

Program Areas AZV2025

The program is divided into three main areas: Public Health, Pathogenesis and Development of Diseases, and Innovative Solutions for Medicine, which are further subdivided into 26 sub-areas and 95 sub-objectives. The sub-objectives characterize each sub-area. Projects proposed for this Program must be assigned to one or more of the following sub-objectives and ensure the fulfilment of one or more sub-areas or Program areas.

Area 1. Public Health

Sub-area 1.1: Socioeconomic Aspects of Healthcare

Sub-objective 1.1.1: Collection, quality and application of data on healthcare and population behavior

Sub-objective 1.1.2: Program impact measurement and analysis of new programs or legislative proposals by government and independent experts

Sub-objective 1.1.3: Developing new methodologies and interdisciplinary collaboration in healthcare

Sub-objective 1.1.4: Social determinants of health and the gender dimension

Sub-area 1.2: Digitization of the Healthcare System

Sub-objective 1.2.1: Digitization will improve population health and the quality of health services

Sub-objective 1.2.2: Digitization will lead to improved accessibility and efficiency of health services and higher levels of data integration within the healthcare provider system

Sub-objective 1.2.3: Increased use of data sources in the Czech health system

Sub-area 1.3: Demographic Changes and Care for the Elderly

Sub-objective 1.3.1: Analysis of the structure of providers and social healthcare provided to the elderly population

Sub-objective 1.3.2: Analyzing and addressing the social and healthcare needs of the elderly (especially the very elderly)

Sub-objective 1.3.3: Early prevention of the occurrence and mitigation of the effects of involutional changes, including the use of modern technologies

Sub-objective 1.3.4: Promoting quality and safe patient care with regard to age-specific risks and the prevention of adverse events in the provision of long-term medical and nursing care

Sub-area 1.4: Healthcare

Sub-objective 1.4.1: Analysis of the need and consumption (utilization) of healthcare for persons with chronic diseases

Sub-objective 1.4.2: Measurability of healthcare outcomes

Sub-objective 1.4.3: Capacity, consumption and access to healthcare

Sub-objective 1.4.4: Human resources in healthcare

Sub-objective 1.4.5: Patients' participation rights and respect for the autonomy of their will

Sub-objective 1.4.6: Means of protecting the rights of persons in medical malpractice

Sub-area 1.5: Promoting Health Literacy and Patient Orientation

Sub-objective 1.5.1: Monitoring the level of health literacy in the Czech Republic

Sub-objective 1.5.2: Research on the competences and needs of health literacy actors

Sub-objective 1.5.3: Research of specific target groups of the National Health Literacy Program

Sub-objective 1.5.4: Research on specific areas of health literacy

Sub-objective 1.5.5: Health literacy competencies of health professionals

Sub-objective 1.5.6: Fighting unscientific views in healthcare

Sub-objective 1.5.7: Strengthening health literacy unencumbered by gender stereotypes

Sub-area 1.6: Health Promotion and Prevention

Sub-objective 1.6.1 Metabolic and endocrine diseases

Sub-objective 1.6.2. Diseases of the circulatory system

Sub-objective 1.6.3. Cancers

Sub-objective 1.6.4. Chronic lung diseases Sub-objective

1.6.5 Blood diseases

Sub-objective 1.6.6. Nervous and mental diseases

Sub-objective 1.6.7 Diseases of the musculoskeletal system and inflammatory and immunological diseases

Sub-objective 1.6.8. Addictions

Sub-area 1.7: Global Health

Sub-objective 1.7.1: Environmental and occupational health effects

Sub-objective 1.7.2: The influence of nutrition and eating habits on health Sub-objective 1.7.3: Infectious diseases

Sub-objective 1.7.4: Toxicology and health safety

Sub-objective 1.7.5: Occupational medicine and diseases

Sub-objective 1.7.6: Innovative approaches to health promotion and intervention programs in primary prevention

Area 2. Pathogenesis and Development of Diseases Sub-area 2.1: Metabolic and Endocrine Diseases

Sub-objective 2.1.1: Etiology and pathophysiology of the metabolic syndrome

Sub-objective 2.1.2: Etiology and pathogenesis of immune-mediated endocrine diseases Sub-objective 2.1.3: Pathogenesis and treatment of complications of diabetes

Sub-area 2.2: Diseases of the Circulatory System

Sub-objective 2.2.1: Elucidation of etiological factors and pathophysiological processes affecting the development and course of cardiovascular and cerebrovascular diseases Sub-objective 2.2.2: Development of early diagnostics of cardiovascular and cerebrovascular diseases and finding treatment modalities and procedures in the therapy of these diseases with higher therapeutic efficiency and greater gentleness for the patient

Sub-area 2.3: Cancers

Sub-objective 2.3.1: Advancing knowledge of the pathogenesis and development of cancer and identifying new therapeutic targets

Sub-objective 2.3.2: Improving the diagnosis and treatment of cancer, especially through the implementation of precision medicine, modern therapeutics, targeted drugs and modern radiotherapy

Sub-objective 2.3.3: Improving the quality of life of cancer patients through a better understanding of the factors that accompany cancer and its treatment

Sub-area 2.4: Chronic Lung Diseases

Sub-objective 2.4.1: Influencing previously untreatable and progressive chronic diseases in terms of stopping the progression or finding ways to reverse the process

Sub-objective 2.4.2: Establishing new therapies by repurposing or combining existing drugs with known targeted drugs, proposals for new treatment modalities based on phenotype-specific markers of pathogenesis

Sub-area 2.5: Blood Diseases

Sub-objective 2.5.1: Advancing knowledge in the pathogenesis and development of blood diseases and identifying new therapeutic targets

Sub-objective 2.5.2: Improvement in the diagnosis and treatment of blood diseases, especially through the implementation of precision medicine, modern therapeutics, targeted drugs and modern radiotherapy

Sub-objective 2.5.3: Improving the quality of life of patients with blood diseases by understanding the factors that accompany cancer and its treatment

Sub-area 2.6: Nervous and Mental Diseases

Sub-objective 2.6.1: Mental and neurological diseases

Sub-objective 2.6.2: Diagnosis of diseases of the nervous system

Sub-objective 2.6.3: Improved effectiveness of treatments for diseases of the nervous system

Sub-objective 2.6.4: Ensuring quality of life in patients with diseases of the nervous system

Sub-area 2.7: Musculoskeletal and Inflammatory Diseases

Sub-objective 2.7.1: Etiology and pathogenesis of degenerative and metabolic diseases of the musculoskeletal system

Sub-objective 2.7.2: Research in the field of musculoskeletal traumatology

Sub-area 2.8: Immunopathological Diseases

Sub-objective 2.8.1: Defining the determinants of immunopathological diseases and identifying new targets for diagnosis and targeted treatment of these diseases

Sub-area 2.9: Infectious Diseases

Sub-objective 2.9.1: Etiology and therapy of important infectious diseases

Sub-objective 2.9.2: Epidemiology of antimicrobial resistance

Sub-objective 2.9.3: New diagnostic methods Sub-objective 2.9.4: A new anti-infective

Sub-area 2.10: Diseases of the Perinatal Period and Childhood

Sub-objective 2.10.1: Diseases arising prenatally, perinatally and in early childhood

Sub-objective 2.10.2: Rare diseases

Sub-objective 2.10.3: Chronic immunopathological diseases with an environmental component

Area 3: Innovative Solutions for Medicine

Sub-area 3.1: Personalized Medicine and New Diagnostic and Theranostic Procedures

Sub-objective 3.1.1: High-throughput molecular biology methods and bioinformatics tools for personalized medicine

Sub-objective 3.1.2: Genome sequencing (WGS) of a selected sample of the Czech population

Sub-objective 3.1.3: Research and development of innovative diagnostic and theranostic tools

Sub-objective 3.1.4: Personalized disease prevention Sub-objective 3.1.5: Personalized therapy

Sub-area 3.2: Low-Molecular-Weight Pharmaceuticals

Sub-objective 3.2.1: New low-molecular-weight pharmaceuticals

Sub-objective 3.2.2: Identification of new therapeutic targets, new methods and procedures for biological testing

Sub-area 3.3: Advanced Therapy Medicinal Products

Sub-objective 3.3.1: Research and development of gene therapy medicinal products

Sub-objective 3.3.2: Research and development of medicinal products for somatic cell therapies

Sub-objective 3.3.3: Research and development of tissue-engineered products

Sub-objective 3.3.4: Precision genomics as a tool to optimize and stratify patients suitable for gene and somatic cell therapies

Sub-objective 3.3.5: Supporting proof-of-concept Phase I/II clinical trials to evaluate the safety and efficacy of advanced therapy medicinal products

Sub-objective 3.3.6: Ethical, legal, regulatory and socio-economic aspects of research, development and treatment of patients using ATMP medicines

Sub-area 3.4: Biologicals Medicines, Including Prophylactic and Therapeutic Vaccines

Sub-objective 3.4.1: New biologic drugs

Sub-objective 3.4.2: New vaccines for disease prevention and treatment

Sub-area 3.5: New Drug Formulations

Sub-objective 3.5.1: Development of novel drug-delivery systems for time- and site- specific drug release

Sub-objective 3.5.2: Systems for pharmacotherapy-resistant diseases and for overcoming biological barriers

Sub-objective 3.5.3: Introduction of new formulation technologies into research, development and production of pharmaceutical forms

Sub-area 3.6: Development and Research in the Field of New Medical Devices and Equipment

Sub-objective 3.6.1: Development and research of medical imaging techniques

Sub-objective 3.6.2: Development of minimally invasive treatment techniques and their comparison with classical procedures

Sub-objective 3.6.3: Development in the field of navigation and robotic systems

Sub-objective 3.6.4: Research and development in the field of medical implants – neurostimulators and cardiac implants

Sub-area 3.7: Innovative Research in Surgery, Including Transplantation

Sub-objective 3.7.1: Non-invasive treatment

Sub-objective 3.7.2: Hybrid performances

Sub-objective 3.7.3: Tissue and organ replacement Sub-objective 3.7.4: Treatment procedures

Sub-area 3.8: Telemedicine and eHealth

Sub-objective 3.8.1: Creation of a data environment enabling the main objective

Sub-area 3.9: Innovative Practices in Palliative and Supportive Care

Sub-objective 3.9.1: Effective organization of health services for patients in palliative care

Sub-objective 3.9.2: Competence of health professionals in communication and ethics

Sub-objective 3.9.3: Innovative approaches to symptom management in palliative care

The detailed specification of the individual areas, sub-areas and sub-objectives is set out in the Program, which is available on the Provider's website at <https://www.mzcr.cz/program-na-podporu-zdravotnickeho-aplikovaneho-vyzkumu-na-leta-2024-2030-kod-nw/> and the National Strategy for Medical Research Until 2030 at <https://www.mzcr.cz/koncepce-zdravotnickeho-vyzkumu-do-roku-2030/>.