POLPHARMA
SCIENTIFIC
FOUNDATION

2023

THE POLPHARMA SCIENTIFIC FOUNDATION REPORT IN BRIEF

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The Foundation keeps abreast of current trends and applies its experience to new ventures.

Jerzy Starak,
President of the Supervisory Board
of Polpharma SA,
Founder of the Polpharma
Scientific Foundation

We have the ambition to become an innovation incubator

Invariably for 22 years, the Foundation has supported the medical, pharmaceutical and academic community and patients, by initiating and engaging in many activities aimed at improving and developing Polish scientific thought.

Every year in medicine, pharmacy and science see new challenges, as in other areas of life. The Foundation keeps abreast of current trends and applies its experience to new ventures. It bases its activities on a long-term and coherent strategy that reflects the needs of the market.

In 2022, the Polpharma Scientific Foundation held a Competition dedicated to "Digitization for Improved Medical Outcomes." Its goal was to improve physician-patient collaboration in prevention, treatment and rehabilitation through the use of IT methods and tools. The great interest in the Competition confirmed the timeliness and importance of the topic.

In 2023, the Foundation is focusing its activities on current developments in healthcare. One of the key ones is the topic of medical records. Debates and a number of publications and speeches have been devoted to that issue. The XXII edition of the Research Project Competition is entitled: "The use of databases to improve prevention, diagnosis and therapy."

The Polpharma Scientific Foundation has the ambition to become an incubator of innovation in the near future. Its purpose will be to support the process of managing the results of scientific research and development work in the scope of their commercialization. I am strongly rooting for these activities.

The Polpharma Scientific Foundation has the ambition to become an incubator of innovation in the near future.

I sincerely thank the Scientific Council, the Honorary Council, the Management Board and the Management of the Foundation for their extraordinary commitment to all the projects realized in another year of activity.

I am proud that Polish scientists have such an important ally in the Polpharma Scientific Foundation, which has consistently supported their development for more than 20 years.

Action for science must be strategic

"In 2022, we redefined our strategy and organizational structure. We worked intensively on both communications, systemic solutions and several new initiatives. We faced the development of a new strategy, but we also took care of the working environment at the Foundation," Agata Łapińska-Kołodzińska, president of the management board of the Polpharma Scientific Foundation, briefly reported on the organization's achievements last year. She reports on the details of the Foundation's activities in the past and current year in the interview below.

The Polpharma Scientific Foundation continues to expand its activities in the areas of science and medicine. Can one say that this is already a strategic plan?
Yes. You can confidently say that. Every year, we try to add some interesting initiative to our strategic plan. Last year, it was the 1st Conference of Rectors of University Medical Schools, which provided the first platform for sharing information on how science could support the pharmaceutical industry and vice versa. We were looking for inspiration in the field of education. We were wondering where there were significant deficits in medical science education and how we could help. This is how we came up with the idea for "Med. School of Your Future. Invest in Yourself," which I will talk about later.

> **We are the private foundation that funds scientific research. It means we have a duty.**

Agata Łapińska-Kołodzińska
Prezeska Zarządu
Naukowej Fundacji Polpharmy

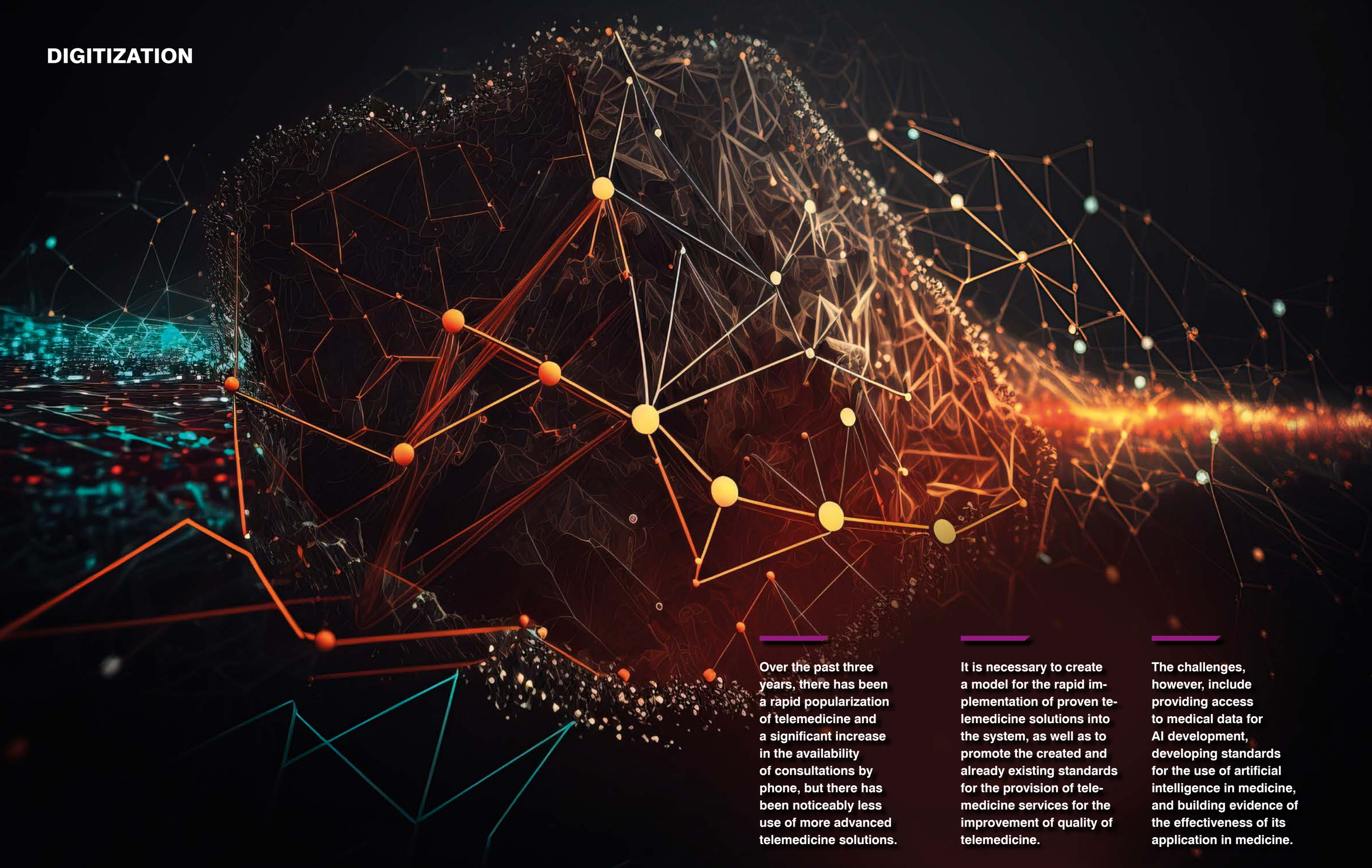
What are the key goals of the activities of the Polpharma Scientific Foundation?
What is key, of course, is and will be our competitions for research projects. In addition, since last year, we have been trying to deepen our cooperation with the academic community. We believe that science and industry should have a common platform and the Foundation is the best place for this. And our strategic direction, which we want to develop over the coming years, is "patient-centered care".

What did you focus on in 2022?
This was, in a way, a breakthrough year for us. A year in which we redefined our strategy and organizational structure. We worked intensively on both communications, systemic solutions and several new initiatives. We faced the development of a new strategy, but we also took care of the working environment at the Foundation. Among others, we developed a system for submitting projects within the Polpharma Scientific Foundation. Of new things, the 1st Conference of Rectors of University Medical Schools was held, where we managed to discuss the strategic directions of development of the Polpharma Scientific Foundation.

In what is the innovation of the Foundation's activities expressed?
First and foremost, we are the only private foundation that funds scientific research. It means we have a duty. Second, we are constantly looking for new ideas. Ones that are up-to-date and needed in the environment. This is proven by our competitions. In 2022, we set our sights on digital solutions in medicine. The title of the competition was: "Digitization for Improved Medical Outcomes." Both winning grants will facilitate treatment, but also improve patient comfort in two critically important therapeutic areas – hypertension and AIDS.

> **For the first time, we will organize a school in September titled "Med. School of Your Future. Invest in Yourself," – for especially capable medical students, which will help them prepare for their future role as scientists.**

What are the most important challenges facing the Polpharma Scientific Foundation in 2023?
We will focus our activities around the new theme of the competition: "The use of databases to improve prevention, diagnosis and therapy." On September 1 last year, we also launched the next edition of the Roman Kaliszan Award Competition, where we want to find interesting applications. In addition, for the first time, in September we will organize the school titled "Med. School of Your Future. Invest in Yourself" – for especially capable medical students, which will help them prepare for their future role as scientists.
We also don't forget about patients, to whom we have dedicated further debates. We also want to hold the 2nd Conference of Rectors and consider the concept of the next initiative on the "master-student" relationship – a foreign scholarship for the most outstanding young Polish scientists at a prestigious medical university in the world. It will be a "tailor-made" individual program, honoring the most talented researchers, selected by the College of Rectors of Medical Academies in Poland. The hallmark and defining feature of the program will be the elite and unique master-student contact. The scholarship recipient will hold meetings with their mentor, keeping in touch with them on an ongoing basis and being able to explore their interests and field of study. We are currently working on the program and its details. We hope to see the launch of the project soon.



Over the past three years, there has been a rapid popularization of telemedicine and a significant increase in the availability of consultations by phone, but there has been noticeably less use of more advanced telemedicine solutions.

It is necessary to create a model for the rapid implementation of proven telemedicine solutions into the system, as well as to promote the created and already existing standards for the provision of telemedicine services for the improvement of quality of telemedicine.

The challenges, however, include providing access to medical data for AI development, developing standards for the use of artificial intelligence in medicine, and building evidence of the effectiveness of its application in medicine.

Based on a presentation by Jan Pachocki, CEO of the Telemedical Working Group Foundation.

Improving Remote Care for HIV-Infected Patients

"Thanks to implementation of the mobile app that my team is developing, HIV-infected patients will gain better control over the course of their disease and the ability to contact their physician more efficiently," explains dr n. med. Bogusz Aksak-Wąs, of the Pomeranian Medical University in Szczecin, this year's winner of the Polpharma Foundation's Scientific Award.

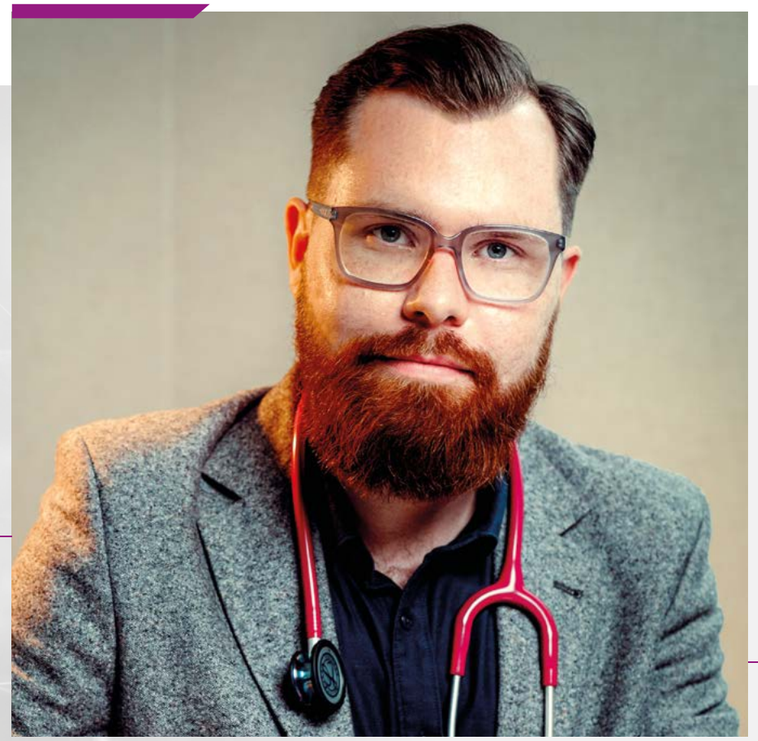
With the decision of the Scientific Council of the Foundation, dr n. med. Bogusz Aksak-Wąs, from the Department of Infectious, Tropical Diseases and Acquired Immunodeficiencies of the Pomeranian Medical University in Szczecin, was one of the winners of the 21st edition of the research competition in 2023. The title of the awarded work is: "An Application for the Care of HIV-Infected Patients."

Ongoing Epidemic of HIV Infections

The goal of the project carried out by the team of dr Bogusz Aksak-Wąs is to develop a web and mobile application that will be used to improve the remote care of HIV-infected patients, monitor their test results and plan personalized therapeutic management.

"The field of infectious diseases, especially HIV care, interested me while I was still in medical school. In the following years, I have already been consistently developing this interest as part of my scientific and clinical activities. I currently work in the Observation and Infectious Diseases Unit of the Department of Infectious, Tropical Diseases and Acquired Immunodeficiencies and in the Outpatient Clinic for Acquired Immunodeficiencies. I am also a co-author of the recommendation of the Polish AIDS Scientific Society," dr Bogusz Aksak-Wąs introduces his professional path.

As the expert points out, there is currently an ongoing epidemic of HIV infections in Poland. Each year, the number of new confirmed cases increases, and although the scale of the phenomenon is not very large, the upward trend continues.



According to the assumptions made, through implementation of the mobile application under development, patients will gain better control over the course of their disease.

Dr n. med.
Bogusz Aksak-Wąs
from the Pomeranian Medical University in Szczecin

Ability to Contact the Infectious Disease Clinic Faster

According to this year's winner of the Polpharma Scientific Foundation Award, the primary goal of the ongoing project is to digitize the care over infected people.

"According to the assumptions made, through implementation of the mobile application under development, patients will gain better control over the course of their disease and the possibility to contact a physician more easily. The main point is that the patient can get information about the current state of his or her health more quickly and send a signal to the medic about a possible deterioration in patient's well-being. Moreover, the implementation of the app would help eliminate a possible communication barrier between the physician and the infected person. This would have important implications from the standpoint of a properly recorded medical history. It is an essential tool for obtaining data on, for example, possible episodes of infection with other sexually transmitted diseases and infectious diseases, as well as the course of therapy to date," says dr Aksak-Wąs.

The field of infectious diseases, especially HIV care, interested me while I was still in medical school. In the following years, I have already been consistently developing this interest as part of my scientific and clinical activities.

The second part of the designed solution will allow integration of a specific patient's mobile application with his or her health data stored at the patient's clinic.

For Greater Patient Involvement in the Therapeutic Process

The app will be available not only in Polish, but also in other languages. It will consist of two parts. The first, generally available, part, will provide reliable information about what pre- and post-exposure prophylaxis is, its availability and diagnosis for HIV infection. The app will also "help" assess the extent to which a particular risky behavior is related to the danger of HIV infection and indicate where to go for support after a positive HIV test result.

"The second part of the designed solution will allow integration of a specific patient's mobile application with his or her health data stored at the patient's clinic. This will allow the patient to view his or her current test results and provide the clinic with information, such as the medications he or she is currently taking, and provide the clinic with notifications of his or her next appointment or test date, among others. We wanted the app to streamline the communication process and involve the patient in therapeutic management," dr Aksak-Wąs explains.

Implementation of the grant will cover a period of 12 months. Currently, dr Aksak-Wąs' team is compiling the data needed to create the app source code.

Telemedical Way to Better Hypertension Control

"Supporting physicians through greater use of ICT tools would help achieve better control of blood pressure levels in hypertensive patients," argues dr Paweł Uruski of the Poznań University of Medical Sciences, winner of the Polpharma Scientific Foundation Research Project Competition.

By the decision of the Polpharma Foundation Scientific Council, one of the winners of the 21st edition of the research competition was dr n. med. Paweł Uruski from the Poznań University of Medical Sciences. The topic of the awarded work is: "Telemedicine care system for the treatment of arterial hypertension using recommendation algorithms to support diagnostic and therapeutic decisions."

Serious Consequences of Poorly Treated Hypertension

As the title of the award-winning project indicates, its main goal is to test whether telemonitoring supported by a recommendation algorithm provides good blood pressure (CT) control.

"According to the project's hypothesis, supporting physicians through greater use of ICT tools would help achieve better control of blood pressure levels in hypertensive patients. It is estimated that as much as 31 percent of Poland's adult population suffers from arterial hypertension, and the percentage increases with age. A significant number of them do not even know they have the illness (one in three patients are unaware of their illness), and among patients with a diagnosis, only one in eight achieves normal blood pressure control," dr Paweł Uruski points out.

Meanwhile, the consequences of inadequate control of hypertension include an increased risk of developing heart failure, ischemic heart disease, stroke and kidney failure. "It is estimated that complications of poorly treated arterial hypertension account for up to 7 percent of all deaths in the general population," Dr. Uruski adds.

According to the project's hypothesis, supporting physicians through greater use of ICT tools would help achieve better control of blood pressure levels in hypertensive patients.

Each patient participating in the study will receive a device for measuring blood pressure, and each measurement taken with it will be transferred to a special information system through an application.

The project will include monitoring the data of 200 patients

The project will involve two patient populations. One will be treated in an outpatient setting using traditional methods, i.e. without the use of ICT tools. Therapeutic management for the second group will be further enhanced by the use of a telemedicine care system and algorithms to support therapeutic decisions.

As dr Uruski points out, those qualified for the study will be selected so that the two groups include patients with similar parameters regarding age, gender and baseline CT values. The project will involve 200 patients with baseline uncontrolled blood pressure, which is above 140/90 mm Hg. Due to the burden of multimorbidity and the course of hypertension specific to geriatric patients, people over the age of 70 will not be eligible for the project.

"The goal of the project is to compare the rate at which the two groups succeed in achieving a satisfactory blood pressure control level in hypertensive patients. The project kicked off in February, with an execution period of 36 months," says dr Uruski.

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Dr n. med.
Paweł Uruski
from the Karol Marcinkowski Medical University in Poznań

Remote Hypertension Evaluation with Suggestion for Further Conduct

As the expert explains, each patient participating in the study will receive a device for measuring blood pressure, and each measurement taken with it will be transferred to a special information system through an application. Based on the data collected this way, the system will "suggest" to the physician whether the patient's CT values are correct and suggest a path for further therapeutic management.

"In the study group, we do not assume that patients need additional follow-up visits, but only consultations if the patient has abnormal CT values. In the control group, the physician will give the patient a face-to-face follow-up visit every month until the patient achieves the therapeutic goal. After obtaining a CT scan, such visits will be made every three months," dr Uruski explained.

The Conference of Rectors as a Platform for Creating Ideas to Support Science

The Polpharma Scientific Foundation came up with the initiative to hold the 1st Conference of Rectors of University Medical Schools in Warsaw on 28-29 September 2022. The discussion mainly concerned the issue of “Science vs. industry.”

The idea for this type of meeting came from the fact that one of the main goals of the the Polpharma Scientific Foundation is to engage in helping the student community and doctoral students at state medical universities. The project was designed to help them enter the first stage of their professional development, and thus support further academic success.

We realize that the support of rectors, who not only mentor their mentees, but also have extensive experience in the area of how the method of education translates into later opportunities for advancement in a particular field of medicine, is invaluable in this process. What was also significant was discussions with representatives of science-funding institutions, such as the National Center for Research and Development, National Science Centre or Medical Research Agency. The conference was very well received by the academic community.

This year, we intend to hold its second edition, and then repeat the meeting in this formula every two years. The first idea we will implement after the Conference of Rectors is the creation of Med. School of Your Future. Invest in yourself for young, talented and promising medical school students. It will be a several-day meeting with experts from various medical specialties, experts involved in the construction and statistics of scientific research, but not only. This is because the point is that in our busy, changing world, we should also find time for things we pay less attention to, especially when studying at medical schools, so among other things, to meet with art, literature, music. At the same time, it is supposed to be a time when these young people can get to know each other.

Networking is hugely important in scientific activities. Many acquaintances made during the course of studies may result in joint research projects in the future.

The first idea we will implement after the Conference of Rectors is the creation of Med. School of Your Future. Invest in yourself for young, talented and promising medical school students.

Prof. Janina Stępińska,
chairperson of the Scientific Council of the Polpharma Scientific Foundation

I spoke at the event in a dual role, as a member of the Scientific Council of the Polpharma Scientific Foundation, and as a former rector of the Medical University of Warsaw. I consider this meeting an extremely valuable opportunity to establish cooperation between the pharmaceutical industry and medical universities, which may result in new and interesting solutions in the future.

Prof. Mirosław Wielgoś

A sign of the times is the need to invest in people. You can have equipment, new buildings, but progress will be gained by a determined and talented group of young scientists.

Prof. Marcin Gruchała
Rector of the Medical University of Gdańsk

Distinguished specialist in analytical chemistry and environmental chemistry

The Polpharma Science Foundation was established in 2001 with a decision of Jerzy Starak. Its goal is to support the development of medical science in Poland. In more than 20 years, the Foundation has contributed more than PLN 30 million, primarily by funding scholarships for scientists and research grants.

Prof. Roman Kaliszan, one of the most prominent scientists in Poland, and the world, in the field of analytical chemistry. In his scientific activities, prof. Kaliszan focused on analyzing the mathematical relationships between the chemical structure of drugs and their pharmacological properties. The choice of prof. Kaliszan as the patron of the award is a commemoration of his outstanding achievements and the authority he has been for successive generations of scientists.

Selecting the winner of this year's Professor Roman Kaliszan Award and Medal was not easy, as there is no shortage of candidates worthy of recognition in the field of analytical chemistry. What's more, the regulations state that the prize will be awarded annually to scholars with at least a doctoral degree for an outstanding scientific achievement in biomedical or biopharmaceutical sciences. The key, therefore, is to evaluate not so much the scientific achievements of a lifetime, but a single scientific achievement.

Prof. Adam Płaźnik,
member of the Scientific Council of the Polpharma Foundation

> **The choice of prof. Kaliszan as the patron of the award is a commemoration of his outstanding achievements and the authority he has been for successive generations of scientists.**

It is not easy to evaluate and compare the achievements of candidates, each of whom focuses on a variety of scientific areas. Thus, the organizers decided that the best and most transparent method would be for experts in the given field to evaluate the submitted papers. The scientific community refers to this method of reviewing as peer review. The winner of the 2022 Professor Roman Kaliszan Award and Medal was a specialist in analytical and environmental chemistry, member of the Polish Academy of Sciences, prof. dr hab. Bogusław Buszewski. The awarded paper was titled: "Chromatographic and spectral study using quantitative retention-structure relationship versus biological activity of formulations as drug candidates."

The first recipient of the Professor Roman Kaliszan Award and Medal was prof. Marcin Kolaczkowski of the Department of Pharmaceutical Chemistry and the Institute of Medicinal Chemistry at the Jagiellonian University CM in 2021. The chapter recognized his work on new molecules that may be able to be used in the development of novel therapies. The future will tell whether the research work of the two awardees will translate into the creation of new drugs.

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The Professor Roman Kaliszan Award and Medal were established two years ago, so their position in Polish science is still developing. In my opinion, however, it is undoubtedly worth appreciating its establishment and the wide-ranging activities of the Polpharma Scientific Foundation, whose financial support for Polish science cannot be overestimated.

Study of Biologically Active Substances Leads to Discovery of New Drugs

"Receiving the Professor Roman Kaliszan Award and Medal had for me not only a scientific and professional dimension, but also a personal one. While I was still a young scientist, I got to know Professor Kaliszan, which resulted in long-term cooperation," recalls prof. Boguslaw Buszewski, who was honored with the aforementioned distinctions in 2022.

The Professor Roman Kaliszan Award and Medal are awarded by the chapter for an outstanding scientific achievement in biomedical or biopharmaceutical sciences, opening up new application possibilities in medicine and pharmacy.

"Receiving the award had for me not only a scientific and professional dimension, but also a personal one. While I was still a young scientist, at an HPLC conference in Sweden, I met Professor Kaliszan, which resulted in a long-term cooperation, especially since our scientific activity was in similar fields. Together, among others, we introduced new studies, tools and materials to theory and practice, for determining biological activity. At the time, it was still a completely new concept in the biomedical and pharmaceutical sciences. Thus, our cooperation was important for the development of chromatography and separation techniques. Both of us were continuators of the achievements of the Lublin school of chromatography, created by Professor Andrzej Waksmundzki," recalls Professor Bogusław Buszewski, a specialist in analytical chemistry and environmental chemistry, member of the Polish Academy of Sciences and the European Academy of Sciences and Arts.

Prof. Bogusław Buszewski

is a specialist in analytical chemistry and environmental chemistry. He also works on sample preparation methods, spectroscopy and chemometrics. He is the author and co-author of more than 775 publications, including 17 monographs, as well as 58 patents. He is one of the most cited Polish chemists (over 25,000 citations). He has managed many domestic and foreign grants and projects.

Prof. zw. dr hab. Bogusław Buszewski,
Winner of Professor Roman Kaliszan Award and Medal

In his scientific activities, prof. Buszewski focuses on the area of metabolomics and bioanalytics in the broadest sense. "I'm referring to any and all the processes at the cellular level that result in the formation of new compounds that have no direct correlation to the metabolic pathway. These compounds may be agonists or antagonists of the receptors in question and may have therapeutic properties. Many of my scientific interests and studies are also concerned with naturally occurring biologically active substances, primarily in plants (polyphenols, cyclitols, phenolic acids, flavonoids, alkaloids, etc.), which may also have therapeutic properties," explains prof. Buszewski.

He adds: "Thanks to instrumental, analytical and model chemometric methods, it is possible to describe their structures and biological activity, which translates into the possibility of using them as raw materials for the production of a new generation of drugs, cosmetics or dietary supplements," the chemist lists.

In the years to come, as prof. Buszewski points out, his biggest challenge will remain introduction of the results of his scientific work into non-clinical practice.

> **Thanks to instrumental, analytical and model chemometric methods, it is possible to describe their structures and biological activity, which translates into the possibility of using them as raw materials for the production of a new generation of drugs, cosmetics or dietary supplements.**

> **Receiving the award had for me not only a scientific and professional dimension, but also a personal one.**

"To this end, we have established cooperation with the pharmaceutical industry and the chemical and cosmetic industry, and have undertaken phytochemistry activities aimed at isolating natural products from cultivated plants on a larger scale. Our goal is to use the extracted substances to create products used in the pharmaceutical, cosmetic and household chemical industries. We will also strive to continue implementing the Plantarum project," the specialist says.

As he explains: "The goal of this project is to develop strategies for the use of indigenous plant materials and to disseminate herbal plants in various industries. These include, in particular: cosmetic preparations, medical devices, dietary supplements, as well as livestock feed and the source of biomass, which is biodegradable organic matter. And don't forget the appropriate use of waste and residues, and their management within the framework of so-called green and sustainable technology. In this context, we are focusing on the use, for example, of cyclitols in the treatment of diabetes or cardiovascular diseases," prof. Buszewski adds.

A significant part in prof. Buszewski's academic work is mentoring and working with the younger generation of researchers. "I have raised 45 PhDs, 25 of whom have also become habilitated doctors. Six more doctoral students are currently pursuing their doctoral dissertations under my wing," prof. Buszewski proudly points out.

Foundation's presence in the media translates into increased interest in its activities

"The Management Board of the Polpharma Scientific Foundation attaches great importance to ensuring that the activities of the Foundation are communicated on an ongoing basis and as often as possible in various mass media. For our organization, this is one of the key activities, because thanks to it, we can really help and support the world of science, doctors, pharmacists and students", noted Daniela Piotrowska, director of the Polpharma Scientific Foundation, in an interview about the Foundation's presence in the media and spreading awareness of its activities.

The Polpharma Scientific Foundation has been recognized in the prestigious competition 2022 Success of the Year in Health Care – Leaders in Medicine, in the category: educational activities.

Daniela Piotrowska
Director of the Polpharma Scientific Foundation

People hear more and more about the activities of the Polpharma Scientific Foundation. What is the importance of getting the word out quickly and effectively?
In today's fast-moving world, where we learn at the speed of light about events taking place in the other hemisphere of our planet, reaching the public with reliable and up-to-date information is crucial to the image of an organization. The Management Board of the Polpharma Scientific Foundation attaches great importance to ensuring that the activities of the Foundation are communicated on an ongoing basis and as often as possible in various mass media. For our organization, this is one of the key activities, because thanks to it, we can really help and support the world of science, doctors, pharmacists and students. Publications and presence of the Foundation in the media translate into increased interest in the activities we carry out and into participation of the interested communities in our activities.

How is the audience for information about the Foundation's activities growing?
That the activities of the Polpharma Scientific Foundation are widely reported and even more strongly recognized by the scientific community is something we see every day. An excellent example of this is the research project competition, which is one of the Foundation's most important ongoing projects, and one that is gaining more and more interest every year. Last year, the theme of digitization attracted a large number of applicants. At the time of publication of the report, we are completing the process of collecting entries for this year's competition, which is about registers, and I must admit that the number of inquiries and logins on our digital portal has exceeded our wildest expectations. We expect even more applications. We are extremely pleased that once again the topic of the competition has proven to be so valid and has received a great response from the scientific community.

The activity of the Polpharma Science Foundation is not only recognized, but also rewarded.
That's true. Our activities are recognized and, what pleases us very much, also appreciated. The Polpharma Scientific Foundation has been recognized in the prestigious competition 2022 Success of the Year in Health Care - Leaders in Medicine, in the category: educational activities. We had the extraordinary pleasure of receiving this award at the gala with our president, Agata Łapińska-Kołodzińska. The Success of the Year awards were granted for the twenty-second time. The competition aims to identify and reward individuals and entities that have particularly distinguished themselves in Polish medicine. This is not the only form of recognition for the activities we undertake. For many years, our founder, Jerzy Starak, has been invariably on the List of 100 among the elite group of people with the greatest influence on the development of Polish medicine and the improvement of the Polish health care system.

To carry out so many activities smoothly, digital support is needed. How is the Foundation's digital portal evolving and what challenges do you face?
Our digital platform is growing rapidly. This year, we have introduced a number of new improvements and additional functionalities to enable all our competitions and projects to be handled through the portal.
Like any organization, we are growing all the time, and we have not yet said our last word in this regard. We keep up with the times and respond to market needs. The big challenge we are facing is to convince our stakeholders to use the digital platform and submit applications and read the competition documentation on it. Some people are still used to the traditional ways of submitting paper applications. So, the goal we have set for ourselves is to get everyone used to the possibility of using modern forms of communication and correspondence exchange that digitalization provides.

Honoring those who want to change reality

On 21 June 2022, during an official ceremony, the Polpharma Scientific Foundation awarded the winners of the 20th edition of the competition with grants for funding their research projects. The theme of the 20th edition of the competition, held in 2021, was "COVID-19 - etiopathology, clinic, public health".

22 research project proposals were submitted in the competition. On the basis of reviews and its own evaluation, including the authors' previous achievements, originality and innovativeness of the projects, the Scientific Council determined the ranking list and presented it to the Management Board of the Foundation, which decided to award 2 grants. The total cost of implementing both projects is PLN 1,104,720.00.

When handing over the statuettes to the winners of the competition, Jerzy Starak said: "In the philosophy of my life, the perspective of correcting is close to me. Of being better. Of racing against the leaders. I like to work on myself, but I also like to change reality. For me, the possibility to change is motivation and gives meaning to action. I know that many of you share this approach to life. Thank you that, through our shared passion, we can participate in a worthwhile race."

Agata Łapińska-Kołodzińska, president of the Management Board of the Polpharma Scientific Foundation, in presenting the assumptions of the Foundation's strategy for the coming years, referred to the words of Maria Skłodowska-Curie: "Science underpins all progress and makes life easier."

Winners of the 20th edition of the Polpharma Scientific Foundation Competition

Dr hab. n. med. Anna Wardowska
- Department and Institute of Physiopathology, Medical University of Gdańsk.
Subject: ""Immune system of patients with renal systemic lupus erythematosus after SARS-CoV-2 infection".
Cost of project implementation: PLN 518,400

Dr hab. n. med. Tomasz Skirecki
- Medical Center for Postgraduate Education, Institute of Clinical Cytology and Flow Cytometry Laboratory in Warsaw. **Subject: "Pulmonary fibrosis in the course of COVID-19: development of a new in-vivo model and understanding the role of the inflammasome-TGF-β1-pericyte axis in the pathomechanism of fibrosis".**
Cost of project implementation: PLN 586,320

Also presented at the ceremony was a report by the Polpharma Scientific Foundation, summarizing its annual activities, prepared in partnership with the "Puls Medycyny" magazine. "The report is a symbolic expression of a new opening and a new outlook. It is the result of our working together and developing a coherent concept of what we want and will focus on in the coming years," said Daniela Piotrowska, director of the Polpharma Scientific Foundation.

Prof. Michal Markuszewski, Vice-Rector for Research of the Medical University of Gdansk, also spoke, and introduced the idea of the competition and the Prof. Roman Kaliszan Award.

The ceremony concluded with a special guest speaker, Linnar Viik, chairman of EIT Digital – the European Institute of Innovation and Technology, former advisor to the Estonian government on informatization, and currently a member of the Digital Council at the

Estonian president. Title of his speech: "Trust me, I'm (Robot) Doctor" is a reference to the theme of the 21st edition of the competition for research project funding from the Foundation: "Digitization for Improved Medical Outcomes."

The competition was discussed by prof. dr hab. n. med. Janina Stępińska, president of the Foundation Scientific Council. Its goal is to improve physician-patient collaboration in prevention, treatment and rehabilitation through the use of IT methods and tools.

POLPHARMA SCIENTIFIC FOUNDATION

Polpharma Scientific Foundation, according to its mission statement: "We help people of science," supports the development of medical and pharmaceutical sciences.

More than 30 million zlotys
is the value of funds already donated to the statutory activities of the Scientific Polpharma Foundation since 2001.

In the twenty editions to date, 889 research projects have been submitted to the competition.

Grants have been awarded to 82 research teams.

Research funded by the Foundation is cutting-edge in nature, and its results are published in major foreign scientific journals. They have resulted in more than a dozen patent applications.

Poland's system of medical records is fragmented and scattered. There are currently 15 domain registries collecting clinical data. However, the quality, completeness and timeliness of the data collected varies.

It is therefore necessary to organize and improve the quality of data collected through medical records. The registries should make it possible to monitor the quality of treatment and inform health system stakeholders about it.

It is also necessary to increase access to data for scientific and R&D purposes. The registries should also support reporting and monitoring of adverse events and taking preventive and corrective actions based on this.

Based on a presentation by Jan Pachocki, CEO of the Telemedical Working Group Foundation.

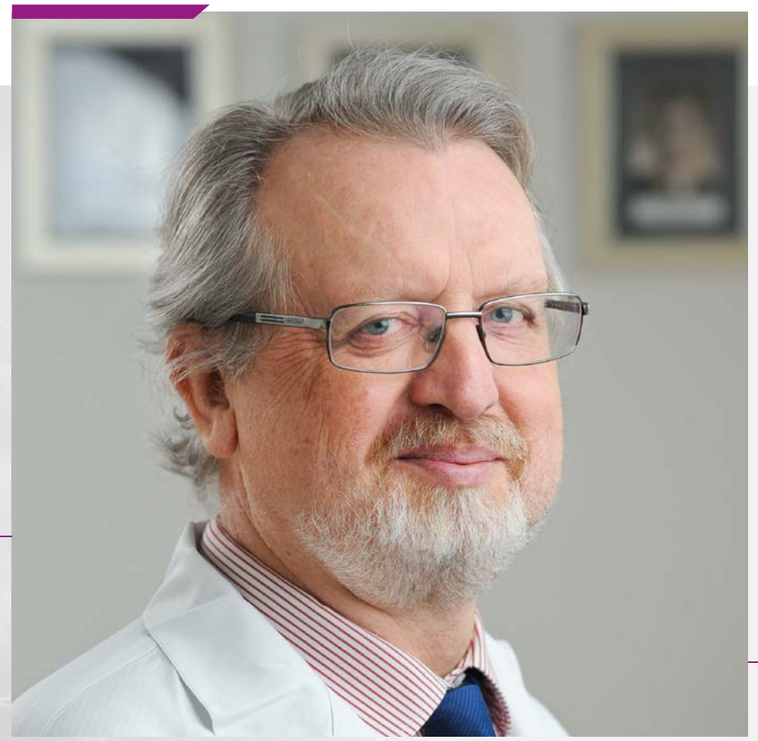
Databases should serve to improve the organization of health care in Poland

The theme of this year's Polpharma Science Foundation competition is "The use of databases to improve prevention, diagnosis and therapy." This is a very important topic for Polish science.

There are quite a few different databases in our country, collecting various data of Polish citizens. They are an invaluable source of information, but unfortunately they are not well used. Meanwhile, they could serve to improve the organization of health care in Poland. It is well known that both scientific research, daily clinical practice and systemic solutions, should be based on reliable information. Probably the largest medical database in Poland is held by the National Health Fund. Other major registries are also in operation, including those of: the Social Insurance Institution, PESEL, Registry Office, organ databases or tax registers. Unfortunately, access to this information is subject to many restrictions related, for example, to protection of sensitive personal data. Of course, it is necessary to protect this data, but it would be necessary to develop mechanisms for accessing the information contained in the registries, so that, while preserving the privacy of individuals, it is possible to gain insight into individual data, and not just aggregate data.

In some countries (e.g., Scandinavia or Great Britain), special institutions have been set up that have access to all the data collected in the databases, so they can generate answers to submitted questions from researchers without revealing personal information. In Poland, this is theoretically possible, but very difficult, as most of the keepers of existing registers are concerned about the security of the information contained therein. Therefore, only aggregate data can be generated. Based on this, we can find out, for example, how many people contracted stomach cancer or died of a heart attack, but we cannot combine this with other, more individual data that would expand our knowledge regarding, among others, the reason for the illness or death. Without this, it is difficult to find, for example, the risk factors for many diseases. The best identifier of a person is the PESEL number. We are fortunate that this system works in Poland. This makes it easy to combine data from different records and thus analyze and compare it. As scientists, we currently don't have such capabilities, so I think there is a need for an institution that can create one big registry that collects all the information in an integrated, but also individual, way. As I have mentioned, this would be invaluable - it would make it possible to create reliable studies of various clinical and systemic problems using statistical methods. To give an example: currently, to calculate 5-year survival rates for liver cancer, for example, one would have to go to the database of the Central Statistical Office of Poland, in which the causes of death of citizens are entered. Unfortunately, at the same time, this cannot be linked to the medical history of an individual patient due to data protection. So we know how many people have died from liver cancer, but we don't know who and how a particular patient was treated, whether there were any complications related to the therapy, etc.

It is worth mentioning that a dozen years ago, US President Barack Obama promoted the so-called Comparative Effectiveness Research. It is a method of comparing different drugs and medical procedures used in therapy for their effectiveness and cost in clinical practice. Using randomized trials for this does not work, as it implies very strict inclusion and exclusion criteria. What would be ideal for this purpose would be computer analysis of various medical databases that store information on the treatment history of all patients. This not only increases the study group, but also minimizes costs.



Research grants for young scientists, and thus support for their great ideas, are invaluable to the development of Polish medicine and pharmacy. Without this, progress in these areas would not be possible.

Prof. dr hab. n. med. Jarosław Reguła,
member of the Scientific Council
of the Polpharma Scientific Foundation

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