World Health Organization
REGIONAL OFFICE FOR Europe

SITUATION ANALYSIS ON EVIDENCE-INFORMED HEALTH POLICY-MAKING

Poland

EVIPNet Europe Series, N° 2

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ABBREVIATIONS AND ACRONYMS

ABM	Agency for Medical Research; *Agencja Badań Medycznych*
AOTMiT	Agency for Health Technology Assessment and Tariff System; *Agencja Oceny Technologii Medycznych i Taryfikacji*
CAS	Centre for Strategic Analyses; *Centrum Analiz Strategicznych*
CSIOZ	Center for Information Systems in Health Care; *Centrum Systemów Informacyjnych w Ochronie Zdrowia*
DALY	disability-adjusted life year
EBM	evidence-based medicine
EMD	electronic medical documentation
EIP	evidence-informed policy-making
EU	European Union
EVIPnet	Evidence-informed Policy Network
GDP	gross domestic product
GIS	State Sanitary Inspection; *Główny Inspektor Sanitarny*
GUS	Statistics Poland; *Główny Urząd Statystyczny*
HIS	health information system
HTA	health technology assessment
IT	information technology
KRUS	Agricultural Social Insurance Fund; *Kasa Rolniczego Ubezpieczenia Społecznego*
KT	knowledge translation
KTP	knowledge translation platform
MoH	Ministry of Health
NCBR	National Centre for Research and Development; *Narodowe Centrum Badań i Rozwoju*
NCD	noncommunicable disease
NCN	National Science Centre; *Narodowe Centrum Nauki*
NIZP-PZH	National Institute of Public Health–National Institute of Hygiene; *Narodowy Instytut Zdrowia Publicznego Państwowy Zakład Higieny*
NFZ	National Health Fund; *Narodowy Fundusz Zdrowia*
NGO	nongovernmental organization
NIK	Polish Supreme Audit Office; *Najwyższa Izba Kontroli*
OOP	out of pocket
PUOP	Polish Union of Patients Organizations; *Polska Unia Organizacji Pacjenckich*
RIA	regulation impact assessment
RPP	Patient Rights Ombudsman; *Rzecznik Praw Pacjenta*
R&D	research and development
R&I	research and innovation
SA	situation analysis
SHI	social health insurance
SDG	Sustainable Development Goal
WHO	World Health Organization
ZUS	Social Insurance Institution; *Zakład Ubezpieczeń Społecznych*

EXECUTIVE SUMMARY

Introduction

The Evidence-informed Policy Network (EVIPNet) Europe is an initiative of the World Health Organization (WHO) Regional Office for Europe. It aims to increase country capacity in developing health policies informed by the best available research evidence. Poland joined the Network in 2013, while the formal country launch took place in 2015 in Warsaw at a workshop attended by key policy-makers, researchers and other stakeholders.

This situation analysis (SA) on evidence-informed policy-making (EIP) aims to increase understanding about the interactions between a country's research and policy-making communities to determine where and how best to establish a knowledge translation platform (KTP). The methods used to develop the SA for Poland were guided by the *EVIPNet Europe Situation analysis manual* and included a literature review, key informant interviews and survey data analysis. The draft version of the SA report was presented during a high-level stakeholder meeting in February 2019 in Warsaw and the feedback used to revise and finalize the SA.

General country context

Poland is a democratic republic with a unitary government. Over the past two decades, Poland has experienced strong economic growth without any obvious macroeconomic imbalance. Currently, the labour market is booming, and the overall macroeconomic outlook is positive. Yet, maintaining strong and inclusive growth requires advancing structural reforms to strengthen investment and productivity, as well as addressing demographic challenges.

The Polish government has undertaken several actions aimed at improving its regulatory policy system. In 2015, the new *Guidelines for the regulation impact assessment* (RIA) and public consultations within the government's legislation process were adopted. Unfortunately, the policy-making process often lacks transparency, and/or does not involve economic and social impact analysis. There is, however, a growing recognition of the importance of promoting an evidence-based policy approach in Poland – as acknowledged in the Strategy for Responsible Development adopted by the government in 2017.

The health system

The health system in Poland is based on a social health insurance model, which covered approximately 99% of the population in 2016. The functions related to organization and governance are divided between the Ministry of Health (MoH) and territorial self-governments. There are also numerous advisory bodies functioning under the MoH's supervision. While health care in Poland is financed mainly from public sources (70%), out-of-pocket payments account for 23% of expenditure. Service delivery is characterized by overcapacity at the tertiary care level, with simultaneous deficits in primary and long-term care. One of the major challenges facing the Polish health system currently is low labour supply. The shortage of doctors and nurses is among the highest in Europe.

A comprehensive strategy for the health system that incorporates a system design model and future reform plans is lacking. However, in 2017, the "Regulation on piloting changes in the health system" was launched (*Ustawa z dnia 29 września 2017 r. o zmianie ustawy o świadczeniach opieki zdrowotnej finansowanych ze środków publicznych*). It introduced "pilot programmes" to test on a smaller scale new health systems' organizational and/or financing approaches before introducing them at system level. In 2018, the Minister of Health initiated a nationwide debate on the directions of Polish health-care sector reform.

Formally, health policy-making in Poland is conducted according to standard democratic procedures, though the RIA guidelines are not always followed. Proposals for new regulations and changes to existing regulations are usually submitted by the MoH, but can also be the result of initiatives coordinated by Parliament deputies and/or civil society groups. The past decade has seen increased engagement of patients' organizations in the Polish health system.

The national health information system

Poland has no comprehensive health information system (HIS). Data gathering, analysis and dissemination are not covered by a comprehensive strategic plan at a national level. The Law on Health Information System adopted in 2011 (*Ustawa z dnia 28 kwietnia 2011 o systemie informacji w ochronie zdrowia*) only partially brings together some of the different components. Thus, the HIS takes the form of a set of loosely related, separate databases and systems run by many different entities. There is no data warehouse in Poland, existing information sources and databases are not integrated, and the existing data and information are rarely available in a user-friendly format.

A considerable amount of health systems information is collected, but is rarely used as a key input in the policy-making process. A huge challenge in organizing a HIS in Poland is the relatively low level of health system digitalization, as well as personal data protection regulations, which often require a high level of data aggregation. The various challenges related to data management, dissemination and use are recognized by the main stakeholders, and recent initiatives have been developed to advance elements of the digitalization process (including electronic medical records), build a data warehouse (including a joint database for the health, social and education sectors) and develop interactive tools for data access.

The national health research system

In Poland, the higher education and science system is characterized by a large number of universities/academic institutions, and a low level of spending. The science system comprises about 400 institutions, often small and narrowly focused, each with diverse research interests. The country's total expenditure on research and development as a percentage of the gross domestic product (GDP) was 1% in 2016–2017 compared to the European Union (EU) average of 2%, which is one of the lowest in the EU. Few scientists are available and Poland's research output is modest.

In 2018, the government implemented a major reform in the Polish higher education and science systems "Constitution for science", which aims to strengthen universities' capacities and consolidate the fragmented higher education sector. The main funding agencies allocating grants for research are supervised by the Ministry of Science and Higher Education and include the National Centre for Research and Development (*NCBR*, since 2007) and the National Science Centre (*NCN*, since 2011).

Medical and health research is carried out mainly by medical universities and 16 research institutes supervised by the MoH. At the beginning of 2019, a dedicated agency for medical research (Agency for Medical Research, *ABM*) was founded. Its establishment is justified by the low level of funding for research in medical/health sciences.

Evidence-informed policy processes

Although systematic, transparent mechanisms for EIP are missing, a growing number of institutions (both government and nongovernmental organizations [NGOs]) are involved in policy analysis and promote the use of research evidence in policy-making processes. This creates a fertile ground for the promotion of EVIPNet-related work and the establishment of more sustainable EIP mechanisms for government decision-making.

The importance of EIP is largely recognized among major health system stakeholders. However, the existence of incentives and/or requirements stipulating the use of research evidence in health policy-making is varied, depending on the specific type of policy. The use of evidence is standard practice in pharmaceutical policy as well as in decisions related to inclusion of services in the national insurance scheme health benefit package. The Agency for Health Technology Assessment and Tariff System (*AOTMiT*) plays a leading role in this. In other areas of health policy, there are some examples of good practice in using evidence. Yet these are isolated bottom–up initiatives or projects, which do not have a system-based, regular character.

An important challenge for EIP efforts in the Polish health system is the lack of adequate financial and human resources, lack of knowledge translation (KT) skills, and of a clear division of responsibilities between the diverse stakeholders that might potentially be involved in these efforts. A major challenge is the inseparable interaction between "policy" and "politics" and the influence of the political cycle.

Conclusions and next steps

Although the concept of a KTP is generally acknowledged as important and needed, establishing and operationalizing it is a long-term and complex process that is extremely difficult to conceptualize and must consider the current characteristics of the country's EIP landscape. While there is high recognition of the importance and positive examples of EIP, there are problems related to institutions' overlapping competencies, issues of data quality and management, and low research capacity. There are numerous ongoing projects with a potentially huge impact on establishing a KTP in Poland. A lot of preparatory work is needed, and must involve the different future stakeholders of the KTP.

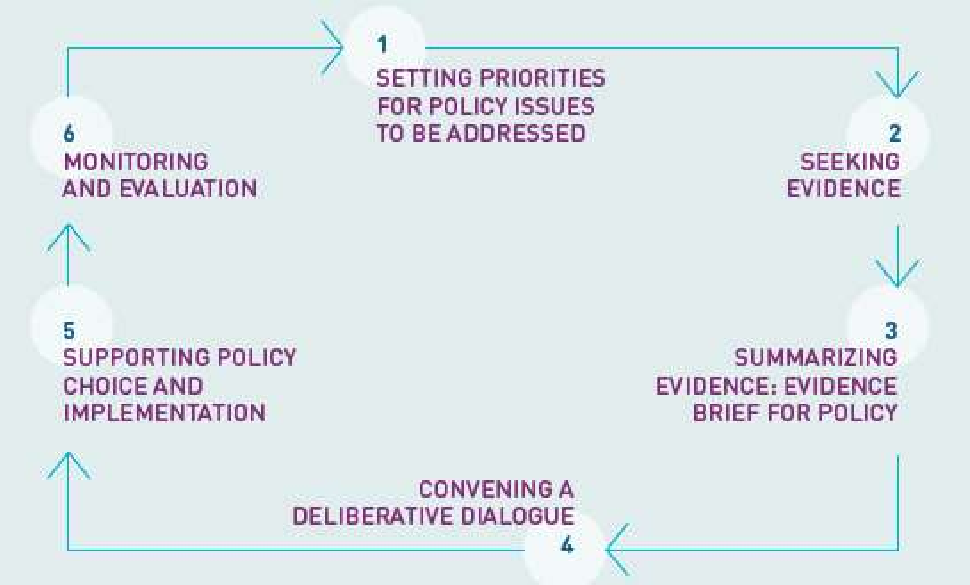
The proposed model for a future KTP in Poland is a network with a joint secretariat (administrative office) within the MoH. Such a network shall involve the main health system stakeholders responsible for providing data and evidence for health policy purposes (AOTMiT, NFZ, CSIOZ), research units, professionals specializing in knowledge brokering and translation, and policy-makers. The network's form should facilitate the use of existing organizations' potential and competencies via information exchange and close cooperation. Actions are needed to promote the systematic use of research in health system decision-making processes within a parallel time-frame, involving training in KT and using other than KTP tools for EIP.

1. INTRODUCTION

1.1. EVIPNet Europe and EIP

Over the past few years, increased international attention has been paid to bridging the gap between health research and policy-making. In 2005, the World Health Organization (WHO) launched the Evidence-informed Policy Network (EVIPNet) as a mechanism to strengthen the research–policy interface. EVIPNet's goal is to improve public health and reduce inequities by increasing the systematic use of the best available scientific evidence to guide development of health systems policy. In October 2012, a regional EVIPNet was launched in the WHO European Region. It promotes the systematic use of health research evidence in policy-making and aims to build capacity in countries to develop policy briefs and establish mechanisms to translate evidence into policy (Fig. 1). Poland joined the Network in 2013, while its formal launch took place in 2015 in Warsaw at a workshop attended by key policy-makers, researchers and other stakeholders (EVIPNet Europe, 2015).

Fig. 1. EVIPnet action cycle



Source: EVIPNet Europe, 2017a

1.2. Why is EIP relevant in Poland?

The Polish health system faces numerous challenges related to both sociodemographic features and health status of the population, as well as organization and financing of the system. The partnership with EVIPNet Europe will be beneficial in terms of mobilizing scarce human and financial resources to enhance evidence-informed policy-making (EIP) and support the health reforms necessary to tackle these challenges.

In general, Poland is seeking ways to improve the quality of its policy-making process, inter alia by increasing diverse stakeholders' involvement in the policy process and promoting ex-ante impact assessment of new regulations (*Strategia na rzecz Odpowiedzialnego Rozwoju*, 2017). These actions are in line with promotion and institutionalization of the EIP processes.

1.3. Preparing the establishment of a KTP

EVIPNet Europe encourages a country situation analysis (SA) in order to strengthen and institutionalize EIP, and prepare and establish a KTP. The aim of the analysis is to provide a snapshot of the health (systems) research and health (systems) policy-making context to identify "the organizational and operational niche of the future EVIPNet knowledge translation platform".

The main **aim** of conducting an SA on EIP in Poland was to determine the institutional niche, structure and possible functions of a future knowledge translation platform (KTP, Box 1).

Box 1. Definition of KTP

A knowledge translation platform (KTP) is an organization or network that brings the worlds of research and policy together. A KTP designs, leads and/or delegates strategies: (i) to understand the prevailing situation on a particular issue; (ii) to harvest local evidence and experience, and synthesize it with global knowledge to provide guidance in policy development and implementation; (iii) to broker among stakeholders on key issues; (iv) to package syntheses and other communications for specific audiences; and (v) to strengthen the capacities of researchers, policy-makers and other stakeholders in accessing research evidence, in performing synthesis work, and in knowledge translation (KT) more generally (EVIPNet Europe, 2017a)

The specific **objectives** were as follows: (1) to improve the understanding of existing EIP processes in Poland; (2) to understand national opportunities and challenges with regard to EIP; (3) to guide the establishment and future strategic direction of a national KTP to contribute towards a sustainable interaction between researchers, policy-makers and other health system stakeholders; (4) to strengthen collaboration of national stakeholders and international partners in supporting the future work of the KTP; and (5) to identify external support needs, such as from WHO Europe.

1.3.1. Methods

The methods used to develop the SA were guided by the *EVIPNet Europe Situation analysis manual* (World Health Organization Regional Office for Europe, 2017a) and included a literature review, key informant interviews and survey data analyses.

- The literature review covered a broad range of international as well as national publications; reports and legislative regulations. We analysed reports and guidelines developed by international organizations and conducted a follow-up narrative review of other sources: the grey literature, national strategic documents, legal regulations, official statements as well as other publicly accessible sources. The national statistical data analysis included information from Statistics Poland (Central Statistical Office), the Ministry of Health (MoH), and the Polish Supreme Audit Office.
- Twelve key informant interviews were conducted with stakeholders representing institutions from three areas: (1) research; (2) health system data; and (3) policy-making. The choice of respondents was based on purposeful sampling. The majority of respondents were high-ranking officials and/or experienced researchers, representing major stakeholders' institutions. Annex 1 presents the list of the respondents' institutions. An official invitation to participate in the interview, including an explanation of its purpose, was sent to each participant by the

MoH. The interviews were conducted by three researchers (authors of this report) and had three main subsections: (1) EIP in Poland; (2) KTP development; (3) the role of the respondent's organization. Annex 2 presents the interview scenario. The interviews were conducted face-to-face or via phone between September and December 2018. They were transcribed and analysed using thematic analysis.

— Survey data analysis included data from questionnaires sent to the health departments of all 16 voivodeship offices (representing central administration in the regions). The questionnaire had two open-ended questions: (1) describe the human resource capacities involved in health-related data gathering and analysis in your institution; (2) describe the most important needs of your organization related to planning and realization of EIP at the regional level.

The draft version of the SA report was presented during a high-level stakeholder meeting that took place in February 2019 in Warsaw. The feedback provided by the workshop participants was used to revise and finalize the SA.

1.4. Structure of the report

The structure of the report follows the recommendations of the *EVIPNet Europe Situation analysis manual* (World Health Organization Regional Office for Europe, 2017a). It contains five main sections:

» national context (general country description related to politics, economics, sociocultural aspects);
» health system (main actors, reforms, service delivery, governance);
» health information system (resources, data access and management, quality issues)
» national health research system (resources, organizational infrastructure, quality of research); and
» EIP landscape (policy analysis, knowledge brokering and translation).

These sections are followed by the final conclusions and next steps description.

2. GENERAL COUNTRY CONTEXT

This section offers a general understanding of Poland's major political, social, public health, socioeconomic and cultural features beyond the health and health system-related infrastructure and processes.

2.1. Political structure and socioeconomic conditions

Poland (officially the Republic of Poland) is located in central Europe, occupying an area of approximately 313 000 sq.km. Poland's population is approximately 38.4 million, making it the sixth most populous country in the European Union (EU), as well as the sixth in terms of the land area size (GUS, 2018a). The territory of Poland is divided into 16 regions (voivodeships). The capital city is Warsaw, the biggest Polish city with approximately 1.8 million inhabitants (GUS, 2018b).

The Polish political system is defined by the Constitution of the Republic of Poland (1997). It states that Poland is a democratic republic with a unitary government, based on the principle of separation of legislative, executive and judicial powers (The Constitution of the Republic of Poland, 1997). Legislative power is represented by the two chambers of the Parliament: *Sejm* (composed of 460 deputies) and Senate (composed of 100 senators). Executive power is represented by the President and the Government (Council of Ministers led by the Prime Minister), and judicial power by the courts and tribunals. Parliamentary elections are held every 4 years and presidential elections every 5 years. At the district and peripheral levels, administration is by municipalities, counties and regions (voivodeships). Poland has a multiparty political system. After the last parliamentary elections in 2015, the Law and Justice party (*PiS*) formed a majority government.

Within the past two decades, Poland has experienced strong economic growth without any obvious macroeconomic imbalance that could adversely affect economic stability (Poland was not affected by recession after the 2008 global financial crisis). Currently, the labour market is booming, and the overall macroeconomic outlook is positive (OECD, 2018a). Employment rates have continued to rise and were above 70% for those aged 20–64 years in 2017. GDP increased by 4.6% in real terms in 2017, while the forecasts for 2018 and 2019 are 4.2% and 3.6% GDP growth, respectively (one of the highest rates in the EU) (European Commission, 2018).

Yet, maintaining strong and inclusive growth requires advancing structural reforms to strengthen investment and productivity, as well as addressing demographic challenges (European Commission, 2018; IMF, 2017; OECD, 2018a). Poland's labour productivity is still 40% below the OECD average and investment remains relatively low (European Commission, 2018; OECD, 2018a). The government aims to strengthen the country's capacity for technology adoption and innovation, inter alia, by increasing spending on research and development (R&D) from 1.0% of GDP in 2015 to 1.7% in 2020 and 2.5% by 2030. Also, while unemployment rates are the lowest they have been in recent history, labour shortages have started to affect business activity. Thus, getting more people to work as well as upskilling the labour force are important policy objectives (*Strategia na rzecz Odpowiedzialnego Rozwoju*, 2017; European Commission, 2018).

As in any other European country, the demographic changes constitute a huge challenge. In Poland, these changes are related to the two major trends: population ageing and a decline in population growth. Poland is characterized by one of the lowest fertility rates in the EU (1.39 live births per woman in 2016, compared to the EU average of 1.60) (Eurostat, 2019). It is expected that by 2050, half of the population in Poland will be over the age of 50 years while the total size of the population will decrease by 10% in comparison to 2015 (IBS, 2017). This will have a profound effect on the labour market, public finance and social protection systems.

Finally, although Poland has experienced impressive economic growth in recent years, inequalities in income and social status constitute an important challenge. Although the Gini coefficient (income distribution) for Poland in 2016 was below the EU average (29.8 in comparison to 30.8) (Eurostat, 2019), at the national level there are huge disparities. The reduction in social inequalities was defined as one of the objectives of the Strategy for Responsible Development adopted by the government in 2017 (*Strategia na rzecz Odpowiedzialnego Rozwoju*, 2017).

2.2. The policy-making process

Over the past few years, the Polish government has undertaken several actions aimed at improving its regulatory policy system (OECD, 2015). In 2013, the Ministry of Economy launched the "Better Regulation Programme 2015" aimed (inter alia) at building an e-legislation platform and improving the quality of the regulation impact assessment (RIA) processes (Program *Lepsze Regulacje* 2015, 2013). In 2015, it led to the adoption of the new Guidelines[1] for RIA and public consultations within the government's legislation process (*Wytyczne do przeprowadzania oceny wpływu regulacji i konsultacji publicznych*, 2015). The document provides detailed guidance on how to conduct an RIA, categorized into six steps: (1) problem identification and analysis; (2) defining the objectives; (3) identifying the available options to realize the objectives; (4) conducting cost–benefit analysis; (5) comparison and recommendation; (6) developing implementation and ex-post evaluation plans. Integral elements of the above process are public consultations. The Guidelines describe the methods by which consultations can be conducted, including an online platform, traditional mail or email, as well as public consultation meetings (*Wytyczne do przeprowadzania oceny wpływu regulacji i konsultacji publicznych*, 2015). In general, the Guidelines have been acknowledged as a practical and transparent document, prepared in accordance with the best international standards (Górniak et al., 2015; Kubera, 2017). It is also worthwhile emphasizing that the recommended stages of the RIA (especially 1–4, as described above) are consistent with the structure of the basic EIP tool. It may therefore support KTP inclusion in the formal policy-making process.

Unfortunately, the institutional and organizational reality seldom reflects the "ideal legal process" described in the Guidelines and/or targeted in strategic documents (Górniak et al., 2015). Poland faces numerous challenges to fully implementing its regulatory policy requirements and ensuring that RIA and feedback from public consultation are actually used to improve decision-making (OECD, 2015). An audit conducted by the Supreme Audit Office indicates that the quality of the law-making process requires significant improvement (NIK, 2017a). From a total number of 20 audited legislative processes (conducted between 2015 and 2016), only six followed the RIA. In numerous cases, these processes included only marginal input from RIA and public consultations, largely only to fulfil the legal obligation to do so. The auditors indicated that one of the reasons for this is a lack of adequate skills among officials for conducting a comprehensive, ex-ante cost–benefit analysis of the impact of the proposed regulation. A second reason is the lack of recognition of RIA as an important and value-adding process. There are also challenges related to public consultations, which often do not allow for proper involvement of all relevant social partners. As a consequence, the policy-making process lacks transparency, and often does not involve economic and social impact analysis (NIK, 2017a).

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[1] The first version of the Guidelines was published in 2006, while the formal recommendation to conduct an RIA in the government's legislation process has been in existence since 2001.

The Sustainable Governance Indicators ranking run by the Bertelsmann Foundation confirms this as it placed Poland in the 39th position out of 41 high-income countries in terms of using evidence-based instruments in government executive capacity in 2018 (SGI, 2019).

The importance of promoting an evidence-based policy approach in Poland has been acknowledged in the Strategy for Responsible Development, which was adopted in 2017 (*Strategia na rzecz Odpowiedzialnego Rozwoju*, 2017). One of the strategic projects aims at developing information technology (IT) solutions supporting RIA and public debate processes via analysis of public sector data. In the same Strategy, under the objective to "improve the efficiency of government institutions", the government is aiming at "developing analytical competencies of the officials, including conducting cost–benefit analysis of public policies, statistical analyses and using modern IT techniques to analyse big data" (*Strategia na rzecz Odpowiedzialnego Rozwoju*, 2017).

In terms of the institutional aspect, in April 2018, the Prime Minister appointed his formal representative responsible for developing a conceptual framework to launch the Centre for Strategic Analyses (*Centrum Analiz Strategicznych – CAS*) (*Zarządzenie nr 60 Prezesa Rady Ministrów z dnia 25 kwietnia, 2018 r.*). The Centre, part of the Chancellery of the Council of Ministries, is to be responsible for monitoring the process of transforming political decisions into legal regulations and conducting impact evaluations of the developed regulations. The latter is to be done in two stages: (1) assessment of the preliminary assumptions and projects of regulations developed by different ministries; and (2) evaluation of the final projects of regulations before their adoption by the Council of Ministries. These evaluations are to be conducted at different levels (social, economic, political) and aim to assess whether the projected instruments are adequate for achieving the regulations' objectives. The Centre is to work in a systematic and structured way, covering both the ongoing legal processes as well as developing long-term strategic reports (GP, 2018).

Civil society in Poland is relatively small. As a consequence, its participation in the development of legal regulations is also relatively low. The major challenges faced by civil society organizations include, inter alia: difficulties in securing financing sources and lack of effective structures for promotion of social dialogue (Stowarzyszenie Klon/Jawor, 2016; KPRM, 2018). In July 2018, the government adopted a national programme aimed at supporting civil society development for the period 2018–2030. Its official aims involve strengthening civil society's active participation in public life, including its controlling and expert advisory functions (*Program Rozwoju Organizacji Obywatelskich na lata 2018–2030 PROO*, 2018).

2.3. Summary of the chapter

GENERAL CHARACTERISTICS	ACTIVITIES/INITIATIVES IN LINE WITH OR CONTRIBUTING TO EIP PROMOTION AND/OR FUTURE KTP INSTITUTIONALIZATION
❑ Poland is a democratic republic with a unitary government. ❑ Over the past few years, the government has undertaken several actions aimed at improving its regulatory policy system. ❑ In 2015, the new Guidelines for regulations impact assessment and public consultations process were adopted. ❑ Yet, the quality of the law-making process needs improvement (the process lacks transparency, and often does not involve economic and social impact analysis). ❑ According to the Sustainable Governance Indicators ranking, Poland held 39th position out of 41 high-income countries in terms of using evidence-based instruments in the government executive capacity in 2018.	❑ The need to improve the quality of the law-making process was recognized by the government. ❑ One of the objectives of the Strategy for Responsible Development 2017 was defined as: developing the analytical competencies of officials, including conducting cost–benefit analysis of public policies (within the RIA process). ❑ The launch in 2019 of the Centre for Strategic Analyses (as part of the Chancellery of the Council of Ministries responsible for monitoring the process of transforming political decisions into legal regulations and conducting impact evaluations of the developed regulations) might support EIP implementation.

3. THE HEALTH SYSTEM

This section on the health system and policy-making describes the characteristics of stakeholders, structures, decision-making processes, and key issues in public health and the health system.

3.1. Health status and risk factors

Life expectancy at birth in Poland was 74.0 years for men and 81.8 for women in 2017 (six and two years below the EU average, respectively) (Wojtyniak & Goryński, 2018). Although life expectancy has increased by four years since 2000, it remains below the EU average, and inequalities by gender and education are marked (Sowada et al., 2019). There is a substantial gap not only by sex, but also by socioeconomic status: Poles with a university education live, on average, nearly 12 years longer than those who have not completed their secondary education (Wojtyniak & Goryński, 2018). The main causes of death in Poland are similar to those in other high-income countries. Cardiovascular diseases and cancers are the largest contributors to mortality (responsible for, respectively, 43% and 26% of deaths in 2016) (Wojtyniak & Goryński, 2018). In addition to those, mental health and musculoskeletal problems are also among the leading causes of morbidity (Sowada et al., 2019).

Behavioural risk factors are a major challenge in Poland. It is estimated that more than one third of the overall burden of disease in Poland in 2016 (measured in disability-adjusted life years [DALYs]) can be attributed to four risk factors: smoking, excessive alcohol consumption, poor diet and low physical activity (Wojtyniak & Goryński, 2018). The proportion of daily smokers among adults fell from 28% in 2001 to 23% in 2014, but still remains higher than in most EU countries. The level of pure alcohol consumption has remained relatively stable in Poland for the past 10 years, but the share of low-alcohol drinks has been growing. Poor diet and lack of physical activity contribute to the risk indicators of being overweight and obese with its inherent problems (GUS, 2018c). In general, behavioural risk factors are more prevalent in those disadvantaged by education or income, contributing to the existence of social inequalities in heath (OECD/European Observatory on Health Systems and Policies, 2017).

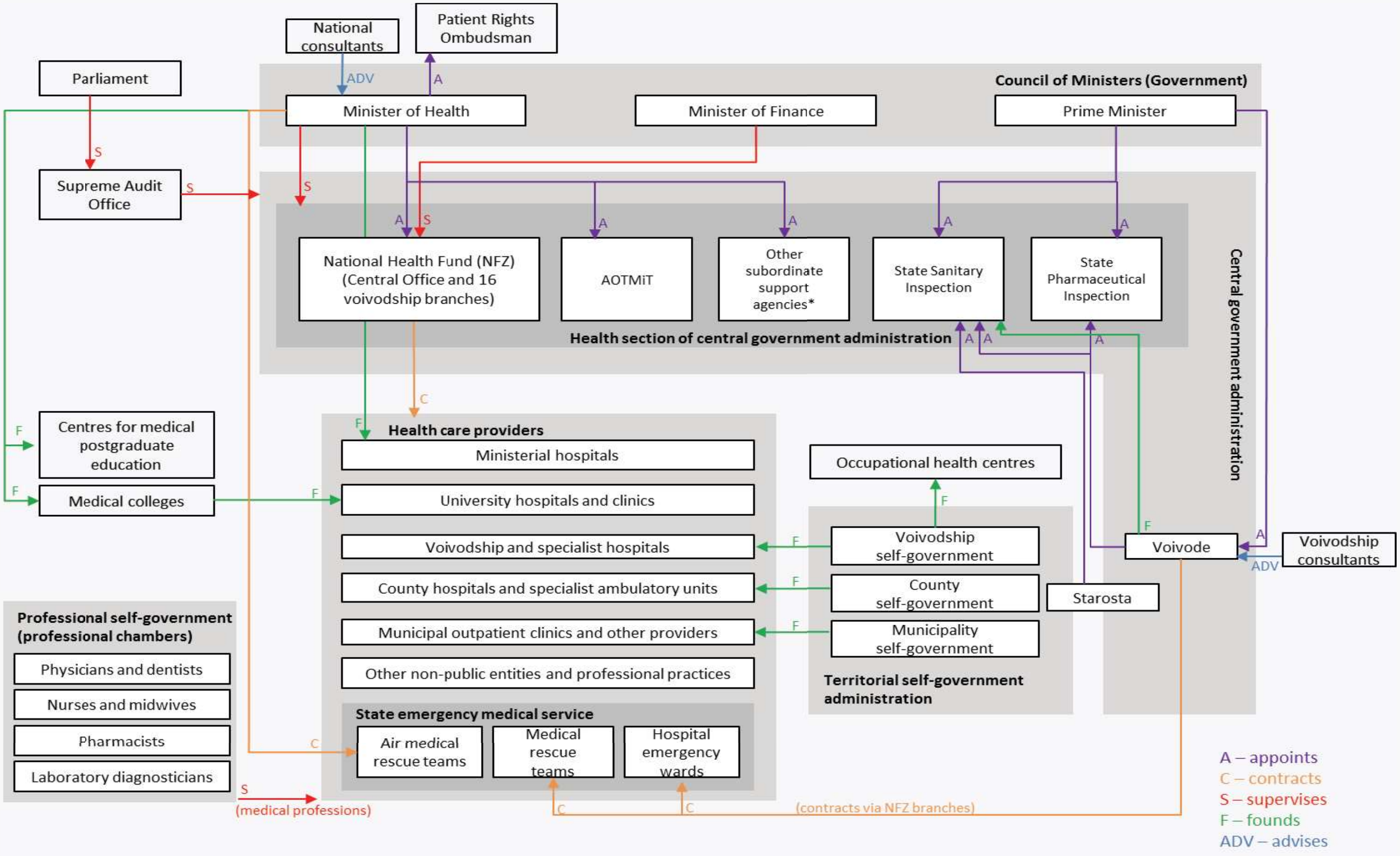
3.2. Health system

3.2.1. Organization and governance

According to the Constitution of the Republic of Poland (1997), all citizens, regardless of their financial circumstances, have the right to equal access to health services that are financed by public funds. The health system is based on a social health insurance (SHI) model, which covered approximately 91% of the population of Poland in 2016. (If Polish citizens living abroad are excluded, population coverage reaches almost 99%) (Sowada et al., 2019). There is a single public payer – the National Health Fund (NFZ), with 16 regional branches. Fig. 2. presents an organigram of the Polish health-care system.

The functions related to organization and governance are divided between the MoH and territorial self-governments. The former is the key policy-maker and regulator in the system. The MoH issues executive regulations defining health system functioning (e.g. medical standards, baskets of guaranteed health-care services, health professionals' qualifications). There are numerous advisory bodies functioning under the MoH's supervision. These include, most importantly: the Agency for Health Technology Assessment and Tariffs System (*AOTMiT*), responsible for preparing the recommendations on financing

Fig. 2. Overview of the Polish health-care system



Source: Sowada et al., 2019, based on Zabdyr-Jamróz, 2018 health services from public funds as well as developing the health-care services tariff system; the Centre for Quality Monitoring in Health Care (*CMJ*), whose responsibilities include health provider accreditation processes; the Center for Information Systems in Health Care (*CSIOZ*); the National Institute of Public Heath–National Institute of Hygiene (*NIZP-PZH*); and the Sanitary Inspection and Pharmaceutical Inspection. The MoH also supervises several highly specialized research institutes. Territorial self-government units are responsible for numerous decentralized health system functions, which can be divided into the three general categories: (1) regional planning and local health policy; (2) running medical providers (mainly hospitals); and (3) public health and health promotion activities (Kowalska-Bobko, 2017).

Starting from 2015, planning for provision of health-care services has been increasingly influenced by the development of health-care needs maps. Their official objectives are to support distribution of services in accordance with the present and forecasted patients' health needs and to support evidence-based health policy-making. The first maps have been developed by the MoH, while in the future, they will be prepared at the regional level. Each regional map consists of three elements: (1) demographic and epidemiological SA; (2) description of available health-care resources; and (3) projection of future health needs and corresponding health-care resource use. The maps are used as the main reference documents while developing plans of services to be contracted by the regional branches of the NFZ as well as plans for new investments in health care. In the latter case, since 2016, projects of new investments (including those with public financial support) are obliged to undergo a formal assessment. The process was implemented to improve the efficiency of resource allocation by making rational investment decisions. Although there are some controversies related to the development and utilization of maps, e.g. using retrospective payer's claims data to develop health-care needs maps (NIK, 2018) as well as lack of forecasting of human resources, the regulations provided the basis for planning capacity for provision of health care (Dubas-Jakóbczyk et al., 2018).

In general, one of the major challenges to health sector governance is the urgent need for better strategic planning of training and improvement in the working conditions of the health-care workforce to address the huge labour supply constraints (Domagała & Klich, 2018; OECD, 2018a; Dubas-Jakóbczyk et al., 2019a). Poland is characterized by the lowest number of physicians per 1000 population in the EU (2.4 in 2016 compared to the average of 3.4 for OECD countries). The number of practising nurses is also low – 5.2 per 1000 inhabitants in 2016 compared to 9 for OECD countries (OECD, 2018b). Migration of medical staff abroad is an important problem in Poland. The main reasons for this are difficult working conditions with low salaries, heavy workload and long hours, as well as barriers to professional development (Sowada et al., 2019).

The efficiency of health system governance is also influenced by the level of its digitalization. Although development of IT and e-health solutions in the health sector have been official policy priorities in Poland for over a decade, in practice, implementation has been slow (Sowada et al., 2019). For example, the official deadline for implementation of the obligatory electronic medical documentation (EMD) has been postponed several times (from the original date of 2014). According to a survey conducted in 2018, approximately 40% of medical providers had no necessary infrastructure to introduce electronic documentation (CSIOZ, 2018a). Nevertheless, a significant milestone for digitalization was achieved recently – legislation introduced on 1 January 2019 requires certain types of records to be maintained electronically (*see* section 4.1).

Formally, the health policy-making process is conducted according to standard democratic procedures. Proposals for new regulations and changes to existing regulations (in the form of draft laws) are usually initiated by the MoH. Draft laws are subject to public and professional consultations. These consultations include opinions submitted by medical professionals' chambers, medical schools, patients' organizations and diverse health-care institutions, which are further examined by the Parliament. Yet, proposals for new regulations can also be submitted by civil society representatives (see example in Box 3, section 6.1.2) as well as groups of a minimum of 15 deputies (*Uchwała Sejmu RP z dn. 30.07.1992 – Regulamin Sejmu RP*, 2018). Proposals submitted by groups of deputies are popularly known as the "fast legal track" because they do not require public consultation. On adoption of a draft law by the Parliament, the MoH prepares executive regulations to implement the law. These executive regulations indicate institutions' responsibility for implementation of the law and their respective competencies (Sowada et al., 2019). What is important is that even in cases where public consultations were obligatory, in practice there were cases where the process was too short to allow for actual involvement of all stakeholders (e.g. the 2014 oncological package reform) (NIK, 2017b). It has also happened that the executive regulations were developed after a huge delay and, as a consequence, the exact details of the new regulation remained unclear to those affected by them (e.g. the 2017 hospital network regulations) (Dubas-Jakóbczyk et al., 2019b).

Within the past decade, patient organizations have become increasingly more active in the Polish health system. Patients are actively involved in public life and there are many nongovernmental organizations (NGOs) supporting their participation. These NGOs undertake various activities to influence policy-makers, often seeking support from the media, politicians, and formal research (Sowada et al., 2019). Yet, the practice of conducting health system reforms in Poland indicate that the real influence of patient organizations on the final shape of regulations is often marginal. This is related to the model of health policy-making described above, where stakeholders are merely consulted (mainly for "token participation" and to appease potential opposition) (Kowalska et al., 2015). Nevertheless, in 2018, a formal agreement on cooperation was signed between the MoH, the Patient Rights Ombudsman (*Rzecznik Praw Pacjenta - RPO*) and civil society organizations including, among others, the Polish Union of Patients Organizations "Citizens for Health" (*Polska Unia Organizacji Pacjentów - PUOP*) (PUOP, 2018). It aims to strengthen patient organizations' involvement in the health policy decision-making process.

In terms of reforming the health system, an important initiative was also launched in 2017. The regulation on piloting changes in the health system (*Ustawa z dnia 29 września 2017 r. o zmianie ustawy o świadczeniach opieki zdrowotnej finansowanych ze środków publicznych*) introduced "pilot programmes", which aim to test on a smaller scale new health systems' organizational and/or financing approaches (e.g. a chosen group of providers and/or geographical area) before introducing them at a systemwide level. As a consequence of this regulation, several pilot projects have been implemented, e.g. a project on testing coordinated care models in primary care (2017–2019), a test of the implementation of mental health centres (2018–2021) and a pilot of oncological providers' network in two voivodeships (2018–2020).

Finally, regarding a strategic approach – a comprehensive strategy for the health system, indicating a system design model and future reform plans – is lacking. Yet, there are some dedicated strategic documents, e.g. the National Strategic Framework – Policy Paper for Health Care 2014–2020 (*Krajowe Ramy Strategiczne – policy paper dla ochrony zdrowia na lata 2014–2020*), which defines the strategic objectives and priorities for the health-care system in the context of the funds contributed by the European Union; and the National Health Programme 2016–2020 (*Narodowy Program Zdrowia 2016–2020*), which defines objectives for national policy in the area of public health. Also, in April 2018, the Minister of Health initiated a nationwide debate (a series of conferences) on directions for change in the Polish health-care sector "Together for Health" (*Wspólnie dla zdrowia*) (MZ, 2018a). The debate involves all the main health system stakeholders, including researchers, providers, patients and policy-makers.

3.2.2. Health financing

Health care in Poland is financed mainly from public sources, which constitute approximately 70% of total health expenditure. Income-dependent public health insurance contributions (payroll tax) are the basic public source. They are gathered by the social insurance institution and transferred to the main public payer – NFZ. In addition, some types of services, programmes and investments are financed from general taxes from the budgets of either the central or local governments, or a combination of both. Private health-care financing plays a bigger role in Poland than in most other EU Member States. It accounts for approximately 30% of total health expenditure and consists mainly of out-of-pocket (OOP) payments, especially patients' cost-sharing for medications.

In the past decade, the share of GDP devoted to health has remained fairly constant and below the average of EU Member States. In 2017, it was 6.7%. Public expenditure on health as a share of GDP increased slightly from 4.2% in 2000 to 4.6% in 2017, and the government has recently pledged to increase this share to 6% by 2024 (Sowada et al., 2019).

The national public payer (NFZ) contracts services by means of competitive tenders or (rarely) negotiations. In the secondary care sector, starting from 2017, providers included in so-called "hospital networks" received a 4-year guarantee of financing in the form of a global budget (Dubas-Jakóbczyk et al., 2019b). Different types of payment mechanisms are used, depending on the level of care and payer. The NFZ uses mostly prospective payment methods, as for most services contracted with the providers the total amount of payments is fixed in advance. Service-based payments (e.g. diagnosis-related groups, fee-for-service) are dominant. Some elements of pay-for-performance programmes have been implemented for non-hospital-based outpatient specialist care, hospital-based outpatient care and acute hospital care, largely for coordinated care. Pay-for-performance is likely to be introduced in primary health care by 2020. (Sowada et al., 2019).

Patients are not obliged to pay for primary care, outpatient specialist care and hospital care provided within the publicly financed health system. Inpatient stays in long-term care institutions, rehabilitation centres and sanatoria are subject to a fee to cover the cost of room and board. Cost-sharing is widely applied for medications (patients are obliged to pay for a part or total price of the prescribed medicines) (Sowada et al., 2019).

EU structural funds constitute an important source of external funds for the Polish health sector. During the financial periods of 2004–2006 and 2007–2013, approximately PLN 6.1 billion (PLN 0.5 billion and PLN 5.6 billion, respectively) of EU contributions were consumed by health-related projects, while under the current 2014–2020 period, an additional PLN 12 billion has been made available (Sowada et al., 2019).

3.2.3. Service delivery

In 2016, almost 50% of the total NFZ budget was spent on inpatient care services, while only 13% and 8% were devoted to primary and ambulatory specialist care, respectively. It indicates that in Poland, the system is hospital-centred (Dubas-Jakóbczyk et al. 2018).

The primary care physician is typically the entry point into the health system, steering patients, as necessary, to more specialized care. Primary care physicians are also the providers of a number of health promotion and disease prevention services, such as screening and vaccinations. The role of primary care in the Polish health system has grown, yet there are numerous problems related to the system of financial incentives, which push the patients to specialist providers (OECD/European Observatory on Health Systems and Policies, 2017). In general, primary care doctors in Poland rarely coordinate care activities, e.g. for patients with chronic conditions. These deficits in provision of outpatient care are reflected by a comparatively high hospitalization rate for chronic conditions (e.g. asthma and chronic obstructive pulmonary disease). As a consequence, the Polish health system is characterized by one of the highest levels of avoidable hospitalizations in the EU (OECD/European Observatory on Health Systems and Policies, 2017). However, recently, numerous programmes for provision of coordinated care have been created. The Act on Primary Health Care, which came into force in 2017, has helped to increase coordination of primary health care services (Sowada et al., 2019).

The hospital sector is characterized by a historically oversized infrastructure. The number of hospital beds, both total and for acute care, is higher than the EU average – in 2015 it was 6.6 and 4.9 per 1000 inhabitants, respectively (with the EU averages of 5.1 total and 4.0 acute beds per 1000 inhabitants) (Eurostat, 2019). The existing beds have a relatively low occupancy ratio (65.8% for general hospitals in 2017) (CSIOZ, 2018b). The relatively high number of acute hospitals beds is accompanied by huge deficits in the long-term care sector. In 2013, there were 2.6 long-term beds (in nursing and residential care facilities) per 1000 inhabitants while the average for the EU was 7.5 (Eurostat, 2019).

Health-care service provision in Poland is strongly influenced by medical staff deficits: mainly doctors and nurses. Unmet care needs are largely due to long waiting times, which reflect issues in access and quality of health care. Shortages of health professionals, especially doctors and nurses, is among the most acute in Europe (Sowada et al., 2019). Also, the age structure among doctors is cause for concern (in 2015, approximately 48% of all practising doctors and 61% of specialists were above 50 years of age). In recent years, numerous hospitals were forced to cease provision of specific services and/or close wards due to the deficit of doctors (Dubas-Jakóbczyk et al., 2019a). The long time required to train health professionals means that urgent planning and policies are needed to increase recruitment and staff retention. These demographic forecasts and underdevelopment of primary and long-term health care suggest that the health sector will come under increasing pressure in the years to come (Sowada et al., 2019).

3.3. Summary of the chapter

GENERAL CHARACTERISTICS	ACTIVITIES/INITIATIVES IN LINE WITH OR CONTRIBUTING TO EIP PROMOTION AND/OR FUTURE KTP INSTITUTIONALIZATION
❏ The main causes of deaths in Poland are similar to those in other high-income countries, with CVD and cancers being the largest contributors to mortality. ❏ Behavioural risk factors are a major challenge to the control of noncommunicable diseases (NCDs). ❏ The functions related to organization and governance are divided between the MoH and territorial self-governments. ❏ Health care is financed mainly from public sources (70%), with a relatively high share of OOP payments. ❏ One of the major challenges is huge labour supply constraints.	❏ Public financing in health is being increased (to reach the target of 6.0% of GDP in 2024). ❏ Tools based on data analyses are being implemented, e.g. health-care needs maps are being prepared since 2015. ❏ Reforms are being introduced based on continuous evaluation processes (regulation on "pilot programmes" adopted in 2017). ❏ A national debate on "Together for health" was launched, aimed at defining a strategic direction for changes in the Polish health-care sector. ❏ The role of patient organizations in decision-making processes is being enhanced as an element of the EIP.

4. THE NATIONAL HEALTH INFORMATION SYSTEM

This section on the Polish health information system (HIS) provides an overview of the organization, data sources and quality as well as management, dissemination and use of the HIS.

4.1. System organization and data sources

In Poland, there is no comprehensive HIS. The processes of data gathering, analysis and dissemination are not covered by a unified, comprehensive strategic plan used at a national level. Although legislation for different components of the HIS exists, it is fragmented and scattered across various legal acts, only partially brought together by the Law on Health Information System adopted in 2011 (*Ustawa z dnia 28 kwietnia 2011 o systemie informacji w ochronie zdrowia*). As a consequence, the HIS takes the form of a set of often loosely related, separate databases and systems run by many different entities. This results in discrepancies, inaccuracies and duplication of data and information, which hinders the potential execution of reliable analyses.

There are various sources of health data: the census, civil registration and vital statistics, administration records, population-based surveys (organized by Statistics Poland and the regional statistical office independently or in cooperation with the EU, as well as reports and forms forwarded by health-care providers. Each year, the Prime Minister issues a regulation regarding plans of statistical surveys for the next year, including those for health care. The aim of most surveys in health care is stated as providing information for different users, including governmental administration (central and local) and the Parliament. It indicates that this information is also dedicated for use in health policy-making processes. In addition to data gathered according to the above-mentioned plans of annual statistical surveys, diverse medical registries dedicated to specific diseases can be launched by the MoH. Yet, these registries do not have stable sources of financing. For example, the National Cancer Registry (*Krajowy Rejestr Nowotworów – KRN*) is being financed by the National Program for Combating Cancer Diseases, which is only for a predefined period of time. In 2018, the MoH intensified preparatory work on launching new registries, including providing stable sources of financing (under the project of the Act on Quality in Health Care and Patient Safety) (RCL, 2018).

Diverse institutions are involved in collecting data for health-care statistics. These include the MoH and other ministries, *NFZ*, Center for Information Systems in Health Care (*CSIOZ*), Central Statistical Office – Statistics Poland (*GUS*), voivodeship offices, State Pharmaceutical Inspection (*GIF*), State Sanitary Inspection (*GIS*), Social Insurance Institution (*ZUS*), Agricultural Social Insurance Fund (*KRUS*). However, four of them play a pivotal role in HIS: MoH, NFZ, CSIOZ and GUS. A coordination mechanism involving various HIS stakeholders is lacking, although discussions on the introduction of a coherent system are currently taking place, and advisory bodies and task groups are being created. An additional challenge is the separation of the health and social sectors, which limits information transfer and data integration across these two interrelated areas. In general, there is no routine system for monitoring the performance of the partly existing HIS. To meet these needs, teams dealing with data collection and processing in the MoH, NFZ and CSIOZ are being expanded. These institutions, however, face problems in employing additional staff, especially people with appropriate IT skills and experience in big data projects, mainly due to limited financial resources. A survey conducted for the purpose of this report among staff in health departments of the 16 voivodeship offices (representing central administration in the regions) also confirmed the problem of staff deficits in departments dealing with data gathering, verification and analyses.

A huge challenge to organization of the HIS in Poland is the level of health system informatization. As mentioned earlier, the Law on Health Information System (*Ustawa z dnia 28 kwietnia 2011 o systemie informacji w ochronie zdrowia*) applies to data and information on health services, providers and patients (e.g. it does not involve epidemiological data and information or indicators assessing the quality of health care). In general, many of the solutions described in the Act are yet to be developed. These include two platforms: (1) one for the online provision of services and digital resources of medical registries and (2) another for the collection and analysis of and access to digital resources on medical events. The first one is currently functioning with 12 available registries while new ones are to be added (CSIOZ, 2018c). The second platform is a tool for accessing data and information. Both systems are under construction with plans to become fully operational by the end of 2019 (CSIOZ, 2018d). This is strongly related to the issue of the obligation of using EMD at the level of providers in Poland, for which an official deadline was postponed several times. Preparations for implementing obligatory EMD have been ongoing for many years, but numerous providers (especially at an ambulatory level) are still not fully prepared in terms of both information and knowledge, as well as equipment and infrastructure. However, significant progress has been made; from 1 January 2019, keeping medical records in an electronic form has been made mandatory for the following types of records: (1) information on diagnosis, medical examination results, reasons for refusal of hospital admission, health services provided and potential recommendations; (2) information concerning the diagnosis for a doctor directing a patient to specialists; (3) information card on hospital treatment.

4.2. Core indicators and data/information quality

A comprehensive national/subnational set of core indicators for national health policy purposes is not defined in Poland. In general, a lot of data/indicators are collected in different parts of the HIS, but are rarely systematized.

The indicators presented in the health-care needs maps can be considered as a partial set of core indicators for health policy. According to the specified regulation (*Rozporządzenie Ministra Zdrowia z dnia 26 marca 2015 r. w sprawie zakresu treści map potrzeb zdrowotnych*), the indicators presented in the maps cover three broad areas: (1) demographic and epidemiological situation, (2) available health-care resources, and (3) forecasting of future health-care needs. As a consequence, the maps do not include indicators related to the determinants of health and health system outcomes measures, e.g. enabling quality-of-care assessment. In addition, most of the information from the maps is not currently presented in a user-friendly format (e.g. they are available as extended PDF files, with no support for data extraction). However, the MoH is in the process of developing an online tool, which will give end-users the opportunity to interact with the data and several predefined indicators, and to download raw data and reports.

An example of an existing tool for presenting a defined set of health indicators is the Sustainable Development Goals (SDGs) platform, created by Statistics Poland (*GUS*). However, it is not an indicator set established strictly for national health policy and by Polish health authorities, but indicators used for monitoring and mandatory reporting of the UN SDGs of the 2030 Agenda[2] in Poland.

Regarding infectious diseases, there is a monitoring system conducted by the State Sanitary Inspection (*GIS*), which allows for a quick analysis and response to potential problems. Data and information concerning resources, such as infrastructure and health-care workers, are collected by various institutions and presented in many places: the Statistics Poland's databases, the MoH statistical

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[2] The global indicator framework for the 2030 Agenda for Sustainable Development was adopted by the UN General Assembly on 6 July 2017. Health issues are included in Goal 3: *Ensure healthy lives and promote well-being for all at all ages*.

bulletins, in dedicated registries on the Medical Registry Platform, and in the maps of health-care needs. Since 2004, Poland has been obliged to present data about health expenditure in the standard form of the National Health Accounts. Statistics Poland is responsible for preparing these data and gathering them from diverse sources, including the *NFZ*, MoH and other ministries, *ZUS*, *KRUS*, NGOs' reports, enterprises reports, results of some population-based surveys, etc. Some data, especially from the private sector, are still being estimated by experts.

Both the comprehensiveness and the quality of the data gathered in the HIS in Poland raise concerns. Gaps in data availability are often related to the ambulatory care and/or the private sector. Examples of quality issues include the following:

- The audit of the National Cancer Registry carried out by the Supreme Audit Office in 2016 indicated serious doubts about data credibility and stated that using such data does not allow for reliable analyses (NIK, 2016).
- The vital statistics data related to causes of death have a high degree of completeness (range 98–100% in the years 1999–2014), but also a high proportion of garbage codes[3] (25–31%) (WHO, 2017b). Because of a high proportion of garbage codes, Poland was even excluded by WHO from a global analysis of causes of death in 2017.
- Information collected by the NFZ from health providers, as information used for settlement purposes, is complete and verified but, on the other hand, more prone to manipulation (e.g. "upcoding"[4]).

4.3. Data management, dissemination and use

In Poland, a considerable amount of health systems information is collected, yet is rarely used as a key input in the policy-making process. Data management is carried out in each institution separately, with no regulating procedures at the national level. There is no data warehouse in Poland, and existing information sources and databases are not integrated.

There is no dedicated system where information concerning data availability is provided. Data users may often face problems in identifying the source of the data they need due to the large institutional dispersion. Some health data are made available in a convenient electronic form, facilitating the conduct of analysis (e.g. most data accessible on the Statistics Poland website), but some are still presented in text form only. However, work is ongoing to make this information available in a more accessible form. For example, an extensive database with data and information from the map of health-care needs is already partially available.

A huge challenge for data management and use is its level of aggregation. The disaggregation of available data depends of the type and source. Parts of datasets provided by Statistics Poland, CSIOZ, NFZ are presented by sex and/or age and/or locality. Yet, only a small proportion of health-care data are published by socioeconomic status.

In some cases, the data needed by researchers and policy-makers exist, but cannot be used because of the personal data protection law, related mainly to the EU General Data Protection Regulation (GDPR). This applies to some parts of the NFZ data, regarding patients' treatment path in disaggregated form. A related problem is the lack of adequate technical and/or human resources of the institution gathering

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[3] "Garbage codes" is a term designated to all causes of death that are not useful in the mortality analysis, i.e. symptoms, signs and ill-defined conditions, intermediate causes of death, causes that remain unspecified within larger groups of causes (Fihel and Mesle, 2017).

[4] "Upcoding" is a practice in which providers change the real character of the services provided and classify them under a group with a higher payment than the actual.

the data needed to provide the requested information. This is especially important in the case of research projects, where a researcher may need the data prepared/aggregated in a predefined form.

Many of the problems related to data management, dissemination and use are recognized by the main stakeholders. In 2018, some of these challenges were being analysed by the "Effect Health" (*Efekt Zdrowie*) Working Group, which was appointed by the Minister of Health (*Zarządzenie Ministra Zdrowia z dnia 13 kwietnia 2018 r. w sprawie utworzenia Zespołu Zadaniowego „Efekt Zdrowie"*). Its members included high-ranking officials from the main institutions dealing with data in the health system, while some of its objectives were related to the preparation for creating a data warehouse, organizing access to data and information, and determining access rights. Also in 2018, the project "Integrated Analytical Platform" was launched in the Ministry of Digital Affairs (in cooperation with others, including the MoH). This was aimed at creating a platform that will be the central system for analysing data and information collected by the public administration and available from other sources. This is to facilitate joint analysis of data from the health care, social welfare and education systems. The project is to be completed by 2021.

4.4. Summary of the chapter

GENERAL CHARACTERISTICS	ACTIVITIES/INITIATIVES IN LINE WITH OR CONTRIBUTING TO EIP PROMOTION AND/OR FUTURE KTP INSTITUTIONALIZATION
❑ There is no comprehensive health information system (HIS). It takes the form of loosely related, separate databases and systems run by many different entities, which are poorly coordinated and monitored. ❑ Data users may often face problems in identifying the source of the data they need due to the large institutional dispersion and a lack of information concerning data availability. ❑ Four institutions play a pivotal role in data collection, analysis and dissemination: MoH, NFZ, CSIOZ and GUS, but many others are involved. ❑ The quality of the available data is often not verified. ❑ There are problems with data-sharing due to the personal data protection law (often resulting in a high level of aggregation). ❑ There is strong awareness of the need to develop departments that collect and analyse data in institutions, but the basic problem is inadequate funding.	❑ Many of the problems related to data management, dissemination and use are recognized by the main stakeholders (advisory bodies and task groups are being created). ❑ *The Law on Health Information System adopted in 2011*: actions are being taken towards organizing the information system, including the development of two platforms: for the online provision of services and digital resources for medical registries; for the collection and analysis of and access to digital resources on medical events. ❑ Recently, there has been progress in computerization and informatization (e.g. introduction of electronic medical documentation). ❑ The Integrated Analytical Platform is being developed to allow joint analysis of data from various sectors.

5. THE NATIONAL HEALTH RESEARCH SYSTEM

This section on the health research system describes the key stakeholders, structures, processes and funding mechanisms, as well as key areas in health research.

5.1. Infrastructure and stewardship of health research

In Poland, the higher education and science system is characterized by a large number of universities/academic institutions, and a low level of spending (EC, 2017; OECD, 2018a). The public science system comprises hundreds of institutions (397 in the academic year 2017/2018, including 130 public and 267 private), which are often small and narrowly focused, each with different research interests.

In terms of health research, in addition to the numerous universities, there are 16 research institutes supervised by the MoH. However, the audit carried out by the Supreme Audit Office (NIK) showed that in the largest research units supervised by the MoH, the share of revenue from conducting scientific activities of the total revenue in 2011 ranged from 4% to a maximum of 12% (NIK, 2012). The audited research institutes did not make full use of their research potential and carried out research activities to a very small extent (which is their statutory duty). Another NIK analysis, showed that the increase in the number of the institutes patented inventions did not translate into a similar increase in their practical implementation – only one fifth of them found application in practice (in highly developed countries, less than 50% use of obtained patents is considered ineffective). The revenues generated by the audited research institutes from the commercialization of R&D activities in 2010–2013 showed a declining trend, despite a stable level of funding from science funds (NIK, 2014).

The main strategic document for the research system was adopted in 2011 by the Council of Ministers, the National Program of Research (*Krajowy Program Badań,* 2011). It defines seven strategic directions for R&D: (1) new technologies in the field of energy; (2) civilizational diseases, new medicines and regenerative medicine; (3) advanced information, telecommunications and mechatronic technologies; (4) modern material technologies; (5) natural environment, agriculture and forestry; (6) social and economic development of Poland in the conditions of globalizing markets; (7) security and defence of the State (*Krajowy Program Badań*, 2011).

In 2018, the government implemented a major reform of the Polish higher education and science systems "Consitution for science" (*Konstytucja dla nauki 2018*). The main principles of this reform are as follows: (1) to review the education and training of human capital and career structures in the higher education and research systems; (2) to develop a lean legal framework for higher education and research systems with a view to improving the institutional capacity for change, and strengthening autonomy and accountability; (3) to ensure quality and relevance in higher education, science and innovation. The reform changes the model for financing higher education and science in Poland. Funds for maintaining and developing the teaching and research potential will be granted in the form of subsidies, and universities will be able to decide more freely on their budgetary division. In general, the reform aims at strengthening universities' capacities and consolidating the fragmented higher education sector.

The Research and Innovation (R&I) system in Poland is centralized, with the national government defining policy directions and allocating funding through its agencies. In 2016, the government reinforced the overall governance framework for R&I systems by creating an Innovation Council to coordinate innovation policies (EC, 2017). Numerous dedicated government agencies face the challenge of creating operational synergies to integrate higher education and R&I policies. Two ministries, the Ministry of Investment and Development (*MIiR*) and the Ministry of Science and Higher Education (*MNiSW*), set the directions and deliver the policies connected with innovation. The former focuses on economic development and innovation, while the latter focuses on policies linked to the organization of science and higher education, managing the science budget, and supporting the development of universities, research institutes and research units of the Polish Academy of Sciences.

5.2. Human and financial resources for health research

The availability of scientists is low; in 2014, Poland ranked 25th in the EU in terms of full-time equivalent jobs in R&D per 1000 employed people (EC, 2017). The country's total expenditure on R&D measured as a percentage of GDP is one of the lowest in the EU (it was at the level of 1% of GDP in 2016–2017 in comparison to the EU average of 2%) (Eurostat, 2019).

The Ministry of Science and Higher Education supervises the two main funding agencies that allocate grants. The National Science Centre (*NCN*) allocates grants for basic research and the National Centre for Research and Development (*NCBR*) for applied research:

- The NCN was established in 2011 to support the organization of basic research. The main goals of the NCN are: (1) supporting the best research projects in all fields of science and the humanities; (2) funding doctoral scholarships and postdoctoral internships; (3) financing pioneering research important for the development of science conducted by experienced researchers; (4) inspiring international cooperation; and (5) supervising the implementation of the awarded research projects.
- The NCBR was established in 2007 and manages strategic R&D programmes, which are closely related to the science and innovation policy adopted by the Polish government, including the R&D projects of business enterprises.

The largest source of research funding in Poland, outside of the State budget, is the Foundation for Polish Science (*FNP*), which is a nongovernmental institution with the mission of supporting science in Poland (since 1991). In the past decade, an important funding source for research projects was EU funds and other international sources, including mainly the European Economic Area Financial Mechanism and the Norwegian Financial Mechanism (so-called Norway grants) as well as the Swiss–Polish Cooperation Programme (so-called Swiss Contribution funds). Research in the field of public health can also be funded within the budget of the National Health Programme (10% of the budget) (*Narodowy Program Zdrowia na lata 2016–2020*).

At the beginning of 2019, a dedicated agency for medical research (Agency for Medical Research) was founded (*Ustawa o Agencji Badań Medycznych,* 2019). The Agency's role is to provide support for financing research projects in the field of medical and health sciences as well as analytical work related to the functioning of the health-care system. According to the MoH, the new Agency is to ensure the implementation of population, epidemiological and clinical studies, as well as non-commercial clinical trials. The Agency is to select research proposals through competition as well as commission specific entities to conduct scientific research. The Agency will also be responsible for issuing expert opinions in the field of medical and health sciences for entities of public administration, as well as initiating and developing international cooperation (*Ustawa o Agencji Badań Medycznych*, 2019).

5.3. Producing and using health research

In general, Poland's performance in terms of research output is modest. Poland scores low on the European Innovation Scoreboard, including a poor ranking for research output and low share of highly cited publications in comparison with other EU Member States (EC, 2017). Only two Polish universities (out of over 300 higher education institutions) are included in the World University Ranking of the 500 best universities (Shanghai Ranking, 2018). A part of the problem is low-quality doctoral training in Poland. Currently, employment conditions for young researchers are unstable, salary levels are low and career paths limited, while research quality and conditions for doing research are seldom attractive. As a result, roughly half of Poland's doctoral candidates do not work on their dissertations, and their graduation rate is low (EC, 2017). The earlier-mentioned reform of the higher education and science system in 2018 (Constitution for Science) aims to improve this situation. In general, the reform should lead to the integration of leading public research institutes, which are currently independent and interact little with universities, to make better use of experienced research staff and infrastructure, and to build a number of highly ranked research universities. Improvement in this area will help attract highly qualified researchers, including scientists trained abroad.

In terms of research utilization in the policy-making process, an interesting initiative was undertaken by NCBR under the GOSPOSTRATEG (Social and economic development of Poland in the conditions of globalizing markets) programme, launched in 2017. It is a strategic programme of scientific research and development aimed at improving cooperation between policy-makers and scientists. Its general objective is to increase the use of the results of socioeconomic research in shaping national and regional development policies. Within this programme, the topics for research to be commissioned are defined by policy-makers, based on their real needs (NCBR, 2018). One of the projects accepted for funding in 2018 is a three-year project conducted by the National Health Fund (in consortium with the Institute of Cardiology and Lazarski University) entitled: "Implementation of the Hospital-Based Health Technology Assessment (HTA) system (HB-HTA) – Hospital Evaluation of Innovative Medical Technologies". Its objective is to develop and implement the methodology of hospital-based HTA, aimed at facilitating management of the health-care system at the local level (hospital directors) and at the national level.

The problems of limited financing and low quality of research also encompass health research. As a consequence, the use of national research outputs for health policy-making is also low. Even if research outputs are produced, they are mainly related to the medical aspects, and not public health system. According to estimates of the National Science Centre, about 40% of funds in the life sciences are dedicated to medical research projects: NZ4 (Biology of tissues, organs and organisms), NZ5 (Human and animal noninfectious diseases), NZ6 (Human and animal immunology and infection) and NZ7 (Diagnostic tools, therapies and public health). Yet, only about 20% of the total NCN budget has been spent on projects with a medical profile (approximately PLN 1200 million since 2011). The majority of projects have a clinical or biomedical nature. The share of public health projects (e.g. epidemiology, health economics, health policy) is small and their quality is rather low. There are also challenges related to the organization of research funding and the efficiency of applied procedures. That was the case, for example, during realization of the STRATEGMED programme (Prevention practices and treatment of civilizational diseases). It was a research programme run by the NCBR, whose aims were related to facing the challenges of an ageing society, the high incidence of chronic diseases and rising medical service costs. The key objectives of the programme were to achieve significant progress in the treatment of civilizational diseases and regenerative medicine on the basis of the results obtained from R&D activities conducted in four areas: (1) cardiology and cardiac surgery; (2) oncology; (3) neurology and the sense organs; (4) regenerative medicine. The results of the external audit of the programme indicated that between 2012 and 2017, only half of the budgeted financial resources were actually spent within the planned schedule (PLN 400 million) (NIK, 2017c). In general, the programme was not well prepared, and lacked ongoing monitoring, adequate adjustments and active involvement of relevant stakeholders.

5.4. Summary of the chapter

GENERAL CHARACTERISTICS	ACTIVITIES/INITIATIVES IN LINE WITH OR CONTRIBUTING TO EIP PROMOTION AND/ OR FUTURE KTP INSTITUTIONALIZATION
❏ Dispersion of the higher education system and scientific research in Poland, in the academic year 2017/2018, there were approximately 400 units of higher education. ❏ There is a low level of funding for R&D activities (1% GDP in 2016–2017 vs 2% average for EU). ❏ Health research is carried out mainly by medical universities and 16 research institutes supervised by the Minister of Health. ❏ The main funding agencies allocating grants for research (supervised by the Ministry of Science and Higher Education) are: the National Centre for Research and Development (since 2007) and the National Science Centre (since 2011). ❏ In public health, an additional source of funding for research is the National Health Programme (up to 10% of the budget). ❏ By international comparison, Poland's performance in terms of research output is modest. ❏ The share of public health research is low.	❏ The 2018 Reform of higher education: "Constitution for Science" (aimed at strengthening the university's potential in financial and human resources aspects) ❏ Examples of research funding programmes aimed at increasing the use of the results of socioeconomic research in shaping national and regional development policies: GOSPOSTRATEG – the 2017 NCBR strategic programme of scientific research and development (Social and economic development of Poland in the conditions of globalizing markets). ❏ Launching in 2019, the Agency for Medical Research – its establishment is justified by the low level of funding for scientific research in medical/health sciences and the need to provide institutional support for the financing of analyses and research. Tasks: organization of non-commercial clinical trials, commissioning research in the field of medical and health sciences, including interdisciplinary projects.

6. EVIDENCE-INFORMED POLICY PROCESSES

This section on EIP processes presents an overview of current EIP efforts and insight into how the health system and the health research system interface within these.

6.1. Policy analysis

6.1.1. Public policies in general

Although systematic, transparent mechanisms for EIP are missing, a growing number of institutions (both government and nongovernment) are involved in policy analysis and promote the use of research evidence in policy-making processes, providing a fertile ground for the promotion of EVIPNet-related work and the establishment of more sustainable EIP mechanisms for government decision-making.

As mentioned in section 2.2, at the government level, tasks related to supporting EIP processes were defined in the Strategy for Responsible Development adopted in 2017. Some of the tasks defined under the objective "Effective State and institutions contributing to growth, as well as social and economic inclusion" are related to enhancing regulations by public consultation and RIA processes, inter alia, by improving analytical competencies, including conducting cost–benefit analyses of public interventions, econometric and statistical data analyses, and using modern techniques of data processing (big data) (*Strategia na rzecz Odpowiedzialnego Rozwoju*, 2017). A standard practice is the existence of a department dedicated to strategic analyses in each of the ministries. These departments' responsibilities include developing the prognoses and data analyses needed by policy-makers and taking active part in the RIA processes.

In case of the nongovernmental sector, some NGOs and dedicated university/research institutes/departments focused on policy analysis provide expertise and promote quality standards in policy-making and evaluation processes. For example, within the Jagiellonian University structures there is a research unit – the Centre for Evaluation and Analysis of Public Policies (*Centrum Ewaluacji i Analiz Polityk Publicznych – CEAPP*). The Centre conducts scientific research in the fields of evaluation and public policy analysis, and offers training and consulting primarily to administrative, scientific and business institutions. It is the organizer of the 2019 Summer School: "Evidence-based public policies" (CEAPP, 2019). Yet, these types of activities are dependent on the availability of financial grants and thus do not provide a reliable basis for provision of evidence and support to policy-makers.

6.1.2. Health policy

In terms of health policy, the existence of incentives and/or requirements stipulating the use of research evidence varies, depending on the specific type of policy.

The use of evidence is a standard practice in pharmaceutical policy-making and in decisions related to inclusion of services in the national health insurance benefit package. The main role in these areas is assigned to the Agency for Health Technology Assessment and Tariff System (*AOTMiT*), which was established in 2005 as an advisory body to the MoH. The Agency's main responsibility is assessing and appraising all medical technologies and services that are publicly funded. Yet, the areas of tasks realized by the AOTMiT has been growing in the past few years. Currently, the Agency's activities can be divided into four main areas:

- developing HTA reports, which provide a basis for recommendations on reimbursement decisions;
- issuing opinions on health promotion and disease prevention programmes prepared by local government units and the MoH (since 2009);
- fulfilling tasks related to tariff valuation of the health-care services covered by the public system (since 2015); and
- developing diagnostic and therapeutic clinical guidelines (since 2018).

In general, the Polish HTA Agency has a relatively strong position compared to other European countries (OECD/European Observatory on Health Systems and Policies, 2017; Sowada et al., 2019).

A good example of using evidence in the decision-making process in Poland is the implementation of health-care needs maps. As mentioned in section 3.2.1, starting from 2015, the planning of health-care service provision is influenced by the development of health-care needs maps. They provide an analysis of the current and future health-care needs. The maps are used as a guiding document for contracting services by the NFZ and during the assessment process for new investments. They also provide the basis for defining priorities for regional health policies. A practical example of the application of these maps is the introduction in 2018 of incentives towards centralization of oncological surgeries (the maps showed that the mortality rate is lower among providers who perform a larger number of surgeries per year) (MZ, 2018b). Beginning from 2019, the maps are to be presented via a dedicated online portal, allowing for their user-friendly utilization. The work on health-care needs maps is being coordinated by the Department of Analyses and Strategies in the MoH. This Department was launched in 2013 and supervises numerous projects aimed at improving the national HIS as well as conducting diverse quantitative analyses (based mainly on primary data) to support the health policy-making process.

In different areas of health policy, some further examples can be identified of good practices of using evidence while developing policies. Yet these are rather individual and/or isolated bottom–up initiatives or projects, which do not have a system-based, regular character. In the field of public health, a good example might be the multisectoral programme to prevent depression and suicide coordinated by the Department of Public Health of the MoH (Box 2).

Box 2. Multisectoral programme to prevent depression and suicide

In 2016, a working group was constituted on depression and suicide prevention in Poland. Its members include representatives of three ministries (health, education, interior), research institutes (Institute of Psychiatry and Neurology, National Institute of Public Health–National Institute of Hygiene) and scientific associations (Polish Suicidology Association) as well as the national statistical office (Statistics Poland). Its activities focus, inter alia, on: improving the quality of reporting data related to suicides; developing evidence-based educational materials for prevention programmes; providing training for professionals involved in depression and suicide prevention, including those from the media and NGO sectors. The group provides an information exchange and cooperation platform between different sectors and actors (researchers, health-care providers, policy-makers and civil society representatives). One of the first direct results of the programme was changing the rules on reporting suicide cases in statistical reports to provide data according to real evidence.

In general, although systemic mechanisms for EIP are missing in Poland, its importance is recognized among major health system stakeholders. All respondents with whom interviews were conducted for this SA emphasized the need to promote and support diverse EIP initiatives. The three main stakeholder institutions (MoH, NFZ, CSIOZ) are currently launching diverse projects aimed at strengthening their capacities related to producing, synthesizing and disseminating evidence related mainly to analyses of the data from the national health system.

At the local level, the situation is more difficult. Representatives of local government units (especially municipalities and counties) face challenges in accessing local health system data, and often lack sufficient and adequately qualified human resources to identify, generate and/or use evidence. This is reflected in the low quality of local health promotion and disease prevention programmes (Cianciara & Rdzany, 2015; Borowska et al., 2017).

As mentioned above, an important challenge to EIP efforts in the Polish health system is the lack of adequate financial and human resources, as well as the lack of a clear division of competencies between diverse stakeholders that might potentially be involved in producing and using evidence. The survey conducted among 16 voivodeship offices (representing central administration in the regions) indicated that the number of employees involved in data gathering, verification and/or analysis ranges from 0.5 to 6.0 full-time equivalent positions. The majority of respondents emphasized the need to employ additional staff as well as improve employees' competencies related to data analysis (e.g. IT skills) as well as identifying, appraising, synthesizing and using evidence. The respondents also indicated problems related to a lack of precise legal regulations on the division of competencies between regional and central-level administration.

Finally, in the Polish health policy-making processes, as in any other country, the major challenge is the inseparable interaction between "policy" and "politics". Even though politicians may have knowledge about "the evidence", they still make decisions based on other factors, including social pressure, issues related to public relations and/or the need to reach political compromise. A recent negative example was the support shown by the majority of the *Sejm* deputies to a proposal prepared by the anti-vaccination movement (Box 3). At both the central and local levels, an important obstacle in establishing a structured EIP process is the influence of the political cycle. As the representative of one of the local governments (municipality office) emphasized during the interview, the high turnover of executive positions in the organization (i.e. after every election) can practically block any long-term planning activities in the area of EIP and lead to "ad-hoc policy-making".

Box 3. Vaccination policy in Poland

In Poland, a set of the most important vaccinations are available free of charge and is compulsory for all children and adolescents. Yet, the anti-vaccination movements have been very active in Poland in the past decade. They contributed to the dramatic growth in the number of people evading compulsory vaccinations from fewer than 4000 in 2010 to more than 23 000 in 2016 (NIZP–PZH, 2017). In July 2018, a proposal for a change in the "Law on preventing and combating infectious diseases" assuming the abolition of the vaccination obligation was submitted to the Parliament (*Obywatelski projekt ustawy o zmianie ustawy o zapobieganiu oraz zwalczaniu zakażeń i chorób zakaźnych u ludzi, 2018*). The proposal was prepared by the anti-vaccination movement, which was able to gather 120 000 Poles' signatures supporting the change. Although there is strong evidence on the need for vaccinations and official appeals to reject the proposal were issued inter alia by the National Chamber of Doctors, the National Chamber of Nurses and Midwifes, the Chief Sanitary Inspectorate and the Minister of Health himself – the majority of Sejm deputies (252 out of 412 present during the voting, including several deputies with a medical doctor's degree) voted to proceed with the regulation. Fortunately, the project was afterwards rejected at the further stages of the legislative process.

Incorporating evidence into health policy-making processes requires a structured approach. It is a process where experts, researchers and other stakeholders should be "given a chance to share their thinking with each other and respond to others' perspectives"; it is "an iterative process of testing, reviewing and revising" (Lessof et al. 2018). In Poland, currently, there seems to be a window of opportunity to develop such an approach. There are ongoing projects and/or initiatives, which fit well and/or may positively contribute to such an approach. It includes, as described in section 3.2.1, regulations on pilot programmes in the health system and the national debate "Together for Health" aimed at identifying priorities for future changes. The first initiative provides grounds for testing knowledge transfer tools in Polish health system settings (by conducting evaluations of pilot projects) while the second presents an opportunity to promote EIP processes among all potential stakeholders.

6.2. Knowledge brokering and translation

In Poland, there is no systematic and structured process of knowledge brokering and translation for health policy purposes. The use of research evidence in policy often relies on ad-hoc expert consultations. As in many other countries, a gap between the research and policy spheres exists in Poland, with researchers pursuing different objectives than policy-makers. The former, employed in academic institutions, are obliged to publish the results of their research in peer-reviewed, indexed journals. This requires preparing their work results according to a standardized methodology and submitting it in English. Finally, the publication process can last several months. Policy-makers, on the other hand, need a synthesis of evidence on a specific topic, in Polish, usually with short time-frames (e.g. for an upcoming government consultation meeting).

In terms of institutional capacity, Cochrane Poland was launched in 2015 within the Jagiellonian University Medical College structure and constitutes the first organization professionally involved in knowledge brokering and KT for national health policy purposes (Cochrane Poland, 2019). The organization is involved in preparing systematic reviews, training activities in evidence-based medicine (EBM), as well as developing and disseminating plain language summaries of the original Cochrane reviews. In general, there are several organizations that are currently, at least partially, involved in KT (e.g. by conducting and disseminating analyses) and/or have the potential to do so in the future (Table 1). These are mainly institutions responsible for evidence generation, i.e. either research and/or data gathering and analysis (Table 1). In addition, in April 2019, the Agency for Medical Research was launched (*see* section 5.2). The Agency might also take an active role in generating and disseminating required evidence. However, the potential of all these organizations is highly dependent on developing the skills needed for knowledge brokering and KT for health policy purposes. Training in KT is a prerequisite for building a KTP in Poland.

The main challenges to developing systematic and transparent processes of knowledge brokering and KT include the lack of clear roles and responsibilities of stakeholders. This challenge, however, might be analysed as both a "threat" and an "opportunity" for building a KTP in Poland (Table 2).

The SWOT analysis for building a KTP in Poland indicates that there are diverse factors that can positively contribute to its institutionalization. Strong support from and involvement of the MoH constitutes one of the major strengths. Being one of the main actors of the "demand side" of KTP activities, the MoH can provide strong leadership for its future institutionalization. At the same time, many of the identified threats and weaknesses are similar to those existing in other countries, thus examples of strategies for how to overcome these challenges can be identified (Lavis et al., 2013).

Table 1. Institutions with the potential to be involved in knowledge brokering and translation for health policy

INSTITUTION	EXAMPLES OF REALIZED ACTIVITIES*
Agency for Health Technology Assessment and Tariff System (*AOTMiT*)	— providing recommendations for the MoH on reimbursement decisions (based on HTA analyses) — assessing local health programmes — developing clinical guidelines based on standardized methodology
Department of Analyses and Strategies in the Ministry of Health	— developing health-care needs maps — providing analytical support for health policy impact assessment
National Health Fund (NFZ)	— developing analytical reports based on provision of services and reimbursement data on drugs
Center for Information Systems in Health Care (CSIOZ)	— planning, building and monitoring IT solutions in health care — developing tools for data analysis — developing analytical reports
Universities and Research Institutes	— conducting health research — developing analytical reports — disseminating research results (publications, conferences)
Cochrane Poland	— developing systematic reviews — developing and disseminating plain language summaries of the original Cochrane reviews

*Involving data analysis and dissemination of the results; providing expert opinion

Source: Authors' own work

Table 2. SWOT analysis for building KTP in Poland

STRENGHTS	WEAKNESSES
— Diverse ongoing projects whose aims are coherent with EIP objectives (improving RIA; launching CAS; pilot reforms; national debate) — Extended base of universities/institutes — A recognition among major actors that EIP is essential	— Research funding mainly for clinical rather than health systems research — Low quality of research — Lack of structured, comprehensive and formally implemented EIP processes — Lack of KT skills among institutions involved in KTP
OPPORTUNITIES	**THREATS**
— Strong MoH support/involvement — WHO's support to the functioning of KTP and its activities — Launching the Agency for Medical Research — Interest of numerous institutions in being part of a KTP	— Overlapping competencies among numerous institutions potentially involved in KTP — Low level of understanding of the KTP concept among some of the potential stakeholders — Lack of adequate financial and human resources — Deprioritization of EIP efforts due to the political cycle (elections) – "ad-hoc policy-making"

Source: Authors' own work

6.3. Summary of the chapter

GENERAL CHARACTERISTICS	ACTIVITIES/INITIATIVES IN LINE WITH OR CONTRIBUTING TO EIP PROMOTION AND/OR THE FUTURE KTP INSTITUTIONALIZATION
❏ Systematic, transparent mechanisms for EIP are absent and an important challenge is the political cycle influence. ❏ In terms of health policy, the use of research evidence is varied, depending on the type and level of policy (e.g. strong role of the HTA Agency in the reimbursement policy). ❏ There is a lack of a systematic and structured process of knowledge brokering and translation for health policy purposes, and the use of research evidence in policy often relies on ad-hoc expert consultations.	❏ There are examples of individual and/or isolated bottom–up initiatives or projects where researchers, data providers and policy-makers cooperate while developing policy. ❏ Several organizations are currently, at least partially, involved in different stages of KT and/or have the potential to do so in the future.

7. MAKING SENSE OF THE CURRENT EIP SITUATION

This section summarizes the factors related to strengthening EIP in Poland.

Although systemic mechanisms for EIP are absent in Poland, its importance is recognized among major health system stakeholders. The use of evidence is a standard practice in drug policy, and in decisions related to the inclusion of services in the health benefit package. In other areas, some good practice examples of using evidence in policy can be identified. Yet these are rather individual, isolated and bottom–up initiatives, which neither occur systematically nor routinely. Currently, Poland does not have the infrastructure or platform to bridge the gap between policy-making and research in a systematic, sustainable manner. Therefore, establishing and operationalizing a KTP can be an effective means of supporting sustainable EIP. Key challenges in view of strengthening a systemic approach to EIP relate to overlapping mandates of key health system and research institutions, generally low research capacity, lack of KT skills, and lack of adequate human and financial resources.

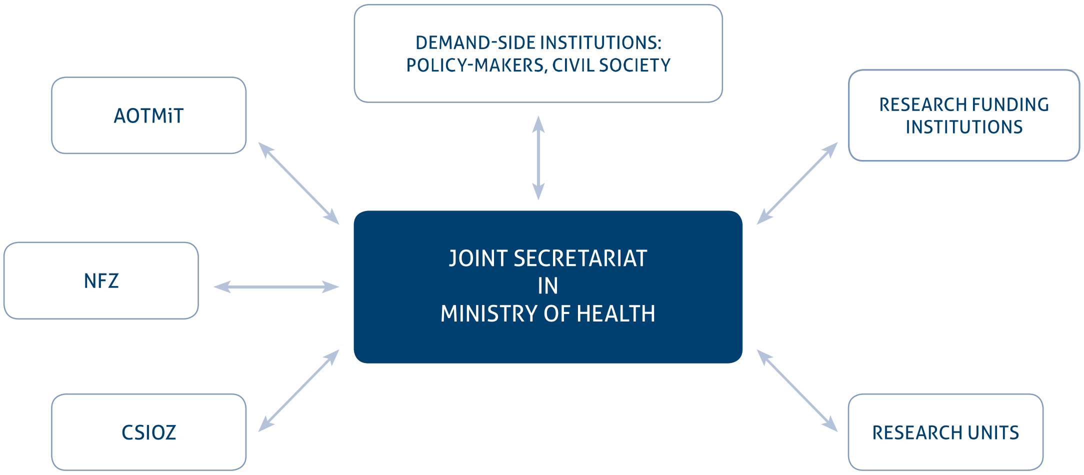
8. CONSIDERATIONS FOR INSTITUTIONALIZATION OF EIP

This section describes the directions of the KTP planning process.

Establishing and operationalizing a KTP is a long-term and complex process that must consider the current characteristics of the country's EIP landscape. The results of the key informant interviews indicated that although the concept of a KTP is generally acknowledged as important and needed, it is extremely difficult to conceptualize its operationalization. There are numerous ongoing projects (e.g. work related to the health system data warehouse; health digitalization projects; reform of the higher education and science system – Constitution for Science; launching the Agency for Medical Research; work related to better use of RIA tools) with a potentially huge impact on establishing a KTP in Poland. As a consequence, a lot of preparatory work is needed, involving the different future stakeholders of the KTP.

KTP can take the form of different organizational models, including: (1) a stand-alone, independent organization; (2) a unit hosted within another organization; (3) a network model (EVIPNet Europe, 2017a). Taking into consideration the diversity of stakeholders and lack of a clear division of competencies, the proposed model of a future KTP in Poland is a network with a joint secretariat (administrative office) within the MoH (Fig. 3). Such a network would involve and provide the grounds for cooperation between the main health system stakeholders responsible for providing data and evidence for health policy purposes (AOTMiT, NFZ, CSIOZ), the research units, professionals specializing in knowledge brokering and KT, and policy-makers. The Agency for Medical Research (launched in April 2019) might take a leading role in commissioning research needed for the policy-making process. The network's form should facilitate the use of the existing organization's potential and competencies via information exchange and close cooperation.

Fig. 3. The recommended form of a future KTP in Poland



Source: Authors' own work

Setting up a joint secretariat within the MoH's structures (e.g. in the Department of Analyses and Strategies), especially during the initial stages of KTP development, seems optimal due to several reasons: (1) it will limit the need for setting up new organizational structures; (2) the MoH might provide strong leadership and have the executive power to promote EIP; (3) being "close" to the policy-makers, the KTP might support the most effective KT method, i.e. personal communication (Invaer et al., 2002; Lessof et al., 2018). The last argument is also related to the possibility of building a demand-driven model of KTP activities, with policy-makers having direct access to KT resources. Potential concerns related to the joint secretariat's independence and/or conflicts of interest might be limited by incorporation of strict principles of transparency and accountability (e.g. by publishing all evidence materials and policy briefs on an open-access dedicated portal), while in the future, the joint secretariat might become an independent organization.

As setting up a KTP is a long-term process, there is a need for concurrent actions aimed at promoting the systematic use of research in health system decision-making processes at both the central and local levels. This should involve the organization of training, seminars and other types of education aimed at building KT skills among potential KTP stakeholders. Policy-makers and officials at both the central and local levels need skills related to identifying, accessing, appraising, synthesizing and using the best available research evidence in health policy-making. Representatives of the media should be trained in how to present and interpret health data, while researchers should learn how to translate their research outcomes into material useful for the policy-making process. A highly recommended action is incorporation of KT modules into the formal education system – e.g. for public health students at the master's level, or postgraduate training for health-care managers.

In general, before the KTP becomes fully operational, the use of other tools for EIP and KT should be promoted (e.g. evidence briefs for policy; policy dialogues; rapid response services). The success of formally incorporating EIP processes depends, on the one hand, on the institutional landscape, which allows for process optimization and, on the other hand, on a system of values that considers research and evidence as key elements of a well-designed public policy (Górniak, 2015). Thus, all potential KTP stakeholders should contribute to the increasing demand for an EIP process in Poland.

Regardless of the final model, structures and/or the development time frame of a future KTP in Poland, the support of international experts, including those from EVIPNet Europe, will be needed. The support may include training in KT methods, as well as external expertise and technical support while forming the future KTP.

9. NEXT STEPS

Developing a KTP as described in previous section would require the following actions:

1. Setting up **a KTP development operational team**. This would include representatives of all future network members. The team members should optimally be high-ranking officials with sufficient decision-making power within their organizations.
2. Defining a clear vision for the future **KTP's objectives and methods of operation**. This must involve a clear demarcation of competencies between network members, a description of the main processes within the network (type of KT products to be delivered, including evidence briefs for policy, policy dialogues, rapid response services and mechanisms for their dissemination) as well as its relations with other health system stakeholders. The latter should define the role of the "demand side" of the KTP – who and on what principles can ask/order KTP services (including not only policy-makers representing the Central Government, but also self-territorial governments and civil society organizations).
3. Defining **sources of financing**. A stable source of financing is a prerequisite. It should allow a long-term budget prognosis for the KTP, including its fixed and variable costs. Such a budget should allow for defining the KTP's human and infrastructure capacities as well as the scope of the KT and knowledge-brokering services to be delivered in a given period of time.
4. Providing a **legal framework** for operationalization of the KTP. This should a definition of the KTP's incorporation into the formal health policy-making process, including its obligatory versus voluntary character.

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ANNEXES

Annex 1. Key informant interviews: institutions

AREA	RESEARCH	HEALTH SYSTEM DATA	POLICY-MAKING
Institution:	❍ National Science Centre Poland ❍ National Institute of Public Health–National Institute of Hygiene (NIZP–PZH) ❍ Institute of Labour and Social Studies ❍ Cochrane Poland	❍ Agency for Health Technology Assessment and Tariff System (AOTMiT) ❍ National Health Fund (NFZ	❍ Ministry of Health (MoH) ❍ Ministry of Science and Higher Education ❍ Ministry of Family, Labour and Social Policy ❍ Voivodeship Office ❍ Municipality Office (local government)

Annex 2. Key informant interviews: general scenario

EVIDENCE-INFORMED HEALTH POLICY

- Is (in your opinion) evidence-informed health policy implemented in Poland?
  - If YES – please provide some examples.
  - If NOT – what are, in your opinion, the major obstacles/barriers to implementing such a policy in Poland?

KNOWLEDGE TRANSLATION PLATFORM

- Is there (in your opinion) a need to launch in Poland a knowledge translation platform (an organization or network that brings the worlds of research and heath policy together)?
  - If YES – what form should such a platform take (independent organization vs dedicated department/section in the MoH vs network with joint secretariat)? Which institutions/stakeholders should be included in developing and operationalizing this platform?
  - If NOT – what other tools and mechanisms can be used in Poland to promote EIP?

ROLE OF THE RESPONDENT'S ORGANIZATION IN PROMOTING EIP AND FUTURE KTP INSTITUTIONALIZATION

- What is the current capacity of your organization in supporting EIP?
  - in terms of the number of employees and their competencies;
  - in terms of access to health data and information, research results;
  - in terms of the financial resources needed to bridge the gap between the research and implementation of projects/policy-making spheres?
- How do you see the future role of your organization (its position, capacities, relationship to other stakeholders) in EIP and institutionalization of KTP in Poland? In your opinion, what are the main barriers, obstacles as well as basic requirements to implement KTP in Poland?

THE WHO REGIONAL OFFICE FOR EUROPE

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

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- Latvia
- Lithuania
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- Serbia
- Slovakia
- Slovenia
- Spain
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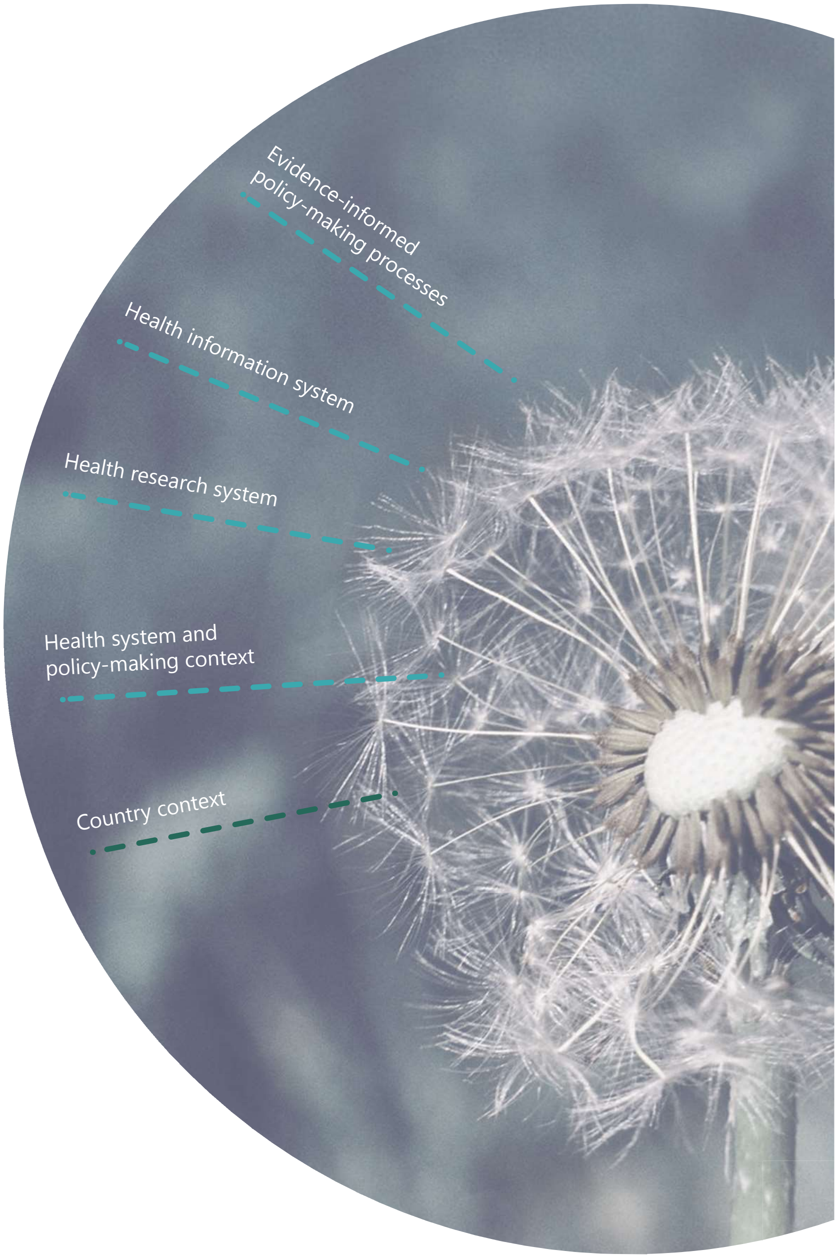
- Switzerland
- Tajikistan
- Turkey
- Turkmenistan
- Ukraine
- United Kingdom
- Uzbekistan



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