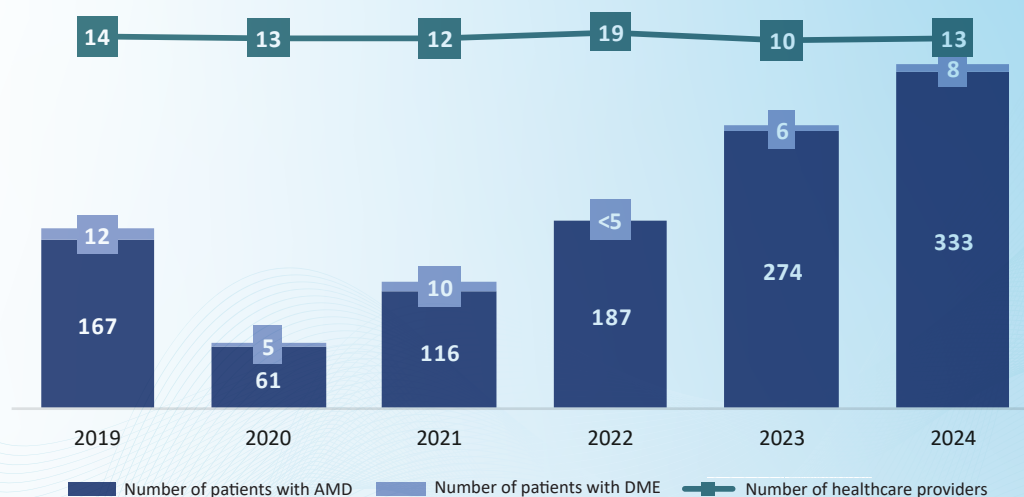


Chart 13. Number of patients and healthcare providers offering medical rehabilitation services to patients diagnosed with AMD and DME from 2019 to 2024, according to data provided by the NFZ

In 2019, the amount reimbursed for medical rehabilitation for patients with AMD and DME was over PLN 113,000, and by 2024, it had more than doubled to PLN 241,000. The average reimbursement amount per patient did not increase significantly (from PLN 632 in 2019 to PLN 706 in 2024)²⁶.

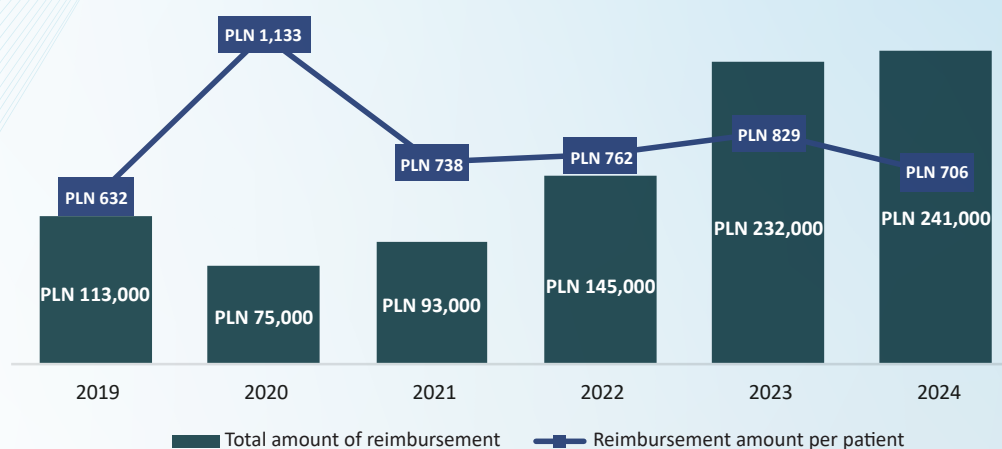


Chart 14. Total reimbursement amount and average reimbursement per patient for medical rehabilitation services provided to patients diagnosed with AMD and DME from 2019 to 2024, according to data provided by the NFZ

SURVEY RESULTS

Employment status of patients and caregivers



33% of patients are employed or self-employed
 33% of employed patients reduced their working hours (by an average of one-third of a full-time position)
 27% average loss of patient productivity during work
 10% of caregivers reduced their working hours (by an average of 12 hours per week)

Sick leave and time off work due to AMD and DME



33% of employed patients took sick leave
 10 days average duration of sick leave for employed patients
 9% of caregivers took sick leave
 6 days average duration of sick leave for caregivers
 33% of employed patients used an average of 5 days of vacation time per year
 18% of employed caregivers used an average of 6 days of vacation time per year

Visits to the center



8 visits average number of patient visits to the center per year
 2.9 hours average duration of a patient's visit at the center
 33 km average distance from the patient's place of residence to the center
 30% of patients cited a long commute to the treatment center as a difficulty they encountered during treatment
 PLN 70 average round-trip cost of transportation to the center
 PLN 31 average additional costs associated with a visit to the center
 PLN 43 the value of patients' lost earnings due to a visit to the center
 PLN 33 the value of caregivers' lost earnings due to a visit to the center

Quality of life for patients and caregivers



11% of patients experienced a significant decline in their quality of life*
 6% of caregivers experienced a significant decline in their quality of life*
 *ratings of 5 on a scale of 0–5

Patients' out-of-pocket medical expenses



PLN 117 average monthly medical expenses per patient
 60% percentage of patients who pay for medications related to their treatment

Figure 12. Summary: Survey Results

To illustrate the real impact of retinal diseases on the lives of patients and their families, a survey was conducted as part of the report. The questions in the survey mainly concerned:

- Organizing visits to the center (distance from home to the center, number of visits per year, duration of a single visit)

- Employment-related issues among patients (resignation or reduced working hours, decreased productivity)
- Impact on the daily lives of patients and their families (reduction in household chores, limited independence, caregivers' employment status, quality of life for patients and caregivers)
- Financial burden (travel costs to the treatment center, out-of-pocket medical expenses, reduction in household income)

A total of 236 patients (143 women and 93 men) completed the survey. The average age of the respondents was 71 years. The youngest patient was 32 years old, and the oldest was 95 years old. The largest group of respondents (42%) was in the 71–80 age group. It should be noted that 15% of the respondents were between the ages of 31 and 60, which indicates that nAMD/DME affects not only older adults but also people of working age.

People with nAMD made up the majority of the survey population—76%; patients with DME accounted for 20%; and 4% of patients selected the “I don’t know” option.

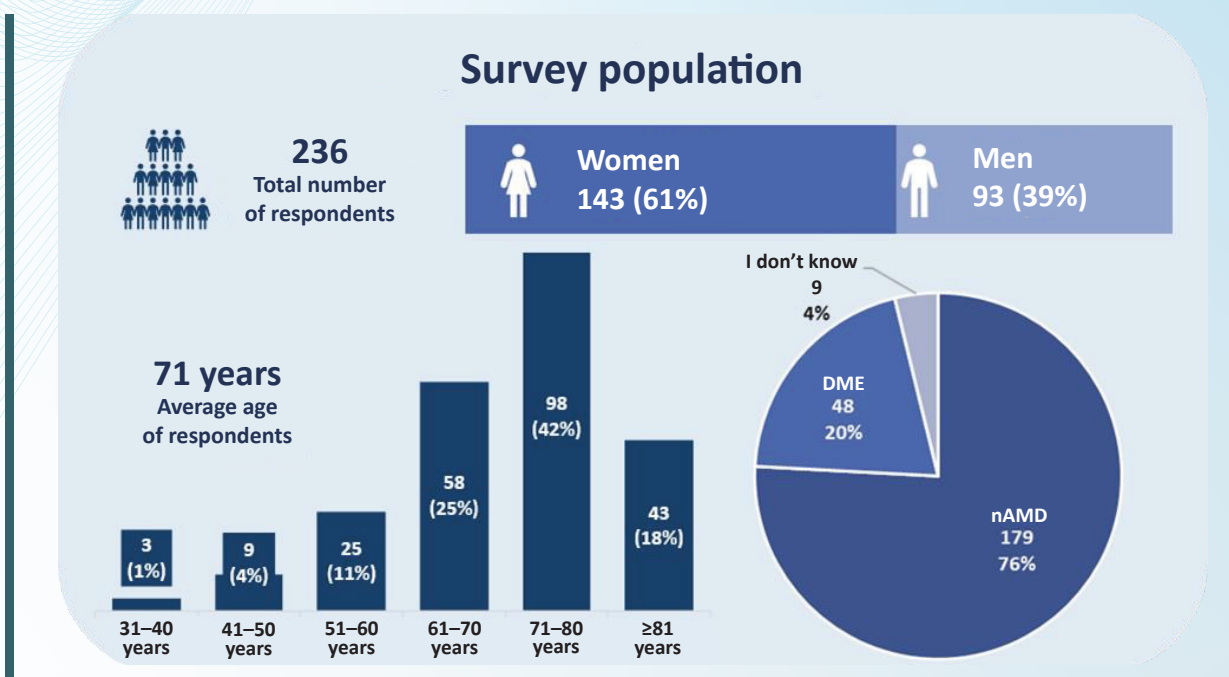


Figure 13. The population of surveyed patients

When analyzing the organization of treatment, it should be noted that the vast majority of patients (94%) received their primary treatment through the public healthcare system funded by the NFZ, while 6% of patients received treatment at a private clinic. 70% of respondents reported receiving treatment under the drug program, while 10% reported receiving treatment outside the drug program. In contrast, one in five patients (20%) selected the “I don’t know” option.

The percentage of patients who selected “I don’t know” in response to the question about their medical condition or the question about treatment under the drug program may indicate that the physician did not provide the patient with sufficient information or that the patient lacked interest.

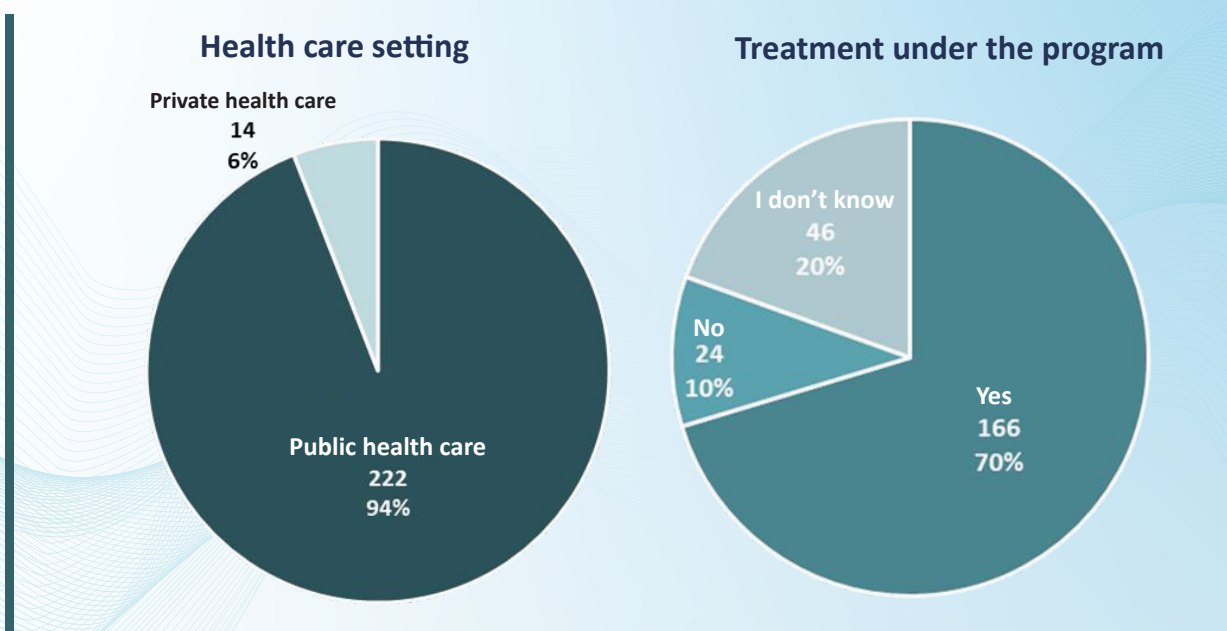


Figure 14. Organization of treatment for survey respondents

Scheduling Visits to the Center

According to the survey results, the average duration of a patient’s visit to the center was approximately 2.92 hours. Only 4% of patients reported an average visit duration of less than 1 hour, while for 7% of respondents, the average visit duration at the center was more than 5 hours. In addition to the long duration of their appointments, patients also complain about long wait times to schedule an appointment; more than 12% of patients cited this as a difficulty they encountered during the treatment process.

The data on the number of visits to the center showed that the largest group of patients (55%) had 6–10 visits per year. The average number for the entire group of respondents was about 8 visits per year. More than 36% of patients cited frequent visits to the center as a challenge they faced during treatment.

The average distance from the treatment center to the patients’ place of residence, as reported by the patients, was 33 km; however, it should be noted that for approximately 5% of patients, this distance was more than 100 km. Given the advanced age of most patients and the symptoms associated with their condition, visiting the center can be a major challenge for many patients; approximately 30% of patients cited the long commute to the center as a difficulty they encountered during treatment, and some patients also reported difficulty arranging transportation to the center.

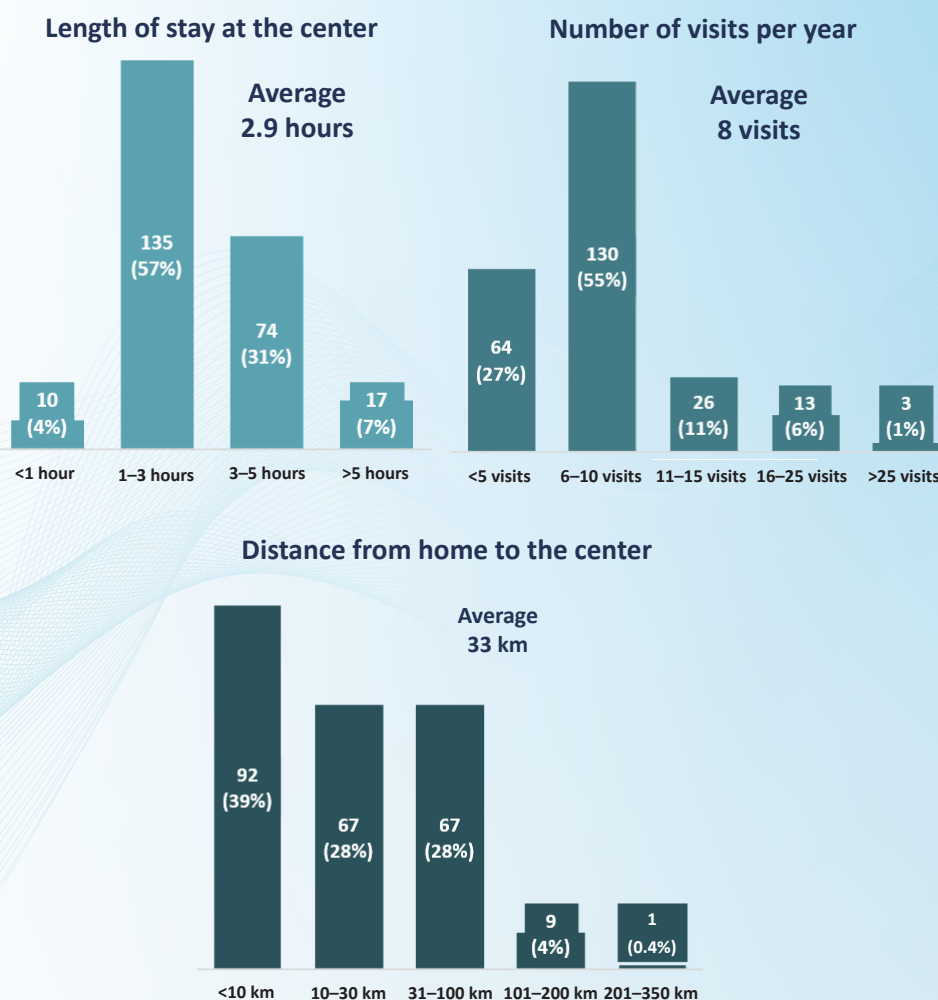


Figure 15. Answers to questions about arranging visits to the center

Patients' Employment Status

According to the survey, the majority of patients with nAMD/DME are over 70 years of age (60% of all patients). Despite such a high percentage of older adults, the group of patients of working age should not be overlooked, as the disease may have had a significant impact on their employment status.

A significant decline in visual acuity resulting from nAMD or DME can lead to a reduction in patients' independence and may even result in a disability. In such cases, patients with nAMD/DME may be eligible for a disability pension, a cash benefit, or a rehabilitation benefit. According to the survey results, one in eight patients (about 12% of patients) took advantage of this form of assistance. Among this group of patients, the majority were not employed (two patients were receiving one of the listed benefits and were employed).

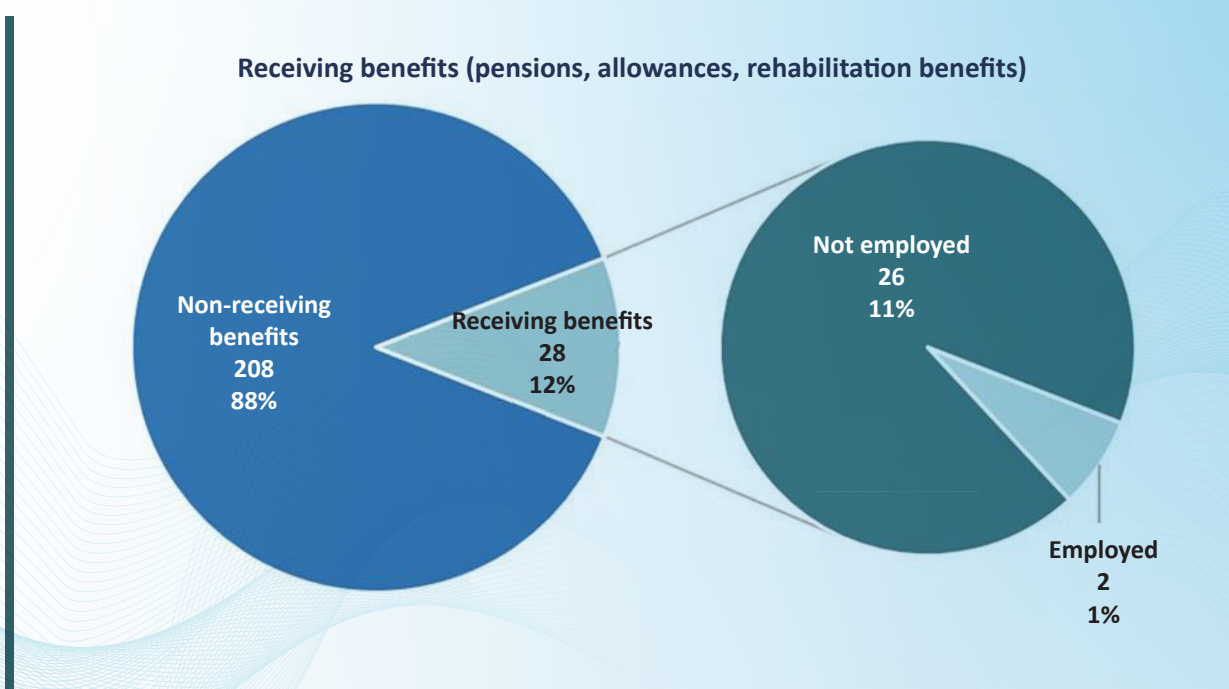


Figure 16. Receiving benefits (pensions, allowances, rehabilitation benefits)

Among those surveyed, approximately 19% of all patients reported being occupationally active (either employed or self-employed). Among people of working age (under 70), the percentage of those who were occupationally active was 42%, while among older patients (over 70), that percentage was 3.5%.

According to the study findings, 9% of patients had to quit their jobs due to nAMD/DME.

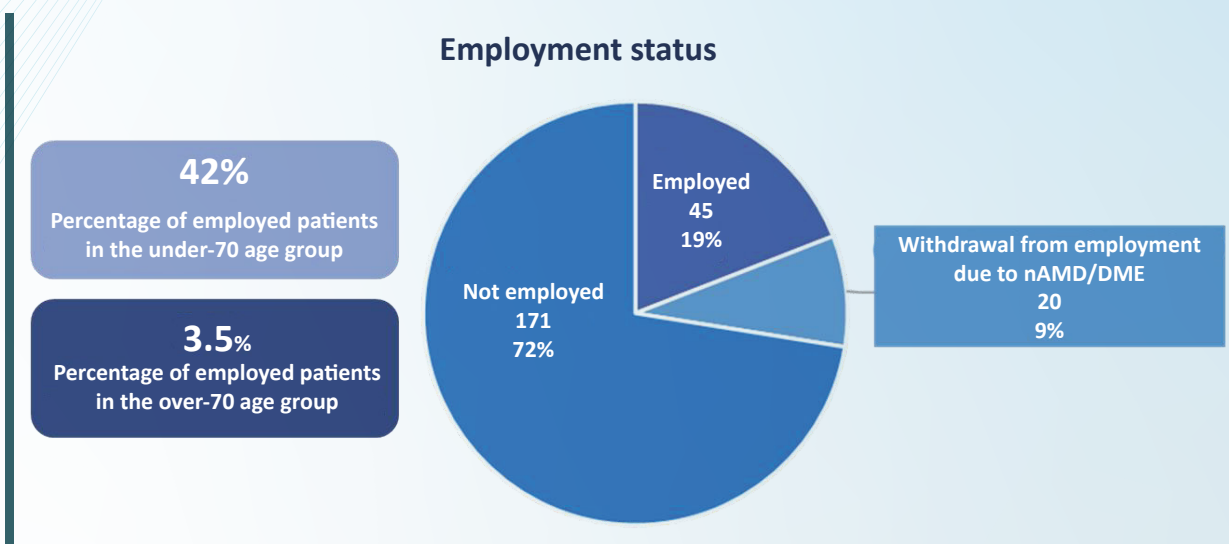


Figure 17. Employment status of patients with nAMD/DME

Symptoms associated with the disease and the need to visit the center can significantly affect the ability of patients with nAMD/DME to perform their job duties. As part of the study, patients were asked to rate the impact of their illness on their productivity at work on a scale from 0 to 10, where 0 indicated no impact and 10 indicated a complete loss of productivity.

The average rating of the impact of nAMD/DME on productivity while performing work duties was 2.7. This figure can be interpreted as a 27% decline in labor productivity.

The course of the illness and the treatment process may also result in patients having to reduce their working hours. Among the respondents who were employed, one in three patients had to reduce their working hours due to nAMD/DME. According to the study, patients were forced to reduce their working hours by an average of 13 hours per week (about one-third of a full-time position).

Other factors illustrating the impact of retinal diseases on patients' professional lives include taking sick leave due to nAMD/DME and using vacation time because of nAMD/DME. According to the survey results, 33% of employed patients took sick leave due to nAMD/DME, and the average number of days spent on sick leave per year was 10 days. In addition, 33% of employed patients reported using part of their vacation time due to nAMD/DME. The average number of vacation days taken for this reason per year was 5 days. This means that one in three working patients with nAMD/DME spent about one week of their vacation time on matters related to their illness rather than on leisure activities.

The impact of nAMD/DME on productivity at work in employed patients

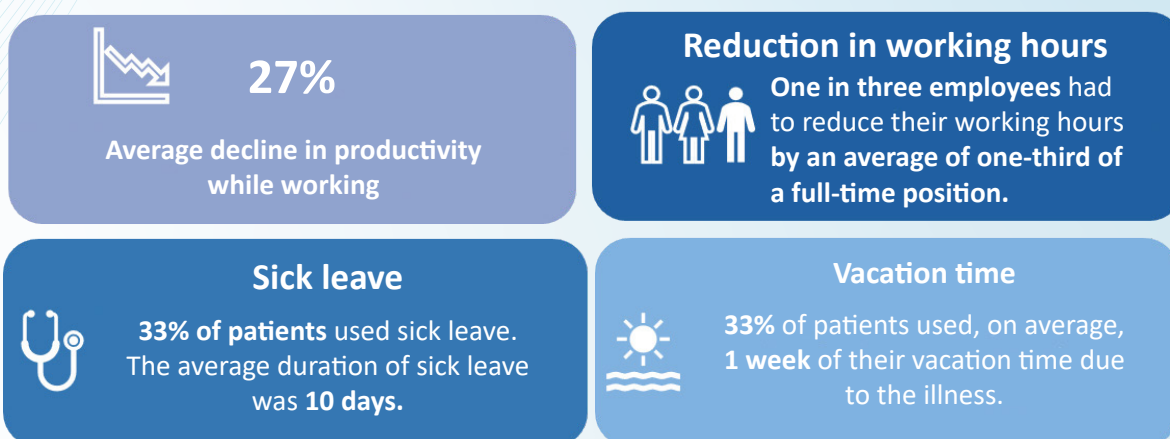


Figure 18. The impact of nAMD/DME on the ability of working patients to perform their job duties

The impact of nAMD/DME on the daily lives of patients and their families

A decline in visual acuity resulting from nAMD/DME may limit patients' independence. As part of the study, patients were asked to rate the burden resulting from the loss of independence

caused by nAMD or DME on a scale from 0 to 5 (0 = no burden, 5 = very burdensome). The average burden reported by patients as a result of their limited independence was 1.7.

Despite the low burden resulting from limited independence (avg. 1.7 on a scale of 0–5), more than half of the patients (119 out of 236) reported that they had reduced the scope of their household duties due to nAMD/DME. Patients in this group reported that, due to nAMD/DME, they had reduced the amount of housework they did by an average of 11.4 hours per week. Across the entire patient population (including those who reported no change in their household responsibilities), the average reduction in household chores was 5.8 hours per week.

The burden of the disease affects not only patients with nAMD/DME themselves, but also their close relatives (caregivers). It was their close relatives who took over some of the patients' household responsibilities and accompanied them during their visits to the center. In some situations, caring for a sick person required reducing one's working hours or even quitting one's job entirely. One in ten patients reported that, because of their illness, their caregiver had reduced their working hours or stopped working altogether. This represented a decrease of 12.3 hours per week on average. In addition to reducing their hours or quitting their jobs altogether, some caregivers have decided to take sick leave or receive a caregiver's allowance in connection with nAMD/DME. About 9% of caregivers took advantage of these benefits, and the average number of days used in this way per year was 7. Twice as many caregivers (18%) decided to use part of their vacation time to care for a patient with nAMD/DME. This group of caregivers took an average of 6 days of vacation per year (more than 1 week of vacation).

Conditions related to retinal diseases and their treatments affect not only patients' quality of life, but also that of their caregivers. Patients were asked to rate, on a scale from 0 to 5, the impact of nAMD/DME on their quality of life and that of their caregivers (0 meant that their quality of life had not changed, and 5 meant that the disease had significantly worsened their quality of life). Only 11% of patients reported that nAMD/DME had no impact on their quality of life. The same percentage of patients (11%) reported that the disease had significantly worsened their quality of life. An average score of 2.4 on a scale of 0 to 5 indicates that the disease has a moderate impact on patients' quality of life (without significantly impairing it). When asked about the impact of nAMD/DME on their quality of life, 55% of caregivers reported that it had no impact on their lives. It should be noted, however, that 6% of caregivers reported a significant decline in their quality of life due to their relative's illness. The average score for the impact of the disease on caregivers' quality of life was less than half that for the impact on patients' lives, and stood at 1.0. The differences in mean scores between patients

and caregivers (2.4 vs. 1.0) may indicate that nAMD/DME has a much greater impact on the quality of life of the patients themselves than on that of their caregivers.

The impact of nAMD/DME on the daily lives of patients and their caregivers

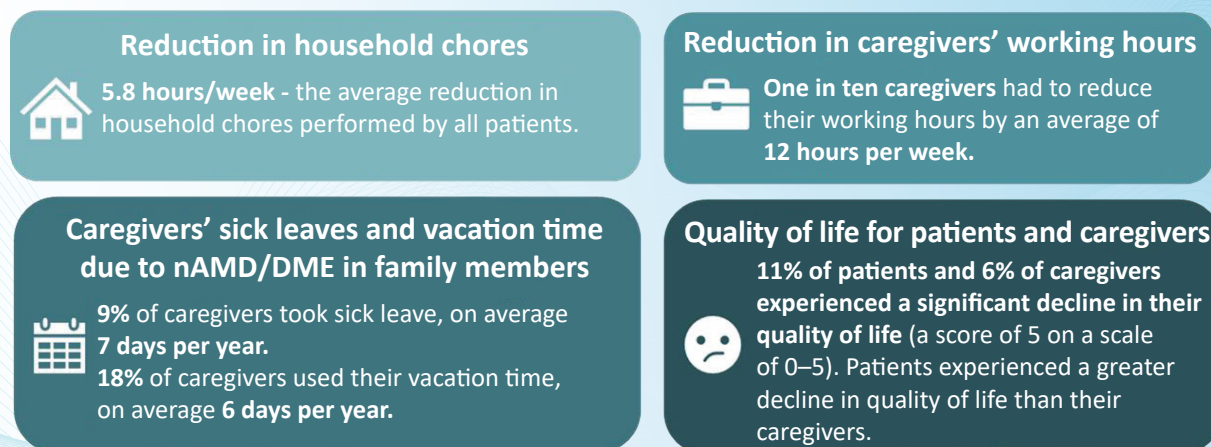


Figure 19. The impact of nAMD/DME on the daily lives of patients and their caregivers

The financial burden associated with nAMD/DME

One in seven patients cited a significant financial burden as a challenge encountered during treatment for nAMD/DME.

According to survey results, as many as 60% of patients pay out of pocket for some of the medications used to treat nAMD/DME. 44% of patients pay for or help pay for their prescription eyeglasses. Nearly one in five patients (19%) seeks private consultations with medical specialists, and 17% of patients pay for assistive reading devices. Diagnostic tests are paid for by 13% of patients.

The average out-of-pocket medical expenses incurred by patients with nAMD/DME amount to PLN 117 per month, and for 7% of patients, these expenses exceed PLN 450 per month. On an annual basis, out-of-pocket medical expenses incurred by patients with nAMD/DME amounted to over PLN 1,400.

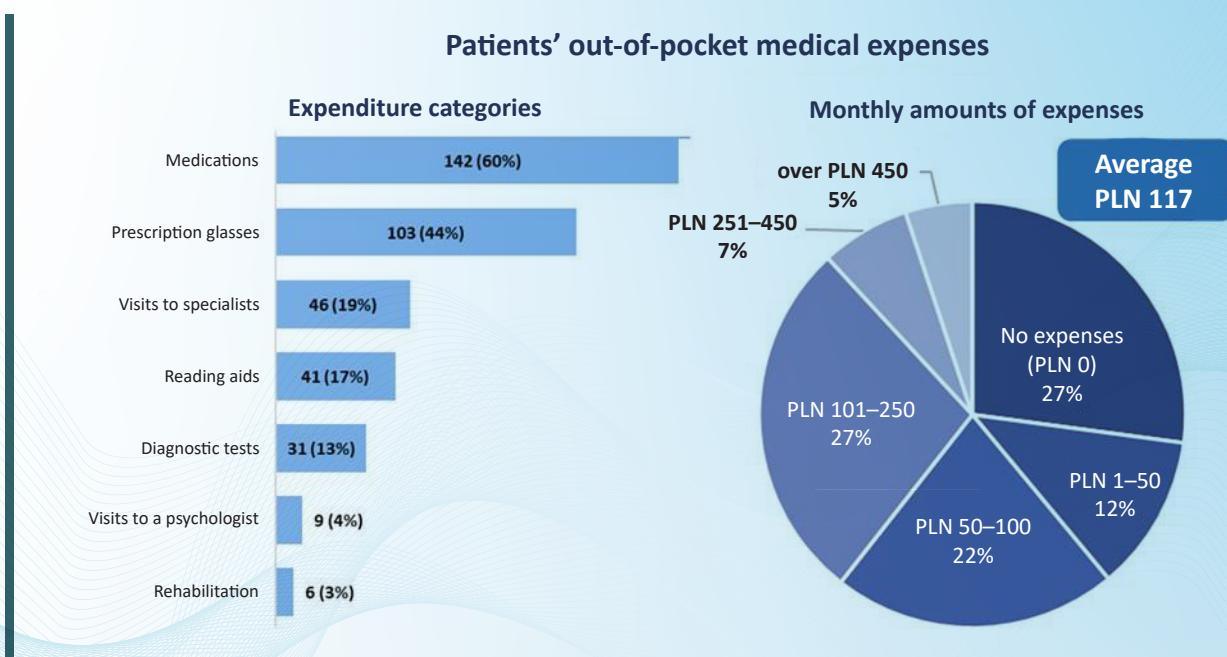


Figure 20. Categories and amounts of patients' out-of-pocket medical expenses

In addition to patients' out-of-pocket medical expenses related to treatment, they also incur the costs of traveling to the center and additional expenses associated with their visit (e.g., lodging, meals, and hiring a caregiver for their children or grandchildren).

The average cost of travel to an appointment (round trip) reported by patients is PLN 70, and the average additional costs associated with a visit to the clinic were PLN 31; therefore, the non-medical costs incurred by patients in connection with an appointment amount to over PLN 100.

Taking into account the average annual number of visits to the center (8 visits), the estimated total annual costs (travel expenses and additional costs) associated with visiting the center amounted to over PLN 800.

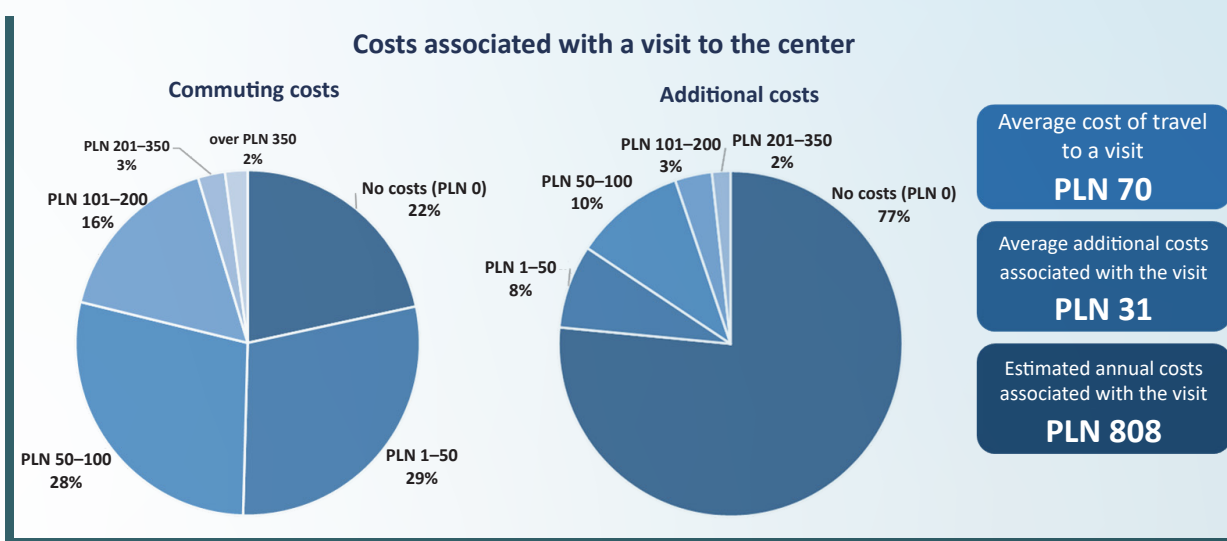


Figure 21. Costs associated with a visit to the center

The costs associated with illness are not limited to treatment-related expenses (patients' out-of-pocket medical expenses, travel costs to the treatment center) but also include lost earnings for patients and caregivers resulting from the need to visit the treatment center.

88% of all patients reported no loss of earnings in connection with their visit to the center; however, it should be noted that 5% of patients reported a loss of earnings exceeding PLN 500 per visit. The average loss of earnings among the group of patients who reported a loss of earnings was PLN 348 per visit, while among the entire patient population (including patients who did not experience a loss of earnings), the average loss of earnings was PLN 43 per visit. Among caregivers, 86% reported no loss of earnings in connection with the patient's visit to the center; the average loss of earnings in the remaining group (those who reported a loss of earnings) was PLN 241 per visit. Across the entire population of caregivers (including those who did not experience a loss of earnings), the average loss of earnings was PLN 33 per visit to the center.

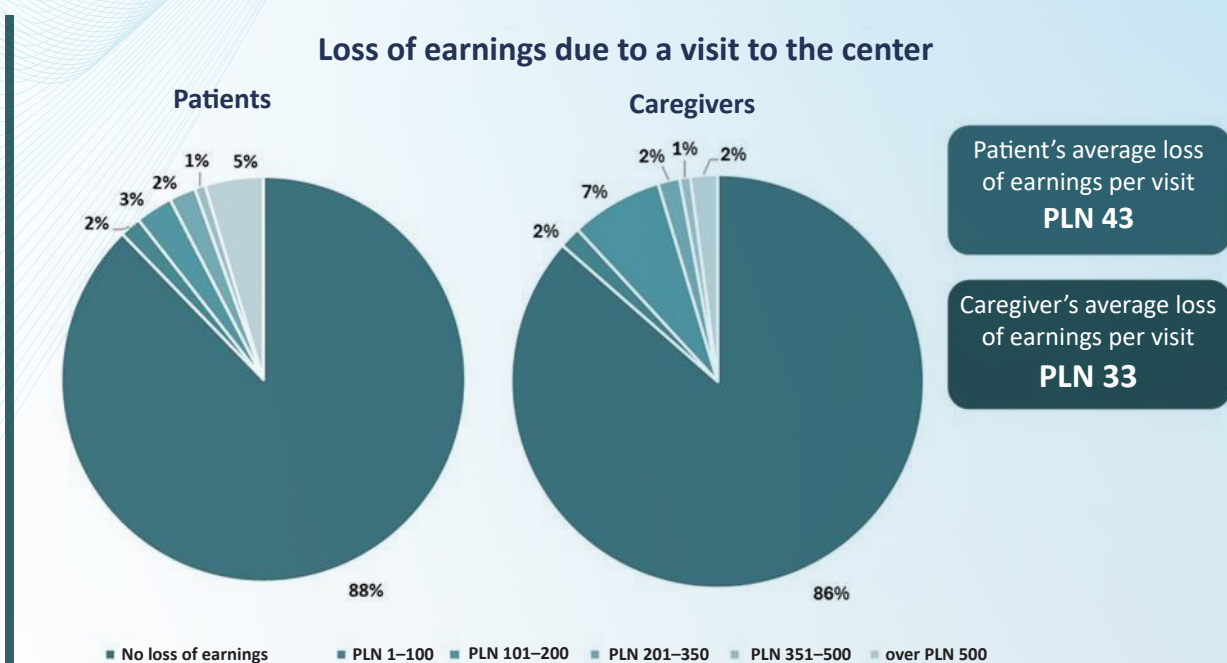


Figure 22. Loss of earnings for patients and caregivers associated with a visit to the center

AMD AND DME COSTS IN 2024

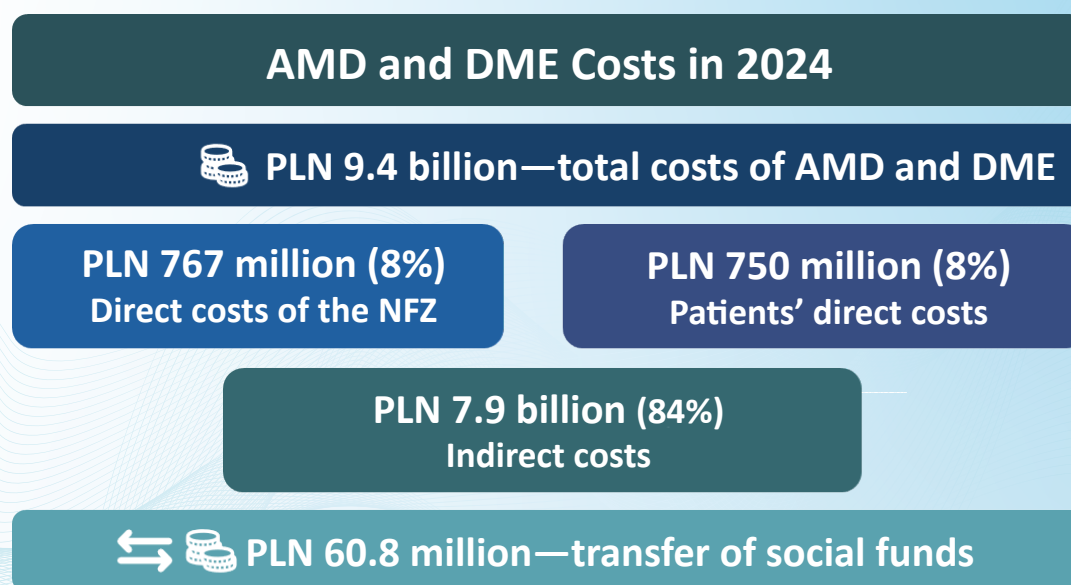


Figure 23. Summary: AMD and DME costs in Poland in 2024

The costs incurred in connection with AMD and DME in 2024 in Poland include:

- direct costs to the NFZ (value of reimbursements by the NFZ);
- patients' out-of-pocket costs (private expenses related to treatment);
- indirect costs (the social consequences of diseases);
- transfers of funds from ZUS (benefit payments).

Direct costs of the NFZ

Treatment for AMD/DME in Poland is funded by the National Health Fund under the following types of benefits:

- Primary Health Care (POZ)
- Outpatient Specialist Care (AOS)
- Inpatient care, including the B.70 drug program
- Medical rehabilitation

Services provided under primary care are billed on a capitation basis; therefore, they were not included in the cost analysis.

Data on the amount of reimbursement for services provided to patients with a primary diagnosis of H35.3 (AMD) or H36.0 (DME) in 2024 were obtained directly from the National Health Fund. The data included reflects the situation as of the end of 2024 and is the most up-to-date source of cost information²⁶.

Table 1. Costs incurred by the NFZ for the treatment of AMD and DME in Poland in 2024, according to data obtained from the NFZ

Scope	AMD	DME	Total cost
AOS	PLN 109,377,047	PLN 45,279,191	PLN 154,656,238
Inpatient treatment (excluding the DP)	PLN 76,788,260	PLN 8,663,211	PLN 85,451,472
Drug program (DP)	PLN 429,859,646	PLN 97,231,719	PLN 527,091,365
Medical rehabilitation	PLN 223,624	PLN 17,094	PLN 240,718
Total	PLN 616,248,577	PLN 151,191,216	PLN 767,439,793

The total costs of treating AMD and DME from the NFZ budget in 2024 amounted to over PLN 767 million, of which nearly 69% were expenditures on the B.70 drug program.

Patients' direct costs

Patients' direct costs include expenses related to visits to the center (e.g., transportation, meals, lodging) and other patient costs (e.g., medications, visits to specialists, prescription eyeglasses, diagnostic tests).

According to the survey results, the average costs incurred by patients in connection with a visit to the center (travel expenses and additional costs) amounted to PLN 101. Taking into account the average annual number of visits per patient to the center (8 visits), the annual costs associated with visits to the center for a patient with AMD/DME in 2024 amounted to PLN 808. For the entire patient population in 2024, these expenditures totaled more than PLN 274 million.

Table 2. Patient expenses related to visits to the center

Average cost per visit	Average number of visits per year	Patient population	Total cost
PLN 101	8	339,142	PLN 274,026,736

According to the results of a survey, the average annual out-of-pocket treatment-related expenses for patients with AMD/DME in 2024 amounted to PLN 1,404. Taking into account the entire patient population, total out-of-pocket expenses incurred by patients with AMD and DME in 2024 amounted to over PLN 476 million.

Table 3. Other patient expenses

Average other expenses per patient	Patient population	Total cost
PLN 1,404	339,142	PLN 476,155,368

Total direct costs incurred by patients, including private medical expenses and costs associated with visits to the center, amounted to over PLN 750 million in 2024.

Table 4. Total direct patient expenditures

Costs associated with visits to the center	Other patient expenses	Total cost
PLN 274,026,736	PLN 476,155,368	PLN 750,182,104

Indirect costs of AMD and DME

The indirect costs of AMD and DME—also known as the social costs of these diseases—constitute a significant component of the total economic burden associated with these retinal diseases. These include a range of losses and expenses resulting from the long-term, indirect effects of these diseases—both at the individual and societal levels. Their impact extends beyond the healthcare sector, affecting the labor market, households, public finances, and the quality of life of patients and their families. As part of this analysis, the following categories of indirect costs were identified:

- **Short-term absenteeism:** Vision loss resulting from retinal diseases in working-age patients often leads to the need to reduce their work hours. However, the treatment process itself—which requires visits to the clinic or may cause a temporary decline in well-being—may result in some patients taking sick leave. Both of these factors (reduced working hours and sick leave) contribute to a loss of productivity among working patients due to short-term absences.
- **Long-term absenteeism:** AMD and DME do not directly affect human life expectancy, but they contribute to disability in patients. Limited ability to work due to disability results in a permanent loss of human capital, negatively affecting economic productivity and the level of national income.
- **Presenteeism:** Even if they continue working, the quality and productivity of individuals with AMD or DME may be significantly reduced due to deteriorating vision. This results in lower efficiency when performing job duties.
- **Restrictions on performing unpaid work (household chores):** Due to vision loss caused by their condition, patients with AMD and DME have limited ability to perform unpaid work (household chores) such as cleaning, cooking, or caring for family members. The patient's inability to perform these tasks places a significant burden on the entire household and may lead to an increased workload for other family members or the need to hire domestic help.
- **Informal care:** Due to deteriorating vision, and in some cases even complete vision loss caused by AMD or DME, patients with these conditions require nearly constant assistance from family members—their caregivers. This often requires giving up one's job, reducing one's working hours, or frequently taking sick leave to care for the relatives.

The analysis of indirect social costs is a key component of a comprehensive approach to assessing the impact of AMD and DME on society. Understanding their scale and nature should serve as the foundation for designing effective health and preventive policies, as well

as support programs for patients and their families—at both the national and local levels.

In addition to its overall impact on society, the analysis also highlighted the disease's impact on the financial situation of patients and their families. In many cases, people with AMD and DME, as well as their caregivers, reduce their working hours or take sick leave due to their condition. In both of these cases, patients and caregivers experience a loss of earnings, which results in reduced household income. Indirect costs from the perspective of patients and caregivers are presented in a separate subsection and should not be added to the indirect costs from the societal perspective, since the societal perspective takes into account a broader range of indirect costs, including those from the perspective of patients and caregivers.

The value of lost productivity used in the analysis

The analysis of indirect costs took two perspectives into account: the societal perspective and the perspective of patients and caregivers. From a societal perspective, the value of lost productivity was estimated based on economic losses (taking gross domestic product into account). From the perspective of patients and caregivers, the financial consequences of lost productivity were calculated as the value of lost earnings, based on the average wage in 2024.

Societal perspective

From a societal perspective, the value of lost productivity was estimated based on gross domestic product (GDP) per worker, which is the recommended measure in macroeconomic analyses. This indicator reflects not only the value of a given employee's work, but also the indirect effects of reduced utilization of other factors of production (e.g., machinery, capital) during the employee's absence³⁵.

Given the declining marginal productivity of labor, using average GDP per worker could lead to an overestimation of losses. A correction factor (0.65) was applied for the adjustment, in accordance with the European Commission's recommendations.

The average value of a day of lost productivity from a societal perspective (K_{day}) was determined using the human capital method according to the formula:

$$K_{day} = \frac{GDP_{2024}}{P_{2024}} \cdot CF \cdot \frac{1}{D_{p2024}}$$

GDP_{2024} – Gross Domestic Product in 2024, according to Central Statistical Office (GUS) data³⁶

P_{2024} – Number of people employed in 2024, according to GUS data³⁷

CF – correction factor

D_{p2024} – number of working days in 2024, including vacation time

Table 4. The value of a day of lost productivity—a societal perspective in 2024

GDP_{2024}	P_{2024}	CF	D_{p2024}	K_{day}
PLN 3,641,210,000,000	15,169,658	0.65	228	PLN 684

To convert the value of a day of lost productivity (K_{day}) to a value corresponding to one hour (K_h), an 8-hour workday was assumed. The value of one hour of lost productivity in 2024 was PLN 85.50.

Table 5. The value of an hour of lost productivity—a societal perspective in 2024

K_{day}	Daily work hours	K_h
PLN 684	8 hours	PLN 85.50

The perspective of patients and their caregivers

Some patients and their caregivers decide to reduce their working hours due to AMD/DME. As a result, they suffer a reduction in income (loss of earnings). The value of lost daily earnings (U_{day}) was determined based on the average wage in 2024 using the following formula:

$$U_{day} = W_{2024} \cdot 12 \cdot \frac{1}{D_{p2024}}$$

W_{2024} – the average monthly wage in the national economy in 2024, according to GUS data³⁸

D_{p2024} – number of working days in 2024, including vacation time

Table 6. The value of a day of lost earnings: the perspective of patients and caregivers in 2024

W_{2024}	D_{p2024}	U_{day}
PLN 8,181.72	228	PLN 431

To convert the value of lost daily earnings (U_{day}) to a value corresponding to one hour (U_h), an 8-hour workday was assumed. The value of one hour of lost earnings from the perspective of patients and caregivers in 2024 was PLN 53.88.

Table 7. The value of an hour of lost earnings: the perspective of patients and caregivers in 2024

U_{day}	Daily work hours	U_h
PLN 431	8 hours	PLN 53.88

Indirect costs—a societal perspective

Short-term absenteeism

Due to the symptoms of their condition and the treatment process, many people with AMD and DME decide—or are forced—to reduce their working hours.

According to survey results, 33% of working patients reduced their working hours by an average of 13 hours per week. Taking into account the number of working days in 2024 (228 days), the average reduction in working hours per patient in 2024 was 593 hours. Based on the above data, the number of working hours lost in 2024 among the entire population of patients with AMD/DME was more than 12.6 million.

Table 8. Number of reduced work hours for patients with AMD/DME in 2024

Patient population	Employed patients	Patients who have reduced their working hours	Number of hours reduced per patient	Total number of reduced patient work hours
339,142	19%	33%	593 hours/year	12,605,420

Taking into account the value of an hour of lost productivity in 2024 ($K_h = \text{PLN } 85.50$), the value of the reduction in working time for patients with AMD and DME in 2024 amounted to over PLN 1.0 billion.

Table 9. The value of lost productivity due to reduced patient working hours in 2024

Total number of reduced patient work hours	K_h	The value of reduced patient working hours
12,605,420	PLN 85.50	PLN 1,077,763,391

The second component of short-term absenteeism is sick leave taken by patients with AMD and DME, resulting in their absence from work due to illness. Given that AMD and DME pertain to a narrower group of diagnoses that are not reported to ZUS, the productivity loss associated with AMD and DME due to patient sick leave was estimated based on the results of a survey, taking into account: the percentage of patients who are economically active, the percentage of people on sick leave, and the average number of days spent on sick leave per year.

Table 10. Number of sick days taken by patients in 2024

Patient population	Employed patients	Patients using sick leave	Average duration of sick leave	Total number of sick days
339,142	19%	33%	10 days/year	212,642

To estimate the value of lost productivity due to patient sick leave, the number of days of absence was converted by taking into account the value of a day of lost productivity ($K_{day} = \text{PLN } 684$). The value of sick leave for patients with AMD and DME in 2024 amounted to over PLN 145 million.

Table 11. The value of lost productivity due to patient sick leave in 2024

Total number of sick days	K_{day}	The value of patient absenteeism
212,642	PLN 684	PLN 145,447,151

The total value of lost productivity due to short-term absenteeism among patients with AMD and DME in 2024 amounted to over PLN 1.22 billion.

Table 12. The value of productivity loss due to short-term absenteeism in 2024

The value of reduced patient working hours	The value of patient absenteeism	The value of short-term absenteeism
PLN 1,077,763,391	PLN 145,447,151	PLN 1,223,210,542

Long-term absenteeism

AMD and DME can lead to a decline in visual acuity and even complete loss of vision. For some of these patients, a disability determination results in a long-term inability to work.

The measure used to determine the number of years lived with disability is the YLD (Years Lived with Disability). This indicator can also be described as the number of years lived in less-than-perfect health. The YLD is calculated as the product of the number of cases of a disease, its average duration, and the weight assigned to the disease based on its severity⁴⁰.

According to data from the Institute for Health Metrics and Evaluation (IHME), the estimated YLD for AMD in Poland in 2024 was 3,141.19 years⁴¹.

Due to the lack of data for DME, the value in this analysis was calculated based on the YLD value for AMD, taking into account the difference in patient populations. According to NFZ data, in 2024, 289,107 patients with AMD and 50,035 patients with DME were treated in Poland (83% fewer than the number of patients with AMD)⁴.

Table 13. YLD values for AMD and DME in Poland in 2024, according to IHME data

Age group	Sex	YLD [years]		
		AMD	DME*	Total (AMD and DME)
15–49 years	Men	5.23	0.89	6.12
15–49 years	Women	3.80	0.65	4.45
50–69 years	Men	487.33	82.85	570.18

Age group	Sex	YLD [years]		
		AMD	DME*	Total (AMD and DME)
50–69 years	Women	508.10	86.38	594.48
>70 years	Men	754.50	128.27	882.77
>70 years	Women	1,382.23	234.98	1,617.21
Total	Total	3,141.19	534.02	3,675.21

*The DME ratio was calculated using 17% ratio for AMD.

To convert the YLD values for AMD and DME into the costs of long-term absenteeism, the YLD values for a given patient group were converted into the value of lost productivity due to long-term disability, taking into account the percentage of working-age individuals in that age group within the total Polish population (probability of employment) according to GUS data^{37,42}, the number of working days in 2024 (228 days), and the value of lost productivity per day in 2024 (K_{day} = PLN 684).

Table 14. The value of lost productivity due to long-term absenteeism in 2024

Age group	Sex	Probability of employment	YLD for AMD and DME [years]	The value of long-term absenteeism
15–49 years	Men	63%	6.12	PLN 603,198
15–49 years	Women	59%	4.45	PLN 411,928
50–69 years	Men	52%	570.18	PLN 46,059,535
50–69 years	Women	41%	594.48	PLN 38,153,121
>70 years	Men	6%	882.77	PLN 7,729,619
>70 years	Women	3%	1,617.21	PLN 6,305,339
Total	Total		3,675.21	PLN 99,262,739

The value of long-term absenteeism among patients with AMD and DME in 2024 amounted to over PLN 99 million.

Presenteeism

According to the results of a survey, the work performance of employed patients with AMD/DME was reduced by an average of 27% due to their condition. Given that some of the patients in the survey reported reduced working hours, the analysis of reduced work efficiency was conducted by dividing the patient population into those who had not reduced their working hours (the assumed full-time work was: 40 hours/week = 8 hours/day), and those who reduced their working hours by an average of 13 hours per week (the assumed work hours were: 27 hours/week = 5.4 hours/day). The analysis took into account the daily working hours and the number of working days in 2024 (228 days).

The number of hours of lost productivity due to reduced efficiency among the entire population of patients with AMD/DME in 2024 totaled more than 28.3 million hours.

Table 15. Number of hours of productivity lost due to reduced working efficiency in 2024

The group of employed patients	Patient population	A patient's annual workload	Decrease in work efficiency	Number of hours lost due to reduced productivity
Without a reduction in working hours	43,173	1,824 hours	27%	21,261,839
With a reduction in working hours	21,264	1,231 hours		7,068,664

Taking into account the value of lost productivity per work hour in 2024 (K_h = PLN 85.50), the value of presenteeism among patients with AMD and DME in 2024 amounted to over PLN 2.4 billion.

Table 16. The value of lost productivity due to presenteeism among patients in 2024

Number of hours lost due to reduced productivity	K_h	The value of presenteeism among patients
28,330,503	PLN 85.50	PLN 2,422,258,007

Restrictions on unpaid work

According to the survey results, among the entire patient population, the average reduction in household chores due to illness was 5.8 hours per week, which translates to 301.6 hours per year per patient. Taking into account the entire patient population and the number of weeks in a year (52 weeks), the total reduction in unpaid work due to AMD/DME amounted to over 102 million hours.

Table 17. Number of hours of unpaid work lost in 2024

Weekly loss of hours per patient	Number of weeks in a year	Patient population	Total loss of unpaid work
5.8 hours	52	339,142	102,285,227 hours

To estimate the indirect costs resulting from a reduction in the amount of unpaid work performed, it was assumed that the value of this work corresponds to the average hourly wage for domestic help in 2024. The value of unpaid work (N_{2024}) was calculated using the following formula:

$$N_{2024} = G_{2024} \cdot W_{s2024} \cdot CF$$

G_{2024} – Number of unpaid work hours lost due to AMD/DME

W_{s2024} – Average hourly wage of a household helper in 2024³⁹

CF – correction factor

The estimated value of lost productivity due to a reduction in unpaid work in 2024 amounted to over PLN 2.36 billion.

Table 18. The value of lost productivity due to a reduction in unpaid work in 2024

G_{2024}	W_{S2024}	CF	The value of unpaid work
102,285,227 hours	PLN 35.50	0.65	PLN 2,360,231,618

Informal care

Informal care involves a reduction in caregivers' working hours and their sick leave due to a close relative's AMD or DME.

According to survey results, 10% of caregivers reduced their working hours by an average of 12.5 hours per week. Taking into account the number of working days in 2024 (228 days), the average reduction in working hours per caregiver who reduced their working hours in 2024 was 570 hours. Based on the above data, the number of reduced working hours in 2024 among caregivers of patients with AMD/DME was over 19.3 million. Taking into account the value of an hour of lost productivity ($K_h = \text{PLN } 85.50$), the value of the reduction in working hours among caregivers of patients with AMD and DME in 2024 amounted to over PLN 1.6 billion.

Table 19. The value of lost productivity due to reduced working hours among caregivers in 2024

Caregiver population	Caregivers who have reduced their working hours	Number of reduced hours per caregiver	Total number of reduced work hours among caregivers	The extent of the reduction in caregivers' working hours
339,142	10%	570 hours/year	19,331,094	PLN 1,652,808,537

According to the survey results, 9% of caregivers use sick leave or caregiver's allowance due to AMD/DME in their close relatives. Taking into account this percentage of caregivers, the caregiver population (assuming one caregiver per patient), the average duration of sick leave or caregiver's allowance (7 days per year), and the value of a lost day of productivity ($K_{day} = \text{PLN } 684$), the cost of sick leave among caregivers of patients with AMD and DME in 2024 amounted to over PLN 146 million.

Table 20. The value of lost productivity due to caregivers' sick leave in 2024

Caregiver population	Caregivers who use sick leave	Average duration of sick leave	K_{day}	The value of caregivers' sick leave
339,142	9%	7 days/year	PLN 684	PLN 146,143,071

The total value of informal care—including reduced working hours of caregivers and their sick leave due to AMD and DME in close relatives—in 2024 amounted to nearly PLN 1.80 billion.

Table 21. The value of productivity loss due to informal care in 2024

The extent of the reduction in caregivers' working hours	The value of caregivers' sick leave	The value of informal care
PLN 1,652,808,537	PLN 146,143,071	PLN 1,798,951,608

Total indirect costs from a societal perspective (social costs)

Taking into account all of the above categories of indirect costs from a societal perspective, the total indirect costs of AMD and DME in Poland in 2024 amounted to over PLN 7.9 billion.

Table 22. The social costs of AMD and DME in Poland in 2024

Cost category	Value
Short-term absenteeism	PLN 1,223,210,542
Long-term absenteeism	PLN 99,262,739
Presenteeism	PLN 2,422,258,007
Unpaid work	PLN 2,360,231,618
Informal care	PLN 1,798,951,608
Total	PLN 7,903,914,514

The largest share of the social costs of AMD and DME in 2024 was attributable to costs resulting from presenteeism (31%) and costs resulting from a reduction in unpaid work (30%). It should be emphasized that the social costs resulting from the loss of caregivers' productivity (informal care) amount to approximately 23% of all indirect costs from a societal perspective.

Summary of the social costs associated with AMD and DME in Poland in 2024

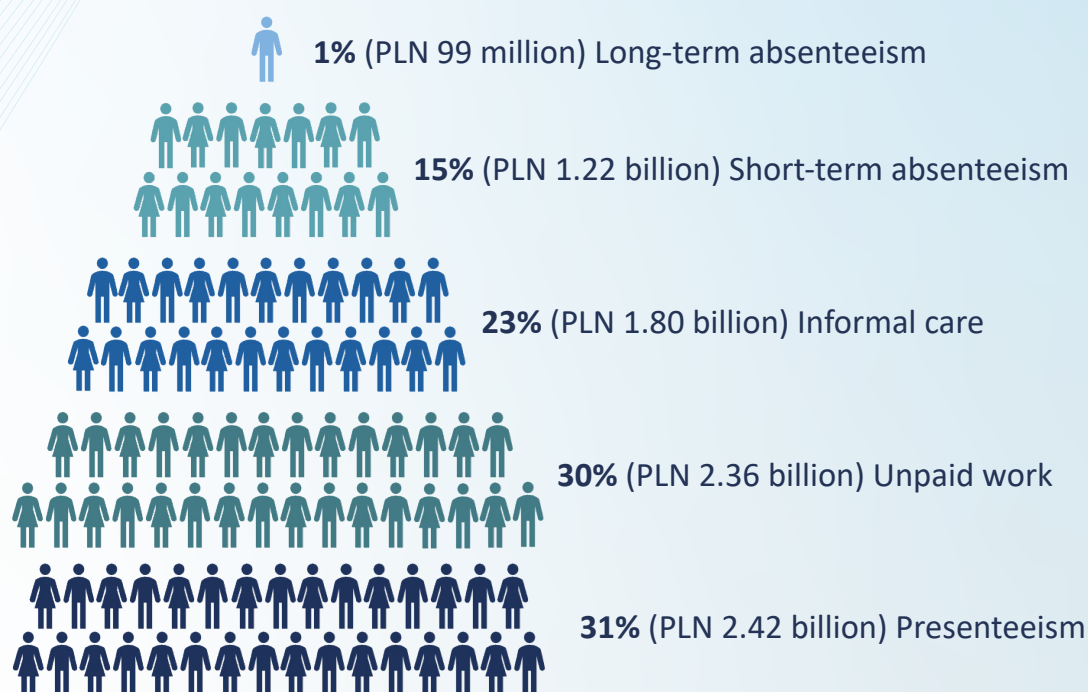


Figure 24. Summary of the social costs of AMD and DME in Poland in 2024

Indirect Costs—The Perspective of Patients and Caregivers

To illustrate the burden of the disease experienced by patients and their families, indirect costs from their perspective were estimated separately. Indirect costs associated with AMD and DME, from the perspective of patients and caregivers, include reduced household income (lost earnings). This loss is due to reduced working hours, as well as sick leave and caregiver's allowance.

Loss of earnings due to reduced working hours

Both some working patients and caregivers of patients with AMD and DME decide to reduce their working hours. As a result of these decisions, patients and caregivers do experience a reduction in income. According to the results of the analysis, the total reduction in working hours for all patients with AMD and DME in 2024 amounted to 12,605,420 hours; for caregivers, this figure was 19,331,094 hours. Taking these figures into account, along with the value of one hour of lost earnings (U_h), the total value of lost revenue due to AMD/DME, from the perspective of all patients and caregivers, amounted to over PLN 1.7 billion in 2024.

Table 23. The value of lost earnings due to reduced working hours among patients and caregivers in 2024

Total number of reduced patient work hours	Total number of reduced work hours among caregivers	U_h	The value of lost earnings due to reduced working hours among patients and caregivers
12,605,420	19,331,094	PLN 53.88	PLN 1,720,579,680

Loss of earnings due to sick leave and caregiver's allowance

Patients and caregivers also experience a loss of earnings due to using sick leave or caregiver's allowance. The value of lost earnings due to this cause was estimated by taking into account the total number of days patients were on sick leave (212,642 days), the total number of days caregivers used for sick leave or caregiver's allowance (213,659 days), and the value of one day of lost earnings (U_{day}). In addition, it was assumed that patients and caregivers would suffer a 20% loss of earnings while on sick leave or caregiver's allowance.

The total value of lost household income among patients with AMD and DME due to sick leave or caregiver's allowance by patients and caregivers in 2024 amounted to over PLN 36.7 million.

Table 24. The amount of lost earnings due to sick leave or caregiver's allowance among patients and caregivers in 2024

Total number of days of patient sick leave	Total number of days of caregivers' sick leave	U_{day}	Percentage of lost earnings	The value of lost earnings due to sick leave among patients and caregivers
212,642	213,659	PLN 431	20%	PLN 36,747,189

Total loss of earnings for patients and caregivers due to AMD and DME

In 2024, the value of lost earnings among patients and caregivers due to AMD and DME amounted to nearly PLN 1.76 billion. It should be noted that approximately 98% of this amount consisted of lost earnings due to reduced working hours. The average amount of lost earnings per family (patient and caregiver) in 2024 was PLN 5,182.

Table 25. The value of lost earnings for patients and caregivers due to AMD and DME in 2024

The value of lost earnings due to reduced working hours among patients and caregivers	The value of lost earnings due to sick leave among patients and caregivers	Total value of lost earnings for patients and caregivers
PLN 1,720,579,680	PLN 36,747,189	PLN 1,757,326,868

**Figure 25.** Summary of the social costs of AMD and DME in Poland in 2024**Summary of AMD and DME costs**

When comparing the direct costs incurred by the NFZ, the direct costs borne by patients, and the indirect costs, it is evident that indirect costs account for a significant portion (84% of total costs). This difference may indicate a significant societal burden resulting from AMD and DME, coupled with insufficient financial resources for treating these diseases. Total costs related to AMD and DME in Poland in 2024 amounted to over PLN 9.4 billion. Taking into account the population of patients with AMD or DME in Poland in 2024 (339,142 patients), the average total cost per patient was PLN 27,780.

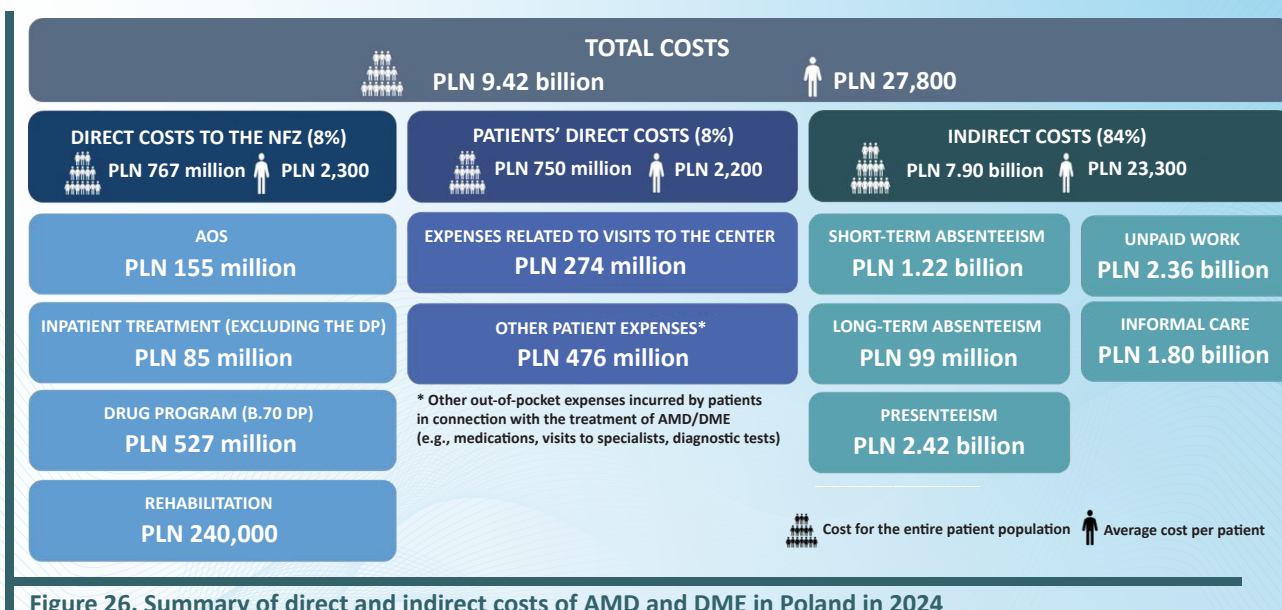


Figure 26. Summary of direct and indirect costs of AMD and DME in Poland in 2024

Transfer of Social Funds

Expenses incurred by the Social Insurance Institution [Zakład Ubezpieczeń Społecznych, ZUS] in connection with illness constitute a separate category of expenditures. They should not be included in indirect costs because, from an economic perspective, they do not generate additional costs; they represent a transfer of resources.

The following benefits related to incapacity for work are paid from the Social Insurance Institution's funds:

- disability pensions;
- social security benefits;
- sick leave;
- caregiver's benefits;
- rehabilitation benefits;
- rehabilitation services.

Benefits (care and rehabilitation) are reported without specifying a diagnosis, while data on other benefits are reported using the ICD-10 code up to the 3-character level. For this reason, the data provided by ZUS and presented in the analysis will cover a broader range of diagnoses: *H35 Other retinal disorders* and *H36 – Retinal disorders in diseases classified elsewhere*⁴³.

Table 26. The value of benefits paid by ZUS to patients with diagnoses corresponding to ICD-10 codes H.35 and H.36 in Poland in 2024

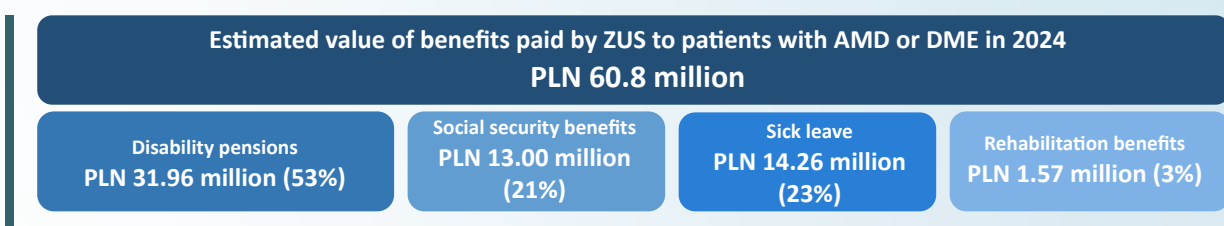
Cost category	H.35	H.36	Total (H.35 and H.36)
Disability pensions	PLN 48,707,500	PLN 10,775,200	PLN 59,482,700
Social security benefits	PLN 21,769,700	PLN 2,576,000	PLN 24,345,700
Sick leave	PLN 22,676,400	PLN 3,924,000	PLN 26,600,400
Rehabilitation benefits	PLN 2,602,100	PLN 337,300	PLN 2,939,400
Total	PLN 95,755,700	PLN 17,612,500	PLN 113,368,200

To estimate ZUS expenditures on benefits related to AMD and DME, the data received from ZUS were extrapolated to estimated figures covering only patients with AMD and DME, based on the proportion of patients diagnosed with AMD and DME within groups of patients with broader diagnoses (up to the third character). The following proportions were included: 53% for AMD and 57% for DME.

Table 27. Estimated value of benefits paid by ZUS for AMD and DME in Poland in 2024

Cost category	H.35.3 (AMD)	H.36.0 (DME)	Total (AMD and DME)
Disability pensions	PLN 25,814,975	PLN 6,141,864	PLN 31,956,839
Social security benefits	PLN 11,537,941	PLN 1,468,320	PLN 13,006,261
Sick leave	PLN 12,018,492	PLN 2,236,680	PLN 14,255,172
Rehabilitation benefits	PLN 1,379,113	PLN 192,261	PLN 1,571,374
Total	PLN 50,750,521	PLN 10,039,125	PLN 60,789,646

The estimated amount paid out by ZUS in 2024 for AMD and DME was PLN 60.8 million. More than half of this amount (53%) consisted of disability pensions, while rehabilitation benefits accounted for a significant portion (3%) of the total.

**Figure 27. Estimated value of benefits paid by ZUS for AMD and DME in Poland in 2024**

A MODEL FOR THE CARE OF PATIENTS WITH AMD/DME

Based on the information presented in this report, a care model for patients with retinal diseases (AMD or DME) was developed.

The Current Situation Regarding the Treatment of AMD and DME in Poland

NFZ perspective

According to an analysis conducted in recent years (2019–2024), there has been a rapid increase in the number of patients diagnosed with AMD or DME. Over the course of these six years, the number of patients with AMD or DME has increased by as much as 49%. A much smaller increase was observed in the number of healthcare providers during those years. Depending on the type of treatment, the number of centers increased by 10% for AOS or by 24% for inpatient treatment (including the drug program). In the case of rehabilitation, there was even a 7% decline in the number of service providers. The rapid increase in the number of patients, coupled with only a slight increase in the number of healthcare providers (and even a decline in the case of rehabilitation), is resulting in a significant increase in the caseload at these centers. For treatment under the AOS, a 31% increase in the caseload was recorded; for inpatient treatment outside of drug programs, the increase was 46%. Significantly higher figures were observed for treatment under drug programs (a 78% increase in the caseload) and for rehabilitation (a 100% increase). Between 2019 and 2024, there was also a 179% increase in the total value of reimbursements for services provided to patients diagnosed with AMD or DME (from PLN 275 million in 2019 to PLN 767 million in 2024).

Treatment under the drug program

An integral part of the treatment of patients with retinal diseases under the NFZ is the B.70 drug program, which covers therapies for patients with nAMD and DME. The medications available through this program are administered to patients at the center, which means that each time a patient needs to take a medication, they must travel to the hospital. The frequency of medication administration varies depending on the medication and the condition, which also affects the number of visits required at the center each year.

Societal perspective

Given the large population of patients with AMD or DME (339,000 in 2024), these diseases result in high societal costs of illness. The social costs of illness stem, among other things, from: work absences by patients and caregivers, patients' limited ability to perform household

duties, and reduced productivity among patients at work. In 2024, the social costs resulting from AMD and DME amounted to as much as PLN 7.9 billion.

The Perspective of Patients and Caregivers

The report included a survey that examined, among other things, the organization of treatment and the impact of the disease on the lives of patients and caregivers. The study results showed that the average duration of a patient's visit to the center was 2.9 hours, and the average number of visits per year was 8. Patients' annual expenses related to visits to the center (travel, lodging, and meals) averaged PLN 808. These data indicate that visits to the center place a heavy burden on patients and their caregivers. In the survey, patients were also asked about their out-of-pocket expenses related to the treatment of AMD or DME (medications, visits to specialists, diagnostic tests, and reading aids). The average annual expenses for a patient with AMD or DME were PLN 1,404. The results of the survey indicate that the treatment of AMD and DME poses a significant challenge for patients and caregivers, both logistically (organizing visits to the clinic) and financially (patients' out-of-pocket medical expenses and costs associated with clinic visits).

The developed model

Based on the data presented in the report, it can be seen that the retinal diseases in question (AMD and DME) generate significant societal costs (PLN 7.9 billion in 2024), while the NFZ's expenditures on treating these diseases are significantly lower (PLN 767 million in 2024). In addition, it should be noted that the estimated out-of-pocket expenses of patients related to the treatment of AMD/DME in 2024 (PLN 750 million) were similar to the amount of reimbursements provided by the NFZ. These data may indicate a need to increase the NFZ's spending on the treatment of patients with AMD and DME. Most of the social costs of AMD and DME stem from work absences by patients and caregivers, as well as from the loss of productivity among patients at work. The symptoms associated with AMD/DME and the need to visit the clinic are responsible for work-related absences among patients and their caregivers, as well as reduced work performance among patients.

To minimize the impact of AMD and DME on the lives of patients and their families, it is essential to use effective treatment that will help maintain control of the disease (preventing a decline in visual acuity and even improving it). This treatment is available to patients with nAMD and DME under the B.70 drug program; however, the active substances must be administered by medical personnel. From the patient's perspective, this requires a visit to the center. Due to the varying dosages of the medications used in the program, the frequency of a patient's visits to the center varies depending on the active substance they are taking. Frequent

administration of the medication poses organizational and financial challenges for patients and their caregivers. To minimize the impact of treatment on patients and their families, it is advisable to use medications that require the fewest possible visits to the treatment center while maintaining the effectiveness of treatment.

In the new model for treating patients with AMD and DME, attention should also be paid to the expansion of rehabilitation, which is currently used by only a small number of patients (341 patients in 2024). Wider use of this form of treatment support could contribute to improved functioning in patients.

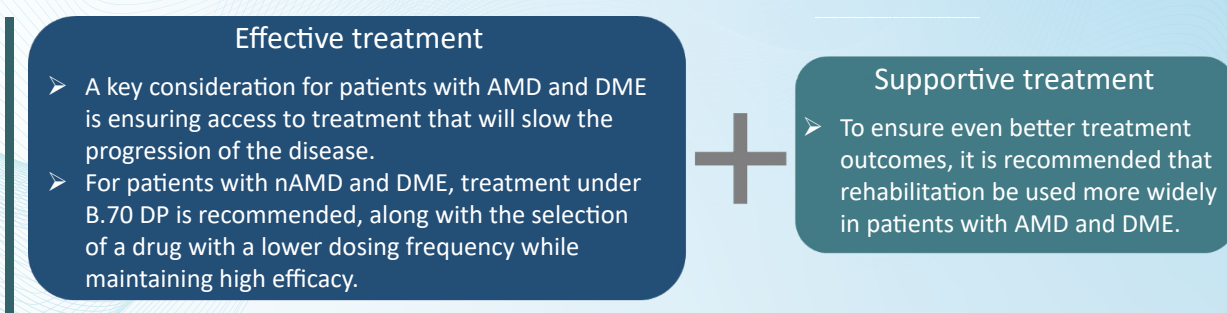


Figure 28. A Model for the care of patients with AMD or DME

Expected benefits of using the model

The implementation of the proposed model in clinical practice would bring a number of benefits from the perspective of the NFZ, society, and the patients and their families themselves.

NFZ perspective

Increasing the use of highly effective medications in patients with nAMD or DME—which require fewer clinic visits—will help conserve resources (less involvement of medical staff, reduced use of infrastructure). These savings can be used to admit other patients (including those not covered by the drug program), which will help reduce waiting times for treatment (and shorten lines).

Advances in treatment support through rehabilitation can help achieve even better treatment outcomes and improve patients' independence.

Effective treatment, supported by rehabilitation, will help improve patients' functioning. From the NFZ's perspective, a potential benefit of this situation would be a reduction in the effects of the disease's progression, including a reduction in the need for psychological or psychiatric support.

Societal perspective

Undoubtedly, the use of highly effective medications in the treatment of nAMD and DME will help improve patients' daily functioning, which will enable them to perform a wider range of household tasks. For patients who are employed, effective treatment will help improve their work performance. In addition, the use of highly effective medications, combined with fewer visits to the clinic, will help reduce work absenteeism among both patients and their caregivers. In summary, the introduction of effective treatment will help reduce the societal costs of AMD and DME.

The Perspective of Patients and Caregivers

In addition to the obvious benefit of improving patients' daily functioning, effective treatment requiring fewer visits will allow patients and caregivers to remain employed, reduce out-of-pocket expenses related to AMD/DME treatment, and improve the functioning of the entire household.

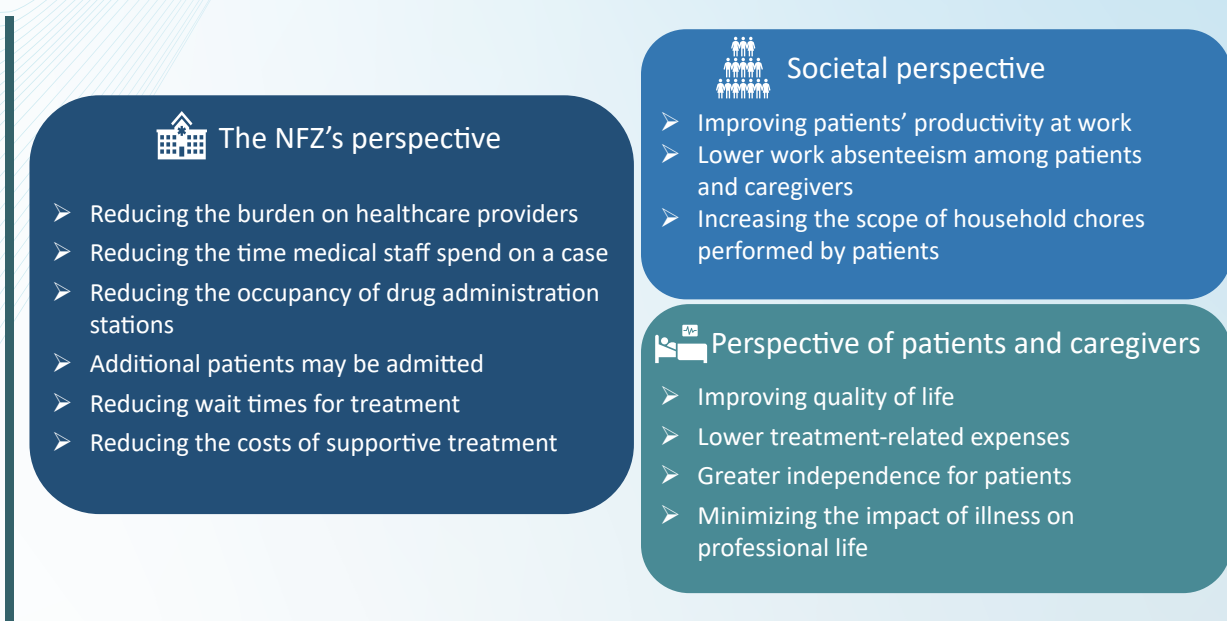


Figure 29. Expected benefits of using the model

COMMENTS FROM REPRESENTATIVES OF THE MEDICAL COMMUNITY (IN ALPHABETICAL ORDER)

Małgorzata Figurska, M.D., Ph.D., Professor at the Military Medical Institute of Medical Physics (WIM)

Ophthalmology Clinic

Military Institute of Medicine in Warsaw

Public awareness of macular degeneration is growing. We can observe that patients who experience problems tend to see an ophthalmologist sooner. Younger patients who come in for consultations with ophthalmologists should be given priority. It is important to raise awareness and vigilance among physicians, who are the first to diagnose the disease.

Most patients cooperate well with their ophthalmologists and keep their appointments and follow-up examinations. Unfortunately, lower adherence is particularly common among patients with diabetes. They can show better compliance because they understand the need for regular monitoring—the drug program includes ongoing monitoring of glycated hemoglobin levels.

The assessment of a therapy's value should depend, among other things, on the extent to which it helps as many people—patients—as possible to remain in the workforce. As for indirect costs and how to take them into account when making systemic decisions, we are still in the analysis phase. However, we need certain mechanisms, tools, and proposals to be implemented as soon as possible.

Prof. Katarzyna Michalska-Małecka, M.D., Ph.D.

Head of the Ophthalmology Clinic,

University Clinical Center, Medical University of Gdańsk

Challenges and the future of ophthalmology in Poland

Patient profile evolution

We are seeing significant demographic and epidemiological changes that are shaping our approach to treatment. As life expectancy continues to rise, the number of elderly patients

is steadily increasing. Our goal is to ensure that they remain active throughout their lives, regardless of age. At the same time, the growing number of younger patients is a cause for concern, primarily due to the rising incidence of diabetes.

Effectiveness and stability in drug programs

In the treatment of macular diseases, the key indicator of therapeutic success is maintaining the best possible quality of vision over the long term. This process takes time and patience:

- The first year of therapy: This is the period of the most intensive medical care.
- Subsequent years: Our efforts are focused on maintaining the clinical stability we have achieved.
- Long-term care: Patients remain under close specialist supervision for an extended period.

Optimization of the healthcare system

The effectiveness of treatment is inextricably linked to the healthcare system model. A noticeable problem is the fragmentation of services. Small treatment centers, which treat only up to a few dozen patients, face barriers to implementing modern drugs. For logistical and statistical reasons, these facilities in fact tend to use only older-generation drugs more often. One solution to improve the system's efficiency is to use long-acting medications. They allow for:

- A reduced frequency of visits and injections.
- Reduced wait times and improved flow of care.
- A significant relief for the healthcare system.

Areas of development:

- Innovation and technology
- The future of ophthalmology rests on the continuous optimization of drug therapy.

We anticipate that anti-VEGF injections, which are the standard of care today, will become a conventional treatment in the coming years, giving way to even more advanced solutions, such as gene therapy. To fully realize this potential, it is necessary to combine modern tools, such as artificial intelligence and next-generation drugs, in the diagnostic and therapeutic processes.

Prof. Robert Rejdak, M.D., Ph.D.

President of the Association of Polish Ophthalmic Surgeons (SCOP)

Head of the General Ophthalmology Clinic, University Clinical Hospital No. 1, Medical University of Lublin

The data presented in the report illustrate the economic aspects of caring for patients with retinal diseases. Year after year, the number of patients seeking treatment from eye specialists is increasing. To ensure that ophthalmologists do not have to deal with an overwhelming number of patients, we need a well-organized system, effective diagnostics, and access to modern technologies.

To ensure effective care and early detection of eye diseases, it is necessary to coordinate the efforts of ophthalmologists with those of primary care physicians, who could routinely ask their patients whether their vision is deteriorating.

The effectiveness of care depends on many factors, and improving it requires the efforts and cooperation of communities and institutions. It is necessary to better control indirect costs in the care of patients with retinal diseases. To this end, it is important to improve the coordination of care, and an important step in this direction should be to strengthen collaboration between ophthalmologists and family physicians. We can leverage the potential of primary care for screening, early diagnosis, and coordinated patient care.

Therapeutic and clinical decisions should always take into account the patient's quality of life, the ability of family and caregivers to provide care, and the patient's ability to remain active in work and social life—or at least to maintain independence—for as long as possible. One important factor, for example, is the distance between the patient's place of residence and the nearest medical center capable of providing high-quality care, potential treatment under a drug program, or necessary rehabilitation.

Col. Prof. Marek Rękas, M.D., Ph.D.

National Consultant in Ophthalmology

Head of the Refractive Surgery Team

Ophthalmology Department, Military Institute of Medicine in Warsaw

In the current healthcare system, it is very difficult to account for indirect costs. In many cases, the costs resulting from shortages, poor organization, and a lack of optimal solutions are passed on to patients. We need to integrate data from all areas of ophthalmology. Then perhaps it will be possible to redirect the funds to where they should go and require the payer to implement specific solutions regarding settlement.

The expansion of the drug program means that small, private clinics are seeing fewer patients, as patients are being referred to clinics that were already participating in the program—of which there are a sufficient number in Poland. We should not expand the program to include more and more smaller facilities, but rather systemically improve the quality of care and monitor the centers currently participating in the program. A hospital that runs a drug program must also recognize that it is in its best interest to admit as many patients as possible. Without systemic solutions and without appropriate provisions in the budget, the hospital won't notice this, because the quality of hospital management varies greatly.

The healthcare contract should specify that large clinical centers are required, as part of their contract, to treat patients with any diagnosis—that is, to administer medication regimens and not to limit the number of patients treated. Leading centers must address the eye diseases that pose the greatest public health challenges, such as cataracts, AMD, and glaucoma. The basket system should exclude facilities that do not meet the minimum requirements regarding patient numbers, in order to encourage hospital managers to improve access to care for patients. In addition to the basket system, there should also be competition so that facilities are motivated to improve the quality of care and accept new patients.

Thanks to the use of modern technologies, we are well on our way to earlier detection of diabetic edema. Together with the Polish Diabetes Association, we signed a health needs charter. At diabetes clinics, patients will be examined using a fundus camera, with the aid of AI algorithms and under the remote supervision of an ophthalmologist. Screening examinations of the fundus using a camera connected to an AI system, with the option of remote consultation with an ophthalmologist, should be available at primary care and diabetes care facilities, and the images taken should be electronically integrated with the drug program so that patients receive an invitation to visit the nearest ophthalmology center.

Knowledge of rehabilitation among physicians is improving, in part because the specialization program has been modified to include a course on rehabilitation. Ideally, large clinics would have specialized physicians who focus specifically on this area; one center per province would be sufficient. Whether a patient will want to undergo rehabilitation depends largely on their

mental state—including, among other things, their willingness to fight for independence. For rehabilitation to be effective, the patient should be treated by a team of experts: a physician, a psychologist, and an optometrist.

An improvement in visual acuity from baseline following treatment is observed in 50 percent of patients. In analyses of treatment effectiveness, individuals with the dry form of AMD should be considered separately, as this form is currently incurable.

The budget provisions should specify what each center is required to do and what performance indicators it must achieve. In the context of AMD and DME, such a condition should be the implementation of a drug program, and for these centers, another criterion should be the maximization of care and funding. To this end, we should make use of the quality monitoring tools we already have in place, including differentiating compensation based on quality.

Reforms to the system are essential and must take place continuously, because medicine is changing rapidly. In many respects, we are 30 years behind in terms of how we organize care, given the technologies currently available. If we don't adapt our organization as technology evolves, the system simply won't work.

Prof. Sławomir Teper, M.D., Ph.D.

**Chair and Clinical Department of Ophthalmology, Faculty of Medical Sciences in Zabrze,
Medical University of Silesia in Katowice**

We have two effective drug programs for patients with nAMD and DME. They certainly save us a lot of indirect costs, and we need to conduct analyses to calculate this precisely. Monitoring treatment effectiveness requires data integration. However, based on our practical experience, we know that thanks to modern medications, patients visit us less often, and this is good for both them and us. I was very pleased with the report, because the results of the analyses showed that in many respects we are better than the European average, and we should be proud of that.

We are committed to diagnosing patients earlier, which in turn leads to more people receiving treatment. Easier access to AOS, which results in a large number of unnecessary visits, does, on the other hand, have its positive consequences. Thanks to this, patients can be diagnosed very

quickly and begin treatment promptly, e.g. for DME. When we treat patients early enough, they can retain their full visual acuity and may not require rehabilitation. We would like the need for ophthalmic rehabilitation to be as minimal as possible.

It is a good idea to implement simple procedures, such as a rule that every patient diagnosed with diabetes should automatically receive a referral to the ophthalmologist closest to their place of residence. Within the healthcare system, we have data that can be put to good use so that this screening can become operational. We want patients with DME to see a specialist there right at the onset of the disease. It is also worth developing strategies targeted at patients who are reluctant to engage with treatment. This problem exists worldwide, and different countries use various methods to address it, such as sending text messages, nurse visits, or otherwise bringing the patient to a location equipped with a camera that will take an image.

To analyze the effectiveness and costs of treatment, we need high-quality data, as the report clearly shows. When discussing indirect costs of PLN 7.5 billion, it is important to keep in mind that we are dealing with specific patient groups—people with diabetes who suffer from numerous complications, and patients with AMD, most of whom are elderly and face a variety of different health issues. We don't really know to what extent we can reduce these costs. We need analytical tools to analyze the data we are already collecting.

We are unable to integrate many of the existing IT systems, such as those of ZUS, SMPT, and NFZ. All of this is within our capabilities; the barriers are primarily of a formal, legal, and political nature. If an integrated system for collecting and analyzing data is created, we will be able to make decisions—such as whether to reimburse new therapies—based on reliable information.

The nature of the medical, social, and economic burdens associated with DME and AMD is different, and they also give rise to entirely different problems. In the case of AMD, absenteeism is not particularly noticeable, whereas the situation is different with DME, given that patients are younger and employed. The average distance between patients and treatment centers is good—according to the report, it is about 30 km. This is significantly shorter than the distances in many other countries that have achieved good treatment outcomes.

With good work organization, ophthalmology departments are able to see several dozen patients a day under the drug program. Once a patient is enrolled in the program, their visit can be very brief, although, of course, from their perspective—when you factor in travel time and the wait for the injection—it takes much longer.

We can place great hope in the introduction of new drugs—gene therapies—that will work by inducing retinal cells to secrete anti-VEGF inhibitors. This will bring the era of injections to an end; the administration will likely be a one-time event. It will take at least a few years for such therapies to become available, and in the meantime, I would focus on analytical tools and data integration, which seem to be within our reach.

Prof. Edward Wylęgała, M.D., Ph.D.

Head of the Chair and Clinical Department of Ophthalmology, Faculty of Medical Sciences in Zabrze, Medical University of Silesia, Railway Hospital in Katowice

Provincial Consultant in Ophthalmology

Vice-Rector for Development and Technology Transfer at the Medical University of Silesia

This report is the first to compile such comprehensive, yet detailed and in-depth, information on the treatment and care of patients with AMD and DME.

It is extremely important to take into account the indirect costs associated with the treatment of eye diseases. In our day-to-day clinical work and from the perspective of healthcare policy decisions, we do not consider the economic impact of a disease that prevents a patient from working, hinders daily life, and, in the worst cases, robs them of their independence and permanently prevents them from engaging in their previous activities. Indirect costs are very important and should be collected, analyzed, monitored, and taken into account.

When evaluating new therapies, people usually focus only on short-term costs; however, a treatment that is slightly more expensive but more effective yields a higher return on investment. It is better to spend more so that the patient can recover and return to work and an active life than to skimp on treatment and cause permanent damage to their health. Efforts must also be made to ensure that the disease is detected as early as possible, because that increases the chances of a cure. Putting things off usually doesn't result in savings. That is why we make every effort to ensure that patients do not have to wait, to treat them as quickly as possible, to enroll them in the drug program, and to efficiently administer the best available therapies.

I am very pleased that the authors of the report recognized rehabilitation as an important step in the patient's journey. The recommendations regarding rehabilitation are very insightful and should be taken into account by policymakers and physicians.

In patient care, direct contact, trust, and empathy are essential. In our work, we strive to ensure that every patient is cared for by a specific physician whom they can get to know, trust, and whose recommendations they can follow. It is also important to involve family members, relatives, and caregivers in this process. It is rare for a patient to come to an appointment alone—they are usually accompanied by others, and we often see families of several people.

Patients are able to travel long distances to reach leading medical centers, and we should not turn them away or make them wait, but rather adapt our operations to their needs. Our center primarily treats patients enrolled in the drug program in the afternoons, which has allowed us to create a clear and motivating compensation system for physicians and nurses, while also meeting the needs of patients and their families.

Access to treatment under the drug program should be tailored to the epidemiology. As the number of cases rises and treatment centers reach capacity, it is advisable to open new facilities and form new teams. The network of facilities offering the program requires continuous optimization.

Due to the requirements of the drug program, centers with 100 to 500 patients provide the optimal conditions for treatment. A smaller number leads to a decline in the quality of care, while a larger number leads to an excessive caseload for the team. Good work organization, along with modern therapies—which are administered half as often as before—allow us to increase work efficiency and treat a greater number of patients using the same resources and staff. If a hospital exceeds its capacity threshold, it is worth considering reorganizing operations and establishing a second, parallel clinical team that will build its own patient caseload.

Collaboration between ophthalmologists and diabetologists is of great importance in the care of patients with DME. What is needed are lasting relationships and trust, which can be built through many years of working together. The diagnostic vigilance of diabetologists is essential for identifying when complications are developing in a patient with diabetes, including problems related to diabetic macular edema. The treatment of diabetes and its complications, such as DME, requires ongoing, long-term care by a team of specialists, with diabetologists and ophthalmologists playing a leading role. Many clinical centers have managed to establish such cooperation perfectly, but perhaps this should also be supported by specific financial and organizational measures, rather than relying solely on the goodwill of both parties.

COMMENTARY FROM PATIENT ADVOCACY GROUPS

Małgorzata Pacholec

President of the Retina AMD Polska Association

It's hard to imagine life without being able to read, drive a car, look our loved ones in the eyes, or admire the world around us. Vision loss is not just a medical problem—it is a personal, social, and economic tragedy.

Despite tremendous advances in medicine, there are still diseases that rob people of their sight and their independence in daily life. Among the most serious are AMD—age-related macular degeneration—and DME—diabetic macular edema. The exudative form of AMD (nAMD) and DME already affect hundreds of thousands of people in Poland, and as the population ages and the number of people with diabetes rises, the scale of the problem will continue to grow.

A modern treatment program for nAMD has been in place in Poland since 2015, and since 2024, a program for DME has also been in place—based on the highest global therapeutic standards. This is a real success for the healthcare system. In practice, however, not all patients have equal access to effective treatment that slows the progression of the disease.

The main barriers are late diagnosis and delayed referral for treatment. The result is often irreversible vision loss, which radically changes the lives of the patient and their family.

The social consequences of vision loss

Patients with advanced nAMD or DME:

- lose their ability to work,
- are experiencing a deterioration in their financial situation,
- fall into depression and social isolation,
- are giving up their current activities—reading, sports, traveling, driving, or riding a bike,
- require support from family members or long-term care.

Loss of vision means a loss of independence. And this generates costs that go far beyond the healthcare budget.

Retina AMD Polska—a patient organization that supports patients and consistently advocates for systemic changes in the treatment of retinal diseases—has been active for over 25 years. Our position is clear: access to diagnosis and treatment cannot depend on a patient's place of residence, level of knowledge, financial situation, or the determination of their family.

The ability to see should not be a privilege. It should be the norm.

Why is this report groundbreaking?

Until now, the public debate has focused mainly on the direct costs of treatment borne by the public payer. The following aspects have rarely been analyzed:

- costs incurred by patients and their families (for travel, rehabilitation, home modifications),
- indirect costs (loss of productivity, absenteeism, early retirement),
- social costs (long-term care, social assistance, social exclusion).

As a result, the actual economic burden of these diseases was underestimated. This report is a comprehensive compendium of knowledge on AMD and DME. It presents detailed figures, cost breakdowns, and an analysis of their structure. It illustrates the scale of the problem from the perspective of the patient, the caregiver, the healthcare system, and the national budget. The report clearly indicates that improving access to early diagnosis and effective treatment is in the state's interest.

Retinal diseases:

- reduce quality of life,
- increase the demand for social benefits,
- generate high indirect costs,
- exacerbate occupational and social exclusion.

Therefore, the problem of nAMD and DME is not solely an ophthalmological issue. This is an interdisciplinary challenge for policymakers responsible for health, social, and demographic policies.

In light of unfavorable demographic trends, it is becoming necessary to strategically plan actions and secure adequate funding. Early treatment and equal access are not an expense—they are an investment in employment, citizens' independence, and the stability of the social system. We encourage you to read the report. The findings may prove surprising—and crucial for the future of Poland's healthcare system.

Assessment of the Socioeconomic Impact of Innovative Therapies

In the debate on healthcare financing, the dominant perspective remains **direct medical costs** and, to a lesser extent, **the social costs of illness**, associated primarily with short-term and long-term absenteeism and presenteeism, and less frequently with a reduction in unpaid work and the burden on caregivers in the context of informal care. Although such measures accurately reflect the scale of the disease burden, they focus primarily on **costs and lost resources** borne by society. However, they do not fully capture the value that effective, modern treatment can generate—a value that goes beyond simply limiting losses.

Therefore, the need to assess **the socioeconomic effect of innovative therapies (Social Impact)**. This approach allows us to view health care not merely as an area of spending, but as **an investment in human capital and economic potential**. Improvements in patients' health not only lead to a better quality of life and longer life expectancy, but also to an increased ability to work, reduced productivity losses, greater occupational activity, and maintaining functional independence.

Social Impact analysis allows us to capture these broader effects—including increased productivity in paid and unpaid work, reduced burden on caregivers, reduced social transfers, and the impact on economic activity in other sectors. From this perspective, the social costs of the disease remain an important element of the analysis, but they serve more as a point of reference than as the main focus of the assessment. It is crucial, in fact, to assess the extent to which innovative therapies generate **added value for the economy and society**, going beyond traditional cost metrics.

In summary, **Social Impact** is a measure of the broadly defined socioeconomic benefits resulting from the use of modern medical therapies. In accordance with the methodology presented in analyses such as the report *“The Value of Investing in Innovative Medicines”* prepared by WifOR⁴⁴, *Social Impact* consists of two main components:

1. **Health Footprint:** This is an estimated measure of the health benefits resulting from a specific treatment, expressed as a **QALY (Quality-Adjusted Life Years)**. QALY combines life expectancy with patients' quality of life, serving as a standard measure used to assess the cost-effectiveness of a drug. This indicator allows for a comprehensive assessment of the impact of treatment on patients' health and, in a broader context, on their **ability to actively participate in professional and social life**.

2. **Socioeconomic Footprint:** A measure of the benefits that translate into increased productivity in society, resulting from improvements in patient health. In this case, health gains are converted into economic benefits by estimating their impact on productivity, both in paid work (e.g., occupational activity) and unpaid work (e.g., household chores). The goal is to show how improved patient health leads to increased productivity in the economy, which in turn contributes to the country's overall economic development.

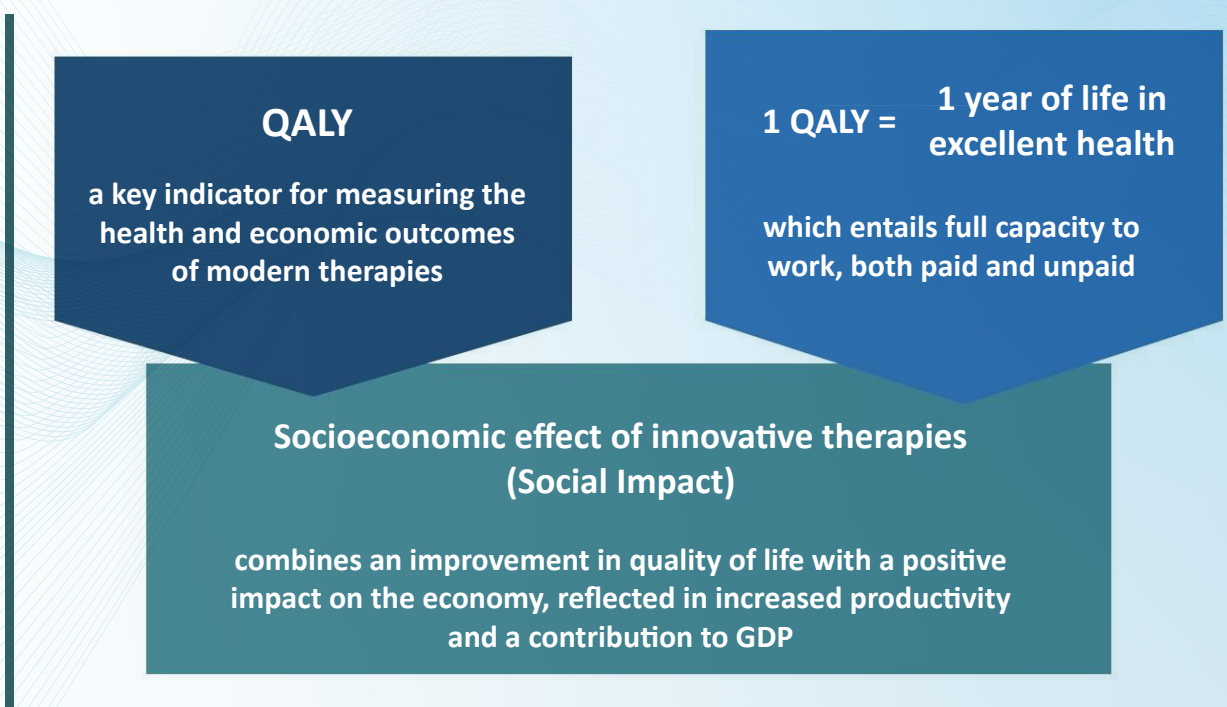


Figure 30. Basic principles of *Social Impact*

Social Impact provides a comprehensive picture of the benefits of treatment, extending beyond patients' health outcomes alone to include the positive impact on the economy and society resulting from improved health and increased productivity.

Assessment of the **health footprint** involves several key stages that allow for an assessment of the impact of modern therapies on improving patients' health and productivity, both socially and economically. This process involves the following steps⁴⁴:

1. **Patients Reached (PR)**

The first step is to accurately estimate the number of patients who will undergo a given treatment within a specified time frame. To this end, both forecasts and historical data are used, taking into account the specific characteristics of the country, the drug, and the therapeutic indications, as well as epidemiological data on the prevalence of diseases in

the population. Accurately determining the number of patients is the foundation for further estimates.

2. Calculating QALYs

Health gains are calculated based on the difference in QALYs between the intervention and the current standard of care, which makes it possible to capture the actual health gain resulting from the introduction of a new technology. QALY is a measure that takes into account both the length of life and the quality of life of patients. The QALY estimate is based on the documented efficacy of the therapy and the results of clinical trials, ensuring an objective assessment of health benefits.

Health benefits are assessed on an annual basis, without discounting. It is assumed that health gains (QALYs) are uniform within each year of the analysis, which simplifies the calculations and allows for comparisons of health gains across different time periods.

3. Division into age groups

Due to differences in productivity potential, the estimates are divided into three age groups: under 20, 20–59, and over 60. Among people over the age of 60, the focus is primarily on the health benefits associated with unpaid work, such as caring for family members, whereas people of working age (20–59) have a greater impact on the benefits associated with paid work.

In WifOR publications, gross value added (GVA) has been used as a measure of productivity and the monetary impact of health outcomes on the economy (in Polish public statistics the WDB acronym is used). In national accounts, this is a measure of the value created in the economy, defined as the difference between total output and intermediate consumption—that is, the value of inputs used in the production process. The sum of gross value added in the various sectors of the economy, plus taxes on products and minus subsidies on products, equals gross domestic product (GDP)⁴⁵.

The number of productive years (derived from QALY) was multiplied by GVA per economically active person, which made it possible to estimate the direct effects on paid work. Next, using the *input-output* multipliers, intermediate and induced effects were taken into account, illustrating the impact of increased economic activity on other sectors of the economy. In the case of unpaid work, GVA was adjusted accordingly (the adjustment took into account both the ratio of time spent on unpaid work to paid work and the relative economic value of that work compared to the average productivity of paid work in the economy) to estimate its hypothetical economic value.

The approach presented in WifOR's publications provides a valuable and solid foundation for assessing the impact of therapies on society and the economy.

Social Impact outcomes in patients with nAMD/DME—an example of WifOR's analysis for faricimab

According to the WifOR analysis⁴⁶, treating patients with nAMD and DME with faricimab between 2024 and 2032 is associated with a significant health benefit. It is estimated that the cumulative gain in health outcomes during this period for 10 countries (Brazil, China, France, Spain, Japan, Canada, Germany, the United States, the United Kingdom, and Italy) amounts to approximately 64,000 QALYs (uncertainty interval: 40,000–90,000 QALYs). This benefit, when converted into socioeconomic footprint in accordance with the adopted methodology (linking health outcomes to productivity and contributions to GDP), translates into a *Social Impact* of approximately USD 6.3 billion in the countries analyzed (range: USD 4–9 billion). This means that improving the survival and quality of life of patients with nAMD and DME generates a measurable macroeconomic effect in the form of an increased contribution to the economy.

Data for Poland (QALY, Social Impact) provided by the drug manufacturer, as well as data for selected European countries from the WifOR publication⁴⁶, are summarized in the table below. It should be noted that the estimates for Poland cover the period 2024–2030, while those for other European countries cover the years 2024–2032; given that the projection horizon for Poland is two years shorter, this may result in slightly lower figures for Poland.

Table 28. Social Impact results for Poland (2024–2030) and selected European countries (2024–2032): faricimab for the treatment of AMD/DME

Country	Health Footprint	Socioeconomic Footprint
Poland	1,714 QALYs	USD 105.15 million
Germany	11,372 QALYs	USD 857.40 million
France	7,469 QALYs	USD 599.19 million
United Kingdom	3,628 QALYs	USD 568.28 million
Spain	5,321 QALYs	USD 298.39 million
Italy	3,221 QALYs	USD 180.82 million

For the Polish context, the use of faricimab in the AMD/DME patient population was estimated to result in an increase in health benefits of approximately **1,700 QALYs** and a social impact of over **USD 105 million**. Gaining approximately 1,700 QALYs means that, thanks to treatment for AMD/DME, patients gain a total of approximately 1,700 years of life in full health. It is a synthetic measure of health benefits that takes into account both increased life expectancy and improved quality of life. The estimated social impact for Poland, amounting to approximately

USD 105 million, reflects the socioeconomic value resulting from improvements in patients' health. This translates into additional productivity generated by patients' improved quality of life and longer periods of activity—both in paid work and in unpaid activities—as well as the resulting increase in value added in the economy. From a macroeconomic perspective, this means that improvements in patients' health translate into greater economic activity and an additional contribution to the economy.

When interpreting the results for Poland, it is important to keep in mind that the QALY level obtained is also influenced by the size of the population in a given country and the proportion of older adults, particularly those aged 65 and older, which is particularly significant in the case of AMD, as it is a condition strongly associated with aging. It should be noted that all of the European countries analyzed have larger populations than Poland, ranging from about 35% larger in the case of Spain to more than twice as large in the case of Germany^{47,48}. At the same time, in all of these countries, the proportion of people aged 65 and older is higher than or similar to the level observed in Poland, with the exception of the United Kingdom, where it was about 2 percentage points lower^{47,49}. However, the projected number of patients who will receive treatment is of the greatest importance, as it is this figure that most strongly determines the total value of the health outcomes achieved and remains a parameter that is largely specific to individual countries. At the same time, it should be emphasized that differences between countries in terms of the organization of health care, the structure of the patient population, cost levels, the employment status of patients and caregivers, and the analytical assumptions used may further influence the magnitude of the observed health and socioeconomic effects.

The size of the population using faricimab in Poland (*Patients Reached*)

It should be noted that, according to estimates, the number of patients treated with faricimab in Poland under the B.70 program will increase steadily in the coming years: from 7,600 to 31,900 patients in 2030 (Chart 15). These figures were estimated based on actual data regarding the number of patients treated with faricimab in 2024⁵⁰ and 2025⁵¹ (through the second quarter), and were then extrapolated to the years 2024–2030 using the growth trend in the number of patients treated with aflibercept—the primary comparator and the longest-reimbursed technology in the B.70 drug program—observed prior to faricimab's inclusion in the reimbursement program⁵⁰. Given the scale of the population as described above, the importance of effective treatment for AMD and DME should be considered not only from a clinical perspective, but also more broadly—from the perspective of its socioeconomic consequences.



Chart 15. Forecast of the number of patients treated with faricimab from 2024 to 2030

It is worth noting that, with regard to an innovative drug such as faricimab, used to treat AMD and DME under the B.70 program, its value is not limited solely to clinical outcomes and budgetary implications. This drug may also provide broader societal benefits by improving or maintaining patients' visual function, thereby reducing the negative impact of the disease on their daily functioning, independence, and social and professional activities. This is particularly significant because the population of patients with AMD consists mainly of older adults, for whom the benefits may include, among other things, maintaining independence and reducing the need for support from others; in the case of DME, however, the proportion of patients of working age is increasing, which enhances the therapy's potential to reduce productivity losses. With the anticipated increase in the number of patients with DME (due to the rising prevalence of diabetes⁵²), the importance of effective treatment under the B.70 program is likely to grow not only from a health perspective but also from a socioeconomic perspective, underscoring the long-term value of investing in modern ophthalmic therapies.

In summary, it is worthwhile to develop Social Impact analyses, as this approach goes beyond the traditional framework of disease costs and social costs, which focuses primarily on losses and burdens. It makes it possible to capture not only the health effects of the therapy, but also their impact on paid and unpaid productivity, as well as on the functioning of the economy as a whole. As a result, Social Impact more fully reflects the value of innovative therapies—which goes beyond the payer's perspective—and promotes the view that health care spending is not only a cost but also an investment in human capital and economic potential. Incorporating this

type of analysis can serve as a significant complement to the evaluation of innovative drugs, enriching standard pharmacoeconomic indicators with a broader socioeconomic perspective.

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LIST OF CHARTS AND FIGURES

List of charts

Chart 1. Number of patients treated for a given diagnosis from 2019 to 2024, according to NFZ data	13
Chart 2. Number of healthcare providers and patients treated under the AOS program with a diagnosis of AMD and DME from 2019 to 2024, according to data provided by the NFZ	14
Chart 3. Total reimbursement amount and average reimbursement per patient for services provided under the AOS to patients diagnosed with AMD and DME from 2019 to 2024, according to data provided by the NFZ	15
Chart 4. Number of healthcare providers and patients treated as inpatients outside the drug reimbursement program with a diagnosis of AMD and DME from 2019 to 2024, according to data provided by the NFZ	15
Chart 5. Total reimbursement amount and average reimbursement per patient for services provided as part of inpatient care outside the drug program to patients diagnosed with AMD and DME in 2019–2024, according to data provided by the NFZ	16
Chart 6. Number of patients, number of healthcare providers, and caseload of healthcare providers in the B.70 and B.120 drug programs, according to data provided by the NFZ.....	17
Chart 7. Total reimbursement amount and average reimbursement per patient for services provided under drug programs to patients diagnosed with AMD and DME from 2019 to 2024, according to data provided by the NFZ	18
Chart 8. Implementation of services related to eligibility assessment under drug programs B.70 and B.120 for the years 2019–2024, according to BASiW	21
Chart 9. Provision of diagnostic services under drug programs B.70 and B.120 for 2019–2024, according to BASiW	21
Chart 10. Implementation of services classified as outpatient admission of the patient under drug programs B.70 and B.120 for the years 2019–2024, according to BASiW	22
Chart 11. The value of drug reimbursements, the number of patients receiving drugs, and the average value of drug reimbursement per patient in the drug program for 2019–2024, according to BASiW and NFZ statistics	24
Chart 12. Number of patients, reimbursement amount, and average reimbursement amount by active substance used in the B.70 drug program in 2024, according to NFZ statistics	25
Chart 13. Number of patients and healthcare providers offering medical rehabilitation services to patients diagnosed with AMD and DME from 2019 to 2024, according to data provided by the NFZ	27
Chart 14. Total reimbursement amount and average reimbursement per patient for medical rehabilitation services provided to patients diagnosed with AMD and DME from 2019 to 2024, according to data provided by the NFZ	27
Chart 15. Forecast of the number of patients treated with faricimab from 2024 to 2030.....	72

List of figures

Figure 1. Summary: Clinical Presentation (AMD and DME).....	6
Figure 2. Epidemiology of AMD and DME	7
Figure 3. Quality of life for patients with AMD or DME.....	9
Figure 4. Examples of AMD and DME Treatment in Various European Countries.....	10
Figure 5. Summary: Treatment of AMD and DME in Poland	11
Figure 6. Timeline of the B.70 and B.120 Drug Programs.....	17
Figure 7. Service delivery: Outpatient admissions under the B.70 drug program in 2024 by province, according to BASiW	19
Figure 8. Geographic availability of the B.70 drug program in 2023 according to BASiW	20
Figure 9. Drug dosage for patients with nAMD according to the drug program provisions as of October 1, 2025*	23
Figure 10. Drug dosage for patients with DME according to the drug program provisions as of October 1, 2025*	23
Figure 11. Average waiting time, number of patients on the waiting list, and healthcare providers delivering services under the B.70 drug program as of August 31, 2025, according to the NFZ Treatment Waiting Times Information System.....	26
Figure 12. Summary: Survey Results	28
Figure 13. The population of surveyed patients.....	29
Figure 14. Organization of treatment for survey respondents	30
Figure 15. Answers to questions about arranging visits to the center	31
Figure 16. Receiving benefits (pensions, allowances, rehabilitation benefits).....	32
Figure 17. Employment status of patients with nAMD/DME	32
Figure 18. The impact of nAMD/DME on the ability of working patients to perform their job duties.....	33
Figure 19. The impact of nAMD/DME on the daily lives of patients and their caregivers.....	35
Figure 20. Categories and amounts of patients' out-of-pocket medical expenses.....	36
Figure 21. Costs associated with a visit to the center	36
Figure 22. Loss of earnings for patients and caregivers associated with a visit to the center	37
Figure 23. Summary: AMD and DME costs in Poland in 2024	38
Figure 24. Summary of the social costs of AMD and DME in Poland in 2024.....	48
Figure 25. Summary of the social costs of AMD and DME in Poland in 2024.....	50
Figure 26. Summary of direct and indirect costs of AMD and DME in Poland in 2024	51
Figure 27. Estimated value of benefits paid by ZUS for AMD and DME in Poland in 2024.....	52
Figure 28. A Model for the care of patients with AMD or DME	55
Figure 29. Expected benefits of using the model	56
Figure 30. Basic principles of <i>Social Impact</i>	68