

# Strategy of the e-Health Centre – summary

2023-2027







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## Introduction

DYNAMIC DEVELOPMENT OF E-HEALTH  
CENTRE DURING THE PANDEMIC PERIOD



**The past years have been a period of dynamic and intensive development of the e-Health Centre (also referred to as CeZ or the Centre).**

CeZ, as a unit under the Polish Ministry of Health responsible for developing information systems, has undergone a significant transformation in the last 2-3 years, including the COVID-19 epidemic, which catalyzed the implementation of subsequent e-services and accelerated the development of e-health. The need to adapt

the health care system to new conditions (including operating under a rigorous sanitary regime and the need to limit contacts) has shown that the development of e-health is a key and desirable direction of change in this area. The level of use for the provided IT solutions has also increased, which is important for the smooth implementation of further e-services. A strategy has been developed for the development of the e-Health Centre in order to maximize this potential in next years.



# Mission, vision and values of the e-Health Centre



THE STRATEGY DEFINES, E.G. CEZ'S MISSION AND VISION, AND DESCRIBES THE VALUES THE INSTITUTION WILL STRIVE TO ACHIEVE. THEY WILL HELP MAINTAIN THE POSITIVE TREND IN THE DEVELOPMENT OF E-HEALTH AND FULLY USE THE POTENTIAL OF THE INSTITUTION.







## Mission, vision and values of the e-Health Centre

### MISSION

By pursuing the goals and priorities of e-health in Poland, the e-Health Centre creates, delivers, develops and maintains secure IT solutions for the health care system that meet the needs of their users.

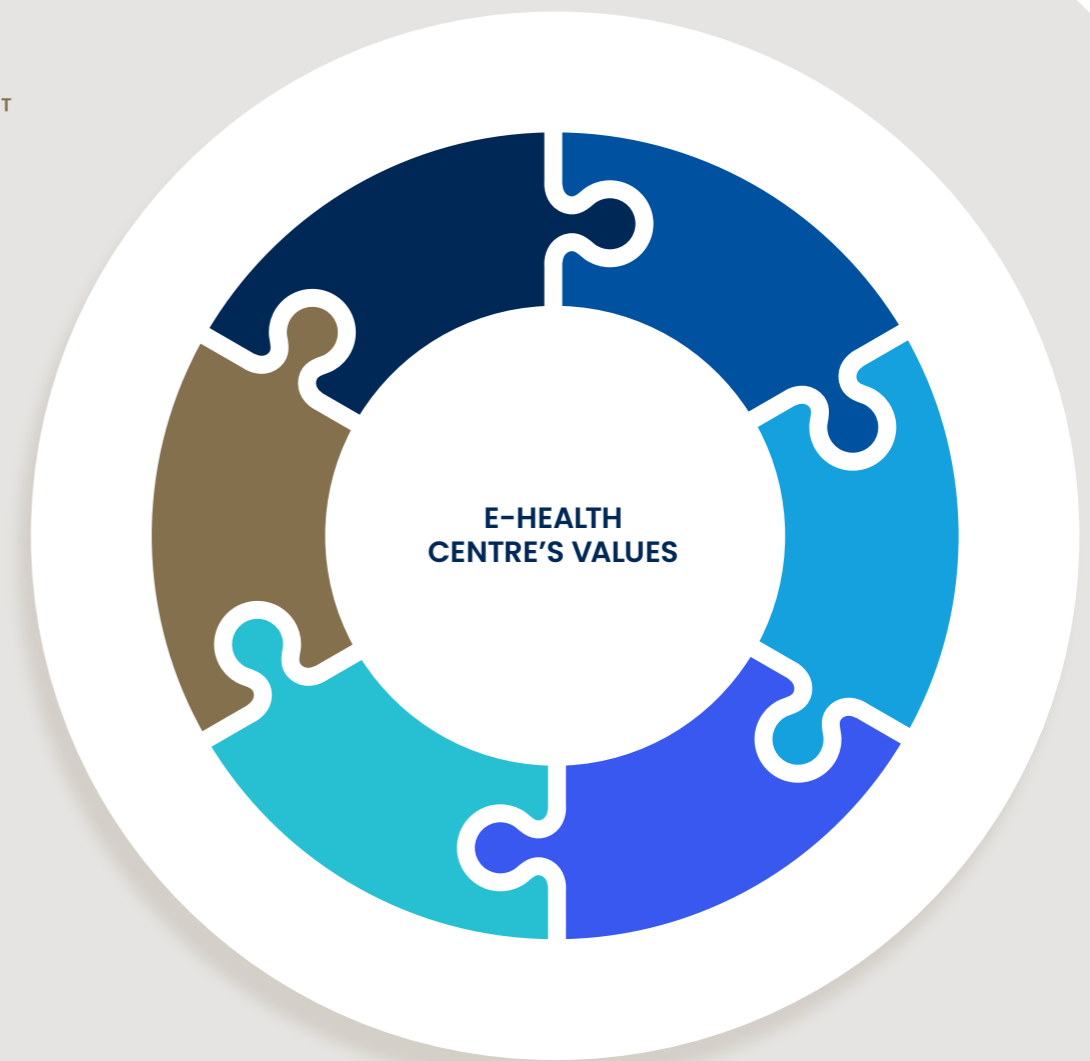
### VISION

The e-Health Centre is a leader in creating and providing innovative solutions for the health care system; a provider of key e-services that are perceived by patients and other participants in the health care system as: relevant, reliable and secure.

The vision was centered around innovation and the satisfaction – of patients and other participants in the health care system – with the products provided by CeZ. It also stems from the need to reinforce the brand. Although the e-Health Centre has been on the market for more than 20 years, it is not as recognizable as other units in the health sector. This has only begun to change in recent years, with the increase in the level of IT implementation in the health care system in Poland. Appropriate communication and information activities were planned to further reinforce CeZ's brand and to popularize its e-services. Innovation appears in the vision due to the dynamic development of the IT area. CeZ also wants to be synonymous with reliability, providing solutions using the latest technology stack, quality e-services and elements of artificial intelligence.



WHAT'S IMPORTANT



- OPENNESS
- INNOVATION
- CONTINUOUS IMPROVEMENT
- RESPECT
- COOPERATION
- INVOLVEMENT

The change is founded on openness to new stakeholder needs, technologies, both organizational and external. e-Health Centre, as an entity playing a leading role in developing the e-Health ecosystem in Poland, wants to be innovative. It is important to follow global IT trends. There are plans to increase stakeholder participation in the development of new e-services (cooperation). e-Health Centre is committed to continuous improvement, implemented by actively seeking improvements and optimizing processes and codification. The last two values, namely respect and involvement – on which the development of CeZ in the next 5 years will be based – are linked to reinforcing the e-Health Centre's human capital.



## CeZ has been providing IT solutions for the health care system for more than 20 years.

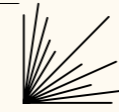
CeZ creates digital services that enable stakeholders in the health care system, including patients, medical professionals and government bodies, to handle matters on-line. At the same time, it supports the work of medical professionals and enables patients to manage their own health more effectively, thanks to easier access to data and simpler communication between health care system participants. CeZ manages over 50 central IT systems, including medical records, systems supporting prevention and treatment, as well as dedicated domain IT systems.

The key solution provided by the e-Health Centre is the e-Health system (P1) and a portfolio of digital products for citizens and medical professionals, including:

- ◆ applications – Internet Patient Account (Internetowe Konto Pacjenta), the mojeIKP mobile application,
- ◆ [gabinet.gov.pl](http://gabinet.gov.pl),
- ◆ [pacjent.gov.pl](http://pacjent.gov.pl) website,
- ◆ e-services – e-prescription, e-referral, exchange of Electronic Medical Records, Medical Events,
- ◆ e-registration for vaccinations, EU COVID Certificate, central e-registration.



The systems implemented by CeZ are used by millions of Polish people, hundreds of thousands of medical and pharmaceutical entities, as well as administrative personnel. To ensure that the solutions created can be fully used, the e-Health Centre is carrying out tasks aimed at increasing the level of digital competence, e.g. among medical professionals. This is an indispensable part of the rapidly advancing digital transformation of health care. In addition to building systems and developing services, CeZ uses the collected data for analytical purposes, supporting management decision-making by institutions responsible for shaping health policy in Poland. Centre also has an important task providing cybersecurity services in the health care field.



## WHAT'S IMPORTANT

### STAKEHOLDERS

The e-Health Centre performs tasks to support the business processes for almost all participants in the health care system. Because of that, the group of stakeholders is very numerous and is gradually growing due to the intensive digital transformation of the health care system in Poland. The most important stakeholder of the entire healthcare system, and consequently of the solutions implemented by CeZ, is the patient. Modern technologies are designed to support the implementation of processes that will enable the patient to maintain their health at the highest possible level, through health promotion, disease prevention and control, as well as facilitate their functioning in the health care system. Another important stakeholder – the recipients of the solutions implemented by the e-Health Centre – includes entities performing medical activities (Polish: podmioty wykonujące działalność leczniczą – PWDL), providing health services, conducting health promotion, teaching or research activities. The central solutions are also addressed to pharmacies, limited service pharmacies, and pharmaceutical wholesalers that trade in medicinal products.

Public entities play an important role in the design and delivery of systems: The Polish Ministry of Health (Polish: Ministerstwo Zdrowia – MZ), the National Health Fund (Polish: Narodowy Fundusz Zdrowia – NFZ), and other units subordinate to or supervised by the MZ, as well as medical universities, research institutes and local government units.

Important recipients of central services also include software providers for the medical market – companies that supply PWDL and pharmaceutical entities with local systems facilitating, e.g., patient services, electronic medical record keeping and EMR creation.

” The patient is the most important stakeholder of the solutions implemented by CeZ. ”



# Tools for construction and description of the strategy, the process of its development

THE CONSTRUCTION AND DESCRIPTION TOOL SHOULD PROVIDE THE BROADEST POSSIBLE VIEW OF THE ORGANISATION AND SHOW THE RELATIONSHIPS WITHIN IT. THE BEST TOOL FOR CREATING AND DESCRIBING CEZ'S STRATEGY HAS PROVED TO BE THE BALANCED SCORECARD.







# Tools for construction and description of the strategy, the process of its development

The Balanced Scorecard (BSC, Polish: Zrównoważona Karta Wyników – ZKW) was chosen as the reference tool for creating a description of the e-Health Centre’s strategy. This is because it allows a comprehensive view of the organization and the identification of goals and their interrelationships.

Supporting techniques therein included:

- ◆ PESTLE analysis (adapted model) – was used to identify and analyze the external context, i.e. CeZ’s environment,
- ◆ identification and analysis of stakeholder layers,
- ◆ SWOT and 5M analysis – was used to identify and analyze the internal context of CeZ,
- ◆ documentation analysis – was used to capture CeZ’s strategy’s links to and dependence on existing regulations,
- ◆ decomposition of objectives – served to structure the general objectives, specific objectives and initiatives,
- ◆ facilitated workshops – helped identify and agree on goals,
- ◆ KPIs – used to define static and dynamic key measures of success

- ◆ iterative development – will be used to create further mature versions of the strategy
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**Work on strategy development is a multi-stage process involving all stakeholders. It uses an agile approach and proven strategy development tools.**

As a result of the work on the strategy and the assessment of the relevance of the dimensions of the ZKW, the strategy was adjusted. The following perspectives emerged:



The entirety is supplemented with specific goals, initiatives and metrics. The development of the strategy allowed to identify causal links between prospects and elements of the BSC. The entirety is based on a development and resource base.

## SWOT, PESTLE, 5M ANALYSIS

PESTLE, 5M, and SWOT analyses were conducted to support strategic planning for e-Health Centre development. The analyses carried out made it possible to define the role of CeZ in the health care ecosystem, identify strengths, weaknesses, opportunities and threats. The SWOT analysis was prepared in terms of each of 4 perspectives: stakeholders, internal development processes and resources. The full SWOT analysis is attached to the Strategy.





# Strategy map: strategic objectives

THE SET OF GOALS AND DIMENSIONS OF THE STRATEGY WAS CAPTURED AS A STRATEGY MAP. IT IS SHOWN IN THE FIGURE BELOW.

<b>↓ Stakeholder perspective</b>
<ul style="list-style-type: none"><li>→ Reinforcing cooperation based on dialog with stakeholders</li><li>→ Implementing new e-services in the field of health care</li><li>→ Supporting decision-making based on e-health data</li><li>→ Center of e-health competence</li></ul>
<b>↓ An internal process perspective</b>
<ul style="list-style-type: none"><li>→ Increase process, project and portfolio maturity</li><li>→ Digital transformation of internal processes</li><li>→ Internal dialogue</li></ul>
<b>↓ Development perspective</b>
<ul style="list-style-type: none"><li>→ Reinforcing the cyber security area</li><li>→ Building a coherent e-health architecture</li><li>→ Increase the level of service provision quality</li><li>→ Standardization of e-health services</li></ul>
<b>↓ A resource perspective</b>
<ul style="list-style-type: none"><li>→ Development and diversification of core competencies</li><li>→ Increasing e-Health Centre attractiveness as an employer</li></ul>

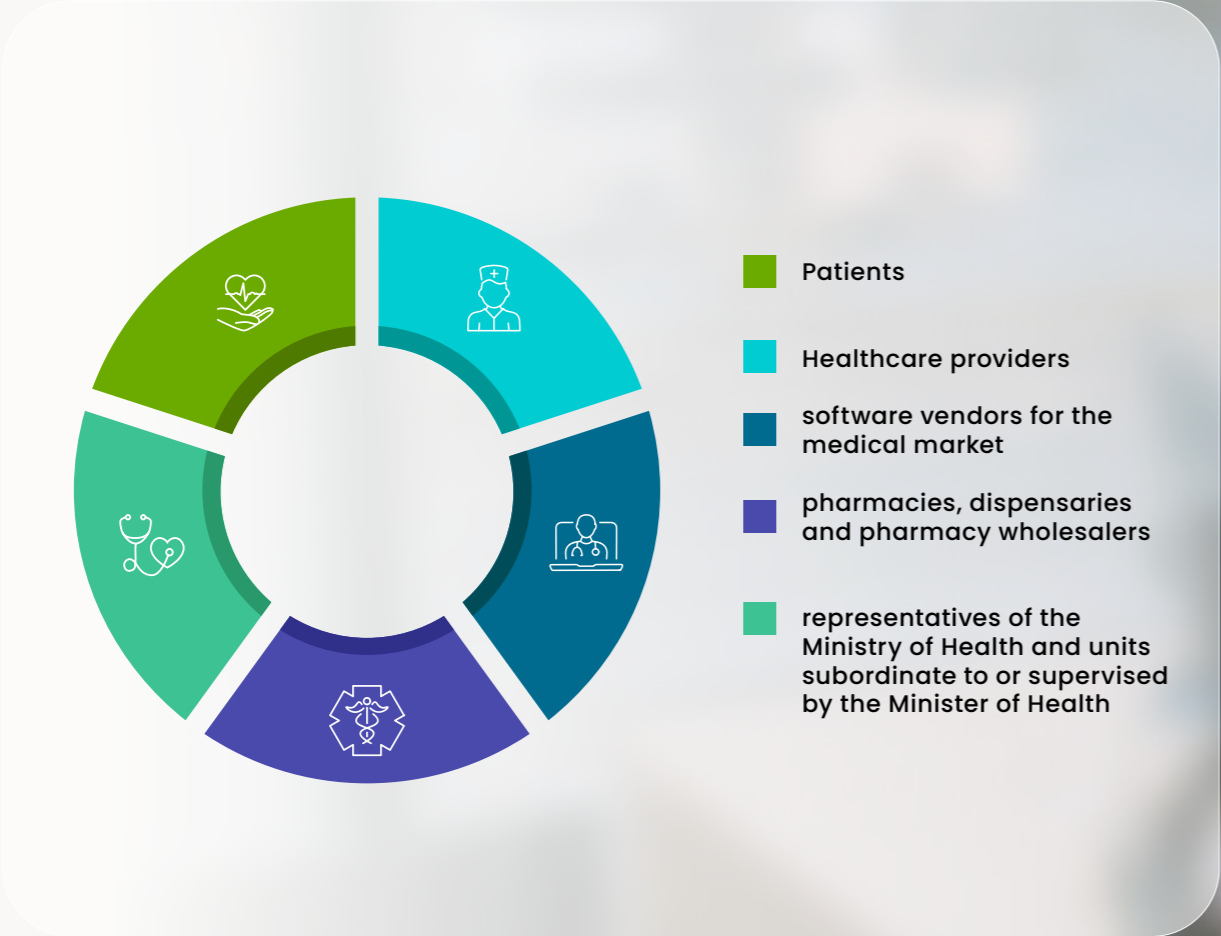




# Stakeholder perspective



CEZ PLANS TO EXPAND AND STRENGTHEN ITS COLLABORATION WITH STAKEHOLDERS. THESE INCLUDE: BUSINESS OWNERS (REPRESENTATIVES OF THE MINISTRY OF HEALTH AND UNITS SUBORDINATE TO OR SUPERVISED BY THE MINISTER OF HEALTH), PATIENTS, HEALTHCARE PROVIDERS, SOFTWARE VENDORS FOR THE MEDICAL MARKET, SOFTWARE VENDORS FOR THE MEDICAL MARKET.







## STRATEGIC OBJECTIVE 1 REINFORCING COOPERATION BASED ON DIALOG WITH STAKEHOLDERS

The e-Health Centre views its activities as the best possible response to the key needs and expectations of key stakeholders.

### SPECIFIC OBJECTIVE 1.1 REINFORCE THE ROLE OF THE BUSINESS OWNER (WB)

The WBs of the systems created by CeZ most often include representatives of the MoH (MZ), units subordinate to or supervised by the MoH. The solutions provided by CeZ support these institutions in making important management decisions regarding the operation of the health care system. The WB should monitor and control the progress of the project at the strategic level, but also at the operational level – e.g. by participating in the definition of requirements, taking part in acceptance testing or version acceptance of a given IT solution. WB participation will be reinforced at each stage of project implementation. CeZ will continue to support project teams by including and involving business representatives in project work. Workshops aimed at business representatives will be organized to familiarize them with the P3M standard and the specifics of IT project implementation. Workshops for business representatives and project management will be held periodically to present the progress of the work, discuss selected risks and issues, identify and sign contracts for improvements in collaboration, introduce and get to know new team members, and maintain relationships.

### SPECIFIC OBJECTIVE 1.2 A WIDE RANGE OF EASILY ACCESSIBLE E-SERVICES FOR PATIENTS

This will be achieved, e.g., by providing a wide range of easily accessible e-services for patients, including through mobile applications, which will be useful in monitoring, diagnostics and treatment of the patient, and by developing IKP and the mobile version of IKP to be a hub for providing access to e-services and reliable data. In addition to the planned development of e-services, which mainly are and will be made available through the e-health system (PI), which provides digital tools to facilitate the management of one's own and family members' health (including e-prescription, e-referral, EMR (EDM), ZM, e-registration, remote consultation) – patients also have access to the pacjent.gov.pl information and education website. The website is a reliable and easily accessible source of data on the health care system. By using it, patients can access important information on digital e-services aimed at them, important information on prevention and emergency procedures, a search engine for medications and free appointment slots for health services, as well as information on the organization of the health care system in Poland.

### SPECIFIC OBJECTIVE 1.3 INCREASING PATIENT INVOLVEMENT IN CREATING NEW E-SERVICES

Cooperation with the patient community will be continuously developed. CeZ would like to reinforce the role and involvement of patients in the process of planning the development of e-health services, also by including patient organizations and patients themselves in the process. A permanent survey system will be set up to collect patients' opinions on the e-services provided so far, as well as information on reported needs

and expectations for future services. Surveys will be conducted through IKP and mojIKP. Ongoing patient satisfaction surveys of CeZ services will also be implemented. Feedback and submissions from patients and patient organizations will be collected and analyzed on an ongoing basis, which will serve as the basis for developing and optimizing e-services. The process of submitting a new idea will be launched by filling out a special form. Ideas will be analyzed, evaluated and prioritized. The Ministry of Health will also be involved, and will decide on the implementation of initiatives submitted by patients. This will be an ongoing activity that will bring CeZ closer to its desired goal – designing solutions for patients in cooperation with them.

### SPECIFIC OBJECTIVE 1.4 REINFORCING COOPERATION WITH PROVIDERS

Medical market software providers are a crucial link in the IT solution supply chain of the health care system. Central initiatives can only be fully used, achieve their goals and deliver the expected benefits if they work in tandem with local systems. The Centre is focusing on intensifying cooperation with them through ongoing communication, development of the ezdrowie.gov.pl website, and organization of projectathons, meaning workshops on integrative testing. They allow software providers to test their systems for proper communication with central systems and service providers' systems. The "provider hour" initiative will also be continued, with meetings held periodically. Originally established for PI integrators, the initiative is gradually expanding the scope of meetings to include other CeZ systems. A roadmap of the new functionalities planned for implementation and changes to the central systems, will be made available well in advance on the ezdrowie.gov.pl website, so as to allow suppliers to plan the necessary work on their side.

### SPECIFIC OBJECTIVE 1.5 REINFORCING COOPERATION WITH HEALTHCARE PROVIDERS

One of the initiatives aimed at reinforcing cooperation with healthcare providers is to develop the ezdrowie.gov.pl website. For PWDL, a special tab is provided on the website, grouping the most relevant information (e.g., on ongoing pilots, on the implementation of new services). It is as important for PWDL as it is for suppliers to provide a roadmap of planned solutions (described above), which will enable PWDL, among other things, to plan its budget well in advance. Another initiative is to reinforce dialog with PWDL representatives – to exchange experiences, collect opinions from PWDL in the form of the so-called UserKon (i.e., conferences with user participation), which will be organized in cooperation with local governments of health professions. UserKons held periodically will be used to discuss issues raised by users, and in addition: project teams will indicate planned changes to the systems with the presentation of mock-ups. CeZ also plans to carry out tasks in the area of e-service quality and customer experience research (which will be responsible for, e.g., preparing and implementing programs to improve the quality of e-services and user relations, including PWDL).

### SPECIFIC OBJECTIVE 1.6. INCREASING THE USE OF E-SERVICES BY PATIENTS AND OTHER HEALTH CARE PARTICIPANTS

The degree of e-service usage by patients and other participants in the health care system (e.g., medical professionals) is correlated with the quality and adequacy of the designed solutions. Stakeholders commonly use e-services that most closely meet their needs and expectations.

” The e-Health Centre plans to strengthen the role of patients in the process of planning the development of e-health services. ”



CeZ will develop cooperation with the patient community (described in detail in the objective: "Increasing patient involvement in creating new e-services") and PWDL. Periodic quality studies (including satisfaction surveys) will be conducted in the context of solutions for medical entities and patients (analysis of the experience of e-health system users and identification of areas and methods to improve user satisfaction, evaluation of quality criteria for e-services). Patient information campaigns will also be conducted to increase the use of e-services.



## STRATEGIC OBJECTIVE 2 IMPLEMENTING NEW E-SERVICES IN THE FIELD OF HEALTH CARE

The creation and implementation of new e-services in the health care field is the most important element of CeZ's activities, and results, among other things, from the needs and expectations raised by stakeholders. The e-services and IT solutions implemented to date have increased the use of digital solutions, enabled a certain maturity and digital awareness of these stakeholders, and brought many benefits, which has heightened interest in the digital transformation of the health care system in Poland. The increased demand for e-services and new IT solutions is also driven by the need to improve and enhance the quality of medical care. In addition, innovative solutions using artificial intelligence bring new opportunities: in particular, the great potential of using AI solutions and Big Data in healthcare is apparent. The e-services planned by CeZ will ensure a high level of maturity, be user-friendly and facilitate certain processes.

### SPECIFIC OBJECTIVE 2.1 DEVELOPING NEW SYSTEMS

The vast majority of e-services that will be made available will be linked to the implementation of new systems improving other areas of the health care system that are novel in terms of digitization. Importantly, it should be pointed out that the services provided to patients will be made available through IKP and mojIKP. These systems include:

- ◆ The e-Krew (e-Blood) System, which will be a central system for the management of blood and blood components to support the public blood service and the supervision of blood donation and bloodletting.
- ◆ The e-Transplant system, which will streamline the course of processes related to cell, tissue and organ transplantation medicine nationwide, as well as the development of cross and chain transplantations.
- ◆ There are plans to implement solutions that will improve the diagnostic and treatment process for patients with rare diseases and hemophilia.
- ◆ Work will be carried out toward the development of a system for collecting and analyzing genetic data, which, in conjunction with data from the e-health system (PI), will enable analyses.
- ◆ There is a need to support providers in the storage of medical records. This support will consist of building a central repository for selected medical entities.

### SPECIFIC OBJECTIVE 2.2 DEVELOPMENT OF E-HEALTH SYSTEMS

The e-Health Centre is a provider of dozens of systems for various stakeholder groups in

the health care system. There is a noticeable increase in demand for medical services, which translates into the need to develop IT solutions, including e-services.

This includes:

- ◆ Development of an e-Health system that provides sensitive functionality and e-services for patients and medical professionals. Important activities include further development of the patient.gov.pl website, IKP and the mojIKP mobile application. The development of these solutions will enable the patient to access even more personalized information about their health status and family members, information supporting prevention, healthy lifestyles, encouraging participation in preventive programs and periodic examinations. The development of the e-health system is being implemented in the area of functionality related to the development and storage in the Electronic Death Card (Polish: Elektroniczna Karta Zgonu - e-KZ) system, and the Electronic Birth Card (Polish: Elektroniczna Karta Urodzenia - e-KU), along with the annotation of a stillbirth. The e-health system will support functionality related to referral for spa treatment. Digitization of the documentation produced in the field of preventive health care for students, carried out by nurses of the teaching and upbringing environment or school nurses, is another element in the development of the e-health system.
- ◆ The development of domain systems to support drug management, including handling reimbursement lists, will streamline the process of submitting applications for obtaining an entry on the list of reimbursed drugs and determining the selling price of drugs. It will provide seamless electronic handling of all cases at each stage of the process in the Reimbursement List Service System (Polish: System Obsługi List Refundacyjnych - SOLR).
- ◆ Rozwój The development of domain systems supporting the area of postgraduate

education concerns the Medical Professionals Education Monitoring System (Polish: System Monitorowania Kształcenia Pracowników Medycznych), and consists of building functionalities corresponding to the new legal regulations in the field of postgraduate education of doctors and dentists, related to, e.g., central recruitment for specialty training, implementation of the education process or taking state examinations. Other domain systems, supporting, among others, the area of health care statistics or infectious disease monitoring, will be developed accordingly according to emerging stakeholder needs, adapted to the changing legal or technological environment to eliminate the phenomenon of technological debt.



## STRATEGIC OBJECTIVE 3 SUPPORTING DECISION-MAKING BASED ON E-HEALTH DAT

An important direction of development is the implementation of complex data analytics solutions that will enhance the ability to provide advanced e-services. Emerging challenges, such as an aging population and a shrinking medical workforce, mean that the health care system must be more streamlined, efficient and at the same time more accessible to citizens. This will be made possible, e.g., by Big Data, machine learning (ML) or artificial intelligence (AI) solutions, which – with their ability to process huge data sets and extract information from them – offer the prospect of gaining new opportunities in prevention, diagnostics and treatment. Data warehouse is a key resource of CeZ. Within the framework of the AI and ML competence center developed, there will be new tasks completed, focusing on the production of such solutions, particularly



those based on predictive models, carried out in cooperation with external partners.

### SPECIFIC OBJECTIVE 3.1 INCREASING THE USE OF ADVANCED DATA ANALYSIS METHODS

The rapid development and use of information systems in health care is generating huge volumes of data. The data collected is not only a digital footprint of actions: a prescription issued or filled, a medical event held or a publicly funded service provided. They are first and foremost an information resource with powerful potential.

An Integrated Analytical Model (Polish: Zintegrowany Model Analityczny – ZMA) will be created at the e-Health Centre to embed data in a common environment, ensure a high level of data quality, standardize data and create consistent definitions for data from different systems, create an efficient environment to maintain extensive reporting and use by numerous persons. In the initial phase, data from the medical event, e-prescription, e-prescribing, EWP, publicly funded benefits, vaccination cards, among others, will be available in the ZMA. In subsequent stages, data from medical records and emerging services will be included. Ultimately, the ZMA will also be fed with identified datasets – identified by public entities that are key stakeholders – used by entities to date, with possible transfer to other stakeholders.

Access to ZMA by employees of public institutions authorized to analyze this data under current law will be the first stage of the health care information revolution. The second stage will be to develop a secure method for external stakeholders to access the data – first: the scientific community, and then – if organizationally and legally possible – other partners.

The third stage will be the integration,

processing and secondary use of data directly extracted from medical devices or personal devices.

### SPECIFIC OBJECTIVE 3.2 CONSTRUCTION AND DEVELOPMENT OF MEDICAL REGISTERS

Medical registers can be divided into two groups – subject (“administrative”) and object (“clinical”) registers. Subject medical registers are the foundation of the central e-health architecture, supporting the operation of the e-health system (PI) and other IT systems used in health care from the administrative side. Several areas are identified that need to be addressed. The main problem with the operation of medical registries is their distributed architecture. Because of that, there are plans to ultimately base reporting on the PI system and gradually reduce other reporting channels. Work in this area, in the first instance, is carried out in the area of Primary Healthcare (Polish: Podstawowa Opieka Zdrowotna – POZ). Development works will be carried out e.g., on the Registry of Entities Performing Medical Activities in order to implement a technologically newer solution, which is expected to simultaneously lead to improved efficiency and optimization of the system.

The Register of Medicinal Products is another solution that will undergo development work, enabling e-registration and electronic handling of applications for drug product authorization in the RPL system. There are plans to develop a Register of Specialty Products, as needed by the Chief Pharmaceutical Inspector. The purpose of creating this registry is to make information available to the public: data identifying the manufacturer and license holder of ATMP-HE (advanced therapy medicinal products), as well as atypical radiopharmaceutical products, data of the hospital pharmacy, facility pharmacy or hospital pharmacy department to which the product will be dispensed, data about the

product. Developing a Registry of Other Health Professions (Polish: Rejestr Innych Zawodów Medycznych – RIZM) will be an important solution contributing to the achievement of the specific objective. The establishment of the RIZM will complement the Register of Medical Professionals (Polish: Rejestr Pracowników Medycznych – RPM), aimed at providing aggregation of data on medical professionals with valid license to practice. RIZM will expand the RPM data set on medical professions to include more professions specified in the draft law on certain medical professions, including dental assistants, dieticians, speech therapists, etc. Reduction of adverse events is another important aspect related to healthcare quality. CeZ will be responsible for the construction of a registry of adverse events. Special activities will be conducted in the area of semantics. A key solution in this regard is the Coding System Registry, which contains medical classifications and dictionaries. The development work will be oriented toward the implementation of SNOMED CT terminology and the ICD-11 classification, focusing on an agile transition between ICD-10 and ICD-11, with no loss of data continuity.

### SPECIFIC OBJECTIVE 3.3. INCREASING THE USE OF DATA TO CREATE HEALTH POLICY

Report dashboards are developed and made available to the Ministry of Health and other stakeholders based on and as a part of the Integrated Analytical Model. The Integrated Analytical Model also enables data mining, which can be important for analytical tasks to be fulfilled by certain institutions. The result of data mining and reports can be used to model and create appropriate health policies. With CeZ’s technical support, stakeholders have the ability to create their own dashboards, based on the data made available in ZMA, and can also integrate data at the individual stakeholder’s own disposal. More reports will be implemented, according to management needs.



## STRATEGIC OBJECTIVE 4 CENTER OF E-HEALTH COMPETENCE

The development of digital competence is one of the priority activities of the e-Health Centre. Digital transformation will not be successful without the of stakeholders – patients and medical professionals – as well as striving for their digital competence improvement. The development of such competencies among public administration personnel involved in the health care system, especially those involved in IT implementation and e-health development, is equally important.

### SPECIFIC OBJECTIVE 4.1. INCREASING DIGITAL COMPETENCE OF STAKEHOLDERS

The Centre has been running the CeZ Academy for several years, which provides training (on-site and on-line) for users of digital solutions and e-services, including doctors, nurses, pharmacists, physiotherapists, and patients. In 2022 we have reinforced cooperation with patient organizations in the area of training and have plans to develop it further in the following years. In cooperation with the National Institute of Local Self-Government (Polish: Narodowy Instytut Samorządu Terytorialnego – NIST), we organize training courses aimed at patients at the local government level. With the welfare and safety of patients in mind, in 2022, CeZ started a series of training courses attended by patients of health resorts and spas (in addition to gaining knowledge of the IKP and the mojelKP app, patients can set up a Trusted Profile and activate IKP on the spot). Further actions will be taken in that direction, and there are plans for cooperation with more major health resorts. In addition, CeZ plans to implement a project on



improving the skills and competencies of final-year medical students.

#### **SPECIFIC OBJECTIVE 4.2. INCREASING COMPETENCE IN THE AREA OF CYBER SECURITY**

Increased competence in the area of cyber security will be achieved by providing treatment entities with current information on threats and creating opportunities to share information about potential threats. An information-sharing platform will be established to facilitate efficient information management and rapid response to emerging threats, and to share knowledge on both threats and countermeasures, which will enhance protection against threats and elimination of hazards. Increased competence in the area of cyber security will be possible through CeZ's support in the area of sector cybersecurity (incident response team), which will be tasked with raising awareness in the area of security quality management. In addition, CeZ plans to implement a training project aimed at raising awareness among managers and employees of healthcare entities on the risks, challenges and responsibilities of operating in a digital environment, including the implementation of new e-health solutions.

#### **SPECIFIC OBJECTIVE 4.3. REINFORCING INTERNATIONAL COOPERATION**

CeZ will seek to expand the team to the extent allowing it to increase the activity of technical experts in international organizations. CeZ will participate in standard-setting processes for health data and digital services from a national, EU and global perspective. The Centre will actively participate in the initiation and implementation of projects, programs and joint activities in a cross-border perspective. Within the framework of the European Union Health Program 2021-2027 – EU4Health, CeZ participates in preparatory activities (Joint Action) for the European Health Data Space,

primary and repeat use of data, development of health data access services. CeZ also plans to participate in an international project on building a European digital identity (The EU Digital Identity Wallet) in the e-prescription pilot part.

#### **SPECIFIC OBJECTIVE 4.4. RAISING USER AWARENESS OF E-HEALTH SOLUTIONS BEING IMPLEMENTED**

In order to fulfill that objective, the e-Health Centre plans to carry out systematic information, consultation and training activities. Information and consultation activities will include, e.g., consultations with service providers, service recipients, regulators, e-health sector institutions, social media presence, periodic conferences. Training activities will include the continuation and development of the "CeZ Academy" venture. Surveys targeting PWDL will continue. Their goal will be to obtain up-to-date knowledge on the readiness of the foregoing entities to meet their obligations to keep the EDM.

#### **SPECIFIC OBJECTIVE 4.5. INCREASING AWARENESS OF BUSINESS REPRESENTATIVES ON THE STANDARD OF PROJECT MANAGEMENT AND IMPLEMENTATION**

The center has developed a proprietary, "tailor-made" P3M project management standard, based on, among other things: PMBOOK Guide, PRINCE2 Agile, AgilePM. It is important to increase the awareness of business representatives involved in project work on the standard of project management of the e-Health Centre and development works, by conducting periodic instruction and sharing the developed guidelines. Greater awareness among business representatives in this area will result in a more efficient cooperation and more effective implementation of project work.

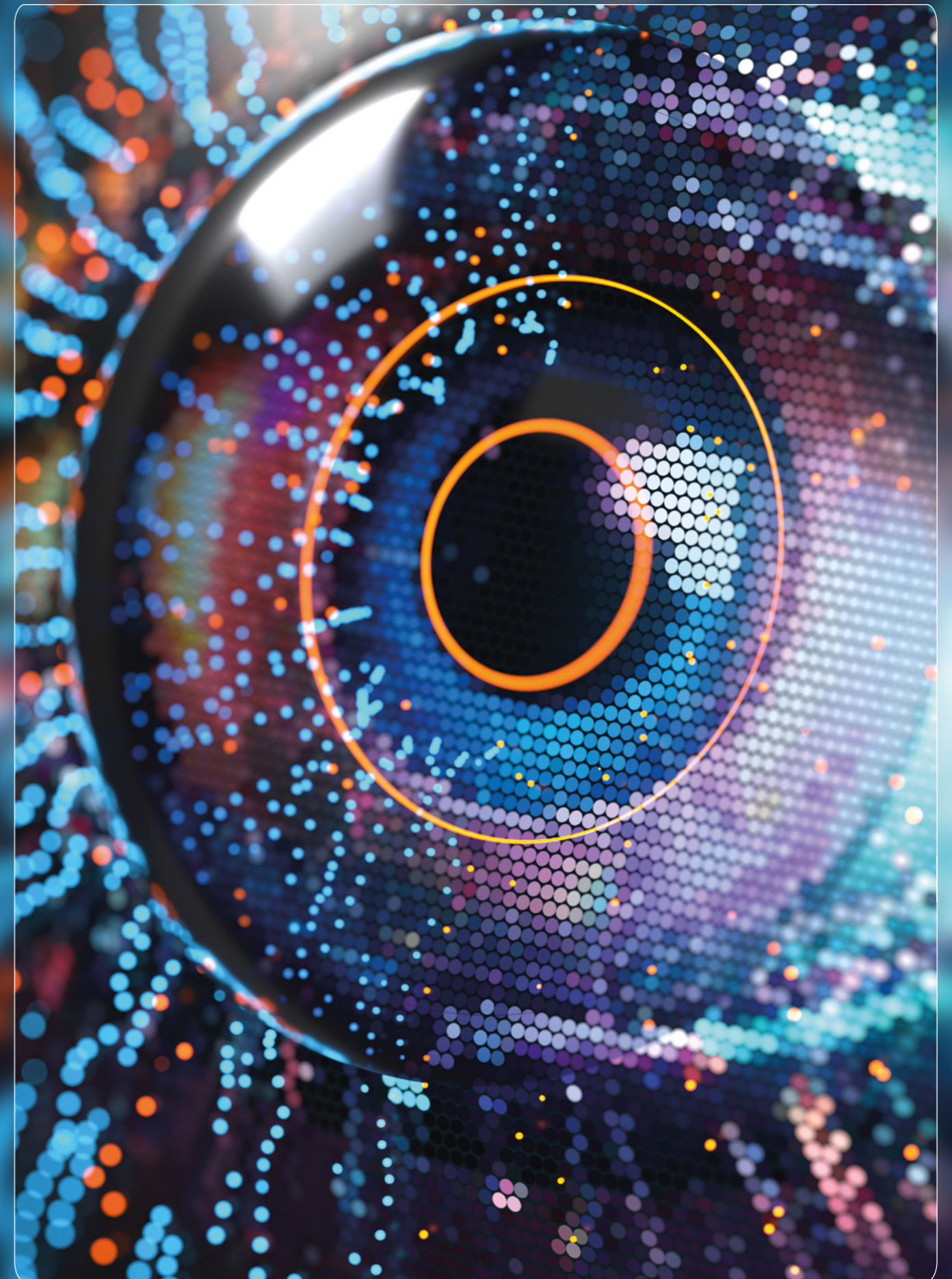
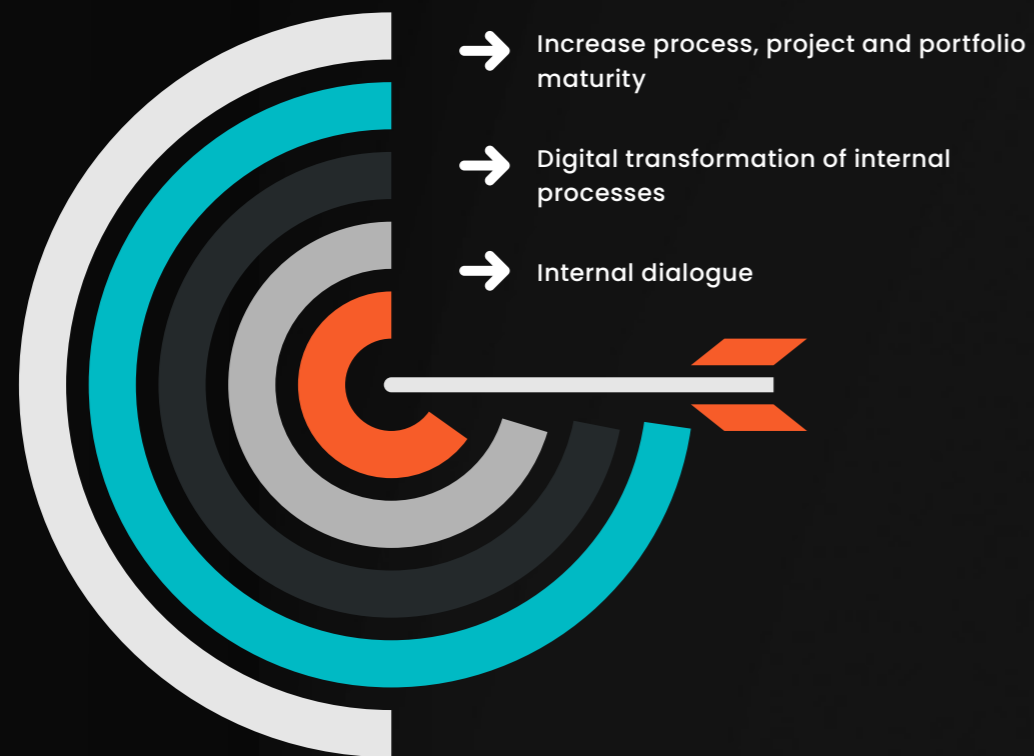
**Increasing  
competence  
in the area of cyber  
security is very  
important**





# An internal process perspective

THE E-HEALTH CENTRE PLANS TO SYSTEMATICALLY INCREASE ITS PROCESS AND PROJECT MATURITY. IT ALSO PLACES GREAT VALUE ON BUILDING A KNOWLEDGE BASE THAT WILL HELP EMPLOYEES AND GIVE THEM ACCESS TO SPECIALIST INFORMATION. OTHER GOALS SET BY THE ORGANIZATION INCLUDE GREATER USE OF IT TOOLS TO OPTIMIZE WORK AND STRENGTHENING THE INTERNAL COMMUNICATION OF THE E-HEALTH CENTER.





## An internal process perspective

### STRATEGIC OBJECTIVE 5 INCREASE PROCESS, PROJECT AND PORTFOLIO MATURITY

#### SPECIFIC OBJECTIVE 5.1. EXPANSION OF THE P3M STANDARD AND OPTIMIZATION OF BUSINESS PROCESSES

The e-Health Centre uses a process and project approach in its operations. All projects pursuing CeZ's goals form the portfolio of the e-Health Centre. Standardization and optimization of internal processes will continue. The organization's approach to standardization and optimization of processes leads to standardization of the principles of their identification, codification, mapping as well as implementation. It also includes the principles of their monitoring and improvement. Process optimization is the e-Health Centre's effort to model, analyze and improve the organization's process flow. Optimization activities will involve both standardization of the process flow and automation of activities, as well as revision of procedures to reduce unnecessary activities or documents. A measurement system will also be developed to support continuous improvement of the standard. Optimization will

include several dimensions: the execution time of a given process, the number of steps, the number of roles involved, the quality of both the process itself and the product delivered in the course of execution. Improvement includes value stream core processes and supporting processes.

#### SPECIFIC OBJECTIVE 5.2. CODIFYING KNOWLEDGE

At CeZ, a big role is given to building a knowledge base. In the first instance, this applies to knowledge within the organization. The knowledge base includes design and process repositories, the architecture area, and the intranet. These tools allow introduction of new employees into the CeZ organization, as well as access to specialized information on ongoing projects and full project documentation. Knowledge databases are used not only for efficient onboarding of team members, but also provide a source of historical information, which is extremely important in the case of an institution like CeZ, a budgetary unit subject to official controls and inspections resulting from the implementation of EU-funded projects. CeZ will continue to expand the knowledge base, primarily in the area of project information, in order to make it easily accessible to interested and authorized persons.



### STRATEGIC OBJECTIVE 6 DIGITAL TRANSFORMATION OF INTERNAL

#### SPECIFIC OBJECTIVE 6.1. USE OF IT TOOLS TO OPTIMIZE WORK

This will be achieved through the implementation of an ERP system. The implementation of this type of solution will streamline the operation of the e-Health Centre and provide a tool to support work in the following areas: finance and accounting, human resources and payroll, auditing and reporting, controlling. The Centre has specialized IT tools to support project portfolio management, used in its daily project work – e.g. Jira, including Tempo and Confluence. There are plans to gradually involve the organizational units of the e-Health Centre, which carry out support tasks, in the process of work scheduling and time reporting using the indicated tools. This will enable all CeZ organizational units to better organize their work and manage their time. The basis of management is measurement, especially of where we are, where we should be and what we will do in the next step to achieve planned milestones. As mentioned earlier, there is one common environment in CeZ with all projects and their progress recorded.



### STRATEGIC OBJECTIVE 7 INTERNAL DIALOGUE

#### SPECIFIC OBJECTIVE 7.1. IMPROVING INTERNAL COMMUNICATION OF THE E-HEALTH CENTRE

The need to reinforce the area of internal communication at the e-Health Centre is identified during annual reviews of Management Control. This mainly concerns horizontal communication (between employees at a similar hierarchical level, but also between other organizational units). Several initiatives have been launched to improve information transfer at CeZ. One of them is to issue a periodic newsletter. CeZ employees are invited to collaborate in its development as text authors. In addition, there are plans to overhaul the intranet, in line with employee expectations. Important information is published on CeZ's social media. Furthermore, a pilot in-house training program will be launched at CeZ, titled: "Share the Knowledge."



**The knowledge base that CeZ is building includes project repositories and process, the area of architecture, as well as the intranet. These tools help employees and give access to specialized information. ”**



# Development perspective

ONE OF CEZ'S DEVELOPMENT GOALS IS TO IMPROVE THE SECURITY OF INFORMATION PROCESSING IN THE HEALTH SECTOR. THE ORGANISATION ALSO AIMS TO ENSURE A COHERENT E-HEALTH ARCHITECTURE IN POLAND AND TO IMPROVE THE QUALITY OF SERVICE PROVISION (UNDERSTOOD AS INCREASING THE AVAILABILITY OF SYSTEMS, ENHANCING THE QUALITY OF HANDLING STAKEHOLDER REQUESTS AND STREAMLINING REPORTING). THE DEVELOPMENT WILL ALSO PROCEED TOWARDS STANDARDISATION OF E-HEALTH SERVICES IN POLAND.

**+50**

ICT systems and solutions

**+38 mln**

e-health users: patients, doctors,  
managers, public administration







## STRATEGIC OBJECTIVE 8 REINFORCING THE CYBER SECURITY AREA

### SPECIFIC OBJECTIVE 8.1. IMPROVING THE SECURITY OF INFORMATION PROCESSING IN THE HEALTH SECTOR

The particular sensitivity of medical data processed in healthcare IT systems and the increasing importance of IT solutions comes with an increased risk of cyber attacks. Ensuring an adequate level of ICT security is an indispensable part of technology development, which is why a comprehensive program to reinforce cyber security for the health sector has been planned and is being gradually implemented. Elements of this program include activities in the security of data collected in the CeZ, a project to establish a support center for health area security, support for the health sector in performing vulnerability scans, the purchase of new and development of existing security systems. The program is multidimensional and aimed at increasing the security level of data processed at the e-Health Centre, minimizing the risk of incidents, and reducing the response time to such situations. Organizational and technological measures will be implemented to enable the Centre to effectively manage cyber security.



## STRATEGIC OBJECTIVE 9 BUILDING A COHERENT E-HEALTH ARCHITECTURE

### SPECIFIC OBJECTIVE 9.1. DEVELOPING E-HEALTH ARCHITECTURE

CeZ is responsible for creating and developing dozens of systems in the health care field. An integrated analytical and architectural environment was implemented to ensure their architectural consistency. CeZ repository is based on Confluence environment, Prolaborate environment, Enterprise Architect environment (EA repository). The architecture of all CeZ systems is migrated to CeZ's common analytical and architectural environment, and new systems are created according to principals and a set of standards to enable the acquisition/building, development and deployment of IT solutions that will improve interoperability, minimize duplication and simplify the IT environment in all areas of CeZ. A metamodel of architecture content was also created, defining the most essential CeZ architectural elements necessary for building interoperational e-government systems. The metamodel is based on TOGAF (The Open Group Architecture Framework), which delineates a comprehensive approach within enterprise architecture to the design, planning, implementation and management of an organization's enterprise architecture. Implemented solutions contribute to building an enterprise architecture that manages development and technology standards in CeZ. It was assumed that the implementation of any new component or technology into the architecture would first have to be approved

by the Architecture Council. This will make it unacceptable for individual project teams to model system architectures in a non-integrated manner. In terms of application integration in the designed solutions, CeZ uses REST APIs (and in terms of the connectivity interfaces already developed, it will strive to transform them towards REST APIs). This will provide a flexible approach to connecting components in the architecture of the entire e-health ecosystem. Another important step in the architecture area is also the assignment of systems to specific domains. Within each domain, a domain architect and a domain analyst will be appointed – the so-called gatekeepers to watch over the compatibility of systems with domain systems. In CeZ, the construction/development of systems shall be carried out in a tightly controlled environment. The CeZ architecture is in line with the principles developed within the framework of the State Information Architecture, which is the overarching architecture.

Cloud solutions will be used to provide a highly available architecture for key e-services in the e-health area.



## STRATEGIC OBJECTIVE 10 INCREASE THE LEVEL OF SERVICE PROVISION QUALITY

### SPECIFIC OBJECTIVE 10.1. INCREASING SYSTEM AVAILABILITY

The term "availability" means the time of failure-free operation of a service in relation to the total time during which the service should be provided. The availability of systems

is determined with WB and is dependent on the importance and criticality of the system in question (classification of CeZ systems is under preparation). In order to improve system availability, the procedure for handling incidents and failures was updated in November 2022. The next steps for metering the systems and preparing dashboards for monitoring were defined. Increasing the availability of systems is also fulfilled through a continuous effort to ensure data security, the development of backup systems, the application of appropriate procedures for the unit's business continuity, and the construction of a second data processing center.

### SPECIFIC OBJECTIVE 10.2. IMPROVING THE QUALITY OF SERVICE OF STAKEHOLDER REQUESTS

With the launch of more systems, it was necessary to optimize the helpline area. A unified ticketing system (one tool, one helpline number for all systems) was implemented in response to concerns raised to CeZ about the quality of helpline operations, and as a result of an internal need to make improvements in this area. Studies on possible chatbot use will also be undertaken in order to improve the helpline. The next optimization measures will concern the handling of requests in the substantive teams. An initiative is planned to define and agree on parameters for handling requests, incidents, failures, IS availability times. In order to improve the handling of complaints and requests, a special organizational unit (Patient and Institutional Service Support Department) has been established in the CeZ in 2022. In addition, the process describing the handling of complaints and requests has been optimized. In order to optimize the transfer of information to the services, mechanisms will be implemented in CeZ to automate the exchange of data, with full protection of personal data and accountability of the activities carried out in the system.



### SPECIFIC OBJECTIVE 10.3. IMPROVING REPORTING

The increase in quality level covers all services and systems of the e-Health Centre, including the provision of effective reporting support based on e-Health data contained in the P1 system. The e-health system (P1) enables the collection, processing and sharing of digital resources about patients' medical events and electronic medical records (EMR) indexes. The system covers all medical entities, regardless of the source of funding for the services provided therein. Healthcare providers currently have numerous reporting obligations. The same data must be often reported to multiple locations. The distributed nature of the data is also a negative consequence. The plan is to eventually base reporting on the P1 system, gradually reducing other reporting channels. The first measures will be taken in the area of Primary Healthcare (POZ).



### STRATEGIC OBJECTIVE II STANDARDIZATION OF E-HEALTH SERVICES

#### SPECIFIC OBJECTIVE II.1 IMPLEMENTATION OF INTEROPERABILITY STANDARDS

CeZ is playing a leading role in interoperability. There is an Interoperability Council at CeZ, which is an organization representing the main stakeholders (representatives of central offices, health care entities, patients, standardization organizations and software

providers) and has an advisory and opinion-making role.

**Treatment process level** – work will be carried out to optimize the patient pathway through the use of IT systems, and information scopes required for coordinated patient care based on IHE content profiles will be defined.

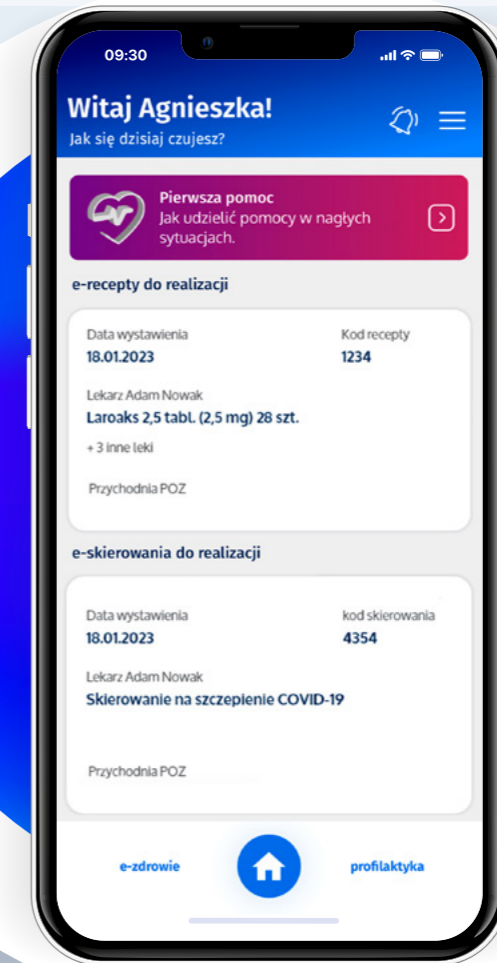
**Information level** – work will be carried out to standardize the data model in the health system and develop the semantic interoperability required for data structuring. The basis for semantics development will be the SNOMED CT terminology. Country's implementation of ICD-11, including a smooth transition between ICD-10 and ICD-11 with data continuity – is also crucial. Application level – IHE profiles have found widespread use in both projects in health care entities, in regional projects and in projects at the central level. The second most important standard consistently developed in Poland is the HL7 CDA medical document recording standard. CeZ is the owner of its Polish implementation, and the standard itself is promoted through the Polish HL7 CDA National Implementation. The increasing use of real-time interaction between existing systems has forced the introduction of a third group of standards, the HL7 FHIR resource. A national implementation for HL7 FHIR will be created.



**The Interoperability Council, which operates at CeZ, includes representatives of: central offices, medical entities, patients, standardization organizations and software vendors. It plays an advisory and opinion-making role.**



#### WHAT'S IMPORTANT



**THE OPERATION OF THE HOTLINE, TO WHICH, FOR EXAMPLE, PROBLEMS WITH THE OPERATION OF SYSTEMS OR APPLICATIONS ARE REPORTED, IS BEING OPTIMISED ON AN ONGOING BASIS. A PATIENT AND INSTITUTIONAL SUPPORT DEPARTMENT HAS ALSO BEEN SET UP, WHICH WILL IMPROVE CONTACT WITH THE ORGANISATION.**



# A resource perspective

THE E-HEALTH CENTRE PLANS TO STRENGTHEN THE SPECIALIST COMPETENCES OF EMPLOYEES IN AI, CYBERSECURITY AND E-HEALTH DOMAIN. IT WILL STRIVE TO CREATE OPTIMAL WORKING CONDITIONS SO AS TO ENABLE EMPLOYEES TO MEET THEIR OWN DEVELOPMENT NEEDS AND ADAPT THE INSTITUTION TO THE CHANGING NEEDS OF EMPLOYEES AND CONDITIONS ON THE LABOUR MARKET. THESE ACTIVITIES WILL BE COMBINED WITH THE DESIRE TO INCREASE BRAND RECOGNITION, WHICH MAY INCREASE THE ATTRACTIVENESS OF THE ORGANIZATION AS AN EMPLOYER

# 352

e-Health Centre employees







## STRATEGIC OBJECTIVE 12 DEVELOPMENT AND DIVERSIFICATION OF CORE COMPETENCIES

### SPECIFIC OBJECTIVE 12.1 REINFORCING SPECIALIZED COMPETENCIES

An AI Academy will be established, with plans to establish partnerships with research entities to pursue grants (research on creating and updating algorithms, and developing pathways to verify the patient's health cycle). One of the goals of the AI Academy will be to study the algorithms created and make them available for the development of innovative systems based on artificial intelligence: startups, innovators, ABM.

Cyber security is another competence area that needs to be developed due to dynamic progress. In addition, in order to meet the challenges of building new e-health services and standardizing services, it is necessary to expand the competence of e-health professionals. They will include people with knowledge of both how the health care system works in the country, and globally, as well as understanding the world of IT. The form of employee employment agreements is also important. Currently, teams carrying out project work rely primarily on employees under employment contracts and external contracts for the provision of external consultation services. Although external contracts provide

important competence support to the e-Health Centre, there is a number of benefits of hiring full-time staff. This form of employment provides greater stability of the competencies held, continuity of efficient operation, and maintenance of project knowledge. On the other hand, this issue is also related to the need to adapt employment opportunities to the changing needs of employees and labor market conditions. The Centre also aims to specialize its HR department in the professional sourcing of high-end IT professionals.

### SPECIFIC OBJECTIVE 12.2 EMPLOYEE IDENTIFICATION WITH THE ORGANIZATION

The Centre strives to create optimal working conditions and enable employees to meet their own development needs. Enabling employees to participate in decision-making, providing clear rules and opportunities for advancement, and building a transparent, collaborative and highly ethical organizational culture are important areas that require continuous monitoring and improvement. It is also important for CeZ to realize the principle of equality and accessibility for people with disabilities. A new feature is to engage employees as ambassadors for digital services (e.g., speaking posts, videos for social media). These initiatives will continue and expand. Having the status of "employer of choice" in the IT industry, with high turnover and increasing employee demands for development and compensation, is one of the requirements for stable operation of organizations, including CeZ. The e-Health Centre will strive to increase brand recognition. The presentation of the CeZ brand will include, in particular, aspects of innovation and stability, as well as institution goals. CeZ has implemented an internship program that will be developed.



## STRATEGIC OBJECTIVE 13 INCREASING E-HEALTH CENTRE ATTRACTIVENESS AS AN EMPLOYER

### SPECIFIC OBJECTIVE 13.1 DEVELOPMENT OF ORGANIZATIONAL CULTURE

The coordinated development of CeZ's organizational culture should be tailored to the needs and specifics of the organization, and should include an increase in the importance of a values-based culture, self-organization of teams, shared responsibility for achieving the goals of the e-Health Centre, and the importance of continuous improvement. In parallel with modeling and improving the organizational culture at the e-Health Centre, there is development of external communication and dialog with stakeholders. It is described in a separate objective: "Reinforcing cooperation based on dialog with stakeholders."

### SPECIFIC OBJECTIVE 13.2 ADAPTING INSTITUTIONS TO THE CHANGING NEEDS OF EMPLOYEES AND LABOR MARKET CONDITIONS

The fulfillment of this specific objective will be possible, e.g., through a consistent personnel management policy, alignment of salary ranges with market rates, proper assessment of competencies, including at the recruitment stage, competence mapping, defining career paths, professional development and upgrading of professional skills.





# Implementation of the strategy

THE STRATEGY SETS SPECIFIC GOALS THAT THE E-HEALTH CENTRE WILL IMPLEMENT IN THE YEARS 2023-2027. FOR SUCCESS, IT IS NECESSARY TO IMPLEMENT THE STRATEGY AND CONSTANTLY TRACK AND COORDINATE THE PROGRESS OF ACHIEVING STRATEGIC AND SPECIFIC GOALS.







## Monitoring the strategy

THE STRATEGY MUST BE CONSTANTLY MONITORED USING THE ADOPTED KPIS. FORMAL, PERIODIC REVIEW MEETINGS (ON A SEMI-ANNUAL BASIS) ARE ALSO IMPORTANT FOR ITS COMPLIANCE

The strategy will be effectively implemented when the team of CeZ employees and external stakeholders will be familiar with it, becoming a specific kind of a guide for them. The time horizon for the e-Health Centre's strategy is set for 2023-2027. This is a 5-year period for the strategy, which will allow both the continuation of current projects and programs that support the strategic goals, as well as the planning, launch and implementation of further initiatives. All the initiatives, projects and programs resulting from the e-Health Centre's strategy form the e-Health Centre's portfolio. The use of the portfolio management process in conjunction with strategy tracking

makes it possible to clearly plan, monitor and control and, if necessary, correct the course of action taken. Measures of progress in strategy implementation will be based on aggregate measures of portfolio element fulfillment, as well as measures of goal achievement. Implementation of the strategy at the e-Health Centre, as a unit of the public finance sector, will be carried out in compliance with the standards of management control. Management control should be understood as all the measures taken to ensure that objectives and tasks are carried out in a lawful, efficient, economical and timely manner.



## Monitoring the strategy, reviewing and updating the strategy

THE STRATEGY WILL BE EFFECTIVELY IMPLEMENTED WHEN THE TEAM OF CEZ EMPLOYEES AND EXTERNAL STAKEHOLDERS KNOWS IT WELL, WHEN IT BECOMES A KIND OF GUIDE FOR THEM

### MONITORING THE STRATEGY

The strategic goals will be achieved through specific objectives. Adequate metrics and a catalog of initiatives have been defined for each specific objective. The adopted metrics have been defined in a way allowing their measurement to be continuous over a 5-year period. The degree of metrics implementation is assessed during semi-annual reviews of the strategy. A set of initiatives has also been assigned to each specific goal. Implementation of the initiatives will contribute to the achievement of the specific goals defined in the strategy. The CeZ Directorate, with support from the Project Portfolio Management Department, is responsible for monitoring the strategy. Perspectives, strategic goals, specific objectives, and related initiatives and projects will be mapped in the strategy monitoring support tool (Jira Software).

### STRATEGY REVIEW AND UPDATE

Formal, periodic review meetings (on a semi-annual basis) play an important role. Semi-annual analyses will allow for the evaluation of trends and factors influencing the implementation of the strategy and their correlation with results. Semi-annual reviews/analyses will verify the timeliness of the strategy and assess the effectiveness of its implementation (verification of the degree to which the goals are achieved, review of the metrics). Strategic reviews will also result in prioritizing tasks for the next strategy period, verifying the degree of achievement of metrics, discussing possible risks (risk management). Strategic reviews involve the CeZ director, vertical directors, and departmental directors – the owners of each initiative and measure.





#### **The e-Health Centre**

The e-Health Centre is a state budgetary entity appointed by the Minister of Health.

Responsible for the implementation of large-scale IT projects, essential for the functioning of the healthcare area in Poland

[www.cez.gov.pl](http://www.cez.gov.pl)