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**Humanization**  
**of the treatment process**  
**and clinical communication**  
between patients and  
medical staff during  
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## PREFACE

In connection with the COVID-19 pandemic, recent years have raised new questions and posed new challenges for the medical community, making us all come to realize that medicine is a fundamentally human field – and for that reason also a fundamentally ethical one. Sanitary restrictions and the mass scale of the pandemic made it necessary to isolate patients, to minimize their contact with relatives, and often to objectify the relationship between the medical team and the patient. It soon became evident that there was a need for serious reflection on the ways in which healthcare professionals function, as well as on the axiological context of the medical staff–patient relationship. These events showed how important a role – in the face of so many and new factors conducive to treating patients as mere units posing various sorts of accounting, technical, or scientific problems to be solved – can be played by the humanization of medicine. At the foundation of humanization as both a concept and as a practice lies concern for the welfare of the patient, understood as their effective diagnosis and treatment in the context of respect for their dignity, rights, and autonomy.

Explicit efforts to strengthen the link between medical science and humanism became a growing phenomenon in the later decades of the twentieth century, motivated by a desire to “humanize” medicine in the face of and in opposition to the various “dehumanizing” factors that have detached medicine from its historical roots. These factors include the privatization of medical practice, the growing role of business and finance in medicine, the fragmentation of the patient experience, the shortening of appointment durations, and also the ever-growing use of technology as a substitute for human interaction (Thibault, 2019).

Key elements of a more humanistic approach to medicine – such as respect for the dignity, uniqueness, individuality, and indeed the humanity

of the patient – are quintessential to human existence: each patient is a unique person with his or her own values, unique expectations and life experiences, shaping his or her identity and style of relationships with others. A patient's individuality can be disrupted by the experience of illness. Severe illness violates one's sense of dignity due to functional changes, diminished control over one's own body and day-to-day activities. In response to these phenomena, medical professionals can work to support patients' dignity by developing an understanding of how the experience of illness and the conditions of care affect the patient's life, by responding empathetically and acknowledging the patient's suffering, while at the same time highlighting the patient's own resources. Beach et al. (2005) found that treating patients with respect for their dignity is associated with higher patient satisfaction and adherence to the recommended treatment.

Medical professionals inevitably face three basic issues. First, they are confronted daily with pain, illness, and death in human experience. Second, they must be prepared to come into contact with the diverse manifestations of human ideas, with the profoundly human quest for happiness, pleasure, and prosperity, even immortality. Therefore, as González Quirós (2013) has pointed out, to think about medicine is to think about humanity and its problems, and this cannot be done by limiting medical thinking only to what science can tell us with certainty.

One crucial aspect of medical care that is focused on people and their humanity is the holistic approach – invoked more often by healthcare professionals, who are more familiar with it, than by patients and their caregivers – which calls for the patient to be perceived in terms of their functioning in the bio-psycho-social and spiritual dimensions. This approach recognizes that the mind has a strong influence on the body and that it is necessary to provide an effective form of care, that is, one that deals with both body and mind (Floyd, 2001). As early as 1996, a World Health Organization (WHO) study group recognized that the way to approach health holistically and support personalized medicine is to provide patients with integrated care, in which all elements of the healthcare system play a complementary role in ensuring patient well-being.

Humanizing medicine is not just about politeness or “being nice” (Silverman et al., 2021). Based on showing respect, nurturing the dignity of the patient, and building a partnership with him or her, it requires involving the patient in the process of diagnosis and treatment, and jointly setting goals and developing realistic plans to improve their health. Although it originated back in antiquity, the humanization of medicine does not stand in opposition to technological advances or evidence-based medicine.

These three elements must work together to comprise a medicine that is universal, interdisciplinary, and complete.

One prerequisite for the successful humanization of medicine is effective clinical communication. Its quality determines not only the patient's satisfaction and whether he or she will follow the recommendations of healthcare professionals, but also the extent to which it is possible to build a proper, authentic relationship with the patient. It is worth remembering that the communication skills of healthcare workers and patients include not only the ability to use words appropriately, i.e. not just the content of communication. Also extremely important are the skills involved in the process of communication, i.e. non-verbal communication, meaning all the elements related to how healthcare professionals build a relationship with the patient, the way they organize and give structure to the communication. A final element of communication skills involves perceptions – that is, what healthcare professionals themselves think and feel. It concerns the decisions they make; their clinical reasoning and problem-solving abilities; their attitudes; their personal capacity for empathy, attentiveness, honesty and flexibility; their awareness of what they feel and think about the patient, the disease and other issues that may affect them; their awareness of their own self-image and self-confidence, as well as their biased behavior or resilience to distraction (Silverman et al., 2021).

An important contribution towards shaping the humanization of medicine was made by the late Prof. Kazimierz Imielinski, MD, who devoted a great deal of his career to spreading the idea – for which he received 56 honorary doctorates and two nominations for the Nobel Peace Prize. In the 1990s, many publications were produced and numerous scientific conferences were devoted to the humanization of medicine. Further continuing Prof. Imielinski's lifework, together with the Polish Ministry of Health and the Medical Research Agency, we organized the 1st Congress on Humanization of Medicine at the University of Warsaw in 2022. In conjunction with the event, a letter of intent was signed by representatives of the aforementioned institutions, which emphasized the need for interdisciplinary cooperation to promote the idea of humanism in medical science.

This book-length report is one outcome of the research project entitled "Humanization of the treatment process and clinical communication between patients and medical personnel before and during the COVID-19 pandemic," implemented from May 2021 to June 2023. The report begins with a comprehensive theoretical section (Part I) outlining the broader context for the presentation of empirical findings. The main part of the report then discusses the results of two interrelated studies: one was

a quantitative survey conducted in 2022 among healthcare employees and patients at healthcare units (the “Survey at Healthcare Facilities”), with questionnaires completed by 2303 healthcare employees and 1572 patients at a random selection of 114 hospitals and clinics from all of Poland’s provinces (voivodships), the other was a survey included a sample of 2050 adult Poles (the “Patient Population Survey”), representative for the Polish population, registered on the survey panel, including only individuals who had received treatment in the last 24 months for either emergency conditions or chronic diseases. The surveys conducted are therefore unique in their nationwide coverage, in capturing the context of the COVID-19 pandemic, and in offering the opportunity to compare different professional groups of healthcare workers (498 physicians; 1216 nurses, 166 paramedics, and 423 representatives of other medical and non-medical professions). They also allow comparison of different groups of healthcare professionals and patients distinguished by gender, age, place of residence, level of education, professional and family situation. Many of the indicators are related in this report to various factors of social differentiation.

Part II of the book then presents the assumptions and methods of the two main surveys, as well as pilot work. The main surveys were preceded by pilot interviews with medical professionals and patients and questionnaire work, including the selection of measurement scales and adaptation of the new tools described further for this project (BAT-12, PTSD-8). Many of the questions developed by the team for this project can be considered prototypes of new research tools.

The preliminary results of the study were presented at the “1st Congress on the Humanization of Medicine” held at the University of Warsaw in June 2022, just a month after the study itself was completed. Part III of this book-length report presents more detailed results of the quantitative survey, broken down into seven chapters. Each chapter follows a uniform structure: giving the theoretical background, a description of the tools used, the results obtained and their summary, plus an indication of practical implications and recommended directions for further analysis.

Within Part III of this book (presenting the results), Chapter 1 focuses on how the term “humanization of medicine” is understood and defined by healthcare workers and patients, and on identifying barriers to good communication and to fostering good patient–staff relationships. Chapter 2 of the results section then discusses aspects of the work of healthcare personnel during the COVID-19 pandemic and the degree of mental burden they faced during this period. Special attention was paid to the phenomenon of professional burnout and symptoms of post-traumatic stress.

The objective of Chapter 3 of the results section is to assess what impeded patients from obtaining treatment during the COVID-19 pandemic period and to identify the negative and positive effects of this period. Attention is paid to the reevaluation of one's own values – a phenomenon typical of crisis periods – as expressed in a shift in patient attitudes towards significant values in life.

Chapter 4 focuses on assessing selected aspects of the physical and psychosocial health of the two main groups of respondents. Much attention is paid to the reported severity of stress and sleep disorders. The importance of social support as a stress-reducing factor is also addressed. Chapter 5, in turn, discusses selected consequences of living in a pandemic, linked to behavioral factors. Changes in the reported prevalence of use of alcohol, tobacco, selected groups of drugs or psychoactive substances on the part of healthcare workers during this period are presented. For patients in the population-based sample, findings on reported changes in body weight over the last 3 and 12 months are presented.

Chapter 6 deals with a problem rarely addressed in empirical studies: patients' awareness of their rights, as guaranteed by relevant legislation. Respondents also reported how well, from their perspective, they felt that eleven key patients' rights are actually complied with at healthcare facilities.

The results section then concludes with Chapter 7, which deals with public perceptions of clinical trials. Patients in the population-based sample described factors that could be conducive to their deciding to participate in a clinical trial (or to opt out) in the future. These included factors related to the protocol and organization of the study, factors related to communication and the relationship with the doctor (which strongly ties this thematic area to the concept of this entire report), and a block of questions about expected benefits and risks.

Overall, the results described in the report may be instructive and useful for education modules dealing with the humanization of medicine at medical schools – which, it can be hoped, will result in an improved patient care system once successive crops of graduates enter the healthcare workforce. However, as the findings presented herein partly help to illustrate, such educational efforts promoting the humanization of medicine should in fact be two-track, also including current and future patients. And so, all initiatives to develop and shape health literacy are worthy of support, from integrating these issues into the health education provided in schools to teaching and strengthening patient co-responsibility in the treatment process.

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## SUMMARY OF KEY FINDINGS

This report is one outcome of a research project funded by a grant from Poland's Medical Research Agency entitled "Humanization of the treatment process and clinical communication between patients and medical personnel before and during the COVID-19 pandemic," which was carried out at the University of Warsaw. The project consisted of two phases: a quantitative and qualitative *pilot study* carried out from June to December 2021, followed by the *main study* itself in March and April 2022.

Preliminary results of the study were presented at the "1st Congress on the Humanization of Medicine" held in June 2022 at the University of Warsaw, organized jointly by the Polish Ministry of Health, the Medical Research Agency, and the University of Warsaw. The findings regarding medical staff were based on responses obtained from four different groups of medical personnel, working at 114 healthcare facilities situated across Poland (represented in differing numbers: 498 physicians, 1216 nurses, 166 paramedics, 423 other medical and non-medical professionals). The findings regarding patients, in turn, are based on data from a sample of 1,572 patients surveyed at these same healthcare facilities, and a second set of 2,050 patients surveyed as a population sample (of individuals who had received medical treatment over the last 24 months).

In this introductory section, we summarize the most important issues identified in the discussion about the humanization of medicine, strongly emphasizing the context of the COVID-19 pandemic. The following summary is organized into seven parts, reflecting the topics that are then addressed in greater detail in each of the seven main chapters of the book.

## 1. HUMANIZATION OF MEDICINE AS PERCEIVED BY HEALTHCARE PROFESSIONALS AND PATIENTS

- Carefulness and accuracy in performing actions is seen as an important issue in day-to-day work by 47.6% of the doctors surveyed, 51.4% of nurses, 56.5% of paramedics and 41.8% of those in other medical and non-medical professions, while communication with patients is considered an important issue by 44.2% of doctors, 33.5% of nurses, 47.6% of paramedics, and 44.0% of those in other medical and non-medical professions.
- A significant majority of the Polish healthcare workers surveyed (more than 81% on average) see excessive bureaucracy, scarcity of time, and poor working conditions as the factors that hamper them most in their day-to-day work.
- The problem of being understaffed relative to the number of patients is felt most prevalently, among the groups surveyed, by the group of nurses and midwives (49.8%).
- Fatigue is perceived as a significant disruptive factor, with the physicians (31.7%) and paramedics (31.9%) surveyed indicating it more often than representatives of the other groups surveyed.
- Verbal communication – both with the patient and among the treatment team – is one of the key elements of day-to-day work for healthcare professionals; almost all respondents (more than 92%) describe it as very important or extremely important.
- The importance of nonverbal communication – both with the patient and among the treatment team – is rated somewhat less highly by healthcare professionals than verbal communication. Nevertheless, about 75% of all professionals surveyed also rate it as very or extremely important.
- Epidemiological recommendations related to the COVID-19 pandemic, in the opinion of the majority of professionals surveyed (79.1%), made it difficult to build relationships and communicate with patients.
- Close to half of all healthcare-professional respondents (45.8%) noted that patients' lack of contact with their loved ones made it difficult to build relationships and communicate during the pandemic period.
- In evaluating the importance of specific dimensions of communication with healthcare professionals, patients ranked their treatment-related needs first, these being indicated by 70.5% of respondents. The next commonly mentioned dimension is that of time spent

and openness to the patient (54.8% of indications), while clear, comprehensible communication (43.3%) is the third dimension.

- Certain demographic traits were found to correlate with specific opinions regarding the importance of specific dimensions of communication and their component variables: gender was found to correlate with empathy (seen as more important by women), age with confidentiality (seen as more important by younger people), education with explanation of the treatment process as well as with relationships based on trust and honesty (correlating in favor of those with higher levels of education in the former case, and those with lower levels of education in the latter).
- Among the professional groups, patients held the greatest trust in nurses, followed by physicians. Patients who self-evaluated their own health condition as better were found to be more trustful of physicians.
- Overall, 4% of patients expressed a lack of trust in medical professionals.
- When asked about what impedes the formation of relationships and communicating with medical staff, patients mainly point to health-care staff shortages and to medical staff being overworked, followed by displays of arrogance toward patients on the part of medical staff.
- Opinions about what impedes the formation of relationships were found to depend only weakly upon specific patient demographic traits. The strongest such correlations were found between having insufficient time and education, and the assessment of communication skills with place of residence – with better-educated people and residents of larger cities indicating these impediments more often.
- In assessing the difficulties experienced during the COVID-19 pandemic, patients most often cited the lack of access to information and to their loved ones (61.8%) and the need to maintain social distancing and to wear masks and protective suits (51.4%).

## **2. THE COVID-19 PANDEMIC FROM THE PERSPECTIVE OF HEALTH-CARE WORKERS**

- More than 50% of paramedics reported that they worked more during the COVID-19 pandemic than prior to it.
- Overall, healthcare workers reported that day-to-day cooperation has deteriorated most in contact with patients' families (48.2%) and with patients (36.3%).

- 24.1% of paramedics, 20.7% of nurses, 14% of doctors, and 17.7% of those in the other professional groups reported that they had experienced workplace bullying during the pandemic period.
- Among those who had experienced a traumatic event during this period, 60.9% of nurses, 43.4% of workers in other professions, 39.4% of physicians, and 33.3% of paramedics exhibited symptoms of post-traumatic stress disorder (PTSD).
- The different groups of healthcare workers showed differing levels of risk of occupational burnout, with the nursing group at 35.3%, the physician group at 33.8%, the paramedic group at 28.4%, and the other-professions group at 27.0%.

### 3. THE COVID-19 PANDEMIC AND THE TREATMENT PROCESS AND APPROACH TO HEALTH FROM THE PATIENTS' PERSPECTIVE

- A majority of patients surveyed (75.0%) perceived at least some effects of the pandemic on the treatment process, with 55.8% of all respondents seeing *only* negative effects.
- The most frequently cited negative impact of the pandemic on the treatment process was that it made it more difficult to contact a doctor, while among the positive impacts, the ability to obtain prescriptions more easily was highlighted.
- One in four patients surveyed reported having periodic concerns about visiting a healthcare facility, mainly due to the risk of infection with the SARS-CoV-2 virus.
- Among patients in the population sample, more than one third (35.0%) had foregone receiving medical care in the past 12 months due to financial constraints.
- The overall epidemiological situation elicited a range of emotional reactions among the patients surveyed, the most frequently cited reaction being a sense of frustration or uncertainty about the future (28.7%).
- The patients surveyed mostly agreed with statements about the COVID-19 pandemic having brought about changes in their approach to life. Patients most commonly agreed with assertions that they had gained a better appreciation of the need to take care of their own health, and a better appreciation the need to maintain good relationships with other people (with 78% agreeing in each case).

#### 4. HEALTH STATUS OF HEALTHCARE WORKERS AND PATIENTS

- Overall, 52.5% of the healthcare workers surveyed were found to be overweight or obese (73.7% for men; 48.5% for women), whereas obesity itself was identified in 16.7% (20.6% for men, 15.8% for women).
- The highest percentage of excess body weight was found among the group of paramedics (66.9%).
- One in every four of the patients surveyed (24.4%) had undergone infection with the SARS-CoV-2 virus, as confirmed by a positive test result.
- 17.7% of the patients surveyed reported none of the five problems included in the EQ-5D-5L questionnaire. Pain and mental problems (anxiety or depression) were reported most often, while problems with self-care (washing, dressing) were reported least often.
- Among the different occupational groups of healthcare workers, particularly unfavorable rates of elevated stress (59.5%) and sleep disorders were reported in the group of nurses (15.8%).
- Trouble sleeping was reported more commonly among the patients from which such data was collected (21.1%) than among healthcare workers.
- Stress levels were significantly lower among those who reported that they could count on their loved ones in the event of deteriorating health.

#### 5. SELECTED HEALTH CONSEQUENCES OF LIVING IN THE COVID-19 PANDEMIC LINKED TO BEHAVIORAL FACTORS

- As health consequences of life in the pandemic related to behavioral factors, we analyzed changes in body weight among patients and changes in the prevalence of psychoactive substance use among healthcare personnel.
- According to the data collected, 67.9% of male patients and 50.3% of female patients over the age of 18 have excess body weight.
- 21.1% of all Polish adults surveyed declared that their body weight had increased in the last 3 months, by an average of 4.60 kg.
- Weight gain was more frequently observed in the following groups of respondents: aged 18–29, education below secondary-school level, family with low financial status, and high BMI.

- The four occupational groups of healthcare workers differed significantly in terms of the prevalence of psychoactive substance use and how it changed during the COVID-19 pandemic.
- An unfavorable change was defined as starting to use a particular substance during the pandemic, or using it more often than before. Paramedics reported unfavorable changes in terms of smoking (15.7%), drinking alcohol (12.7%), and using stimulants (4.2%) more commonly than the other professional groups.
- Nurses, in turn, reported unfavorable changes in terms of taking sedative or sleep medications (9.4%) more commonly than other professional groups.
- Physicians reported adverse changes in terms of taking SSRI drugs (6.4% of respondents) more frequently than other professional groups.

## 6. PATIENTS' RIGHTS

- We found that 31% of patients were aware of their rights as patients, 61.6% had heard of such rights but are unable to name any, while 7.4% had never heard of patients' rights.
- Lack of awareness of one's rights as a patient was more often observed among young people and those who had not completed secondary-school level education.
- The patients' rights that respondents felt were most often respected were "the right to health services" and "the right to information." The percentages of patients surveyed who felt that those rights had been complied with during their visit to the given healthcare facility were 84.2% and 81.7%, respectively.
- A majority of patients confirmed compliance with their right to medical confidentiality (73.9% among the survey of healthcare facility patients, and 77.7% among the Patient Population Survey) and their right to medical records (72.0% and 73.0%, respectively).
- Patients' right to respect for their private and family life was reported as being complied with by 50.1% among the sample of patients in the Survey at Healthcare Facilities, and by 37.2% in the Patient Population Survey.
- Among patients who stated that they did not trust doctors, 12.5% reported that none of the eleven rights evaluated had been complied with while they had received medical treatment (whereas

among the group that greatly trusts doctors, the percentage was only a quarter of that).

- Awareness of the existence of patients' rights and the perception that they are being complied with were found to be strongly correlated with the level of trust reported in medical professionals – including in doctors, in nurses/midwives, and in paramedics.

## **7. PUBLIC PERCEPTION OF CLINICAL TRIAL PARTICIPATION ACCORDING TO PATIENTS IN A POPULATION-BASED SAMPLE**

- The survey tested 18 questions relating to factors potentially bearing upon patients' decision to participate or not to participate in future clinical trials.
- Among our population sample of adult Poles who had received treatment in the past 24 months, 56.3% replied that they would agree to participate in such trials in the future.
- Those most willing to participate in clinical trials in the future were from less affluent families and those who currently rated their health less favorably.
- Older individuals are more likely than younger ones to name the ability to continue receiving treatment as an incentive for participating in clinical trials.
- The view that awareness of the possible risks, side effects, and adverse reactions can significantly influence their decision to participate or not to participate in clinical trials was agreed with by 97.6% of respondents.
- The friendliness of medical staff and researchers was viewed by 95.3% of respondents as an important factor that would strengthen their willingness to participate in clinical trials.
- One in four respondents (25.8%) saw participating in clinical trials in the future as an opportunity to improve their own health.



## THEORETICAL FOUNDATIONS FOR THE PROJECT

### 1.

#### Research background

##### 1.1. Theoretical concepts underpinning the humanization of medicine

More than two thousand years ago, Hippocrates laid down a set of basic ethical principles that have been held up and respected ever since. Since Hippocrates' times, medical practice has rested upon the foundation of doctors' deep commitment to selflessly help patients and their families (Roubille et al., 2021).

One prominent Polish historian of medicine has written this inspiring passage on the issue of humanism in medical practice:

The patient comes to us with their pain, bitterness, suffering, and anxiety, and cries out for help. This, of course, is rarely a cry in the literal sense. It takes on various forms of expression. It may be a torrent of words to relieve their anxiety, or petrified facial features that thinly conceal distrust of the doctor. And the patient tells the story. We must listen, hear the story out. From time to time asking a question to help them continue their train of thought, to pin down an important detail, or to clarify the chronology. For the storyteller, this story is the primary thing. And the listener should remember that one of these stories will someday become his own, one of these diseases will someday befall the doctor. (Szczeklik, 2003, p. 12)

Humanism is believed to form a universal ethical structure that is based on such virtues as fidelity, trust, kindness, intellectual honesty, courage, compassion and truthfulness. These virtues should represent the standard by which the healthcare system is organized.

### ***The Humanization of Medicine***

*The humanization of medicine is a theory and a set of practices aimed at adapting diagnosis and treatment to the needs and capabilities of the human patient and his or her environment, emphasizing the importance of personalizing the treatment process. It is based on scientific evidence, on advances in knowledge, and on activities that focus on a philosophy of thinking about the human being, taking into account respect, the dignity of autonomy and the rights of the patient, while supporting the needs of healthcare professionals. Thus, a holistic view of the role of the human being in the treatment process, along with his psychosocial, cultural, social, legal, and economic circumstances, is crucial for the proper implementation of the tasks associated with the humanization of medicine. In both theory and practice, it stretches beyond ethics and the theory of patients' rights and is a concept broader than clinical communication and medical communication. It is an interdisciplinary, autonomous field of knowledge and a multifaceted area of activity.*

(Izdebski, 2022, p. 5)

Maintaining and continuously improving human relations, in medicine and beyond, is the responsibility of doctors and other medical personnel – in terms of raising the level of health services and the quality of medical care. The overarching idea of humanism is to recognize the human being as the highest value, and with his or her welfare, as well as respect for his or her dignity, rights and autonomy, seen as the essence. These ideas have been pursued by the Polish Academy of Medicine and the Albert Schweitzer World Academy of Medicine founded and led by Prof. Kazimierz Imielinski.

The basic elements of humanization and dehumanization in relation to medical care can be summed up in eight dimensions (Table 1). This classification should not be interpreted in terms of alternatives; rather, in each case it represents a certain continuum (Todres et al., 2009).

**Table 1.** Conceptual framework of the dimensions of humanization

<b>Forms of humanization</b>	<b>Forms of dehumanization</b>
empowerment	objectification
agency	passivity
uniqueness	being likened to others
acting jointly	isolation
imparting sense	loss of meaning
respect for personal experience	detachment from personal experience
cultural context	detachment from the cultural context
holistic approach to health	biomedical approach to health

(from Todres et al., 2009)

The humanization of medicine is of significant importance for the direct outcome of the treatment process and for communication with the patient, and its task is to build a broadly-construed medical culture, including by strengthening the authority of the medical profession and better comprehension of the needs and rights of the patient. This approach contributes to:

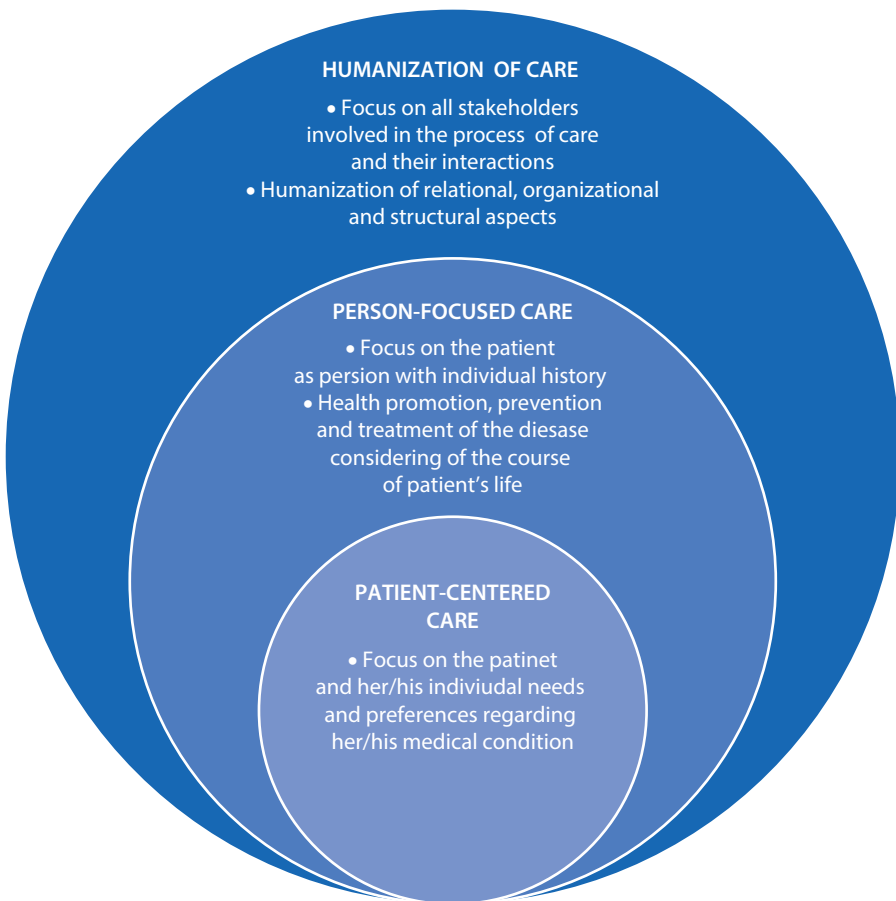
- understanding the health situation of the patient while taking into account their individual needs in the context of their family, the social and economic situation in which they find themselves, and respecting their autonomy and rights,
- building mutual trust and the commitment of both parties to the therapy process and to proper communication within the treatment team,
- improving patient–staff and staff–staff communication,
- achieving close cooperation between the patient and medical personnel, resulting in compliance with therapeutic recommendations and shared responsibility for the recovery process,
- raising patient awareness by providing information on new diagnostic and therapeutic options.

Busch et al. (2019) have highlighted these “key points for decision makers” in term of policies bearing upon the humanization of medicine:

- Respect for patient’s dignity, uniqueness, individuality, and humanity, as well as adequate working conditions and sufficient human and material resources are the most discussed key elements of humanization of care according to the different areas explored (i.e., relational, organizational, and structural, respectively).

- The key elements identified are expected to help patients, caregivers, healthcare providers, and institutions in implementing humanized care.
- Future studies fully examining implementation strategies of humanized care and quantitatively testing their effectiveness are warranted. (Busch et al., 2019: 461)

Humanization takes into account not only the patient, but also the system involved in the care process (i.e., patients, patient caregivers, healthcare providers, policy makers) and their interactions (Figure 1). This approach aims to humanize the entire healthcare system by focusing on relational as well as organizational and structural aspects of healthcare, encompassing all medical tasks and procedures.



**Figure 1.** Development of the humanization of medicine

(from Busch et al., 2019: 462)

## 1.2. Theoretical models of the doctor–patient relationship in healthcare

In the sociology of medicine, Talcott Parsons' theory of social roles and Eliot Freidson's theory of conflict are most often invoked to elucidate the doctor–patient relationship. Both concepts recognize a certain asymmetry in the doctor–patient relationship: the doctor plays an authoritarian and dominant role, while the patient plays a passive role, and communication is usually one-way. Treatment decisions are made by the doctor, who focuses solely on the biological dimension of the disease, ignoring the patient's needs and emotions. It follows from this that the doctor–patient relationship is dynamic. Conflict may also result from a patient questioning a doctor's knowledge and skills, as well as doctors' subjective treatment of patients. Models of the doctor–patient relationship are presented in Table 2.

**Table 2.** Models of the doctor–patient relationship according to Szasz and Hollender (1965), Chmielewska-Ignatowicz (2017)

Model	Activity– Passivity Model	Guidance– Cooperation Model	Mutual Participation Mode
<b>Physician's role</b>	totally active, decisive	an active, dominant initiator – the doctor has the necessary knowledge and skills to carry out the treatment process	an active partner – the doctor has objective and detailed knowledge of treatment modalities, making diagnoses and prognoses, designing the treatment process
<b>Patient's role</b>	totally passive – the patient is the recipient of medical recommendations	an active, limited co-cooperator – the patient will comply with the doctor's recommendations because he does not have enough knowledge to take responsibility for the treatment process	an active partner – the patient has subjective knowledge of his or her own behavior and wellbeing
<b>Clinical application</b>	in life-threatening situations, when patient has limited awareness	in acute infectious processes, etc. that last a short time and usually resolve on their own	in chronic diseases in which conditions are long-term and require reorganization of various aspects of life

Related to the idea of humanization in medicine are approaches to medical care that value the centrality of the patient, known as PCO (patient-centered outcomes) or PCC (patient-centered care). However, note that in order to support patient-centered care, healthcare professionals must first identify barriers and facilitators to both patient-centered care and communication, given their interconnectedness in clinical interactions (Kwame, Petrucka, 2021). Attempts have been made to develop conceptual models that incorporate core areas of analysis (Hudon et al., 2011). One model, for instance, includes 4 dimensions: (1) the patient's illness and experience of illness; (2) the patient's whole person (the biopsychosocial perspective), (3) common ground (the sharing of power and responsibility), and (4) the patient–doctor relationship (also in the dimension of therapeutic covenants). On the other hand, in a model tailored to pediatric patients, attention is paid to such areas as respect and dignity, information sharing, participation, partnership and co-operation, and negotiation. The authors of publications proposing models of humanization in medicine emphasize that the conceptualization phase should precede the creation of tools (Tripodi et al., 2017). The Institute of Medicine (IOM) in the United States emphasizes that providing patient-centered care means respecting and responding to the individual patient's care-related needs, preferences, and values in all clinical decisions (Institute of Medicine, 2001). As Ostrowska (2020) points out, by definition the roles of doctor and patient entail a certain asymmetry and predominance of the former over the latter; moreover, the patient represents himself or herself, whereas the doctor has the prestige of medical knowledge and the treating institution behind him or her. The above considerations offer an important starting point for examining the relationship between medical personnel and the patient.

## **2.**

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### **The medical staff–patient relationship**

#### **2.1. Transformations of the doctor–patient relationship**

For many years, the medical profession has recognized the importance of communication and relationship skills as part of professional competence. These skills are rooted in the multidimensional biopsychosocial

concept of health, as envisioned by the World Health Organization (WHO, 1948).

The doctor–patient relationship has been transformed over the years. This relationship used to be mainly between a patient seeking help and a doctor whose decisions were to be carried out by the patient. In this paternalistic model of the doctor–patient relationship, the doctor uses his/her skills to choose the necessary interventions and treatments that are most likely to restore the patient’s health or alleviate his pain. Any information provided to the patient is intended to encourage the patient to consent to the doctor’s decisions. This description of an asymmetrical or unbalanced interaction between doctor and patient has been challenged in recent years. Critics have proposed a more active, autonomous, and thus patient-centered approach that advocates greater mutual participation. This patient-centered approach has been described as one in which “the doctor tries to enter the patient’s world, to look at the disease through the patient’s eyes,” and has become the dominant model in clinical practice today (Kaba & Sooriakumaran, 2007).

## **2.2. Importance of interpersonal relationships in healthcare institutions**

In healthcare institutions, trust and communication are understood as kinds of “tools” towards achieving better patient care and satisfaction. Indeed, there is a need for a certain degree of trust in order to build a relationship in which sincere communication can flourish. The quality of patient interaction is positively related to patient trust and satisfaction, which are direct or indirect measures of the quality of healthcare services (Birkhauer et al., 2017; Anhanget al., 2014; Tsai et al., 2015; Isaac et al. 2010; Jha et al., 2008).

Trust has been shown to have a positive impact on patient functioning in areas such as adherence to prescribed medications, perceived satisfaction, and higher rates of treatment continuation (Hallet et al., 2001; Zolnieriek & DiMatteo, 2009; Baker et al., 2003). Patients with greater trust in their doctor tend to have more favorable health behaviors, fewer symptoms, and are more satisfied with their treatment. Healthcare professionals need to persuade their patients to share information, undergo tests, and take chemical substances in the form of medications, and trust undoubtedly plays an important role in order for all of these activities to occur with less stress and anxiety. Trust is something that needs to be cultivated and earned, and having good communication skills helps build that trust between doctor and patient.

Moreover, doctors' ability to communicate with patients by expressing acceptance, empathy and support (Epstein, 2007) seems to contribute to a better doctor–patient relationship and greater satisfaction with the consultation (Pollak et al., 2010). In addition, patients' perceived empathy has a positive impact on their psychological wellbeing: when doctors empathically acknowledge patients' feelings and encourage them to pursue their treatment goals, patients show reduced symptoms of anxiety and increased trust in doctors' recommendations (Zwingmann et al., 2017).

On the other hand, note that the relationship between medical personnel and patients may be less well-regarded due to a lack of channels for handling complaints and an enforceable system of patients' rights, due to misunderstandings or to unrealistically high expectations on the part of patients themselves regarding treatment outcomes. Ignoring the patient relationship can put significant strain on both providers and patients, leading to unresolved problems and tensions, as well as ethical issues (Borovecki et al., 2005).

Trust between doctor and patient, in addition to its ability to lay the groundwork for a lasting relationship and shape the behavior of both partners, also itself has therapeutic value. Krot and Rudawska (2013) posit that trust in a doctor is the result of the interpenetration and overlapping of two levels: trust on the macro scale and the meso scale. Macro-scale trust can be viewed as the context in which the dimensions of institutional trust are “nested,” whereas meso-scale (institutional) trust is viewed through the prism of three dimensions: benevolence, competence, and reliability (Krot & Rudawska, 2013).

The important fact remains that the doctor–patient relationship is often based on a established scenario, without taking into account the patient's life situation, and with service performance indicators and the level of technical sophistication often being more important factors than who the patient is.

Table 3 presents recommendations for optimizing the patient-provider relationship, as an important contribution to relationship-building considerations.

The traditional model of the patient portrays him or her as a body passively subject to internal and external forces, whereas in line with the concept of humanization, the patient should instead be empowered. Therefore, as one of the ways to provide society with better and more optimal health services, it is important for providers to understand and realize the importance of trust and communication in their relationships with patients (Chandra et al., 2018).

**Table 3.** Indications for optimizing the patient-provider relationship

<b>Recommendation</b>	<b>Examples</b>
<b>Listen actively</b>	Listen without interrupting, focus on what is said and construct questions based on what you have heard.
<b>Understand the patient's agenda</b>	Several questions can elicit the patient's agenda: <ul style="list-style-type: none"> <li>• What brought you here today?</li> <li>• What do you think you have?</li> <li>• What worries, or concerns do you have?</li> <li>• What do you feel I can do for you?</li> </ul>
<b>Empathize</b>	Empathy involves seeing the patient's perspective, being nonjudgmental, understanding the patient's feelings, and communicating that understanding. An empathic statement is "I can understand how difficult it is to manage your pain."
<b>Validate</b>	Validation means you understand the patient's perspective, but you may not necessarily agree. A validating statement would be "I can see you are frustrated when people say this is due to stress, and you know it's real."
<b>Set realistic goals</b>	Chronic illness means symptom management, not cure "I understand how much you want these symptoms to go away, but you've had them for years. If we can reduce your symptoms by 30% over the next several months, would that help?"
<b>Educate</b>	Education is an iterative process: <ul style="list-style-type: none"> <li>• Identify what the patient understands</li> <li>• Address any misunderstandings</li> <li>• Offer information consistent with the patient's frame of reference</li> <li>• Check the patient's understanding</li> </ul>
<b>Reassure</b>	Reassurance is provided based on the available data and not prematurely. This involves identifying the patient's concerns, validating them, and responding to the specific concerns
<b>Negotiate</b>	Patient-centered care is a partnership. The physician offers choices, and the patient makes a choice. For example, the physician can suggest treatments "A" and "B," indicating the possible benefits and adverse effects.
<b>Encourage patient responsibility</b>	With chronic illness, the clinical outcome is better when the patient takes responsibility for care. Rather than say "How is your pain"? one can say, "How are you managing with your pain"?
<b>Be there</b>	One cannot always anticipate what will come up in the clinical visit; providing support and a listening ear is indispensable.

(from Drossman et al., 2021; Drossman &amp; Ruddy, 2021)

Furthermore, it should be emphasized that the practice of medicine and its embodiment in the clinical encounter between patient and doctor is fundamentally a moral activity that stems from the imperative to care for patients and alleviate suffering. The relationship between the patient and healthcare professionals is based on trust, which gives rise to the ethical responsibility of medical personnel to put the patient's well-being above their own interest and to act for the benefit of the patient.

### 3.

## Clinical communication

### 3.1. Communication in clinical practice

Effective doctor–patient communication has a positive impact not only on clinical outcomes, but also on patients' experience of care. Understanding the importance of one's own communication skills in relationships with patients and their families can help improve a physician's skills, and ultimately increase both patient and doctor satisfaction. Note that there is a significant correlation between patient satisfaction and clinicians' communication skills (devoting adequate time to the patient's visit, explaining the diagnosis and treatment procedures). In addition, doctors' therapeutic skills, their friendly disposition, respect for patients' feelings and attentive listening have been found to exhibit a significant correlation with patient satisfaction (Eveleigh et al., 2012).

Because the concepts of doctor–patient relationship and patient-centered consultation are multifaceted, understanding and teaching them is difficult. It has been noted that using metaphorical language is a tool that can be useful in such situations:

We could say that the 'good' doctor-patient relationship is a process where an 'alliance' is created: a process in which the doctor adapts to the rhythm of the patient and little by little can help him move towards healthier scenarios; that is, detect 'what dance the patient dances' and like a good dancer, take a step back, another forward, dancing and pacing with the patient. But there is not a single type of 'good' or 'adequate' doctor-patient relationship; there is not 'a single dance that the patient dances'. (Turabian, 2018)

However, shared decision-making is not always the norm in hospital care. Although doctors explain treatment plans, many hospitalized pa-

tients do not understand them well enough to be able to make autonomous decisions. In a study by Berger et al. (2017), all the physicians studied did explain the plan of care to patients, and most believed the patient understood them. However, for many patients, the issue still remained incomprehensible. Moreover, the doctors rarely asked for the patient's opinion. However, note that improving hospital communication can promote patient autonomy.

It should also be noted that in the relationship between medical personnel and patients, there is often a discrepancy between what healthcare professionals think they are communicating and what patients actually hear, with providers overestimating patients' level of understanding (Coran et al., 2013). A review of the literature reveals that healthcare providers regularly use medical jargon when communicating with patients and often neglect to explain it (Linkset al., 2019; Pitt & Hendrickson, 2019; Tran & Sweeny, 2020). In addition, the findings of Miller et al. (2022) indicate that, on average, primary-care visits involved more than four uses of medical jargon per visit, with 80% including at least one instance of unexplained jargon. A certain degree of using medical jargon is inevitable in a provider's communication with patients. However, to recognize that patients may be hesitant to ask for definitions of unfamiliar terms, providers must take it upon themselves to explain them (Nielsen-Bohlman et al., 2004).

Four main themes of communication errors have been identified in the literature: non-verbal (lack of eye contact, inadequate facial expressions), verbal (lack of active listening and inappropriate choice of words), content-related (low quantity and quality of information conveyed), and poor attitudes (lack of respect and empathy). It is important to remember that patient–doctor communication is a complex human interaction that requires a mutual understanding of the emotional state of each party. The study found that doctors showed low levels of respect and empathy toward their patients. The results suggest that patients drew inferences about the respect doctors had for them based on their nonverbal and verbal communication skills. Cases were identified where doctors demonstrated inadequate listening skills; instead of listening attentively and answering the questions asked by patients and their relatives, doctors interrupted them and pursued their own agendas. Moreover, listening is more than just understanding speech. It involves appreciating what has been expressed and requires listening discriminately and empathetically, in addition to the content, to listen to the speaker's emotions to appreciate his or her point of view before one can subjectively experience and share his or her mental state (Kee et al., 2018).

Sobczak et al. (2017) studied 100 physicians and 373 clinical patients, evaluating medical communication from the point of view of doctors and their patients. They found the mean score of patients' satisfaction with communication with doctors to be 6.79 on an 11-point scale. A certain dissonance was identified between patients' and doctors' statements about receiving medical information from the attending physician: 38.8% of patients were left with doubts after the visit, despite the fact that all the doctors reported that they had communicated information in a clear and precise manner. Moreover, nearly one in three patients stressed that they had no chance to freely express their opinion about the disease or condition had come to the clinic with, yet the doctors claimed almost unanimously that they had provided such opportunities to their patients. Additionally, as many as 18.3% of patients declared that they had not been asked by doctors whether they had any medical issues that needed clarification. The declarations reported by the two groups of respondents likewise showed that medical information is not provided to patients on a regular basis, with doctors instead preferring to provide medical information at the end of a patient's stay at a treatment facility. Notably, more than 10% of doctors admitted that it sometimes occurs that they do not communicate the overall picture of the results of their treatment to their patients directly, but rather include this information only in the discharge forms; such a state of affairs was additionally confirmed by more than 14% of patients.

Surmacka and Motyka's (2015) study tracked the main types of problems occurring in the area of clinical communication that patients complain about. The vast majority of the problems cited were related to communication, in a broad sense, when dealing with hospital staff. The largest number of people pointed to traumatic experiences related to the way medical staff conveyed information to them (about 80% of descriptions), staff limiting themselves to performing instrumental tasks with the patient without attempting to establish a therapeutic relationship (about 50% of descriptions), the problem of disregarding the fears and anxieties experienced by patients (36%), and the problem of a lack of respect for intimacy during hygienic activities or during medical examinations (28%).

Another equally important aspect involves communication between nursing staff and patients, which is considered one of the most important aspects of effective patient care. Moreover, communication also reflects the quality of individualized nursing care for each patient. The quality of care can be improved by increasing the effectiveness of both verbal and

non-verbal communication. Effective communication is essential in building relationships with patients, and many nursing tasks, such as education and counseling, rely solely on dialogue (Crawford, 2017).

In addition, Chan et al. (2018) noted that patients' sympathy for how busy nurses are is associated with better nurse–patient communication. They also found that heavy workloads for nurses, both in terms of patient care and documentation procedures, were associated with poorer communication.

The aim of the study by Motyka et al. (2017) was to assess the level of empathy in students entering the nursing faculty. They compared measured levels of empathy between a group of 64 first-year nursing students at the Jagiellonian University Medical College and an equally large group of first-year students of Tourism and Recreation at the Kraków University of Economics. The results did not confirm the hypothesis that those choosing to study medicine would be characterized by significantly higher levels of empathy than students of tourism and recreation. Moreover, only average levels of IRI (overall empathy) scores were observed in both groups. These results indicate that during the training of nursing students, special attention should be paid to fostering empathy, especially its cognitive component, in the form of the ability to take another person's point of view (the patient's perspective) (Motyka et al., 2017).

Thus it is not the duration of a doctor's visit, but how patient-centered the visit is, that affects patient wellbeing. What patients consider to be the "right amount of time" is related to dimensions such as meeting or exceeding pre-visit time expectations, perceived length of the visit, quality of communication, level of empathy, and increased patient participation and education (Lin et al. 2001; Parrish et al., 2016).

The minimum necessary elements of communication that providers must practice under time pressure fall into the technique shown in Table 4.

From a health-policy perspective, it is imperative for hospital administrators to emphasize the importance of open and clear communication between providers and patients to avoid problems ranging from misdiagnosis to inappropriate treatment. Studies confirm the general consensus that better-quality provider–patient (doctor–patient or nurse–patient) communication coincides with higher reported measures of hospital quality. Tellingly, the opposite effect can be observed when patients are in isolation due to a pandemic, such as COVID-19, in which provider–patient communication may be limited and result in lower quality measures (Belasen et al., 2020).

**Table 4.** The “I’m late” mnemonic

<b>“I’m Late” mnemonic</b>	<b>Communication skills</b>
<i>I: impression</i>	Invest in the first impression: eye contact, smile, greeting, small talk.
<i>M: minute of silence</i>	Resist the temptation to interrupt in the first 1–2 min and fully focus on the patient without looking at the computer screen.
<i>L: listen</i>	Be an active listener. Listen attentively with all your senses, paraphrase, reflect on what is said, and withhold judgment and advice. Use nonverbal signs of listening (nodding, eye contact, leaning in, mirroring).
<i>A: acknowledge</i>	Acknowledge the role of psychological factors, even if unable to address them. Do not ignore “emotional” openings.
<i>T: touch</i>	Do not underestimate the therapeutic effect of touch, physical examination, and the role of rituals in medicine.
<i>E: empathize</i>	Understand another person’s experience; attempt to “walk in their shoes.” Look for empathic openings and offer verbal or nonverbal expressions of empathy, including reflection, legitimization, respect, support, partnership.

(based on Drossman et al., 2021)

### 3.2. Importance of communication in clinical trials

The term “clinical trial” denotes a particular kind of extension, or special case, of biomedical research. Poland’s Medical Research Agency defines a clinical trial as “trial conducted in humans to discover or confirm the clinical, pharmacological, including pharmacodynamic, effects of action of one or more investigational medicinal products,” as is also stipulated in Poland’s Act of 6 September 2001 “Pharmaceutical Law” (*Journal of Laws* 2008 No. 45, art.2(2a)). In their early stages, such trials seek to monitor “the absorption, distribution, metabolism and excretion of one or more investigational medicinal products, taking into consideration their safety and efficacy” (Medical Research Agency, 2023). According to international standards stemming from a regulation of the European Parliament and the EU Council, a clinical trial must meet a number of conditions, such as the predetermined assignment of subjects to different treatment groups, and the implementation of additional diagnostic procedures and monitoring that extend beyond standard clinical practice. The latter condition,

in particular, tends to make patient–doctor contact more intensive and subordinate to the study protocol, hence communication-related issues take on special importance. As a prerequisite before being included in a clinical trial, a participant must sign an informed consent form, which involves being informed of the potential risks and further protects the individuals and institutions conducting the study from possible liability.

Clinical trials are considered crucial to advancing healthcare and medical research, but recruiting participants for such trials continues to be a challenge (Gul & Ali, 2010; Hadidi et al., 2013), especially among minority and lower-social-status populations (Ford et al., 2008; Ford et al., 2013). Barriers to participation in clinical trials have been widely studied and include limited awareness and misperceptions of trials on the part of patients, a lack of trust in physicians and researchers, and a fear of clinical trials and medical research in general (Guadagnolo et al., 2008; Friedman et al., 2013; McComas et al., 2010; Owens et al., 2013).

And so, despite the clear benefits and great potential for growth, the number of clinical trials conducted in Poland is nevertheless declining. In 2009, 469 trials were registered in Poland, but the figure decreased to 396 in 2014. The number of participants in clinical trials has also declined, and the ratio of trials conducted in Poland to the overall population of the country is much lower than for other comparable European countries, such as the Czechia or Hungary (PwC, 2015). The reasons for the current state of affairs should be sought primarily in legal and administrative obstacles. Launching a clinical trial requires the sponsor to fulfill a number of formalities. One of the most burdensome requirements is the obligation to provide a contract between the sponsor and the investigator and/or trial site, as well as an application to start a clinical trial. In addition, when conducting clinical trials in Poland, it is difficult to estimate the final cost such a project. Moreover, low public awareness of clinical trials also contributes to this problem (PwC, 2015).

Healthcare professionals themselves may also contribute to low study enrollment, due to a limited knowledge about clinical trials or lack of communication with patients about them (Castel et al., 2006; Arai et al., 2017). In addition, the technical language used by physicians and/or researchers (Paramasivan et al., 2011) and the level of difficulty of trial-related educational materials provided to patients may pose barriers to recruitment and enrollment, with complex language reducing readability and negatively affecting the informed consent process. That process involves three prerequisites: information being provided, its being understood the study participant, and only finally the signing of consent, with the knowledge

that it can be withdrawn at any time. Note also that care should be taken when providing written information to study participants to ensure that the language used and its comprehensibility are appropriate for the recipients (Taylor & Bramley, 2012). Moreover, providers often overestimate their patients' health literacy skills (Dickens et al., 2013) and the clarity of their own communication (Howard et al., 2013). Willingness to participate in a clinical trial and readiness to follow it through to completion are multifaceted. The process of conducting clinical trials needs to address individual education and values from the patients' perspective and expectations from the physicians' perspective.

Effective alliance-building communication can increase the patient's trust in the doctor and the treatment decision. A physician who describes the potential side-effects of an experimental agent, as well as a treatment plan to manage those potential toxicities, signals that he or she is anticipating and managing the patient's individual medical situation and needs. Such "patient-centered communication" (Epstein & Street, 2007), which informs and builds rapport, also helps all parties come to terms with one another, with a sense of shared meaning and understanding, especially helpful in the face of the inherent medical and psychological uncertainty that accompanies participating in a trial (Albrecht et al., 1999). This communication strategy helps physicians provide tangible and emotional support to patients and respond to patient and family/guardian concerns in comprehensible language, thereby helping patients overcome many perceived barriers to enrollment.

Strategies aimed at making potential participants aware of the health problem being studied and its impact on their lives and encouraging study participants in the research process are likely to boost recruitment to clinical trials (Caldwell et al., 2010). Value-based medicine addresses individuality and can provide the clinical skills to link generalized scientific knowledge to the specific preferences of individuals, with the goal of improving the quality of healthcare and efficient use of healthcare resources (Petrova et al., 2006; Bae, 2015).

Note that patient adherence depends on a number of variables that influence decision-making (Muluneh et al., 2018). Extensive protocols and time inefficiencies, often found in longer-term studies, increase the demands on patients' time and can be conducive to treatment dropout. Another problem is the perception of a lack of incentive to complete the trial; this may be especially true for control/placebo patients, who may believe that signs of clinical benefit are not apparent. Trial dropout is also influenced by comorbidities such as depression and anxiety, and dropout

may be promoted if patients with these comorbidities are not adequately treated (Lopes et al., 2015). It is also recommended that researchers should consider reliably reporting aggregate and individual results of clinical trials after completion (Shalowitz & Miller, 2008).

**Table 5.** Humanistic approach to clinical research

Activities	Results	Obstacles
<b>Improving consent process communication</b>	Accessible written information delivered in an easy-to-read manner. Improved consent process promotes shared decision-making.	It is difficult to incorporate the elaborate description of the study from the informed consent form into promotional materials, especially those distributed through the media. A humanistic approach may cause delays that are not always acceptable.
<b>Intelligent guiding</b>	Patients feel confident and well-monitored. Adherence and quality of data are improved.	Staff training is longer and costly. This model requires a larger professional-to-patient ratio.
<b>Maintenance of care continuity</b>	Improve patient-centered care. Incorporating clinical research activities by physicians brings additional expertise, including international standards in clinical data management and access to new interventions.	Increased number of clinical research-related trainings is time-consuming. Medical research may be interesting only to selected physicians.
<b>Specific training</b>	Cultivating the values of empathy, justice and compassion in a very delicate clinical research environment.	Introducing a humanistic culture into clinical research is a lengthy process and can take several years.

(based on Arai et al., 2017).

In modern clinical research, the interests of many different people meet simultaneously. This may include the interests of participants/patients, who want to improve their health or gain financial benefit, those of researchers, who may have nonprofit or for-profit interests, the interests of society in wanting to gain access to better, more effective and safer treatments, and the interests of entrepreneurs (e.g., pharmaceutical

companies), often investing in a new drug that is expected to be profitable in the future (Brodniewicz, 2015). It is undeniable that knowledge of the prevailing standards and codes of ethics is essential in clinical practice. According to the Polish Ministry of Health, in order to protect the rights and safety of patients participating in a clinical trial and to ensure the reliability of the data obtained, Good Clinical Practice (GCP) rules were developed and implemented by the Decree of the Minister of Health of May 9, 2012 “On Good Clinical Practice.” These principles should be applied to all clinical trials conducted in Poland. In addition, the conduct of clinical trials in Poland is regulated by the aforementioned Act of September 6, 2001 “Pharmaceutical Law.” Another important regulation bearing upon clinical trials is also the “Principles of Ethical Conduct in Medical Experimentation Involving Human Subjects” (called the “Helsinki Declaration”) (Polish Ministry of Health, 2018).

In view of the above, a humanistic approach to clinical trials remains extremely important as a standard of practice that can improve not only rates of participation in these trials, but especially rates of adherence to recommendations and also patient wellbeing (Table 5).

## 4.

### Patients’ rights

Medical personnel have both a legal and a moral obligation to respect the rights of patients. This applies to physicians, nurses, as well as all other members of treatment teams. Patients’ rights, an integral part of human rights in the broadest sense, define the relationship between the patient and the institution or person providing medical services.

Awareness of patients’ rights has a systematizing and disciplinary effect on the functioning of the healthcare system. Patients’ awareness of the rights they are entitled have respect to at healthcare facilities significantly affects the quality of medical services offered at such facilities. Although the legal regulations on patients’ rights, adopted in Poland after 1990, do not differ in essential content from those adopted in most European countries, the respect shown for them in our country still raises a great many objections and comments (Wroński, 2007).

Respect for patients’ rights on the part of medical personnel is the foundation of properly functioning healthcare. One study (Gotlib et al., 2014) investigated how much medical personnel knew about patients’ rights,

with 100 doctors and 100 nurses participating in the survey. In self-evaluation, 19% of doctors and 7% of nurses considered their own knowledge of patients' rights to be "very good," while 34% of doctors and nurses rated themselves as having "good" knowledge. The right to information, access to medical records and the right to health services were familiar to 85% of respondents in this study, 78% of respondents reported that they were familiar with Poland's Act on Patients' Rights and the Patients' Rights Ombudsman, while 64% confirmed that they had witnessed violations of patients' rights in the workplace.

The aim of the study by Olejniczak et al. (2013), in turn, was to examine nursing students' opinions about how patients' rights are respected by students and medical staff during clinical classes. A large majority of nursing students (74.2%) were found to be informed about the need to respect patients' rights during their clinical classes. Large majorities also reported that they respect patients' rights to confidentiality (80.3%) and autonomy, and the need to seek patient consent for history-taking (89.4%), conducting examinations (83.3%) and procedures (87.8%). However, the results relating to the patient's right to respect for his or her dignity indicated a need to pay greater attention to this issue: as many as 75.8% of the students surveyed had encountered a case involving a patient's dignity being violated by a doctor, 51.5% by a nurse. The reported opinions on the actual compliance with patients' rights at Polish health-care facilities indicate that a majority of students positively assess respect for the patient's right to privacy and data confidentiality (68.2%) and to autonomy (62.1%); nevertheless, nearly half of the respondents negatively assess compliance with the patient's right to respect for his or her dignity (40.9%) and to information (45.4%).

Moreover, violations of a patient's right to privacy during the provision of healthcare services at the hospitals studied were confirmed by the results of inspections conducted by Poland's Supreme Audit Office (NIK) among patients of these same hospitals. Of the 1104 patients surveyed:

- 127 (12%) reported that they had been provided health services in multi-bed patient rooms without the use of screens;
- 143 (13%) said they had been given health information while in the presence of a third party, such as during rounds;
- 55 (5%) had been examined in treatment rooms not secured against third-party access;
- 55 (5%) complained of having experienced arrogant, rude treatment on the part of medical and service personnel;

- 52 (5%) said they had been interviewed by a physician in the presence of other patients;
- 95 (9%) complained about the lack of proper sanitary and hygienic conditions.

The promotion of patients' rights is among the priorities for health-care providers and is considered a gauge of the health of any community. Patients' rights can be considered one of the main foundations for devising standards for the provision of clinical services. On the other hand, the concept of patients' rights is evolving in conjunction with the growing interest being shown by international organizations in human rights, to the point that many countries have enshrined certain rights of the patient in their healthcare systems as mandatory for providers.

## 5.

### **The COVID-19 pandemic from healthcare workers' perspective**

The lengthy pandemic period – which in many ways stimulated the development of medical science and challenged healthcare systems – highlighted the fundamental role of relationships in medical care. During the pandemic, medical personnel learned about the importance (and difficulty) of the therapeutic relationship, which influences the patient's health via the belief that the visit was patient-centered, and especially via the belief that an understanding was reached with the physician. Patient-centered practice improves patient health and increases the efficiency of health-care by reducing the number of diagnostic tests and referrals (Stewart et al., 2000).

Increased attention was paid to the doctor–patient relationship during the pandemic due to two factors. The first was the absolute isolation in which many patients found themselves. Isolation was a necessary but extreme measure that deprived patients of all relationships except those with doctors and other healthcare professionals. As a result, a previously dormant awareness of just how important this contact made itself felt more overtly. “Being there with the patient” was recognized as an important aspect of treatment. The second factor was the lack of a therapeutic strategy – the uncertainty that for many months characterized the approach to COVID19 patients. Doctors had to rely on the

only thing that remained solid, namely their relational knowledge (Vegni et al., 2022).

In the context of the personal lives of medical personnel, it should be noted that seriously ill patients are emotionally vulnerable during the usually protracted course of the disease, and staff members respond to the needs and emotions of such patients with their own emotions. This may reflect a felt need to save the patient, a sense of defeat and frustration as the disease progresses, a sense of powerlessness in the face of the disease, together with associated losses, grief, fear of getting sick, or a desire to separate from and avoid patients in order to avoid these feelings. These emotions can affect both the quality of medical care and the wellbeing of the staff themselves, as unexamined emotions can also lead to anxiety, lack of commitment, professional burnout and poor judgment (Meier, 2001).

Ratajska and Kubica (2010, p. 85) list what things a physician who notices that communication disruptions are occurring in his practice should pay attention to. First and foremost, it is a good idea for such a doctor to monitor the emotions he or she experiences in his relationship with patients. If a physicians feels anger, frustration, bitterness or anxiety, he or she should:

- give some consideration to the interaction during which these emotions were felt (what was it about the interaction with this patient that made me feel this way?);
- reflect on his or her role in the doctor–patient relationship;
- keep in mind that emotions modify cognitive processes, including attention, memory, judgment – and so the picture obtained of the patient would have been different if he or she had been feeling different emotions.

As COVID-19 unfolded around the world, there was repeated talk of the mental health burden being shouldered by frontline health workers striving to treat patients affected by the virus. Such workers often isolated themselves from their families in order to protect their loved ones, withheld details of their work from them, struggled with the excessive demands of their work and family lives, and felt that those in their social support systems could not relate to what they had gone through. This prevented these workers from benefiting from social support, potentially having a long-term negative impact on their psychological wellbeing.

On the other hand, in a pandemic that resembles a marathon with no clear finish line, we may see an increase in symptoms due to excessive

pressure at work. This represents a serious threat to the continuity and quality of healthcare, as these symptoms are associated with higher turnover and poor quality of care.

### 5.1. Mental wellbeing of healthcare workers

The COVID-19 pandemic exposed doctors to a scenario of fear, uncertainty, and insecurity. Of course, one should appreciate the remarkable scientific advances that have made effective therapies and vaccines available within a very short period of time. However, it is hard to deny that for the first time, in a massive and uncontrollable way, healthcare workers experienced helplessness resulting from not knowing what to do, and fear resulting from insecurity in the context of healthcare. In the pre-pandemic era, it was difficult to devote space to physicians' own inner lives in clinical practice and medical education. In the past, doctors' inner lives were either medicalized (as in the case of the few suffering from professional burnout or from psychopathological disorders such as addiction) or marginalized because they were considered a weakness to be hidden from others, especially if it meant seeking professional help. During the pandemic, there was a sharp increase in the number of papers examining clinicians' internal experiences and raising awareness of the risk of psycho-emotional difficulties, which can range from post-traumatic stress syndrome to emotional disorders (Vegni et al., 2022).

Some healthcare workers, on the other hand, may have felt deprived of self-worth if they were *not* assigned to the fight against COVID-19, which may also have affected their attitudes toward other medical personnel, the patient and his or her family having a sense of rejection and inferior social standing than others who were out "on the front lines" of the fight against COVID-19. Others, meanwhile, may have had the feeling that they were unable to sufficiently provide care to their current patients due to the strain on various healthcare sectors.

The social effects of a pandemic, such as loneliness and social isolation, increase the burden of stress and often have a detrimental impact on mental health (Haslam et al., 2018). People in quarantine or self-isolation are at risk of experiencing confusion and anger (Brooks et al., 2020), and being forced to stay at home with ever having houseguests can be a factor conducive to aggression and domestic violence (Ellemers & Jetten, 2013; Greenaway et al., 2015).

It is particularly important to monitor the psychological needs of medical personnel during a pandemic, especially with regard to anxiety

levels, as this bears upon patient safety (Ip et al., 2015). During a pandemic, an excessive workload can also lead to high rates of exhaustion and intentional absenteeism (Pappa et al., 2020).

More than half of the healthcare workers surveyed in one study (Young et al., 2021) exhibited at least mild psychiatric symptoms, and about 40% exhibited symptoms suggestive of clinically significant emotional disturbance. Workers with a history of mental illness were found to be most at risk of significant emotional symptoms. Other risk factors were related to beliefs (e.g., a lack of faith in the organization's values and actions, thinking that one is at high risk of COVID-19 infection, and concerns about barriers to work), perceptions (e.g., feeling unable to say "no" to certain organizational demands), and events (e.g., limited access to personal protective equipment and isolation from one's family).

The medical staff–patient relationship represents huge challenges, and with the outbreak of the COVID-19 pandemic, the situation worsened, given that the disease was highly contagious. Medical personnel were at times forced to face difficult decisions related to the often insufficient number of beds at each facility, which in practice meant making decisions about who would, or would not, have access to specialty care. The situation is conducive to an increased symptoms of depression, anxiety and phobia in physicians.

The Royal College of General Practitioners (RCGP) in the UK published guidelines that included key points of advice for clinicians – the first of which emphasized the need to convince the patient that their symptoms are being taken seriously and not dismissed out of concern, and the importance of finding the right GP. This is important, especially when there are no available beds for COVID-19 patients in hospitals. One of the RCGP's current priorities is "relationship-based care," and the patient–physician relationship is crucial in treating people with long-term COVID-19. GPs need to listen to people with persistent symptoms after acute COVID-19, offer empathy and support, and most importantly, help them navigate the evolving referral pathways – recognizing that this may now include referrals to a variety of specialists. The family physician must therefore support the patient and their families in "putting it all together" (Kingstone et al., 2020; Royal College of General Practitioners, 2020, n.d.).

The study by Ilczak et al. (2021), including 955 medical personnel, found that stress among emergency medical personnel increased significantly during the COVID-19 pandemic, due to new factors that were not present before. Predictors of stress in the professional environment include the fear of contracting COVID-19, decreased safety in performing

emergency procedures, and marginalized treatment of patients who do not have COVID-19. Additional sociodemographic factors that boost stress among emergency personnel include being female and working in the nursing profession. Adequate training, provision of personal protective equipment, and opinions about the system's preparedness to deal with a pandemic outbreak were not found to affect stress levels among medical personnel.

Preliminary results of a study conducted during a period of heightened psychological pressure related to the COVID-19 pandemic (Nowicki et al., 2020) indicate that the study group of nurses exhibited symptoms of post-traumatic stress. Their sense of security was diminished; they experienced intense reflection on the issues affecting them. The nurses surveyed did perceive special support being given by "others" (other than their family and friends). They sought positive changes from the painful experience of the COVID-19 pandemic, which may bear the hallmarks of adaptation.

Ensuring a cadre of medical workers with adequate mental health is important not only for their wellbeing as employees, but also for the sustainability of healthcare services worldwide.

## 5.2. Professional burnout

Professional burnout, a concept popularized by Maslach et al. (1997), is a state of mental, emotional and physical stress in response to prolonged exposure to occupational stress. In the case of healthcare personnel, it may include feelings of emotional exhaustion (depletion of emotional resources), depersonalization (developing cynical attitudes toward patients), and diminished professional performance (feeling negative about oneself).

The World Health Organization has recognized burnout as a syndrome and, based on the International Classification of Diseases (ICD)-11, defines it as follows:

Burn-out is a syndrome conceptualized as resulting from chronic workplace stress that has not been successfully managed. It is characterized by three dimensions:

- feelings of energy depletion or exhaustion;
- increased mental distance from one's job, or feelings of negativism or cynicism related to one's job; and
- reduced professional efficacy.

Burn-out refers specifically to phenomena in the occupational context and should not be applied to describe experiences in other areas of life. (WHO, 2019)

Professional burnout can have serious consequences for both patients and healthcare workers. Not only can it result in impaired physical and mental health, lack of motivation, absenteeism and low staff morale, but it can also lead to a decline in the quality of care provided by affected staff, resulting in poorer quality of care for patients. Several systematic reviews have shown that high levels of professional burnout among healthcare workers are associated with less safe patient care (Dewa et al., 2017; Hall et al., 2016). Such consequences entail huge costs for society (Shanafelt et al., 2016).

Wang et al. (2020) studied a sample of 2014 frontline nurses working at two hospitals in Wuhan, finding that more than half reported moderate to high burnout. Weilenmann et al. (2021), in turn, studied burnout levels among healthcare workers (857 doctors and 553 nurses) in Switzerland, finding high levels of anxiety, depression, and burnout symptoms. With small effects, women, nurses and other medical workers who had direct interaction with COVID-19 patients reported more symptoms than colleagues who did not.

In addition, it was found that gender, parental status, marital status, and salary reduction were significant factors correlating with personal burnout. Health problems and direct contact with infected people were significantly associated with greater susceptibility to significant personal and work-related burnout. Frontline jobs were associated with all three dimensions. Higher levels of stress and depression in medical personnel were significantly associated with increased levels of all dimensions of burnout, whereas on the other hand, higher levels of life satisfaction and psychological resilience were significantly associated with lower levels of all dimensions of burnout (Durate et al., 2020).

Research has confirmed the adverse effects of epidemic-related occupational stressors on predicting symptoms of burnout, depression and anxiety in post-pandemic healthcare workers with regular epidemic prevention and control measures (Zhou et al., 2022). The causes of burnout include inadequate support, increasing workloads and administrative burdens, chronic underinvestment in public health infrastructure, and moral injury from the inability to provide the care that patients need.

In healthcare settings, seeking solutions to cope with burnout should be a responsibility shared between employees and employers (Gold et al., 2013; Pfefferbaum & North, 2020), which requires leaders' awareness of the potential negative effects on employees. Team cohesion and a strong social support network should be fostered, and inter-employee support (among team members) should be readily available (Hedegaard et al.,

2020; Brooks et al., 2018). Shanafelt et al. (2020) has suggested that certain steps should be taken before, during and after a crisis to take care of healthcare workers and create a resilient organization. During a crisis, organizations must assess needs at regular intervals, adjust activities as required, develop support resources, and connect with other organizations to learn from them and grow together. Approaches that can bolster employees' mental resilience during a crisis include keeping them informed, teaching them to monitor their own stress responses, and facilitating referrals for formal treatment when necessary (Wu et al., 2020).

The managers of healthcare facilities should strive to be more aware of the mental state of healthcare personnel and take steps to reduce pandemic-related stressors and provide external support to reduce anxiety, depression, and burnout among healthcare workers.

### 5.3. Social relations

Social relationships help people cope with stress by enabling them to listen to and encourage each other, regulate emotions and maintain mental resilience (Bavel et al., 2020). Respondents in one study (Htay et al., 2021) indicated that one of the main methods of reducing stress is drawing support from family. Although social distancing can make physical interactions difficult, social media and online networking platforms are widely available and so have come into increasing use during the epidemic. Positive, encouraging words from family and friends are conducive to stress reduction, but on the other hand, critical or overprotective comments can be counterproductive. In addition, respondents used simple lifestyle measures to reduce stress, such as adequate sleep and a balanced diet – this is the last of the main relaxation methods used by respondents in this study.

The results of a survey of social support during the COVID-19 pandemic (Alnazly et al., 2021) indicate that healthcare workers perceive themselves as receiving high levels of social support. The healthcare workers surveyed perceived high levels of all types of social support during the COVID-19 pandemic.

These findings corroborate the findings of a narrative review by Heath et al. (2020), indicating that support offered before and during an incident influences whether healthcare workers experience trauma or psychological growth. These authors also indicated that clinicians who have healthy, meaningful personal and professional relationships are more satisfied and

are at lower risk of professional burnout. They also showed that healthcare workers who have professional responsibilities that interfere with their home life are more likely to experience burnout, leading to stress when providing care to patients. Also, feeling guilty when at home about possibly transmitting the infection to family members, healthcare workers experienced stigma. If healthcare workers had direct contact with infected patients, they preferred to stay away from family members (Mostafa et al., 2020). The clinical and ethical challenges faced by workers can generate psychological distress, and healthcare workers with impaired mental health affect the quality of care provided in their facilities, as well as the ability of their other colleagues there to work well (Rosa et al., 2020). It is also noteworthy that medical personnel and their families were sometimes exposed to stigma, misunderstanding, and complete social isolation, which in a real way further contributed to stress and anxiety (Taylor et al., 2020).

The majority of medical personnel isolated themselves even from their immediate family during the initial phase of the pandemic: Urooj et al. (2020) reported that 79.7% of medical personnel did so, fearing the infection of their family members, as a result of which their work efficiency, mental health and relationships with other staff and patients may have realistically suffered.

In addition, the COVID-19 pandemic may have brought additional stress to interpersonal relationships, changing lifestyles, as well as work and family functioning. Individuals not living together had limited opportunities to be in contact, as physical contact compounded the risk of infection, and measures of social distancing and home confinement were recommended to prevent the spread of the SARS-CoV-2 virus. These necessary changes put tremendous pressure on individuals, leading to widespread mental health deterioration in communities, highlighted in many publications (Fiorillo & Frangou, 2020; Salariet al., 2020; van Agteren et al., 2020).

Life during a pandemic may be characterized by a number of heightened stress factors, resulting from isolation at home, limited physical and social activity, economic uncertainty, and fear of contagion and death. These stressors can negatively affect the psychological wellbeing of individuals, causing anxiety and depression (Cocci et al., 2020). Clinical depression can lead to changes in sexual behavior, such as a decline in sexual interest and sexual response, which may be more pronounced in women than in men (Angst, 1998). Issues of sexual and reproductive health and wellbeing are closely related to overall health and quality of life, and should not be neglected even (or perhaps especially) in times of crisis.

Hospital employees have several distinctive traits: most of them maintained their daily routine, but they may have experienced an increase in workload, new tasks and responsibilities, and being in close contact with patients with COVID-19, they may have been exposed to a higher risk of infection. Therefore, the emotional and sexual aspects of their lives may have been affected differently than in the general population.

A study by DeRose et al. (2021) examined the impact of the COVID-19 pandemic on sexuality and depressive symptoms among hospital workers and their relatives and friends. Low sexual desire was associated with women, healthcare employees, those having children at home, living with a partner and with low sexual satisfaction. In Italy, most household responsibilities still fall disproportionately on women. The emergency stemming from the COVID-19 pandemic may have exacerbated this state of affairs by preventing women from availing themselves of outside help (nannies, extended family, housekeepers, etc.). This increase in workload may explain the lower sex drive in women. In addition, the low sex drive in those living with a partner can be explained by the fear of infecting him or her and the increased tension that can arise during such periods of uncertainty. Moreover, the constant presence of children at home due to prolonged school closures and the suspension of extracurricular activities may have limited parents' opportunities for intimacy. Finally, the psychological strain and awareness of the increased risk of infection experienced by healthcare workers may have negatively affected their sexual desire. Low sexual satisfaction could also have been predicted on the basis of depression and low sexual desire.

It is important to create favorable conditions for optimal professional psychosocial support for healthcare workers during the COVID-19 pandemic and in the post-pandemic period (Xiao et al., 2020; Lai et al., 2020). These facilities should be available to all healthcare workers. In addition, there should be sufficient capacity to establish a multidisciplinary psychosocial support team consisting of peer supporters, psychologists, spiritual counselors, and social workers. The establishment of a 24-hour hotline maintained by members of the psychosocial support team for professionals who need to talk to someone appears to be a wise measure. In addition, it is recommended that an effective referral system should be set up for professionals with physical or psychological problems so that they can quickly obtain diagnosis and professional treatment if needed (Chen et al., 2005). It is, of course, beneficial for professionals who are at high risk for psychosocial or physiological problems to be identified as early as possible (Rieckert et al., 2021).

#### 5.4. Lifestyle elements

Recommendations from the World Health Organization suggest that appropriate health-promoting lifestyles (eating healthy foods, engaging in regular physical activity, good sleep hygiene) may be one strategy for coping with stress during a pandemic. On the other hand, it is equally important to avoid negative coping patterns, for example, through uncontrolled use of medications or resorting to the use of psychoactive substances (WHO, 2020a). Health professionals' efforts to improve personal health behaviors could potentially have a positive impact on preventive counseling (Florindo et al., 2015).

The factors affecting mental health and wellbeing during the COVID-19 pandemic have been listed by one study as follows:

High viral load in upper aerodigestive tract posing high risk during exposure,

- Issues with personal protective equipment,
- Stress of having to work outside usual practice environment,
- Subconscious fear of contracting illness,
- Grief for loss of a known person/loved one,
- Increased responsibility and leadership role,
- Workload of balancing clinical and management tasks,
- Fear of infection transmission to family members,
- Decreased freedom of movement,
- Less availability of businesses for leisure pursuits and sustenance.

(Balasubramanian et al., 2020: 1641)

Research suggests a correlation between psychoactive substance use and stress (Sinha, 2008). Healthcare workers are at higher risk of excessive psychoactive substance use due to easier access to medications such as sedatives, sleeping pills, and opioids, as well as a preference for self-medication to cope with anxiety related to being worked and other mental health difficulties (Ehigator et al., 2013; Barros et al., 2009). Consumption of psychoactive substances can help reduce anxiety, induce faster sleep, maintain wakefulness when desired, and boost productivity (Mancuso et al., 2001).

The prevalence of tobacco, alcoholic beverage and sleeping pill or sedative drug use among healthcare workers has been reported as 17.8%, 69.0% and 17.1%, respectively. Analyses have shown that being non-religious and social isolation were associated with increased consumption of psychoactive substances during the COVID-19 pandemic (Gir et al., 2022). Given the tendency to increase alcohol consumption during difficult times

as a means of coping with isolation, there is a need to closely monitor changes in alcohol consumption in the population. One anonymous online cross-sectional survey (Mongeau-Perusse et al., 2022) examined whether alcohol consumption in the population changed after the implementation of isolation measures in the COVID-19 pandemic. The 847 participants who completed the survey, including 42.5% of healthcare workers, reported increased daily alcohol consumption and alcohol craving during the period of isolation. The results support the hypothesis that daily alcohol consumption and alcohol cravings increased during isolation.

Sleep disorders such as difficulty falling asleep, interrupted sleep, and waking up too early are a response to increased stress among healthcare workers. A meta-analysis carried out in 2020 found that nearly one in seven healthcare worker respondents experienced a serious sleep disorder. Problems with falling asleep or uninterrupted sleep were slightly more common among nurses (14%) than among physicians (11%) and therapists (13%) (Hämmig, 2020). In another meta-analysis considering 5 studies, the prevalence of insomnia was estimated at 38.9% (Pappa et al., 2020). In China, at the outset of the COVID-19 pandemic, the prevalence of poor sleep quality among healthcare workers was found to be 18.4%. Multivariate regression analysis showed that being of older age, working as a nurse, and working on an emergency medical team were associated with poor sleep quality (Zhou et al., 2020). Both general and work-related stress have been shown to be significantly associated with sleep disorders. Prevention strategies for sleep disorders must therefore distinguish between and combine measures to reduce both mental and physical stress (Hämmig, 2020).

One previous Polish study (Koweszko & Wasik, 2021) did not find any statistically significant intergroup differences in mental health scores, sleep quality, or insomnia levels among groups of nurses and midwives. Of the study population, 9% had sought psychological help and showed lower mental health scores, poorer sleep quality, and higher insomnia. Stable mental health among nurses and midwives was correlated positively with sleep quality and negatively with insomnia; 63% of the subjects rated their sleep quality as low, while 35% showed signs of clinical insomnia.

Healthcare workers often face different work patterns that can affect their physical and mental health (Pietrojusti et al., 2010; Mota et al., 2013). In many countries, healthcare workers make up the largest percentage of shift workers. Consideration of shift-work rotation patterns, shift duration, and time off between shifts should be paramount when designing shift-work systems at healthcare facilities. Long shift times entail a need

to remain vigilant when remaining on duty for extended periods, especially during night shifts. In addition to mandatory breaks, caffeine and naps need to be used strategically during shift work. Healthcare workers suffering from poor sleep quality are more likely to exhibit poor work performance, which can compromise patient safety and reduce the quality of care provided to patients (Ganesan et al., 2019).

The study by Balasubramanian et al. (2020) lists the following tips for individual self-care and personal resources, as well as positive workplace measures during the COVID-19 pandemic:

Personal positive measures:

- Pause, take a step back and reflect,
- Retreat into a private space for a moment,
- Gather your thoughts,
- Speak to a close entrusted friend,
- Write/record your feelings and thoughts,
- Ensure adequate water intake,
- Eat a balanced meal,
- Get enough sleep,
- Practice mindfulness,
- Set realistic goals,
- Pray as per faith/belief,
- Crying is a natural coping mechanism of the human body,
- Engage in an activity that makes you happy for a short period (e.g., yoga, meditation, dancing, listening to music),
- Keep updated on the current guidelines and evidence published,
- Do not be overwhelmed by feed from social media/news reportage,
- Contact psychology support services at institution if further support is required.

Positive measures for the workplace:

- Have a checklist and workplan for the day,
- Use personal protective equipment as per guidelines,
- Follow institutional guidelines and recommendations,
- Know your fellow colleagues on duty for the day,
- Be aware of the issues that need your attention.

(Balasubramanian et al., 2020: 1642)

Medical personnel have been found to show higher levels of depression, anxiety, stress and psychological pain than a control group, with highest scores being found among nurses. At the same time, nursing personnel revealed a lower suicide risk and reported a lower likelihood of taking their own lives in the future than other medical professions, and

were less likely to have thought about taking their own lives in the past 12 months than those in the general population. For the majority of respondents in medical professions, the COVID-19 pandemic caused negative changes in their professional lives, especially among nurses (Fukowska & Koweszko, 2022).

Anxiety among healthcare workers was assessed in 12 studies with a combined prevalence of 23.2% (Pappa et al., 2020). Moreover, meta-analysis revealed potentially important gender and occupational differences. The prevalence of anxiety and depression appears to be higher in women, likely reflecting the already recognized gender difference in anxiety and depressive symptoms (Albert, 2015). Immediate interventions are needed to increase mental resilience and strengthen the capacity of health systems (Bao et al., 2020). Clear communication, limiting on-call hours, providing rest areas, as well as ensuring broad access to and detailed policies on the use and management of protective equipment and specialized training in treating patients with COVID-19 can reduce anxiety. Timely and appropriately tailored mental health support provided by interdisciplinary teams, including psychologists and support groups, is also essential (Chen et al., 2020).

Stress, depressive symptoms, financial problems, and increased loneliness during the COVID-19 pandemic may trigger episodes of emotional eating and overeating as a way of regulating emotions and coping (Spinoso et al., 2019). The study by Almandoz et al. (2020) conducted during the COVID-19 pandemic found that 61.2% of respondents ate more than usual while under stress. Additionally, Simon et al. (2006) reported that obese people have a 25% increased risk of developing mood and anxiety disorders.

One survey of healthcare workers (Marques-Sule et al., 2021) found 96% of them to be physically active; the majority of respondents (54%) were active for at least 150 minutes per week, with men showing higher levels of adherence to physical activity recommendations. In contrast, in another study the average body mass index measured by BMI among healthcare workers was estimated at 23.17, with 73% of respondents engaging in some sort of physical activity (Díaz-Sampedro et al., 2010).

### **5.5. Specifics of working in a pandemic**

On the individual level, the pandemic affected healthcare workers' well-being, daily routines, as well as their professional and personal identities. On the interpersonal level, healthcare workers' personal and professional

relationships have been identified as crucial (Chemali et al., 2022). Positive coping strategies, particularly active coping and seeking help, were associated with better wellbeing and better quality of professional life. On the other hand, more negative coping strategies, such as avoidance, were associated with poorer wellbeing and poorer quality of professional life. Substance use was also significantly associated with poorer wellbeing, although not with quality of professional life. The average wellbeing score was more than two points lower than in the general population.

Nurses working “on the front lines” during the COVID-19 pandemic experienced psychological, social, and emotional stress in dealing with professional demands, social relationships, and personal lives. Frontline nurses experienced fear of infection and uncertainty during the COVID-19 pandemic. In addition, unfamiliarity with the workplace and lack of mental preparation were major occupational stress factors that caused nurses psychological distress and negative physical effects. To cope with stress, frontline nurses employed various adaptive coping strategies, such as active learning, as well as maladaptive coping strategies, such as blaming themselves, while emphasizing the need for psychological management on the leadership and organizational levels (Xu et al., 2021).

A large majority (90%) of respondents in the study by Mattila et al. (2021) felt that cooperation between colleagues went smoothly during the pandemic (without major problems). In addition, 85% of participants evaluated the spirit of teamwork during the epidemic as good, and 82% of employees felt that cooperation between different professions went smoothly. Good cooperation among co-workers and a good atmosphere of teamwork reduced the experience of anxiety: employees who felt that cooperation between different professions had less anxiety. Administrative workers were encouraged to work from home as much as possible to help maintain social distancing in order to avoid the spread of illness. Among the employees surveyed, 15% worked remotely full or part-time, while 85% worked full-time in the hospital. Of those who responded to the questionnaire, 17% had been delegated to work at another facility due to the pandemic. Workers who worked remotely during the COVID19 outbreak had less anxiety than those who did not. In addition, employees who were shifted to a new facility had higher anxiety than those who remained at the same facility.

The role of institutions in supporting the mental health and wellbeing of employees is a very important part of coping during a pandemic. Below is a list of actions that can be implemented by institutions – again taken from the study by Balasubramanian et al. (2020):

- Institutional peer support programs;
- Shift rotation system;
- Psychological online courses;
- Psychological support hotline team;
- Stress-relieving recreational activities;
- Provide a comfortable place to relax and de-stress;
- Provide necessary personal protective equipment and training;
- Development of detailed guidelines and recommendations related to COVID-19;
- Virtual employee cafe;
- Schwartz rounds;
- Psychological consultation and counseling via telemedicine.

(Balasubramanian et al., 2020: 1643)

## **6.**

### **The COVID-19 pandemic from patients' perspective**

The scientific literature has already produced numerous papers on COVID-19 survivors and the long-term consequences of the disease. The lasting symptom burden and impact of COVID-19 on patients has been demonstrated in many recent studies (e.g., Wong et al., 2020; Carfi et al., 2020; Halpin et al., 2021). These findings have led to the description of “post-COVID-19 syndrome” (also known as “long COVID-19”), a syndrome involving a chronic course of various physical and neuropsychiatric symptoms that persist for more than 12 weeks without an alternative explanation. An increased number of COVID-19 patients continue to experience symptoms several months after mild cases of COVID-19. Reported symptoms lead to disability with debilitating fatigue, shortness of breath, headaches, muscle and/or joint pain, mental fog, memory loss, a feeling of tightness in the chest, palpitations, nausea, dramatic mood swings combined with exercise intolerance and a recurrent pattern of symptoms (Barizien, 2021).

At the beginning of the SARS epidemic, hospitalized patients had reported concerns such as fear, loneliness, fatigue, and anger; they also experienced anxiety as a result of fever and the effects of insomnia (Maunder et al., 2003). Anxiety is seen as a significant effect of an epidemic involving high levels of infection and risk of death, both among those directly involved with the disease and among the general population; this can be accompanied by depression and other psychological problems (Lima et al., 2020).

Epidemics can have a negative impact on individuals, exacerbating the incidence of mental disorders (Duan & Zhu, 2020). A high prevalence of mental disorders has been noted among survivors of the SARS-CoV-2 epidemic, including depression and post-traumatic stress disorder; as a result, the importance of prevention, screening and treatment of related mental disorders during the COVID-19 pandemic has been emphasized (Zheng, 2020).

### 6.1. Mental health and physical health

The disruption of daily activities associated with the pandemic and the imposed lockdowns affected many behavioral issues, especially during the peak of the lockdowns. Evidence suggests that COVID-19 has a negative impact on the physical and mental health and health-related quality of life of COVID-19 patients (Nguyen et al., 2020; Pinget et al., 2020; Rajkumar, 2020).

Large-scale epidemics are known to be associated with higher prevalence of psychological symptoms, emotional disorders, depression, stress, post-traumatic stress symptoms, irritability, and emotional exhaustion. The literature indicates that multiple stress factors – including long quarantine times, fear of infection, distress, loneliness, boredom, confinement, inadequate information, and financial loss – play a role in exacerbating poor mental health (Serafini et al., 2020).

Historically, imposing a quarantine has served as an effective measure, repeatedly adopted worldwide to cope with outbreaks of infectious disease. The COVID-19 pandemic forced the broad adoption of lockdown and social-distancing measures, including remote work and restrictions on activities outside the home (Rehman & Ahmad, 2020). The social isolation that came hand-in-hand with restrictions and lockdown measures brings a sense of uncertainty about the future and fear of new and still-unknown infectious agents, resulting in increased anxiety. Additional factors, like restriction of movement, separation from family or friends, limited freedom, and fear of an uncertain future, can exacerbate negative psychological effects (Brooks et al., 2020). Many patients with chronic diseases experienced both physical and psychological problems during the COVID-19 outbreak (Wang et al., 2020). Isolation measures prevented patients with chronic health problems from receiving what would otherwise be routine check-ups (de Boer et al., 2021). Additionally, low social support and economic hardship also proved, during the pandemic, to be significant risk factors conducive to the deterioration of their existing health problems (Cugmas et al., 2021).

Feelings of loneliness during the COVID-19 pandemic have been reported to be associated with adverse mental health outcomes (Henssler et al., 2020). Pervasive loneliness may be significantly associated with increased depression and suicidal behavior (Cava et al. 2005). Both frustration and pervasive loneliness appear to result from the inhibition of normal daily activities, interruption of social needs, and inability to participate in activities in the community, which increases the risk of feeling a loss of hope and of suicidal behavior in this particular context (Orsolini et al., 2020). In both the first and second waves of the COVID-19 pandemic, a positive correlation was found between feelings of loneliness and suicide risk, as well as overall levels and symptoms of PTSD: intrusions and agitation. Women showed an increase in overall levels of post-traumatic stress disorder, as well as higher symptoms of intrusion and avoidance. Having children was found to be a protective factor against suicide in both waves of the pandemic for women, but only during the second wave for men. The difference in self-reported life satisfaction in both pandemic waves was found to be significantly higher in the second measurement, with only satisfaction regarding the pre-pandemic period (Rybarczyk & Koweszko, 2021)

Studies have shown that people with chronic illness, lower income, and who worried about being infected with the SARS-COV-2 virus reported higher scores in the anxiety and depression domains (Ping et al. 2020). Anxiety was a frequently reported problem, with its contribution similar to pain and discomfort. Anxiety can be directly related to sensory deprivation and pervasive loneliness. In addition, anxiety has been linked to fatigue and reduced productivity, while boredom and loneliness have been directly linked to anger, frustration, and suffering from the restrictions caused by the quarantine (Torales et al., 2020). During the COVID-19 pandemic, anxiety was reported in 62.4% and depression in 20.2% of cases; 29.7% of participants reported an increase in anxiety and 25.5% reported an increase in depression. Moreover, additional effects associated with pervasive anxiety during a pandemic may include perceived lower social support, separation from loved ones, loss of freedom and uncertainty (Lee & You, 2020). Maintaining daily routines and relationships with family and being self-employed were associated with lower risk of depression and anxiety (Malandain et al., 2022). In a systematic review, mood and anxiety disorders were found to be particularly prevalent in patients treated for substance abuse (Rehm et al., 2020).

It has been reported in the literature that the stress experienced by individuals during the COVID-19 pandemic significantly impedes compliance

with medical recommendations, with consequences among patients with comorbidities and poor health (Zhao et al., 2021). Extensive and prolonged quarantine measures have worsened patients' quality of life. Many patients with chronic diseases avoided seeking healthcare services, either for fear of infection or because of delays in securing appointments (Splinter et al., 2021). Non-compliance with medical recommendations among patients with non-communicable diseases was primarily due to fear of contagion and generalized anxiety related to the massive media coverage of the pandemic and related illnesses (Guo et al., 2020). Women were found to be more likely to drop out of medical follow-up observations during the COVID-19 pandemic as compared to men (Hassan et al., 2022).

One study (Han et al., 2003) found that various social, behavioral, psychological and physical factors were associated with quality of life in patients with chronic diseases. Health-seeking behaviors were seen to significantly determine patients' quality of life, with psychological factors such as increased self-esteem, social support and adherence to health behaviors significantly affecting their health and wellbeing.

The COVID-19 pandemic has been shown to negatively affect every aspect of life for families with children (Płoszaj & Kochan, 2021). The restrictions necessitated rearrangements in every domain of life. This led to a number of negative consequences for the physical health not only children, but also of other family members as well. The most subjective reductions in the quality of life during the pandemic were felt by young people – due to both social isolation and a difficult labor market situation (Wicka, 2021). The main reasons for young people's poorer perceptions of their quality of life were the reduction in social contacts, but also the loss of employment, reduced income, and concern about finding suitable work in the future. About half of the respondents had a pessimistic view of their future.

Social isolation and loneliness are also associated with alcohol and drug abuse (Wu et al., 2009). During lockdown, both alcohol consumption (20.2%) and tobacco use (6.8%) increased (Malandain et al., 2022). Tobacco and alcohol use were found to be positively correlated with one another, and the increase in use was more frequent among previous users of both substances. Moreover, alcohol abuse exacerbates domestic violence and worsens mental and physical health. Therefore, healthcare professionals should support vulnerable groups by encouraging stress reduction, healthy habits, reducing alcohol consumption and promoting coping techniques (Bantounou et al., 2022).

The COVID-19 pandemic also involved lower levels of physical activity, poorer mental wellbeing, and a reduced sense of control over one's

life. Physical activity levels were significantly lower during the quarantine period (65%) compared to the post-quarantine period (78%), and this was true for both men and women. Lockdown was associated with a significant increase in self-reported mental disorders, with 40% of respondents reporting mild or severe mental disorders (Bhoyroo et al., 2021).

Reduced mobility, decreased physical activity, and increased time spent in front of a TV or other screen during leisure time and changes in dietary behavior may have resulted in weight gain (Bhutani et al., 2021). Pandemic-induced isolation affects overall lifestyle, and could potentially predispose people to eating less healthy foods (Mattioli et al., 2020). A study involving 1,097 adults in Poland found higher levels of snacking (52%) and eating more (43%) during the nationwide quarantine due to the COVID-19 pandemic (Sidor & Rzymiski, 2020). The unfavorable changes can be explained by time confined at home and social distancing, which have a negative impact on adherence to a healthy eating style (Rundle et al., 2020). In the first three months of the pandemic in Poland, weight gain was declared by 33.9% of respondents while the average weight gain was 5.11 kg; moreover, experiencing a mental and physical crisis was associated with a more frequent declaration of weight change (Białorudzki & Izdebski, 2021). A pandemic-related change in body weight has been shown to be a multifactorial phenomenon; a multiple regression model found statistically significant predictors of pandemic weight gain to be psychological stress, pre-pandemic weight status, and having children at home (Khubchandani et al., 2022). Long-term, comprehensive weight maintenance programs are recommended, which should last at least 1 year (Jensen et al., 2013). In addition, strategies should involve self-monitoring and weighing oneself regularly (Zhang et al., 2021). Healthcare professionals should support and encourage patients to sustainably improve their eating habits, improve the quality of their food intake, and boost physical activity. Such lifestyle changes are likely to improve patients' long-term health, even in the absence of significant weight loss (Matheson et al., 2012).

## 6.2. Working life during the pandemic period

Changes in how people work, including widespread unemployment and reductions in working hours, have been one of the main consequences of the public health measures taken in order to rein in SARS-CoV-2 virus transmission. The pandemic-induced situation of widespread job loss has been identified as having the potential to lead to an epidemic of mental illness, chronic disease, and mortality (Brenner, 2020).

Work and health are closely interlinked. There is substantial evidence worldwide of the health benefits of having a satisfying job. Conversely, the detrimental effects of job loss on people's health have also been well described (Black, 2012). Losing a job can cause both a severing of social ties and a reduction in financial resources, which are important determinants of health (Menec et al., 2020). Financial resources affect many determinants of health, such as housing, energy and food security, as well as the ability to access healthcare (Weida et al., 2020).

Research indicates that among those who were employed prior to the COVID-19 pandemic, those experiencing job loss are more likely to report psychological distress and impaired mental and physical health compared to those whose situation remained the same. These negative health effects have been found to be exacerbated specifically in those reporting decreased financial resources and in those reporting lower levels of social interaction. Such findings indicate that financial hardship and social interconnectedness moderate the relationship between work and health under the extraordinary circumstances of the COVID-19 pandemic. Individuals in the group who lost their jobs were most likely to report high psychological distress and poor mental and physical health than those in the other study groups (Griffiths et al., 2021).

A Canadian study of a nationally representative sample of employees (Schieman et al., 2021) found that levels of work-life conflict decreased among employees without children living at home during the first months of the COVID-19 pandemic. However, one of the key findings of this study was that the age of the youngest child in the home moderates these patterns. Those with young children at home (< 13 years old) did not experience the same decrease in work-life conflict that was observed among those without children at home.

COVID-19 can still indirectly affect aspects of a person's life such as work and lifestyle. Working from home can provide a great level of flexibility and opportunity during a pandemic such as COVID-19, for those who are able to take advantage of it. In addition, it also helps limit the spread of the disease by keeping most people at home to practice physical distancing. While working at home has many advantages, it also comes with a range of challenges (Birimoglu & Begen, 2022).

### **6.3. Social relations during the pandemic period**

COVID-19 has had a huge impact on family wellbeing. Isolation means that family members have more time to stay at home. While this can promote

family cohesion and provide more opportunities for family members to interact, spending time solely within the family unit can be challenging. If family members have considerably dissimilar views, prolonged stay-at-home will provoke more conflicts and, if living space is small, staying at home means less personal space for each family member. If children do not have individual rooms, family conflicts can increase (Shek, 2021).

If parents and their children stay together at home, the burden of parental supervision increases, such as supervising children's computer use and encouraging them to follow a healthy daily routine. In addition, due to school closings, many students have been learning online. This mode of learning also requires parental involvement and poses a challenge for parents who are unfamiliar with computer use and online learning procedures.

Undeniably, families shouldered additional responsibilities during the COVID-19 pandemic. Fisher et al. (2020) noted how the pandemic has forced families to try to balance work and family with little outside support. With schools and daycare centers closed, parents are solely responsible for childcare, and perhaps even for homeschooling. Similarly, Gro-mada et al. (2020) noted that COVID-19 generated additional childcare tasks for families. Janssen et al. (2020), in turn, found that while the majority of parents were doing well with family demands, there was an increase in negative parental influence, with variation in related influences across families.

#### **6.4. Mode of providing medical services**

Telemedicine is a tool that is used to deliver medical care remotely, now routinely offered as an alternative to face-to-face consultations in health-care facilities around the world. Due to the COVID-19 pandemic and the increasing use of telemedicine in daily clinical practice, the effectiveness of this method and patient satisfaction with its use have been the subject of numerous studies. Telemedicine is undoubtedly a convenient tool that, due to its considerable potential, helped sustain the continuity of medical care during the COVID-19 pandemic, and in special situations it can even effectively replace face-to-face consultations. Regular patient feedback is essential to improving the quality of telemedicine services. During the pandemic, telemedicine provided support for traditional medicine, whilst still maintaining high patient satisfaction. The use of telemedicine services has helped prevent the spread of the SARS-CoV-2 virus and played an important role in maintaining continuity of healthcare (Pogorzelska & Chlabicz, 2022).

A review study (Aashima et al., 2021), based on 48,144 surveyed patients and 146 providers in 12 different countries, found high satisfaction with virtual encounters across the disease spectrum. Telemedicine was found to be satisfactory in terms of various outcome indicators, such as solving patient problems, communication with healthcare providers, usability, and reliability. The most common benefits were time savings due to not having to travel and wait, as well as better accessibility, convenience, and cost effectiveness. Age and gender had no significant effect on satisfaction. Both physicians and patients showed a strong preference for continued use of remotely provided services and agreed that telemedicine could complement regular healthcare services even after the pandemic ends. Technical problems (reported in 10 studies) and lack of physical examination (reported in 13 studies) were the main limitations encountered during virtual visits.

In addition, the visit-related factors that showed a statistically significant correlation with the measure of trust in the physician were technical problems associated with the telemedicine visit, privacy concerns, cost concerns, satisfaction with the convenience of telemedicine, and the amount of time spent. Patient satisfaction with telemedicine during the COVID-19 pandemic has therefore been shaped by the degree of trust in the doctor and other factors associated with the visit (Orrange et al., 2021).

The study by Chmielowiec et al. (2022) highlights the need to implement procedures to take measures to respect and ensure patients' rights, as well as the need to continue implementing standards for the provision of healthcare services using remote, telemedicine solutions.

The lessons learned during the COVID-19 pandemic should help reinforce the available solutions and develop a more coordinated overall strategy to foster the large-scale implementation of telemedicine in the healthcare system. Achieving this goal will help prepare society well for future pandemic waves and ultimately improve the treatment of COVID-19 and non-COVID-19 patients (Omboni et al., 2022).

### **6.5. Patients' avoidance of visits to Healthcare Facilities**

Avoiding visits to healthcare facilities even when sick, i.e., avoiding getting treated, can negatively affect population wellbeing (Byrne, 2008). It can impede positive health-seeking behavior and delay care, lead to noncompliance with treatment regimens, or result in a complete lack of access to the healthcare system. Potential patients may avoid seeking care in healthcare facilities because they fear contracting an infectious disease if they visited during an epidemic. Several studies have reported that

concerns about the possibility of hospital-based disease transmission led to a belief that healthcare facilities should be avoided. For example, a Taiwanese study found that the public's fear of SARS had strongly affected access to healthcare (Chang et al., 2004), whereas a survey of Hong Kong residents during the initial phase of the H1N1 outbreak reported that 63.4% of respondents had avoided visiting hospitals due to the perceived high risk (Lau et al., 2010).

The initial phase of the COVID-19 pandemic brought was a well-documented sharp decline in both inpatient and outpatient medical visits (Birkmeyer et al., 2020; Withwellet al., 2020; Jankeet al., 2021). Several studies during the first year of the pandemic have highlighted the impact of COVID-19 on patient care and health outcomes for specific diseases, including heart attack and stroke (Stewart et al., 2021), various pediatric diseases (Lazzerini et al., 2020), hypertension (Kreutz et al., 2021), Alzheimer's disease (Brown et al., 2020), Parkinson's disease (Helmich & Bloem, 2020), and other neurological diseases (Needham et al., 2020). All of these studies mention a lack of access to providers and hospitals due to the reallocation of resources focused on COVID-19 care.

Changes in healthcare spending, the neglecting of non-essential services such as elective surgeries, along with the fear of contracting the virus in public spaces, may contribute to changes in demand for healthcare. Such changes may also affect certain groups in different ways. For example, personal beliefs about the degree of seriousness of the virus can affect adherence to safety regulations and movement patterns (Cantor et al. 2020; Cronin & Evans 2022; Goolsbee & Syverson 2021). To make matters worse, those who are most concerned about contracting the virus (e.g., the immunocompromised elderly) may also be the group most negatively affected by opting not to seek and obtain medical care.

Moreover, one study reviewed the impact of the pandemic on oncology care, listing ten major categories of impact, ranging from limited access to medical equipment and drugs to patients' mental health. Patients' fear of COVID-19 infection and blockages are cited as two of the main reasons patients avoid scheduled cancer screening (Fadvi et al., 2021).

In Zhang's (2021) study, the number of emergency department and hospital visits fell by 37% and 46% between mid-March and early May 2020, and by the end of October 2020 remained 10% and 17% below expected levels, respectively. Declines were more pronounced for non-urgent and non-life-threatening conditions, although urgent and life-threatening conditions also fell by a quarter in the first few months. On arrival at emergency rooms, conditions were more severe at the time of reporting.

Most of the public effort has been targeted against the virus itself, rather than at the various unintended consequences that result from changes in healthcare service consumption. Yet it is crucial for patients to receive care for both COVID-19 and non-COVID-19 conditions, especially those that are urgent and life-threatening. Additional public efforts should be directed toward ensuring that patients in hospitals are safe from contracting coronavirus, communicating the importance of treating all conditions, and providing better access to healthcare for vulnerable groups, including those living alone, black people, the elderly and high-risk patients.

Healthcare institutions may have a significant impact on patients' decisions to seek and obtain personal care during the current pandemic. A study by Arnetz et al. (2022) suggests that concrete steps, such as clear, effective communication of safety protocols and a consistent focus on improving patients' experience of healthcare, can help curtail care-avoidance behavior. Stress due to fear and anxiety was also an important determinant of care avoidance, so predictors of this fear and anxiety and ways to alleviate it remain important.

## 7.

### Protective factors in the COVID-19 pandemic

During the COVID-19 pandemic, alongside the impact of the threat of contracting the virus and spreading it to one's family, friends, and vulnerable individuals, the lockdown measures taken by various governments to contain the virus also had a significant impact on people's mental health – through physical confinement in homes (Holmes et al., 2020) and reduced opportunities for social support (Gloster et al., 2020).

The COVID-19 pandemic brought serious, multifaceted consequences for people's psychosocial wellbeing and mental health (Palgi et al., 2020; Rajkumar, 2020), so it remains crucial to better understand the factors underlying both the negative and positive psychological effects of the pandemic. Unlike previous large-scale disasters, the pandemic has been unique in that, due to government-imposed restrictions on human interaction, social connections were not available as a means of coping with this invisible, persistent, and global threat.

Having access to supportive, caring social connections brings a number of mental and physical health benefits (Brown & Brown, 2015; Ditzen & Henrichs, 2014; Slavich, 2020) and has been found to be negatively

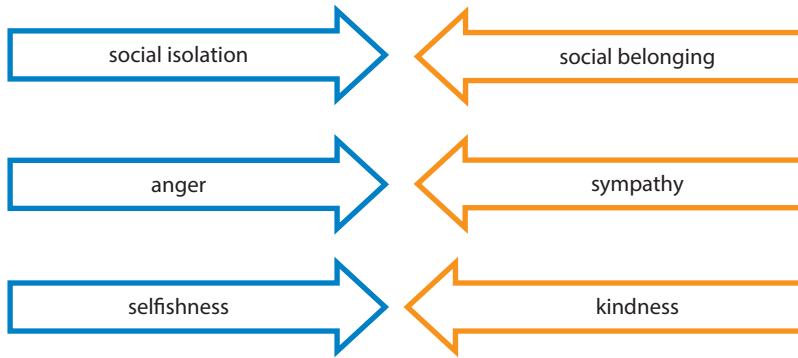
associated with depression, anxiety (Armstrong et al., 2020; Kelly et al., 2012) and post-traumatic stress (Maheux & Price, 2016).

Profound loneliness has been reported during the COVID-19 isolation, but virtual support (i.e., emotional, knowledge-seeking) as well as on-location material support (e.g., grocery shopping, snow removal) were key to mitigating the effects. Public health efforts are needed to develop interventions that improve narratives about the mental health challenges associated with COVID-19 isolation and provide opportunities to share challenges in supportive ways among social networks (Perez-Brumer et al., 2022).

Moreover, the perceived level of threat posed by COVID-19 was found to be a predictor of increased post-traumatic growth and traumatic stress. The intensity of social ties (compassion and security) was a predictor of higher post-traumatic growth and traumatic stress, while social disconnect (fear of compassion, loneliness) predicted only increased traumatic symptoms. Social connectedness was seen to increase the impact of the perceived COVID-19 threat on post-traumatic growth, while social disconnect weakened this impact. Social disconnect increased the effect of perceived COVID-19 threat on traumatic stress. Moreover, these effects were consistent across all countries. Social bonding is critical to how people adapt and cope with the global COVID-19 crisis and may facilitate post-traumatic growth in the context of the threat experienced during a pandemic. In contrast, social disconnect increases vulnerability to developing post-traumatic stress in this threatening context (Matos et al., 2021).

Also worth noting are evidence-based strategies that can help support individual and collective recovery, growth, and resilience: cultivating social belonging, practicing compassion and engaging in kindness (Figure 2). Social belonging includes a sense of interpersonal connection. Practicing compassion involves seeing suffering as part of a larger shared human experience and directing kindness toward it. Finally, engaging in kindness includes pro-social actions toward others. Together, these strategies can promote social bonding and help reduce anxiety, stress and depression (Slavich et al., 2022).

The COVID-19 pandemic caused undeniable disruptions to people's social routines and economic security, which may indeed continue, especially when outbreaks of different variants of SARS-CoV-2 occur (Kissler et al., 2020). These disruptions have led to a significant increase in psychiatric symptoms (Gruber et al., 2021; Torales et al., 2020), highlighting the need to identify evidence-based strategies that can be used to promote psychological resilience, as well as recovery and growth in areas still emerging from the pandemic. By promoting social belonging and practicing



**Figure 2.** Evidence-based strategies for promoting individual and collective resilience during the COVID-19 pandemic. These strategies include fostering social belonging, compassion and kindness.

(based on Slavich et al., 2022)

compassion and kindness, individual citizens as well as whole communities can not only reduce the risk of illness, but also increase the collective sense of community, efficacy and resilience of the global community, while facilitating adaptation to the “new normal” after experiencing multifaceted stress.

Research also reveals protective factors in the COVID-19 pandemic. Healthcare workers valued clear, consistent and compassionate communication. They felt appreciated by their organizations when they put their safety first and supported them through appropriate management of workload and time-off. They wanted to be consulted and included in the decision-making process. Moreover, they valued mutual support and sought emotional guidance from their colleagues. This draws attention to potential opportunities to further develop peer support systems and increase mental health awareness in the workplace. However, co-workers can also be a source of tension, so peer support interventions in this group of workers require careful evaluation (Billings et al., 2021).

Overall, the review by Billings et al. (2021) points to a number of implications that are relevant globally, which are worth citing in full here:

- Provision of adequate safety equipment is a priority to enable safe and effective working but also to mitigate negative mental health outcomes.
- Workloads need to be manageable, and sufficient periods of rest and recovery mandated to mitigate fatigue and burnout.
- Training should be relevant, practical, and timely. Learning on the job is valued alongside formal training.
- Communication needs to be clear and consistent and decision making shared. Leaders should be accessible and visible.

- Mechanisms to facilitate staff peer support should be put in place, including ringfenced time and mental health awareness training.
- Competing demands between work and family life should be acknowledged and staff supported in maintaining family roles as much as possible. Staff should be supported in taking time off from work.
- Anxiety, guilt, and moral injury may be mitigated by reducing lone working, encouraging buddying systems, facilitating ethical forums which allow workers to discuss difficult decisions and focusing on the meaningfulness of the work.
- Mental health follow-up will be imperative for the early detection and treatment of emerging mental health problems and to ensure staff feel supported by their organisations. Ongoing peer support is likely to be important.

(Billings et al., 2021: 14)

## METHODOLOGICAL ASSUMPTIONS OF THE PROJECT

### 1.

#### Project objective

The research reported herein was conducted in 2021 and 2022, under the framework of a grant project entitled “Humanization of the treatment process and clinical communication between patients and medical personnel before and during the COVID-19 pandemic” (referred to as “the project”).

The objective of the project was to seek new insights into the relations between patients and medical/non-medical staff, as well as the intra-group relations between different employees at healthcare facilities. The survey and subsequent analyses were conducted for four different groups of healthcare staff: 1. physicians, 2. nurses, 3. paramedics / emergency medical technicians, 4. other medical and non-medical staff. The project took into account two time perspectives: “before” and “during the COVID-19 pandemic.”

The project consisted of two phases: a quantitative and qualitative pilot study, carried out from June to December 2021, and the main study itself, conducted in March and April 2022. The first preliminary results of the project were presented at the First Congress on the Humanization of Medicine, a research conference held in Warsaw on June 9 and 10, 2022 at the University of Warsaw, inaugurated at the Auditorium Maximum. The Congress was jointly organized by the Polish Ministry of Health, the Medical Research Agency and the University of Warsaw. In this book, we present selected findings of the study. Subsequent research publications are successively being published and made available by the research team, in scientific journals and at research conferences.

The research was funded by the state budget of the Republic of Poland, by a grant from the Medical Research Agency, project number 2021/ABM/COVID-19/UW.

## 2.

### Project schedule

Conceptual work leading up to the project “Humanization of the treatment process and clinical communication between patients and medical personnel before and during the COVID-19 pandemic” began in early 2021. At the pre-project stage, an extensive review of the literature related to the topic was carried out. This review, which is continually being updated, has covered theoretical studies dealing with the humanization of medicine and the relationship between patients and Healthcare Facility employees, the findings reported by other studies, the availability of measurement tools, and studies on the impact of pandemic COVID-19 on the treatment process from the perspective of medical professionals and patients. Special attention was paid to the additional burden shouldered by medical workers in pandemic working conditions and the frequency with which they sought support. The thematic scope of the project included assessing the health and lifestyle of the study groups in the context of the pandemic, as well as assessing how they function in their families.

The project got its start in the formal sense with the acceptance of the funding application and the agreement signed on May 5, 2021 by representatives of Poland’s Medical Research Agency and the University of Warsaw. The project received a positive review from the Research Ethics Committee of the Faculty of Pedagogy of the University of Warsaw (no. 2021/8).

The stages of project implementation are shown in Table 6.

**Table 6.** Project Schedule

May-June 2021	<ul style="list-style-type: none"><li>• Development of the research model, substantive development of individual interview scenarios for qualitative research in the pilot project, and conceptual work on questionnaires for the quantitative research in the pilot project.</li></ul>
July-August 2021	<ul style="list-style-type: none"><li>• Implementation of the qualitative research forming part of the pilot study.</li></ul>

September-December 2021	<ul style="list-style-type: none"> <li>• Implementation of the quantitative survey forming part of the pilot study.</li> <li>• Obtaining approval from the Research Ethics Committee of the Faculty of Pedagogy of the University of Warsaw (no. 2021/8).</li> </ul>
January – April 2022	<ul style="list-style-type: none"> <li>• Field implementation of quantitative surveys as part of the main study.</li> </ul>
June 2022	<ul style="list-style-type: none"> <li>• Publication and presentation of preliminary research results at the Congress on the Humanization of Medicine.</li> </ul>
from July 2022 on	<ul style="list-style-type: none"> <li>• Analysis, preparation of studies and publication of project results.</li> </ul>

### 3.

#### Project methodology and study participants

The research work carried out under the project “Humanization of the treatment process and clinical communication between patients and medical personnel before and during the COVID-19 pandemic” consisted of two phases: a pilot study and a main study:

- the Pilot Study consisted of two parts: a qualitative study (the “Pilot Qualitative Interviews” and a quantitative survey (the “Pilot Survey at Healthcare Facilities”)
- the Main Studies consisted of three parts, all of them quantitative surveys (the “Survey at Healthcare Facilities,” the “Patient Population Survey,” and the “Survey of Clinical Trial Patients”).

The objective of the pilot study was to test the study methods in substantive and technical terms, including in particular:

- verifying the thematic scope (including from the perspectives of individual groups),
- affirming the comprehensibility of questions and tools,
- verifying of the quality of the information / answers obtained,
- determining the value of information obtained through the diagnostic tools used (tests, standardized scales, original questions),
- checking the effectiveness of the methods used to reach out to respondents,

- checking preferences for different techniques and forms of data collection (electronic online survey, paper survey).

### 3.1. Pilot study: Qualitative Interviews

The qualitative portion of the pilot study (the “Pilot Qualitative Interviews”) was conducted in the form of individual In-Depth Interviews (IDIs). These interviews were held as face-to-face or online meetings and were recorded with participants’ consent.

This qualitative research covered employees of Polish healthcare facilities and patients receiving medical services at healthcare facilities in 2020 and 2021. In view of the research objective, the selection criteria for employees of Healthcare Facilities were diversified in terms of:

- their professional specialization,
- the nature of the healthcare facility (regional hospital, city hospital, clinic, outpatient clinic, emergency room),
- geographic differentiation (across Poland’s different regions / provinces).

For patients, the selection was diversified in terms of:

- the type of medical service provided (phone consultation, in-person visit, one-day admittance, multiple-day admittance),
- the stage of the treatment process (initial diagnosis, in the process of treatment, procedure / surgery, follow-up visit),
- the nature of the healthcare facility providing the medical service (regional hospital, city hospital, clinic, outpatient clinic, emergency room),
- the gender and age of patients.

Twenty-four in-depth interviews were conducted with employees of Polish healthcare facilities:

- 10 IDIs with physicians of various specialties: internal medicine/ cardiologist, oncologist, family medicine, psychiatrist, pediatrician, gynecologist, anesthesiologist, psychiatrist, diabetician,
- 5 IDIs with hospital nurses, with non-hospital nurses, with a midwife,
- 3 IDIs with paramedics working in an emergency room, an ambulance, a temporary COVID-19 hospital,

- 6 IDIs with other medical and non-medical personnel: psychotherapist, physiotherapist, medical caregiver, medical registrar, support staff, dietician.

Six IDIs were conducted with patients having received different types of medical service:

- with a child hospitalized for more than one day,
- being hospitalized for childbirth,
- requiring surgical treatment after an injury,
- being hospitalized for psychiatric reasons,
- being hospitalized for COVID-19.

The fieldwork for this portion of the research was carried out by the company Interactive Research Center sp. z o.o., which had submitted the most favorable bid.

### **3.2. Pilot study: Pilot Survey at Healthcare Facilities**

The quantitative portion of the pilot study (the “Pilot Survey at Healthcare Facilities”) was performed using a self-administered survey technique completed online or on paper (Computer Assisted Web Interview, CAWI; Pen-and-Paper Interview, PAPI).

The pilot survey included 3 healthcare facilities: the Jan Mikulicz-Radecki University Clinical Hospital in Wrocław, the Multispecialty Regional Hospital in Gorzów Wielkopolski, and the Independent Public Healthcare Center in Celestynów. The pilot survey covered all the employees of these healthcare facilities having daily contact with patients and adult patients, and in the case of minors – their legal guardians.

The pilot survey yielded 309 completed questionnaires, in by:

- physicians:  $N = 38$ ,
- nurses / midwives:  $N = 223$ ,
- paramedics:  $N = 10$ ,
- other medical and non-medical personnel:  $N = 38$ ,
- patients:  $N = 50$ .

The fieldwork for this portion of the research was also carried out by the company Interactive Research Center sp. z o.o., which had submitted the most favorable bid.

### 3.3. Main study: Survey at Healthcare Facilities

The main study, in turn, consisted of three parts. One of these (the “Survey at Healthcare Facilities”) was quantitative and was carried out at healthcare facilities using the Computer Assisted Web Interview (CAWI) self-completion survey technique. A Pen-and-Paper Interview (PAPI) self-completed survey technique was also included in the final phase.

A two-step selection method was used. In the first step, the healthcare facilities in Poland were randomized, and in the next, the employees and patients of those facilities were randomized. The sampling frame for healthcare facilities was prepared by the research team on the basis of an up-to-date list of hospitals and clinics in Poland, as well as data on the breakdown of staff employment at these facilities (as reported for statistical purposes). The survey covered a random selection of healthcare facilities implementing contracts with the National Health Fund; this random selection was made taking the following parameters into account:

- the location of the facility (which province, which size of city: province capital or other city),
- type of healthcare facility (hospital, clinic).
- number of employees (diversification without specifying size classes).

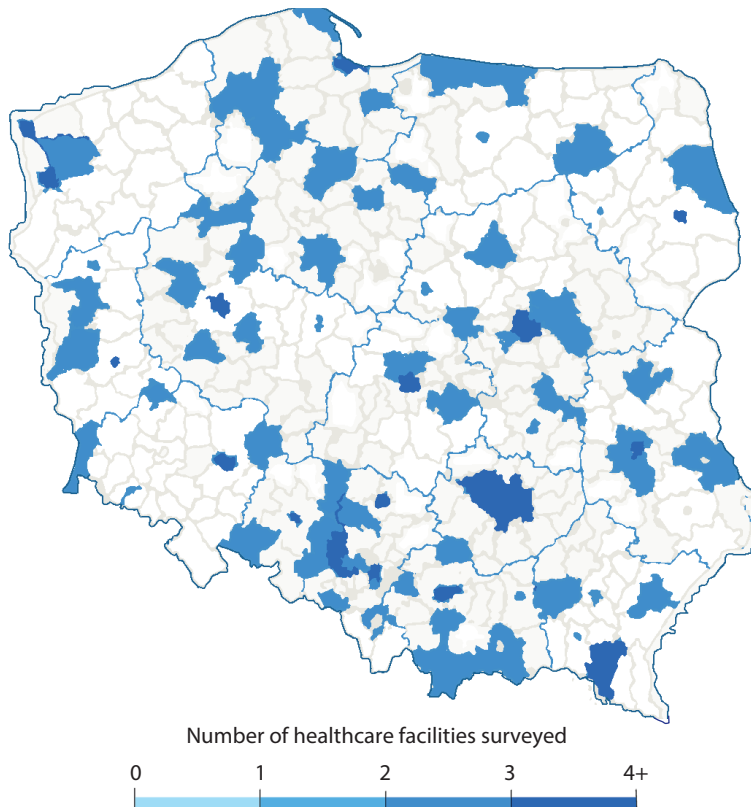
A nationwide sample (the “primary sample”) was drawn from all of Poland’s 16 provinces (voivodships – *województwa*), including 65 hospitals (with hospital-affiliated outpatient clinics being categorized as hospitals) and 35 primary-care and specialty clinics.

If the director of a particular facility randomly selected in the primary sample categorically refused to allow the survey to be performed there, if attempting to contact the director of such a facility ended in a documented failure, or if the expected minimum number of survey responses was not successfully collected, the given facility from the primary sample was replaced by a facility drawn from the reserve sample, from the same province and of the same type (hospital, clinic).

The “reserve sample,” in turn, included a selection of 206 healthcare facilities (70 of these in an initial reserve sample, and 136 in subsequent samples intended to raise the number of completed surveys while maintaining the distribution of the above-mentioned parameters of the facilities: location, type).

The administrators of 114 healthcare facilities gave written consent for their employees to participate in the survey and carry out surveys

at the facilities – these included 94 hospitals (with hospital-affiliated out-patient clinics being categorized as hospitals) and 20 primary-care and specialty clinics. The geographical distribution in of the counties (*powiaty*) where the healthcare facilities that participated in the main study are situated, within each of Poland's 16 provinces, is shown in Figure 3.



**Figure 3.** Number of facilities surveyed in the main Survey at Healthcare Facilities, by county (*powiat*)

Survey responses were sought from both medical and non-medical staff as well as from patients at the healthcare facilities that were covered. In the final phase of the project, it was agreed that only representatives of the underrepresented professional/analytical groups (especially physicians and paramedics) would be additionally recruited.

The main Survey at Healthcare Facilities covered employees at randomly selected healthcare facility and patients (or their legal guardians) who were present at the selected healthcare facility and received medical services during the study period (i.e., by April 30, 2022).

Excluded from the study were employees who did not work with patients on a daily basis, visitors (individuals unrelated or those who were not legal guardians of the patient), individuals who were present at the facility only for the purposes of securing information / registration / collecting prescriptions / medical records / certificates, as well as patients or their legal guardians if they themselves were also healthcare representatives.

In all, the main Survey at Healthcare Facilities yielded 4012 completed questionnaires (i.e., questionnaires in which all the questions in the survey were answered), including 2340 questionnaires from employees<sup>1</sup> and 1672 questionnaires from patients / patient guardians<sup>2</sup> at the randomly selected healthcare facilities. As for healthcare staff, complete questionnaires were obtained from:

- 502 physicians,
- 1233 nurses/midwives,
- 169 paramedics,
- and 436 from other medical and non-medical workers who have daily contact with patients.

The number of complete questionnaires obtained in the main study in each of Poland's provinces is shown in Table 7.

**Table 7.** Number of questionnaires obtained in the main Survey at Healthcare Facilities, by province

Province	number of total surveys	healthcare employees	patients
Lower Silesia Province	95	71	24
Kuyavia-Pomerania Province	122	83	39
Lublin Province	127	73	54
Lubusz Province	253	179	74
Lodz Province	183	107	76

<sup>1</sup> For the purpose of this book, questionnaires received from employees who had not worked professionally during the COVID-19 pandemic were excluded from the analyses, hence the number of analyzed questionnaires from employees in the Main Survey at Healthcare Facilities was  $N = 2303$ .

<sup>2</sup> For the purposes of this book, legal guardians were excluded from the analyses hence the number of analyzed questionnaires from patients in the Main Survey at Healthcare Facilities was  $N = 1572$ .

Province	number of total surveys	healthcare employees	patients
Małopolska Province	348	148	200
Mazovia Province	436	274	162
Opole Province	128	68	60
Subcarpathian Province	130	51	79
Podlasie Province	300	192	108
Pomerania Province	281	168	113
Silesia Province	578	413	165
Holy Cross Province	227	123	104
Warmia-Mazuria Province	255	126	129
Wielkopolska Province	288	135	153
West Pomerania Province	261	129	132
<b>Total</b>	<b>4012</b>	<b>2340</b>	<b>1672</b>

The fieldwork for this portion of the research was carried out by the company Research Collective sp. z o.o., which had submitted the most favorable bid in a tender procedure conducted at the University of Warsaw.

### 3.4. Main study: Patient Population Survey

The main “Patient Population Survey” included persons who had utilized the services of a healthcare facility (excluding private offices) within the past 24 months prior to the day preceding the survey (i.e., in 2020-2022). Excluded from the survey were persons who had gone to a healthcare facility solely to receive immunization, or who had contacted the facility only for the purposes of securing information / registration / collecting prescriptions / medical records / certificates, and individuals visiting patients at these facilities or healthcare workers there.

The survey was quantitative in nature and was conducted using the technique of Computer Assisted Web Interview (CAWI) self-completion questionnaire among the members of the ReaktorOpinii.pl research panel. This portion of the research work was carried out by the company Interactive Research Center sp. z o.o., which had submitted the most favorable offer as part of a tender procedure conducted at the University of Warsaw.

The sample was nationwide, which was stratified by gender, age, education, regions, class of locality and the nature and location of the service obtained. A minimum of 80% of questionnaires were expected from

patients who had obtained medical services during an in-person visit to a healthcare facility, a maximum of 20% of questionnaires from patients who had obtained medical services by telephone, with a maximum of 35% of patients from a clinic.

The mechanism used for distributing invitations and for selecting the sample makes it possible to interpret the results of the survey as population-based (subject to the limitations imposed by the survey method and research technique itself).

### **3.5. Main study: Survey of Clinical Trial Patients**

As the third component of the main study, a quantitative survey of clinical trial patients (the “Survey of Clinical Trial Patients”) was planned, without defining the size of the completed sample, as a kind of pilot study. Analogous to the previous modules of the project, it was prepared using the online self-completion survey technique (Computer Assisted Web Interview, or CAWI), with the emergency option of including paper surveys. A number of channels were tested for reaching out to this group of respondents, keeping in mind the protection of patients’ rights as well as the rights of companies and researchers conducting clinical trials.

The research team developed a short survey, supported by a literature review. Due to the extended period for obtaining completed questionnaires, extending through January 2023, the results from this survey have not been included in the present book. However, given the importance of the issue, a module was included in the Patient Population Survey, as described in this report, regarding their attitudes toward clinical trials. In a separate publication, we plan to outline the design of the questionnaire for clinical trial patients and, after verifying the quality of the information obtained, report results for data on about 200 people.

## **4.**

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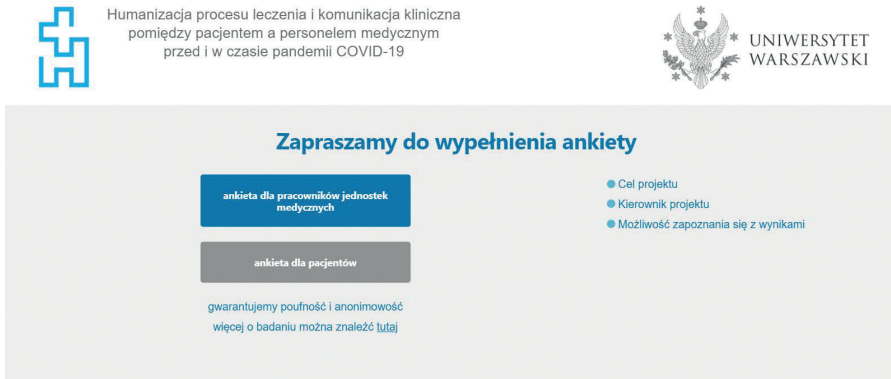
### **Research tools used in the project**

The Research Team was responsible for the substantive preparation of the survey tools. The tools were versioned with respect to the project stage, the survey methodology and technique, and the survey participation (the person meant to be interviewed or to fill out the survey). Technical

preparation of the surveys (programming) was the responsibility of the companies carrying out the fieldwork, Interactive Research Center and Research Collective (the website <https://humanizacja.pl> was provided for implementation purposes – Figure 4).

The following research tools were prepared as part of the project:

- 1) to be implemented in the pilot stage, for the qualitative study:
  - two recruitment questionnaires: for employees and for patients of healthcare facilities;
  - two scenarios for one-on-one interviews: for employees and for patients of healthcare facilities (while requiring the moderator to make ongoing adaptations to the questions in connection with the interviewee's occupation),
- 2) to be implemented in the pilot stage, for the quantitative survey:
  - two questionnaires for employees of healthcare facilities and patients of healthcare facilities to be implemented using the CAWI technique,
  - two questionnaires for employees of healthcare facilities and patients of healthcare facilities to be implemented using the CAPI technique,
  - a cover letter to be sent to healthcare facility managers, informational materials encouraging healthcare workers and patients to participate in the survey;
- 3) to be implemented in the main study, for the Survey at Healthcare Facilities:
  - two questionnaires for employees of healthcare facilities and patients of healthcare facilities to be implemented using the CAWI technique,
  - two questionnaires for employees of healthcare facilities and patients of healthcare facilities to be implemented using the CAPI technique,
  - a cover letter to be sent to healthcare facility managers, informational materials encouraging healthcare workers and patients to participate in the survey;
- 4) to be implemented in the main study, for the Patient Population Survey:
  - a questionnaire to be implemented using the CAWI technique,
- 5) to be implemented in the main study, for the Survey of Clinical Trial Patients:
  - a questionnaire to be implemented using the CAWI technique.



**Figure 4.** Screenshot of the website <https://humanizacja.pl> supporting the project “Humanization of the treatment process and clinical communication between patients and medical personnel before and during the COVID-19 pandemic” – the blue button on top leads to the survey for healthcare facility employees, whereas the grey button on bottom leads to the survey for patients; other links provide information about the project.

The research tools prepared for each method and audience had four main components:

- sample-verification questions, confirming certain expected traits (“recruitment questions”),
- questions related to the humanization of medicine (defining the subject, evaluating the degree of its implementation, describing the elements that are conducive to or hinder communication and building relationships with patients / with healthcare facility employees),
- questions describing the impact of the COVID-19 pandemic on various domains (patient relations and clinical communication, the treatment process and availability of physicians, mode by which medical services are utilized, professional employment, self-assessments of health and changes in lifestyle, attitudes to life and personal values), with questions designed so as to facilitate comparison to the pre-pandemic period,
- questions about attitudes toward clinical trials, willingness and motives to participate, and possible barriers and facilitators,
- demographic questions (known as metrics).

The scenarios and questionnaires used questions that had been previously used in our own research, original questions created for this project (taking into account the opinions expressed during qualitative

interviews) and also standardized scales. Consent from the authors of the scales was obtained for their use – including consent from the authors of the validated Polish versions. Other scales were adapted into Polish, after obtaining the authors' consent. The scales were translated from English into Polish, followed by back-translation, with any discrepancies being consulted with specialists (physicians of various specialties, psychologists, educators, public health specialists). The translation and back-translation process was outsourced to an external company to minimize the element of repetition in back-translation.

Working with the scales included:

- selecting tools and securing access to the Polish version of the scales,
- translation and back-translation of those scales that did not have a Polish version,
- documenting any deviations from the original,
- obtaining permission to use the tools from the authors of the original or the authors of the Polish adaptation, or registering the application of the scale,
- identifying the main source document that should be cited,
- collecting documentation on the principles of interpreting the results, including norms for the Polish population (or the European population if there is no normative data for Poland),
- testing the tool in a pilot study and deciding whether to include it in the main study,
- examining the psychometric properties of the scales, which will be published in subsequent in-depth studies.

In the pilot study, the questionnaire for healthcare workers used the following scales:

- **Health Professionals Communication Skills Scale (HP-CSS)** – 18 items – consent from C. Leal-Costa – interim version of 12 items based on an unpublished adaptation into Polish<sup>3</sup> (Leal-Costa et al., 2016),
- **Perceived Stress Scale (PSS-4)** – 4 items – a publicly available tool (Cohen et al., 1983)

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<sup>3</sup> Expert consultation – A.Ratajska

- **Burnout Assessment Tool (BAT-12)** – 12 items – consent from W. Schaufeli – translation and back-translation (Schaufeli et al., 2019)
- **Post Traumatic Stress Disorder (PTSD-8)** – 8 items – consent from M. Hansen – translation and back-translation (Hansen et al., 2010)
- **Experiences in Close Relationships – Relationship Structures (ECR-RS)** – 9 items – consent from R. Fraley – freely available translation by M. Marszał (Fraley et al., 2006)

In the pilot study, the questionnaire for patients used the following scales:

- **Patient's List of Expectations (PRF)\*<sup>4</sup>** – 18 items – authors P. Salmon, J. Quine; Polish adaptation by Z. Juczyński – ascertained through PracTest (Juczyński, 2001)
- **Human Connection Scale (HCS)** – 16 items – consent from J. Mack – translation and back-translation (Mack et al., 2009)
- **Hospital Anxiety and Depression Scale (HADS-M)\*** – 16 items – consent from authors A. Zigmond, R. Snaith, Polish version developed by M. Majkowicz, K. de Walden-Gałuszko, G. Chojnacka-Szawłowska, consent from M. Majkowicz (de Walden-Gałuszko et al., 1994)
- **EuroQol** – version EQ-5D-5L (euroqol.org) – a tool available to the public after prior registration at <https://registration.euroqol.org/> – registration ID: 53038
- **Perceived Stress Scale (PSS-4)** – as above

In the main study, the questionnaire for healthcare workers in the Survey at Healthcare Facilities used the following scales:

- **Health Professionals Communication Skills Scale (HP-CSS)\*\*<sup>5</sup>** – a version shortened to 12 items following psychometric analysis
- **Perceived Stress Scale (PSS-4)**
- **Burnout Assessment Tool (BAT-12)**
- **Post Traumatic Stress Disorder (PTSD-8)**
- **Jenkins Sleep Scale (JSS-4)** – 4 items – permission from its author C.D. Jenkins – translation and back-translation, scale added after pilot study (Jenkins et al., 1988)

<sup>4</sup> Scales marked with an asterisk\* were tested in the questionnaire for the pilot study but were not for the main study.

<sup>5</sup> For scales marked with two asterisks\*\*, the results are not reported in this book.

In the main study, the questionnaire for patients in the Survey at Healthcare Facilities used the following scales:

- **Human Connection Scale (HCS)\*\***
- **Perceived Stress Scale (PSS-4)**
- **EuroQol** version EQ-5D-5L
- **Jenkins Sleep Scale (JSS-4).**

In the main study, the questionnaire for patients in the Patient Population Survey used the following scales:

- **Human Connection Scale (HCS)\*\***
- **Perceived Stress Scale (PSS-4)**
- **EuroQol** version EQ-5D-5L
- **Jenkins Sleep Scale (JSS-4).**
- **Experiences in Close Relationships – Relationship Structures (ECR-RS)\*\*.**

## 5.

### Method of presenting results

This study presents selected findings for:

- healthcare employees from randomly selected facilities who have daily contact with patients and who worked professionally during the COVID-19 pandemic (Survey at Healthcare Facilities,  $N = 2303$ ),<sup>6</sup>
- patients from randomly selected healthcare facilities (Survey at Healthcare Facilities,  $N = 1572$ ),<sup>7</sup>
- patients who received medical services in the 2020–2022 period (Patient Population Survey,  $N = 2050$ ).

In term of the employees of healthcare facilities, the results of the analysis are presented on the general level (including all the groups of employees,  $N = 2303$ ) and in four separate professional groups:

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<sup>6</sup> The responses from individuals who had not been working professionally during the pandemic were excluded from the analyses.

<sup>7</sup> Legal guardians were excluded from the analysis.

- physician group,  $N = 498$
- nursing group,  $N = 1216$
- paramedic group,  $N = 166$
- other healthcare professions (other than doctors, nurses, paramedics) – employees who have daily contact with patients,  $N = 423$ .

For patients, when the same question wording was asked in both surveys – the Survey at Healthcare Facilities and the Patient Population Survey – or when, despite slight differences in question wording, no significant differences were observed in the analysis results obtained and the findings point to the same conclusions, the analysis results are presented together for both surveys. Contrarily, in the event of methodological differences in the way a question was asked or significant differences in the answers, the results of the analyses are presented separately for each of the patient groups studied, or the presentation concerns the results of the analyses of only one of the surveys.

In this book, we present descriptive statistics of the variables (response distributions, standard deviations, minima and maxima, arithmetic means) and cross distributions of the variables (percentages in rows or columns as needed – to illustrate the differences in responses for the distinguished analysis groups or to illustrate the structure of a given group). Factor analysis was used to reduce the number of variables and group them together, with Pearson's chi-squared test being used to check the independence of variables. To illustrate particular phenomena and opinions, indexes were created – the method by which they were constructed is described in the methodological notes for the respective chapter. Responses obtained in response to the standardized scales used were analyzed according to the guidelines from their authors, listed in the given references.

Most of the results are presented in tables, some in figures. Some chapters include quotes from individual qualitative interviews carried out with medical professionals and patients in the first, pilot stage of the project.

Statistical analysis was performed using IBM SPSS Statistics.

The number of questionnaires completed by healthcare facility employees and patients and the structure of the features in each stratum are shown in Tables 8 and 9.

**Table 8.** Respondents in the survey of healthcare employees, broken down by demographic and social characteristics

	all employees N = 2303		physicians N = 498		nurses N = 1216		paramedics N = 166	
	n	%	n	%	n	%	n	%
<b>Gender</b>								
man	435	18.9	242	48.6	27	2.2	115	69.3
woman	1868	81.1	256	51.4	1189	97.8	51	30.7
<b>Age in years</b>								
18–29	245	10.6	54	10.8	92	7.6	28	16.9
30–49	1009	43.8	219	44.0	431	35.4	114	68.7
50–64	1000	43.4	199	40.0	673	55.3	24	14.5
65+	49	2.1	26	5.2	20	1.6	0	0.0
<b>Education</b>								
primary and vocational	17	0.7	1	0.2	1	0.1	0	0.0
secondary school	515	22.4	1	0.2	322	26.5	60	36.1
higher	1712	74.3	492	98.8	861	70.8	100	60.2
refused to answer	59	2.6	4	0.8	32	2.6	6	3.6
<b>Living in a lasting relationship</b>								
yes	1791	77.8	386	77.5	959	78.9	123	74.1
no	327	14.2	66	13.3	162	13.3	33	19.9
refused to answer	185	8.0	46	9.2	95	7.8	10	6.0
<b>Having children under the age of 19</b>								
yes	825	35.8	192	38.6	365	30.0	72	43.4
not	1478	64.2	306	61.4	851	70.0	94	56.6
<b>Financial status of the family</b>								
low	173	7.5	5	1.0	88	7.2	14	8.4
average	631	27.4	44	8.8	407	33.5	55	33.1
quite high	537	23.3	127	25.5	294	24.2	37	22.3
very high	661	28.7	262	52.6	266	21.9	50	30.1
refused to answer	301	13.1	60	12.0	161	13.2	10	6.0
<b>Seniority at the given healthcare facility</b>								
up to 2 years	199	8.6	45	9.0	52	4.3	17	10.2
3–5 years	209	9.1	40	8.0	53	4.4	24	14.5
6–10 years	224	9.7	51	10.2	78	6.4	37	22.3
longer than 10 years	1671	72.6	362	72.7	1033	85.0	88	53.0

**Table 9.** Respondents in the survey of patients, broken down by demographic and social characteristics

	Survey at Healthcare Facilities N = 1752		Patient Population Survey N = 2050	
	n	%	n	%
<b>Gender</b>				
man	609	38.7	1038	50.6
women	963	61.3	1012	49.4
<b>Age in years</b>				
18–29	214	13.6	298	14.5
30–49	694	44.1	723	35.3
50–64	471	30.0	629	30.7
65+	193	12.3	400	19.5
<b>Education</b>				
primary and vocational	282	17.9	488	23.8
secondary-school	613	39.0	766	37.4
higher	576	36.6	728	35.5
refused to answer	101	6.4	68	3.3
<b>Place of residence – size class of locality by population</b>				
village	307	19.5	734	35.8
cities up to 100,000	544	34.6	662	32.3
cities of 100,000 to 500,000	377	24.0	374	18.2
cities of 500,000 and above	271	17.2	280	13.7
refused to answer	73	4.6	0	0.0
<b>Professional activity</b>				
professionally employed	1025	65.2	1027	50.1
not professionally employed	470	29.9	1005	49.0
refused to answer	77	4.9	18	0.9
<b>Number of people in the household</b>				
one	159	10.1	224	10.9
two	457	29.1	665	32.4
three	325	20.7	457	22.3
four	279	17.7	400	19.5
five and over	125	8.0	244	11.9
refused to answer	227	14.4	60	2.9
<b>Having children under the age of 19</b>				
yes	159	10.1	224	10.9
no	457	29.1	665	32.4
refused to answer	227	14.4	60	2.9

	Survey at Healthcare Facilities <i>N</i> = 1752		Patient Population Survey <i>N</i> = 2050	
	<i>n</i>	%	<i>n</i>	%
<b>Financial status of the family</b>				
low	228	14.5	298	14.5
average	641	40.8	1087	53.0
rather high	291	18.5	353	17.2
very high	244	15.5	265	12.9
refused to answer	168	10.7	47	2.3

The variable “financial status of the family” was created by recoding the answers to the question “Which of the listed statements best describes the financial situation of your household?”. The answers “we don’t have enough for even our most immediate needs” and “we have to deny ourselves many things, but have enough to live on” were considered to represent the lowest status. An average financial situation is described by the answer “we have enough for everyday life, but not enough for major expenses.” Quite affluent status was taken to be indicated by the answer “we have enough for major expenses,” while affluent status is signaled by the responses “we have enough for everything” and “we put aside/invest part of our income.”

A more detailed description of the tools used in the analyses included in this report and the analytical approaches is provided in the following chapters.





## FINDINGS OF THE PROJECT

### 1.

#### Humanization of medicine as perceived by patients and staff at healthcare facilities

##### 1.1. Background of the analysis

The need for greater humanization is now evident in many places, both in personal and professional life – not only in healthcare, but also in many other realms. However, in healthcare, a holistic approach is particularly expected, as sick people are treated as especially vulnerable, and suffering is almost an inherent part of the disease process. Changes in healthcare in recent years have prompted much discussion about how to improve the humanization of patient care (de la Fuente et al., 2018).

Recent decades have seen a gradual increase in the use of technology in the prevention, diagnosis and treatment of disease (Lovato et al., 2013). The goal of these efforts is to increase the quality, efficiency and safety of care. However, while these changes in medicine have improved some elements of patient care, such as safety, efficiency, and effectiveness, there are nevertheless new problems associated with the dehumanization and depersonalization of care. There is an unfortunate tendency to treat the patient as a “set of symptoms” rather than a human being with individual needs (Behruzi et al., 2014). This can negatively affect the doctor–patient relationship and undermine the trust of patients and their caregivers in the healthcare system (Stange, 2009).

The humanization of healthcare entails certain aspects related to quality and represents an ethical commitment to perceiving each individual person as a complete whole: in terms of their autonomy and in their more subjective dimension. To respect the concept of humanization in healthcare, we must acknowledge that each person is unique and one-of-a-kind, that each person responds differently to life crises. Therefore, a number of circumstances need to be addressed: healthcare (both care and caregivers), ethical competence, cultural competence, professional competence (communication, skills), and human resources.

Dehumanization in healthcare, on the other hand, implies depersonalization and seeing the disease process as the sole purpose of medical care. It thus represents a kind of denial that suffering and death affect patients, relatives, and professionals in equal measure (de la Fuente et al., 2018). The intensive use of technology may have contributed to the trend whereby the human needs of patients, relatives and professionals are coming to be seen as a secondary concern (La Calle, 2017)

## 1.2. Research tools and method of presenting results

The initial stage of our project involved qualitative exploration with the objective of trying to define the term “humanization of medicine” and its determinants. Employees of healthcare facilities were asked whether and under what circumstances they had encountered the terms “humanization of medicine” / “humanization of the treatment process” and what these terms meant to them in their day-to-day work. In the interviews with patients, on the other hand, we refrained from the outset from attempting to pin down a definition of “humanization of medicine”; instead the focus was on exploring its main component parts. Questions asked what a “pro-patient approach” entailed and how it should be implemented in practice, what helps strengthen the patient’s relationship with the doctor and with other employees of healthcare facilities, what things are conducive to and contribute to effective communication with the patient.

After analyzing the opinions expressed during these qualitative interviews, the decision was made not to use the terms “humanization of medicine” or “humanization of the treatment process” in the quantitative research tools (including the questionnaire for healthcare facility employees). Rather, it was decided that it would be clearer, and therefore more effective, to try to obtain opinions on more specific topics related to relationship-building, trust and communication. Original questions were developed and certain standardized scales were applied, as described further below.

The thematic block of the questionnaire devoted to humanization opened with a question on defining what is most important when patients and healthcare professionals interact. Each group did this from their own perspective, with patients defining their expectations with respect to healthcare workers, and vice versa. The survey conducted among patients at healthcare facilities asked them to select up to three most important elements from a given list, while the population-based survey asked patients to rate the importance of each element. Due to the different methodological approach, which resulted in a different prioritization, the results for this question will be presented separately. In the survey at the healthcare facilities, the final importance of the elements will be determined by the percentage of indications for a given answer.<sup>8</sup>

Next, respondents rated the importance of verbal (verbal) and non-verbal communication (gestures, facial expressions, tone of voice, body language, etc.) between patients and healthcare professionals. Employees additionally rated verbal and non-verbal communication among the treatment team. Opinions were expressed on an 11-point scale, with the ends of the scale labeled (as depicted graphically in Figure 5). For the purpose of analysis, responses were clustered into four groups, “unimportant” (grades 0,1,2,3), “moderately” (4,5,6,7), “very important” (7,8), and “extremely important” (9,10), respectively.



**Figure 5.** An 11-point visual communication rating scale

Another part of the survey included standardized questions: the Human Contact Scale (HCS) in the questionnaire for patients, and the Health Professionals Communication Skills Scale (HP-CSS) in the questionnaire for healthcare employees. The responses were analyzed according to the guidelines provided the authors of these scales, and the process of adapting the HCS scale included translating and back-translating it, as well as securing the author's consent.

Patients next rated their trust in physicians, nurses, paramedics, and other healthcare workers, on an analogous 11-degree scale with the ends

<sup>8</sup> The use of additional coefficients related to the order of selection would have been inadvisable due to the length of the list of evaluated categories (10 for patients) and the considerable length of the descriptions themselves. The list of evaluated categories was randomly rotated in order to offset the tendency to select the first answers from the list on the level of overall results.

of the scale described. For the purpose of analysis, responses were again clustered into four groups: “no trust / little trust” (level 0,1,2,3), “medium trust” (4,5,6), “high trust” (7,8) and “very high trust” (9,10).

The thematic block of the questionnaire related to the humanization of the treatment process closed with a question aimed at determining barriers to communication and relationship-formation (in general and also during the COVID-19 pandemic). An analogous methodological approach was used as for the to the opening question. In the Survey at Healthcare Facilities, patients were asked to select up to three items, while in the Patient Population Survey, patients rated the importance of each item.

### 1.3. Results

#### 1.3.1. The perspective of healthcare workers

When healthcare workers were asked to report their spontaneous associations with the term “humanization of medicine,” their responses pertained too:

- the patient as a human being (listening to the interviews suggests that this may be more of a direct etymological and semantic interpretation, triggered more by the Latin root underlying the Polish word *humanizacja* than by established conceptual content).
- “humanizing” the diagnostic and therapeutic process – dispensing with mechanical actions, focusing on the patient rather than bureaucracy,
- the patient’s hierarchical status – putting the patient first, emphasizing that he or she is the most important, as without them there would be no treatment process,
- taking an individual approach to each patient – focusing attention on his or her individual needs, but also on what he or she says,
- a comprehensive approach – pursuing a holistic idea in relation to the patient as well as the diagnostic/treatment process.

*“...taking a kind of human approach to another person, not looking only through the lens of symptoms, illness, disease. A holistic view of this person from the physical, mental, and medical side, a kind of general view – symptoms can be dealt with a lot, but this person also feels, sees, experiences, struggles with different emotions. A pill is not always the best medicine for them.”* (a patient interviewed during our study)

However, the first reaction of healthcare professionals when asked if they had ever encountered the terms “humanization of medicine” or “humanization of the treatment process” suggests that these are poorly known terms (some having heard them for the first time), ones that generate generic, buzzword-like associations, ones that are more strongly associated with theory and science, than with practical application in everyday work.

*“The ‘humanization of medicine’ and ‘humanization of the treatment process’ ... I don’t know what I would mean by these terms. I haven’t encountered them before, and I don’t think I’ve ever heard anyone use such a phrase at all.”*  
(a pediatrician interviewed during our study)

Based on the associations from the qualitative interviews, ten aspects of communication were identified and respondents were asked to select up to three of the most important ones in their day-to-day work with patients (the vast majority of respondents took this option). Factor analysis indicated that these ten variables can be reduced to five key dimensions (Table 10):

- clear and lucid communication, strongly linked to explaining the treatment process and possible side effects to the patient,
- taking the time to listen to the patient, thereby building trust and showing empathy,
- taking an individual approach to the patient and putting his or her needs first,
- maintaining confidentiality and intimacy,
- involving the patient in the treatment process.

One additional variable – defined as “carefulness and precision of actions performed” – was not included in any of the above dimensions (it was found to be associated to a similar extent with each of them). Its importance with patients is also confirmed by the percentage of indications; hence, below it is treated as the sixth dimension. For nearly half of respondents, it was recognized as one of the key elements of day-to-day work with patients.

However, for the groups of physicians and paramedics, the most important aspect in day-to-day work is the quality of communication. In contrast, nurses and employees of other professional groups place the greatest emphasis on individuality of needs and placing the patient first.

**Table 10.** The perceived importance of dimensions of communication in day-to-day work with patients and their component variables

		Professional group			
		Physicians N = 498	Nurses N = 1216	Paramedics N = 166	Other professions N = 423
<b>Dimension 1: clear communication</b>	n	<b>306</b>	<b>445</b>	<b>93</b>	<b>205</b>
	%	<b>61.4</b>	<b>36.6</b>	<b>56.0</b>	<b>48.5</b>
clear and comprehensible communication with the patient	n	220	407	79	186
	%	44.2	33.5	47.6	44.0
explaining the treatment process and possible side effects of treatment	n	140	57	22	30
	%	28.1	4.7	13.3	7.1
<b>Dimension 2: openness and time for the patient</b>	n	<b>285</b>	<b>760</b>	<b>94</b>	<b>264</b>
	%	<b>57.2</b>	<b>62.5</b>	<b>56.6</b>	<b>62.4</b>
empathy	n	138	505	58	170
	%	27.7	41.5	34.9	40.2
taking time and listening	n	108	196	28	92
	%	21.7	16.1	16.9	21.7
establishing a relationship of trust and honesty	n	108	201	31	77
	%	21.7	16.5	18.7	18.2
<b>Dimension 3: individual approach and importance of needs</b>	n	<b>260</b>	<b>851</b>	<b>92</b>	<b>277</b>
	%	<b>52.2</b>	<b>70.0</b>	<b>55.4</b>	<b>65.5</b>
taking an individual approach to the patient	n	201	637	59	208
	%	40.4	52.4	35.5	49.2
putting the patient and their needs first	n	89	380	39	110
	%	17.9	31.3	23.5	26.0
<b>Dimension 4: maintaining confidentiality and respecting intimacy</b>	n	<b>92</b>	<b>349</b>	<b>36</b>	<b>124</b>
	%	<b>18.5</b>	<b>28.7</b>	<b>21.7</b>	<b>29.3</b>
<b>Dimension 5: patient participation in decision-making about treatment</b>	n	<b>72</b>	<b>68</b>	<b>11</b>	<b>18</b>
	%	<b>14.5</b>	<b>5.6</b>	<b>6.6</b>	<b>4.3</b>
<b>Dimension 6: (outside of the classification) carefulness, accuracy of actions performed</b>	n	<b>237</b>	<b>625</b>	<b>94</b>	<b>177</b>
	%	<b>47.6</b>	<b>51.4</b>	<b>56.6</b>	<b>41.8</b>

These groups pay more attention to the importance of openness, empathy, and the need to inspire trust in patients than do physicians and paramedics.

Next, again based on the results from the qualitative survey, eleven factors were identified that hinder communication and relationship-building in day-to-day interactions with patients. In the quantitative survey, respondents were then asked to select up to three of the most important barriers (as above, the vast majority of respondents did avail themselves of this option). Factor analysis of these eleven variables indicated they could be reduced to five key dimensions (Table 11):

- excessive bureaucracy, insufficient time and poor conditions for conversing,
- a demanding attitude on the part of the patient and family, arrogance and self-glorification, as well as a tendency to make diagnoses on their own (making it difficult to obtain the necessary information from the patient),
- too few staff in relation to the number of patients,
- exhaustion of people working in healthcare,
- a lack of interest in the patient and the use of professional, overly complex language – ignoring the patient,

According to the majority of healthcare workers (more than 81% for all groups taken together), their day-to-day work is most hampered by bureaucracy, scarcity of time, and poor conditions, which translates into difficulties in getting information from patients. This is the biggest disruptive factor at work – especially for doctors and nurses. Paramedics are just as strongly affected by a demanding attitude and arrogance on the part of patients / families. Understaffing relative to the number of patients affects nurses and midwives the most: half of all nurse respondents mentioned this in the survey. Another important disruptive factor is fatigue, pointed out by doctors and paramedics more often than by representatives of the other groups surveyed.

It is notable that, generally speaking, the respondents do attempt to remain objective: while noticing arrogance on the part of patients, they also acknowledge it on the part of healthcare workers – manifested, among other things, in a lack of interest in the patient and the use of overly difficult and professional language. In the opinion of one in five healthcare workers surveyed, this dimension of communication has a negative impact on relationship-building and communicating with patients.

**Table 11.** Perceived factors hindering relationship-building and communication with patients

		Professional group			
		Physicians N = 498	Nurses N = 1216	Paramedics N = 166	Other professions N = 423
<b>Dimension 1: lack of time, poor conditions, bureaucracy</b>	<i>n</i>	<b>437</b>	<b>1010</b>	<b>114</b>	<b>311</b>
	%	<b>87.8</b>	<b>83.1</b>	<b>68.7</b>	<b>73.5</b>
excessive bureaucracy	<i>n</i>	263	578	42	150
	%	52.8	47.5	25.3	35.5
insufficient time	<i>n</i>	258	561	35	153
	%	51.8	46.1	21.1	36.2
difficulty in obtaining information from the patient	<i>n</i>	91	209	53	96
	%	18.3	17.2	31.9	22.7
poor conditions for conversation (no separate room)	<i>n</i>	74	131	18	38
	%	14.9	10.8	10.8	9.0
<b>Dimension 2: patient arrogance</b>	<i>n</i>	<b>253</b>	<b>616</b>	<b>113</b>	<b>252</b>
	%	<b>50.8</b>	<b>50.7</b>	<b>68.1</b>	<b>59.6</b>
demanding attitude on the part of the patient or family	<i>n</i>	157	408	85	160
	%	31.5	33.6	51.2	37.8
arrogance, self-glorification or aggression on the part of patients	<i>n</i>	82	256	58	121
	%	16.5	21.1	34.9	28.6
tendency for patients to self-diagnose and determine own treatment	<i>n</i>	84	157	33	82
	%	16.9	12.9	19.9	19.4
<b>Dimension 3: too few staff in relation to the number of patients</b>	<i>n</i>	<b>161</b>	<b>605</b>	<b>48</b>	<b>146</b>
	%	<b>32.3</b>	<b>49.8</b>	<b>28.9</b>	<b>34.5</b>
<b>Dimension 4: exhaustion of people working in healthcare</b>	<i>n</i>	<b>158</b>	<b>322</b>	<b>53</b>	<b>108</b>
	%	<b>31.7</b>	<b>26.5</b>	<b>31.9</b>	<b>25.5</b>
<b>Dimension 5: lack of interest in the patient and difficult language</b>	<i>n</i>	<b>98</b>	<b>255</b>	<b>39</b>	<b>105</b>
	%	<b>19.7</b>	<b>21.0</b>	<b>23.5</b>	<b>24.8</b>
use of professional, overly complex language	<i>n</i>	59	164	25	62
	%	11.8	13.5	15.1	14.7
lack of interest in the patient, ignoring patient	<i>n</i>	43	107	18	65
	%	8.6	8.8	10.8	15.4

Communication is crucial in day-to-day interactions with patients. This is confirmed by analysis of the responses to independent questions in this domain. The first question established a hierarchy among ten factors, and there employees indicated the area of communication as the

most important (see Table 10). Subsequent questions (the results of which are described below) focused on communication itself, with the caveat that healthcare employees were presented with two components: verbal communication and non-verbal communication. The majority of healthcare employees surveyed described verbal (over 92%) and non-verbal communication (over 75%) as at least “very important” (Tables 12 and 13).

**Table 12.** Importance of verbal and non-verbal communication with the patient during the treatment process

	Professional group (% in columns)			
	Physicians N = 498	Nurses N = 1216	Paramedics N = 166	Other professions N = 423
<b>Importance of verbal communication with the patient during the treatment process</b>				
unimportant	1.4	0.7	1.2	0.9
moderately important	6.0	6.6	12.0	7.8
very important	28.5	21.3	31.9	19.4
extremely important	64.1	71.5	54.8	71.9
<b>Importance of non-verbal communication with the patient during the treatment process</b>				
unimportant	4.0	2.5	4.8	4.0
moderately important	20.7	15.7	22.3	19.6
very important	35.1	27.3	40.4	28.1
extremely important	40.2	54.5	32.5	48.2

**Table 13.** Importance of verbal and non-verbal communication among the treatment team in the process of treating the patient

	Professional group (% in columns)			
	Physicians N = 498	Nurses N = 1216	Paramedics N = 166	Other professions N = 423
<b>Importance of verbal communication among the treatment team during the treatment process</b>				
unimportant	0.4	0.3	0.6	0.0
moderately important	7.4	6.7	10.8	7.8
very important	23.7	16.5	24.7	16.3
extremely important	68.5	76.5	63.9	75.9
<b>Importance of non-verbal communication among the treatment team during the treatment process</b>				
unimportant	4.0	3.1	5.4	3.5
moderately important	22.1	15.3	19.3	18.0
very important	32.3	27.0	28.3	27.7
extremely important	41.6	54.6	47.0	50.8

Mehrabian's well-known "7-38-55" claim about the importance of nonverbal communication, formulated more than 40 years ago, has given rise to significant debate in terms of the proper proportions of the relative persuasive effectiveness of words, tone of voice, and body language – however, it remains beyond doubt that non-verbal communication very significantly assists and promotes understanding and agreement between interlocutors. The hypothesis that people working in different types of healthcare facility (Tables 14 and 15) will perceive differently the importance of verbal or non-verbal communication with the patient and treatment team in the treatment process should be rejected (with the exception of the Emergency Medical Team, which notes the lower importance of communicating with the patient compared to the other groups).

**Table 14.** Importance of verbal and non-verbal communication with the patient during the treatment process

	Type of workplace during COVID-19 pandemic 2020-2022 (% in columns)				
	dedicated COVID-19 hospital N = 467	temporary hospital N = 203	COVID-19 ward N = 951	Emergency Medical Services team N = 159	did not work/work with COVID-19 patients N = 756
<b>Importance of verbal communication with the patient during the treatment process</b>					
unimportant	1.1	0.5	1.1	0.6	0.7
moderately important	8.8	6.9	6.8	11.3	5.4
very important	24.8	31.0	22.3	27.7	22.4
extremely important	65.3	61.6	69.8	60.4	71.6
<b>Importance of non-verbal communication with the patient during the treatment process</b>					
unimportant	4.5	5.4	3.3	3.1	2.1
moderately important	19.9	20.2	18.2	23.9	15.7
very important	30.2	33.5	28.8	31.4	30.6
extremely important	45.4	40.9	49.7	41.5	51.6

**Table 15.** Importance of verbal and non-verbal communication among the treatment team in the process of treating the patient

	Workplace during COVID-19 pandemic 2020-2022 (% in columns)				
	dedicated COVID-19 hospital N = 467	temporary hospital N = 203	COVID-19 ward N = 951	Emergency Medical Services team N = 159	did not work/work with COVID-19 patients N = 756
<b>Importance of verbal communication among the treatment team during the treatment process</b>					
unimportant	0.4	1.0	0.4	0.6	
moderately important	8.4	8.4	5.2	11.9	7.9
very important	19.7	23.6	18.4	22.0	17.5
extremely important	71.5	67.0	76.0	65.4	74.6
<b>Importance of non-verbal communication among the treatment team during the treatment process</b>					
unimportant	3.4	5.4	3.4	4.4	2.9
moderately important	18.4	18.2	16.8	21.4	17.5
very important	30.0	34.0	26.9	25.2	29.2
extremely important	48.2	42.4	52.9	49.1	50.4

The results obtained on the importance of communication during the COVID-19 pandemic – unique and perhaps unrepeatable results – illustrate the importance of verbal and non-verbal communication in a time of struggling against a pandemic. Due to the requirements for patients and healthcare workers to wear masks, and for workers to wear protective suits, verbal communication became significantly attenuated, and in some cases actually prevented. It was precisely these epidemiological recommendations that, according to the vast majority of respondents (79.1%), made it difficult to build relationships and communicate with patients.

Factor analysis of responses regarding communication difficulties during the COVID-19 pandemic shows that they can be reduced to five dimensions, only one of which embraces more than one component variable (Table 16). In addition to the main dimension of epidemiological requirements

(the need to wear protective suits, masks, to comply with procedures and recommendations), day-to-day work was also seen to be hampered by information chaos – which was most prevalently indicted by physicians and paramedics. One-third of employees additionally also indicated that the focus on COVID-19 as a medical problem did not facilitate their work with patients.

It is worth noting the importance of the family in the diagnostic and treatment process. Nearly one in two respondents (45.8%) indicated that their lack of contact with the patient hinders relationship-building and communication. Although telemedicine may have facilitated accessibility to some forms of medical services, 38.0% of healthcare professional respondents nevertheless considered it an obstacle.

**Table 16.** Factors perceived by healthcare employees to hinder relationship-building and communication with patients during the COVID-19 pandemic

		Professional group			
		Physicians N = 498	Nurses N = 1216	Paramedics N = 166	Other professions N = 423
<b>Dimension 1: epidemiological recommendations</b>	<i>n</i>	387	978	123	333
	%	77.7	80.4	74.1	78.7
protective suits and masks preventing facial expressions from being read	<i>n</i>	233	683	88	215
	%	46.8	56.2	53.0	50.8
the need for additional epidemiological procedures	<i>n</i>	193	330	47	136
	%	38.8	27.1	28.3	32.2
the need for social distancing	<i>n</i>	121	405	33	132
	%	24.3	33.3	19.9	31.2
<b>Dimension 2: information chaos</b>	<i>n</i>	238	455	79	168
	%	47.8	37.4	47.6	39.7
<b>Dimension 3: inability of patients to contact their relatives</b>	<i>n</i>	199	616	58	181
	%	40.0	50.7	34.9	42.8
<b>Dimension 4: new forms of remote contact – telemedicine</b>	<i>n</i>	170	460	72	172
	%	34.1	37.8	43.4	40.7
<b>Dimension 5: greater focus on the medical problem of COVID-19</b>	<i>n</i>	162	418	60	129
	%	32.5	34.4	36.1	30.5

### 1.3.2. The perspective of patients of healthcare facilities

Patients participating in the Survey at Healthcare Facilities were asked to indicate up to 3 elements as most important during their contacts with healthcare staff (the analysis in this section discusses only the results from the survey of patients at healthcare facilities, in order to ensure direct methodological comparability, in terms of both the technique of implementation and the form of questions, with the opinions of healthcare employees at these same facilities, as presented earlier in this section).

Patients' opinions were found to be more diverse than those of healthcare professionals, and factor analysis did not result in a significant reduction in dimensionality; however, five key dimensions were identified based on this analysis. Table 17 shows patient responses ordered according to decreasing percentages of indications (within each dimension, the individual elements are also ordered by decreasing percentages).

When dealing with healthcare professionals, the most important dimension for patients is for staff too focus on their own particular history, condition, and needs – with 70.5% of all patients indicating at least one of the elements making up this dimension (and almost all of these selecting at least two of them). Patients see it as important to have the treatment process clearly explained to them, including the necessary tests and possible side effects of treatment (36.8%). They would also like assistance in transitioning to the next stage of treatment (25.4%) and to be treated with an individual approach (31.6%).

The second dimension groups together emotional needs. Patients expect to be given time, to be listened to and treated politely (38.4%) and to be treated with empathy (24.5%) – as they indicated during the qualitative interviews, they expect a “human approach.” This is an expectation that is hard to fulfil, however, given that a shortage of time is a persistent issue for healthcare workers.

One of the most important expectations of patients is clear and comprehensible communication (43.3%) – an element which, due to its importance and independence from other variables, we adopt as a homogeneous dimension in its own right. The next, fourth group of elements make up a dimension related to trust-building – honesty, intimacy, respect for the patient's rights as a human being – recognized as important by 38.6% of respondents. The final independent dimension is the element “carefulness and accuracy in performing actions,” indicated by one in three respondents.

**Table 17.** Perceived importance of individual elements in dealing with healthcare professionals

	Patients in the Survey at Health-care Facilities <i>N</i> = 1572	
	<i>n</i>	%
<b>Dimension 1: the patient and patient needs</b>	<b>1108</b>	<b>70.5</b>
presenting the treatment process, necessary tests, and possible side effects of treatment	579	36.8
taking individual approach to the patient	497	31.6
providing assistance in transitioning to the next stages of treatment	400	25.4
<b>Dimension 2: time and openness to the patient</b>	<b>862</b>	<b>54.8</b>
taking time, listening, being courteous	603	38.4
showing empathy	385	24.5
<b>Dimension 3: clear and comprehensible communication with the patient</b>	<b>680</b>	<b>43.3</b>
<b>Dimension 4: building trust</b>	<b>578</b>	<b>36.8</b>
maintaining confidentiality and respecting intimacy	236	15.0
focusing on the patient, not just the disease	203	12.9
establishing a relationship of trust and honesty	231	14.7
<b>Dimension 5: carefulness, accuracy of actions performed</b>	<b>519</b>	<b>33.0</b>

Five demographic variables – gender (GEN), age (AGE), education (EDU), size of place of residence (RES), occupational status (OCC) – and two variables reflecting self-assessments – self-assessment of the patient’s household financial situation (SHFS) and self-assessment of health (SH) – were selected for preliminary analysis of the most important elements during contact with healthcare professionals.

Analyses confirmed significant correlations between the above-mentioned characteristics of respondents and their choices regarding the importance of particular elements in their interactions with healthcare professionals, but did not yield a clear pattern of correlation (as shown in Table 18). The characteristics showing the strongest relationships with the opinions reported ( $p < 0.001$ ) were education and size of residence: both traits were correlated with the element “presentation of the treatment process, necessary examinations and possible side effects of treatment,” while education was additionally correlated with “establishing a relation-

ship of trust and sincerity.” Gender was found to be associated with the expectation of “empathy,” age with “establishing a relationship of trust and sincerity.” Subjective self-assessment of health was found to show a correlation with statistical significance (albeit weaker, at  $0.01 < p < 0.05$ ) with two categories of opinions.

Three assertions showed a significant relationship with **gender**. Women were more likely than men to find it important to be given time, listened to, and treated kindly, and to be treated with empathy (the percentages were, respectively: 40.3% vs. 35.3%, 27.5% vs. 19.7%). On the other hand, the carefulness and accuracy of actions performed was more important for men than for women (36.0% vs. 31.2%).

Assistance in transitioning to the next stages of treatment becomes more important as patients **age**. The difference in indications between the oldest and youngest groups of patients is slightly more than ten percentage points (31.6% for patients aged 65 and over, 21.0% for patients aged 18–29). An inverse relationship was found in terms of expectations of confidentiality and respect for intimacy – the younger the patients, the more important this dimension becomes for them. It was noted by 21.0% of 18- to 29-year-olds, but 8.8% of those aged 65 and older.

The higher the patient’s level of **education**, the more important it is for them to have the treatment process, the necessary tests and possible side effects of treatment clearly explained to them (expected by 43.1% of respondents with higher education, vs. 27.3% of those with lower education) and clear and comprehensible communication (47.2% vs. 38.3%, respectively). However, the lower the patient’s level of education, the more important for them is being assisted in transitioning to the next stages of treatment (indicated as important by 31.2% of respondents with less than a secondary-school education vs. 25.5% of those with higher education) and establishing a relationship of trust and sincerity (17.0% vs. 9.9%, respectively).

Patients’ expectations show a relationship with the **place of residence**. The larger the class of the city or town (determined by the number of residents), the greater the importance of having the treatment process, necessary tests and possible side effects of treatment explained, and of clear and comprehensible communication. The expectations of patients living in cities of 500,000 or more vs those living in rural areas differ by 13 percentage points for each of these variables (48.0% vs. 34.5%; 51.7% vs. 38.8%). However, the smaller the locality in which the patient lives, the more important they will find establishing a relationship of trust and sincerity (14.3% vs. 7.4%).

A personalized approach to the patient is more important for those who are professionally employed than for those who are not currently employed (36.6% vs. 29.3% respectively). But presentation of the treatment process, necessary tests and possible side effects of treatment are more often expected by those who are not working (38.6%) than those who are active (33.0%).

Patients who view their own **financial situation** less positively expect to be given time and listened to more than those who view it more positively (indications from patients from families with low financial status were 43.0%, while those from very affluent households were 36.9%). An inverse relationship is found in connection with expectations of clear and comprehensible communication with the patient and presentation of the treatment process, necessary tests and possible side effects of treatment the more affluent households, the greater the importance in these areas (48.4% vs. 41.7%; 34.8% vs. 29.4%, respectively).

Clear and comprehensible communication with the patient is more likely to be expected by patients who rate their own **health** well than by those who rate it poorly (45.8% vs. 37.3%). In contrast, patient focus will be more important to those who rate their health poorly (18.8%) than to those who rate their health positively (12.3%).

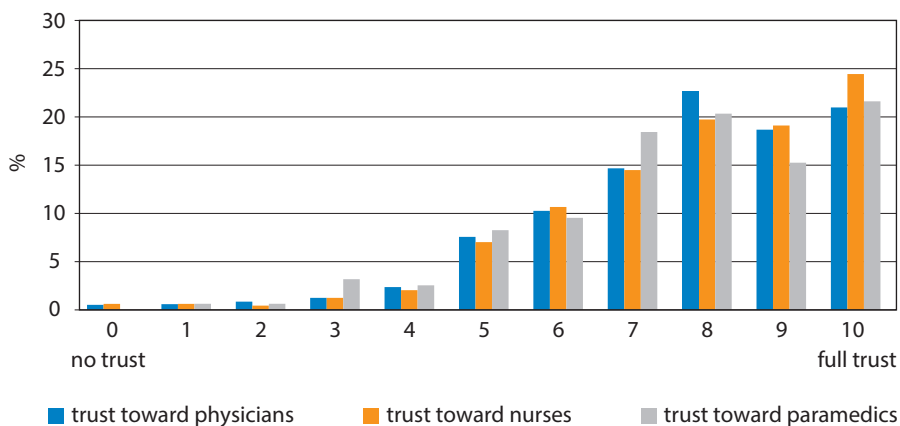
Trust is one of the important elements in building relationships between patients and healthcare professionals. Patients were asked to describe their level of trust towards physicians, nurses, paramedics on an eleven-point scale, with a score of 0 indicating no trust and a score of 10 indicating complete trust. Patients were asked to characterize trust only with respect to healthcare staff members with whom they had contact at a particular healthcare facility at the time of the survey. The breakdown of patients' trust of healthcare facilities toward each professional group is shown in Figure 6.

Patients reported that they had the highest degree of trust on this scale towards nurses (mean: 7.85, SD = 1.96), followed by physicians (mean: 7.74, SD = 1.95) and paramedics (mean: 7.62, SD = 1.98). The averages obtained, as well as the distribution of responses across the scale, illustrate a generally high level of trust towards healthcare professionals. To examine these opinions in greater detail, responses were clustered into four groups: "no trust / little trust" (level 0,1,2,3), "medium trust" (4,5,6), "high trust" (7,8) and "very high trust" (9,10).

**Table 18.** Significance of correlations found between the patient-perceived importance of individual elements in dealings with healthcare professionals vs. selected patient characteristics

	GEN	AGE	EDU	RES	OCC	SHFS	SH
<b>Dimension 1: the patient and patient needs</b>							
presenting the treatment process, necessary tests, and possible side effects of treatment	-	-	***	***	*	*	-
taking individual approach to the patient	-	-	-	-	**	-	-
providing assistance in transitioning to the next stages of treatment	-	*	*	-	-	-	-
<b>Dimension 2: time and openness to the patient</b>							
taking time, listening, being courteous	*	-	-	-	-	*	-
showing empathy	***	-	-	-	-	-	-
<b>Dimension 3: clear and comprehensible communication with the patient</b>	-	-	*	*	-	*	*
<b>Dimension 4: building trust</b>							
maintaining confidentiality and respecting intimacy	-	***	-	-	-	-	-
focusing on the patient, not just the disease	-	-	-	-	-	-	**
establishing a relationship of trust and honesty	-	-	***	*	-	-	-
<b>Dimension 5: carefulness, accuracy of actions performed</b>	*	-	-	-	-	-	-

\*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ ; - statistically insignificant results; GEN – gender; AGE – age; EDU – education; RES – size of place of residence; OCC – occupational status; SHFS – self-assessment of household financial status; SH – self-assessment of health



**Figure 6.** Level of trust in representatives of selected medical professions, as reported by patients

A very high level of trust was reported for nurses by 43.3% of patients, but by significantly fewer patients for physicians (39.5%) and paramedics (36.7%). A lack of trust in healthcare employees of the analyzed groups was expressed by 4.4% of patients (of which 3.2% do not trust representatives of one particular group, 1.1% those of two groups, and 0.1% did not trust any of the three employee groups being analyzed). The distribution of trust for each group of employees of healthcare facilities is shown in Table 19.

**Table 19.** Level of trust in healthcare workers

	level of trust							
	none/little		medium		high		very high	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
trust towards physicians	49	3.2	307	20.1	568	37.2	603	39.5
trust towards nurses	33	2.9	222	19.6	385	34.1	490	43.4
trust towards paramedics	7	4.4	32	20.3	61	38.6	58	36.7

Trust expressed for one group of employees is also reflected in trust in other groups (statistical significance was obtained at a high level of  $p < 0.001$ ). This can bring positive practical implications – building a positive image and trust in the healthcare system can be based on trust in one or selected groups of employees.

Of the independent variables (mainly demographic) selected for analysis, no significant relationship was noted between trust toward particular

groups of employees and the variables of gender or occupational status. None of the selected demographic characteristics showed an association with trust in paramedics.

The variable for which there was an association with each of the analyzed groups was self-assessment of health – the significance of its correlation with trust in physicians was  $p < 0.001$ , with trust in nurses  $p = 0.005$  ( $0.05 < p < 0.001$ ). The better the patients rated their own health, the more trust they had in these healthcare professionals. Correlations of weaker significance ( $p < 0.05$ ) were observed for age, education, place of residence and self-assessment of household financial status. The older the patients, the higher the level of their education, the larger the town in which they reside, and the better they assess their own wealth, the stronger patients felt trust in the above-mentioned professional groups. The correlations found between the level of trust and selected characteristics, and their strengths, are shown in Table 20.

**Table 20.** Significance of correlations found between the level of trust towards healthcare employee groups vs. selected patient characteristics

	GEN	AGE	EDU	RES	OCC	SHFS	SH
trust towards physicians	-	*	*	-	-	*	***
trust towards nurses	-	-	-	*	-	-	**
trust towards paramedics	-	-	-	-	-	-	-

\*  $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ ; statistically insignificant results; GEN – gender; AGE – age; EDU – education; RES – size of place of residence; OCC – occupational status; SHFS – self-assessment of household financial status; SH – self-assessment of health.

Next, factor analysis of patients' opinions regarding the greatest barriers and impediments to building relationships and communicating with healthcare professionals identified five dimensions, which together form two separate axes: administrative barriers and interpersonal barriers (Table 21). In terms of administrative barriers, patients saw the biggest obstacles as being related to the first dimension – insufficient staff numbers and the resulting staff fatigue (57.3%) – closely linked to dimensions 3 and 4, namely insufficient time (42.6%) and excessive bureaucracy (36.4%). Among interpersonal barriers, patients reported the most important to be ignorance and arrogance shown towards patients (43.8%), which manifests itself in a lack of interest in the patient, difficulty in obtaining information, and even arrogance, self-glorification or aggression on the part of healthcare workers. Less than a third of patients (28.1%) pointed to insufficient communication skills on the part of healthcare workers – manifest either

**Table 21.** Patient-perceived importance of individual elements that hinder forming relationships and communicating with healthcare professionals

	Patients from the Survey at Healthcare Facilities N = 1572	
	n	%
<b>Dimension 1: insufficient staff numbers, exhaustion</b>	900	57.3
too few healthcare workers relative to the number of patients	644	41.0
exhaustion of healthcare workers	473	30.1
<b>Dimension 2: ignorance and arrogance towards patients</b>	688	43.8
lack of interest in the patient, ignoring him	378	24.0
difficulty in getting information from staff	293	18.6
arrogance, self-glorification, aggression on the part of staff	266	16.9
<b>Dimension 3: insufficient time</b>	669	42.6
<b>Dimension 4: excessive bureaucracy</b>	572	36.4
<b>Dimension 5: lack of communication skills</b>	441	28.1
use of professional, overly complex language	244	15.5
lack of communication skills on the part of healthcare workers	236	15.0
nothing hinders	78	5.0

in the use of overly difficult, specialized language or simply in a lack of communication skills.

Analogously as for the factors seen as being conducive to communication and relationship-building with healthcare professionals, the barriers considered by patients to hinder such communication and relationship-building were analyzed for correlations with the independent demographic variables and self-assessments of household financial situation and health. The overall findings were similar: statistically significant correlations can be observed between various elements, but they are not systematic and do not fit together into an interpretively clear picture. The greatest number of correlations was observed for the variable of being professionally employed (with seven elements). Education and self-assessment of health showed significant relationships with five elements. Gender and age, which are common correlates in social surveys, did not generally differentiate opinions. The level of significance of the relationships found between the elements that hinder relationship-formation and communication with employees of different groups of staff and the selected characteristics of the respondents is shown in Table 22.

**Table 22.** Significance of correlations found between elements perceived to hinder the formation of relationships and communication with healthcare employees vs. selected patient characteristics

	GEN	AGE	EDU	RES	OCC	SHFS	SH
<b>Dimension 1: small number of employees, exhaustion</b>							
too few healthcare workers relative to the number of patients	-	-	**	-	-	-	-
exhaustion of healthcare workers	-	-	-	**	-	-	-
<b>Dimension 2: ignorance and arrogance towards patients</b>							
lack of interest in the patient, ignoring him	-	*	-	-	*	-	*
difficulty in getting information from staff	-	*	-	-	**	-	**
arrogance, self-glorification, aggression on the part of staff	-	-	-	**	**	-	-
<b>Dimension 3: not enough time</b>							
	-	-	***	**	-	-	-
<b>Dimension 4: excessive bureaucracy</b>							
	-	**	**	-	**	-	-
<b>Dimension 5: lack of communication skills</b>							
use of professional, overly complex language	-	-	**	-	-	-	-
lack of communication skills on the part of healthcare workers	*	-	-	***	*	*	*

\* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ ; - statistically insignificant results; GEN – gender; AGE – age; EDU – education; RES – size of place of residence; OCC – occupational status; SHFS – self-assessment of household financial status; SH – self-assessment of health.

For **gender**, a significant correlation was noted only for the barrier posed by a lack of communication skills on the part of healthcare workers ( $p = 0.049$ ), perceived more often by men (17.2%) than women (13.6%). As patients grew **older**, excessive bureaucracy was perceived as a greater difficulty (28.5% among 18- to 29-year-olds, 43.5% among patients aged 65 and older). There was an inverse relationship for difficulties in obtaining information from staff and a lack of interest shown in the patient, ignoring him or her – these difficulties were more often indicated by younger respondents (18.2% vs. 10.4%; 30.8% vs. 18.7%, respectively).

The higher the patient's level of education, the more they noted as barriers: insufficient healthcare staff numbers relative to the number of patients (among those with higher **education**, the answer was indicated by 47.2%, vs. 34.0% of respondents with less than a secondary-school education), insufficient time (49.7% vs. 33.3%), excessive bureaucracy (38.5% vs. 29.1%). The lower the patient's level of education, the greater the perceived difficulty posed by the use of professional, overly complex language (indicated by 18.8% of patients with less than a secondary-school education, vs. 11.8% of those with higher education). Healthcare worker fatigue, arrogance, self-glorification, and aggression on the part of staff, insufficient time, and a lack of communication skills of healthcare workers are perceived as barriers with increasing frequency as the population of the patient's **place of residence** increases.

Those in the **labor force** were significantly more likely than those not currently employed to point to the staff's lack of interest in patients / ignoring of patients; difficulty getting information from staff; arrogance, self-glorification, and aggression on the part of staff; excessive bureaucracy and a lack of communication skills of healthcare workers. The perceived lack of healthcare staff's communication competence increases with the patient's weaker perception of their own **financial situation**.

The worse the patient's **self-assessment of their own health**, the more often the following were indicated as elements hindering communication: staff showing a lack of interest in the patient / ignoring the patient (30.8% among patients self-assessing their health negatively, 22.5% among those with a positive self-assessment); a lack of communication skills on the part of healthcare workers (20.2% vs. 14.1%, respectively), difficulties in obtaining information from staff (25.4% vs. 16.3%, respectively).

*"The pandemic is completely out of synch with reality and the real needs of the patient. COVID-19 has overshadowed real, everyday illnesses."*  
(a patient interviewed during our study)

Factor analysis of patient perceptions of elements hindering relationship-building and communication with healthcare workers during the COVID-19 pandemic identified four dimensions (Table 23). The barriers most often indicated by patients were those that made it difficult or impossible for them to obtain information and contact their relatives (cited by 61.8% of healthcare facility patients). Every second patient (51.4%) pointed to elements directly related to the need to protect themselves from coronavirus, i.e., the use of masks, protective suits, social distancing.

The ability to remotely contact healthcare personnel and obtain advice was cited by some patients as one of the positive effects of the pandemic. However, for 42.6% of respondents, telemedicine was seen as posing an obstacle to building relationships and communicating with healthcare professionals.

A slightly smaller percentage of patients (41.1%) felt that the focus on the pandemic was an obstacle in itself and distracted healthcare professionals from the patient, from his or her needs and problems. The breakdown of patients' opinions in specific areas and elements directly related to the COVID-19 pandemic is shown in Table 23.

**Table 23.** Patient-perceived importance of individual elements that hinder forming relationships and communicating with healthcare workers during the COVID-19 pandemic

	Patients from the Study at Healthcare Facilities	
	<i>n</i>	%
<b>Dimension 1: lack of access to information and loved ones</b>	<b>971</b>	<b>61.8</b>
lack of contact between patients and their relatives	561	35.7
no way to make contact or obtain information	506	32.2
insufficient information regarding the patient's condition	341	21.7
<b>Dimension 2: distancing, masks and suits</b>	<b>808</b>	<b>51.4</b>
masks making it impossible to understand what someone is saying	471	30.0
the need for social distancing	354	22.5
suits and masks preventing facial expressions from being read	308	19.6
<b>Dimension 3: new forms of remote contact – telemedicine</b>	<b>670</b>	<b>42.6</b>
<b>Dimension 4: focus on the epidemic</b>	<b>646</b>	<b>41.1</b>
staff focused more on patients with COVID-19 disease than on me	398	25.3
having to comply with additional epidemiological procedures	365	23.2
no hindrance	93	5.9

Opinions on impediments to building relationships and communicating with healthcare staff during the COVID-19 pandemic were found to be less correlated with specific patient characteristics than in the case of such relationships and communication with healthcare workers “on a normal basis.” The most correlations were observed in relation to the size of the place of residence (with four independent variables) and with the assertion of staff being “focused more on patients with COVID-19 disease than on me” (also with four independent variables).

The levels of significance of the correlations identified between elements that hinder the formation of relationships and communication with healthcare employees during the pandemic vs. selected patient characteristics are shown in Table 24. In terms of **gender**, the inability of patients to contact their relatives during the pandemic was seen as a greater hindrance by women noticeably more than by men (37.6% vs. 32.7%), while conversely, insufficient information about the patient’s condition was seen as a hindrance by a higher percentage of men than women (25.6% vs. 19.2%). A significant relationship with **age** was confirmed for only one element: mask-wearing was seen as an impediment to understanding of verbal communication more by older patients (indicated by 36.8% in the group of respondents aged 65 and over, and 32.7% in the youngest group of 18- to 29-year-olds). The level of **education** of the respondents was also a correlator of only a single element – the higher the level of education, the more frequently the inability to make contact and obtain information was indicated as an obstacle (indicated by 37.3% among patients with higher education, and 24.5% among those who did not complete secondary school).

Of the demographic variables analyzed, the population class of the patient’s **place of residence** showed significant relationships with the most elements (four), perhaps as a direct effect of the restrictions and impediments to movement during the pandemic. The larger the size of the locality the patient resided in, the more often they noted the following elements as a barrier: staff being more concentrated on those with COVID-19 than on them (32.1% for residents of cities of 500,000+ vs. 18.9% for rural areas); new forms of remote contact – telemedicine (42.8% for residents of cities of 500,000+ vs. 34.9% for rural areas); and an inability to make contact and obtain information (38.7% for residents of cities of 500,000+ vs. 26.1% rural areas). Conversely, the smaller the size of the locality, the more indications there were that protective suits and masks that hampered the reading of facial expressions (25.4% for residents of rural areas vs. 14.4% for cities 500,000+).

**Table 24.** Significance of correlations found between elements perceived to hinder the formation of relationships and communication with healthcare employees during the COVID-19 pandemic vs. selected patient characteristics

	GEN	AGE	EDU	RES	OCC	SHFS	SH
<b>Dimension 1: lack of access to information and loved ones</b>							
lack of contact between patients and their relatives	*	-	-	-	-	-	-
no way to make contact or obtain information	-	-	***	***	-	-	-
insufficient information regarding the patient's condition	**	-	-	-	-	-	-
<b>Dimension 2: distancing, masks and suits</b>							
masks making it impossible to understand what someone is saying	-	*	-	-	-	*	-
the need for social distancing	-	-	-	-	-	-	-
suits and masks preventing facial expressions from being read	-	-	-	**	-	-	-
<b>Dimension 3: new forms of remote contact – telemedicine</b>	-	-	-	**	-	-	-
<b>Dimension 4: focus on the epidemic</b>							
staff focused more on patients with COVID-19 disease than on me	-	-	-	**	*	*	**
having to comply with additional epidemiological procedures	-	-	-	-	*	-	-

\* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ ; – statistically insignificant results; GEN – gender; AGE – age; EDU – education; RES – size of place of residence; OCC – occupational status; SHFS – self-assessment of household financial status; SH – self-assessment of health.

Those who were professionally **employed** were more likely than those who were not currently working to indicate, as impediments, a greater staff focus on COVID-19 patients than on themselves, and the need to comply with additional epidemiological procedures (27.4% and 22.3%, respectively, for professionally active patients vs. 25.7% vs. 20.2% for those not employed).

Although **self-assessment of household financial status** showed correlations with two elements, the directions for each are in opposite directions. The better their self-assessment of wealth, the more patients indicated that building relationships and communicating with health-care staff the pandemic was impeded by a focus more on patients with COVID-19 than on them (32.2% of patients considering themselves very affluent, vs. 24.8% among those who considered their financial situation bad). The lower the wealth of the patients' household, on the other hand, the more protective masks were seen as making verbal communication more difficult (36.0% of respondents who described their own financial status as bad, vs. 32.0% of those describing it as very affluent).

We expected **self-assessment of health** to show positive correlations, yet found a statistical significance only with respect to a single element: greater staff focus on patients with COVID-19 disease. The direction, however, was in line with the hypothesis: such an impediment was more often indicated by those assessing their own health less favorably (32.2% among patients assessing their health negatively, vs. 24.8% among patients who assessed their health status positively).

The hypothesis that variables directly related to the pandemic – i.e., contracting COVID-19, getting vaccinated against COVID-19, having a loved one die during the pandemic or due to coronavirus, fear of reporting to a healthcare facility due to COVID-19 – would more often or more strongly correlate with opinions about barriers to building relationships and communicating with employees during the pandemic was generally not confirmed. The most significant correlations were observed for the statement “greater staff focus on patients with COVID-19 disease than on me” in combination with the variables of getting vaccinated against COVID-19 ( $p < 0.001$ ), experiencing COVID-19 infection/disease, and experiencing the death of a loved one ( $p < 0.05$ ).

#### 1.4. Summary, practical implications, and directions for further research

This study scrutinized how patients and healthcare professionals understand the humanization of medicine. For physicians and paramedics, its

most important dimension in day-to-day work was found to be the quality of communication. In contrast, nurses and representatives of other medical professional groups placed the greatest emphasis on the individuality of needs and putting the patient first. The latter groups paid more attention to the importance of openness, empathy, and the need to inspire trust in patients than paramedics and doctors. Nearly all of the employees we surveyed (more than 92%) described communication as at least “very important.” In the study by Bush et al. (2019), participants listed being attentive and interested in the patient, as well as sensitive verbal/non-verbal communication, as important means of establishing such a bond; similar findings were also reported in earlier studies (Frampton & Guastello, 2014). Moreover, several authors have linked empathy to an improved therapeutic relationship (Haslam, 2007).

Insufficient time, intense routinization of work, excessive demands on healthcare providers, excessive bureaucratization, and additional activities beyond the scope of professionals’ duties are perceived as significant barriers to achieving humanized care. In our survey, a majority of all healthcare professionals (more than 81% on average) reported that their day-to-day work was most hampered by bureaucracy, insufficient time, and poor working conditions, which translates into difficulties in obtaining information from patients. In addition to this, paramedics are equally strongly affected by factors related to the demanding attitude of patients, families, and arrogance on their part. What is more, our findings indicate that understaffing relative to the number of patients affects nurses and midwives most adversely. Moreover, fatigue is an important disruptive factor. The above results are corroborated by the findings of Jeleff et al. (2022), who reported that, during the COVID-19 pandemic, the lack of healthcare preparedness included delayed guidelines for infection prevention and control, shortages of personal protective equipment in combination with staffing shortages (especially nursing staff), and overworked personnel. Physical and mental burdens resulted from the overworking of healthcare staff, who worked in constant readiness to face medical uncertainties and critical patient conditions. When organizations are able to overcome these barriers, to create the right working conditions, and thereby to demonstrate that the wellbeing of healthcare workers is important, employees experience greater job satisfaction, are less prone to job burnout, and provide better care.

During the COVID-19 pandemic, in addition to epidemiological recommendations (the need to wear protective suits and masks, to comply with procedures and recommendations), day-to-day work was hampered

by information chaos. Physicians and paramedics indicated this most frequently. One-third of healthcare employees additionally also indicated that the focus on COVID-19 as a medical problem complicated their work with patients. Other studies have also reported that the pandemic-related visitation restrictions precipitated fundamental changes in the way communication is established between family members, patients and healthcare workers (Bernild et al., 2021; Hasselkus and Moxley, 2021).

It should be emphasized that healthcare professionals will only be able to truly care for patients and provide humane care if their own human needs are also being met. The humanization of medicine is a timeless concept, and professionals should show respect for themselves and others and promote values such as sensitivity, solidarity, generosity and empathy, active listening, respect and compassion.

Taking a “personalized approach to the patient” means focusing on their own personal story, rather than treating them as just another disease case. Responding to their needs requires healthcare professionals to be committed, empathetic, and to set aside sufficient time. Meeting the last expectation appears to be extremely difficult these days. Insufficient time, excessive bureaucracy, and staff shortages effectively impede relationship-building and good communication between patients and staff.

Patients report that they expect clear, comprehensible communication about their health and the next steps in the diagnostic / treatment process. At the same time, they indicate that not only the lack of sufficient competence an obstacle to this goal, but so too is ignorance and arrogance on the part of healthcare employees.

During the kind of sudden public health crisis that was posed by the COVID-19 pandemic, the public’s attitude toward healthcare workers can change rapidly depending on how well healthcare personnel handle the illness and their relationships with patients. A review of the literature provides ample evidence that trust is critical to the smooth functioning of complex systems, especially in healthcare (Barachet al., 2020; Hallet al., 2001; Changet al., 2013). Gopichandran and Sakthivel (2021) found that patients reported difficulty communicating with their doctors due to physical distance, the use of personal protective equipment, and limited time spent interacting with them due to COVID-19 recommendations. Despite this inaccessibility and difficulty communicating with

physicians, respondents' trust in physicians remained high even during the COVID-19 pandemic. The study reported that older the respondent, the less trust they harbored in physicians, but the less difficulty they experienced in communicating; as education levels increased, trust in physicians decreased and difficulty communicating increased. Our study also indicates that only 4% of patients expressed a lack of trust in medical professionals, and the greatest trust was declared with respect to the groups of physicians and nurses.

Below we will analyze scales and questions not described in this section. For example, separate analyses are needed to assess the quality of communication between medical workers and patients as measured by the HP-CSS scale, where its various dimensions can be assessed: empathy, respect, social skills and clarity of communication. It can also be hypothesized that the many burdens of working during a pandemic not only affected the mental health of healthcare workers, but also impacted on their relationship with patients. Such in-depth analyses will require joint treatment of the issues that, in this initial report, are discussed in separate sections.

It is noteworthy that both patients and staff perceived similar difficulties during the pandemic period in terms of staff fatigue and shortages, lack of contact with relatives and families, etc. Perspectives that may seem separate therefore turn out to merge, expressing similar needs on the part of both groups. The humanization of healthcare involves incorporating "humanity" into every point of care. This means bringing compassion and empathy into medical science, but also paying attention to both parties – staff and patients – and including both of them into the fold, whilst at the same time acknowledging the asymmetrical nature of the relationship.

*"I'm terribly tired of this job, I could use a rest, and I'm at the stage of thinking about seeing a therapist because of professional burnout, etc. I guess I've probably maxed out. I do still really try sometimes, but it has ceased to be enjoyable for me. Maybe this job once used to be a source of pleasure, at a job well done, but now it's just being overworked."*

(a psychiatrist interviewed during our study)

*"The pandemic brought out the worst in everyone and everyone revealed how they coped with stress – very often these were unproductive methods. Few people showed themselves capable of maintaining a calm, matter-of-fact approach – for example, nurses would yell at a doctor for doing something wrong, doctors would yell at one another. That's the kind of immature behavior there was."*

(a patient with a hospitalized child, interviewed during our study)

## 2.

### The COVID-19 pandemic from the perspective of healthcare workers

#### 2.1. Background of the analysis

Professional employment is an extremely important part of people's lives and affects their day-to-day functioning. It can be a source of much joy and success, but also a cause of breakdowns and depression (Khamisa et al., 2015). In recent decades, the workload associated with professional employment has increased, which can detract from employee productivity also affecting their health (Tremblay & Messervey, 2010).

Healthcare workers around the world are also victims of negative phenomena in and out of the workplace, such as harassment, abuse, long working hours, mental suffering, fatigue and job burnout. In addition to the violence inflicted on healthcare workers directly, the pandemic itself has negatively affected their mental condition, leading to increased anxiety (Mete et al., 2022).

Staff burnout is detrimental not only for individual employees, but also for their working with patients and for the healthcare institution as a whole. Professional burnout has been shown to increase the risk of medical errors and adversely affect patient safety (Shanfelt et al., 2010). Higher levels of burnout have also been associated with greater dissatisfaction among patients and more frequent complaints from patients and their families (Profit et al., 2014). Another major implication for the healthcare system is that doctors suffering from burnout are more likely to retire early, which can delay or prevent patient access to the most experienced doctors and increase wait times for treatment (Lacy & Chan, 2018).

The global community needs to be aware of the potential psychosocial consequences that may be experienced by healthcare workers interacting with COVID-19 patients. These healthcare workers are at increased risk of experiencing mood and trauma-related disorders, including post-traumatic stress disorder (PTSD) (Benham et al., 2022). Monitoring of working conditions, as well as the emotional reactions of healthcare workers in the face of global pandemics, should be performed to prevent the development of post-traumatic stress reactions (Canal-Rivero et al., 2022).

The objective of this chapter is to analyze the percentage distribution of responses to individual questions, broken down by the four professional

groups, as well as to identify the percentage distributions of the incidence of burnout and PTSD.

## 2.2. Research tools and method of presenting results

The selection of standardized scales for the staff and patient questionnaires was guided by their compatibility with the thematic scope of the project and the adopted conceptual model; their length was also important in view of the time limit set for completing the questionnaires. The standardized BAT-12 and PTSD-8 tools were used to verify professional burnout and PTSD.

The process of adapting the BAT-12 scale involved translating it into Polish and then back-translating it, as well as obtaining permission from the author. The international invariance of BAT measurements demonstrated in seven nationally representative samples (i.e., Austria, Belgium, Finland, Germany, Ireland, the Netherlands, and Japan) has identified BAT as a reliable tool for comparing burnout levels across countries (de Beer et al., 2020). The Burnout Assessment Tool (BAT) is a new questionnaire for measuring burnout, whose development was considered necessary because the most widely used questionnaire, the Maslach Burnout Inventory (MBI), is fraught with a number of conceptual, technical, and practical inadequacies.

Alongside the full version of the BAT, containing 23 items, an abbreviated version with 12 items is also available. The psychometric properties of BAT-12 (i.e., factor relevance, internal consistency, test-retest reliability, and convergent and discriminant validity) are similar to those of the full version. In addition, the relevant subscales and total scores of both versions of the BAT correlate almost perfectly. The BAT-23 is recommended for individual diagnostic assessment, while the BAT-12 can be used equally well for other purposes, such as screening and monitoring.

The BAT theoretical framework conceptualizes burnout as a syndrome that combines four interrelated core components. According to this perspective, *exhaustion* refers to the depletion of physical and psychological resources; *mental distance* describes indifference to one's work and disillusionment with its meaning; *emotional impairment* involves overwhelming negative emotions associated with daily tasks; *cognitive impairment* encompasses signs of diminished cognitive processes such as concentration, attention and memory (Schaufeli et al., 2020).

Moreover, based on a group with severe burnout, clinical cutoff scores were calculated. These can be used to identify employees who are at risk

of burnout or most likely to experience severe burnout. Average scores on BAT scales are calculated by adding the scores of all items of a given subscale and then dividing the sum by the number of items of that scale. The following scoring categories are used: 1 – “never,” 2 – “rarely,” 3 – “sometimes,” 4 – “often,” and 5 – “always,” and so the value of the average scale scores ranges from 1 to 5. Adding the scores of all BAT items and dividing the sum by 23 (or by 12 for the abbreviated version) yields an overall score, which also ranges from 1 to 5. In this study we adopt the cutoff points posited in the BAT handbook by Schaufeli et al. (2020): scores up to 2.53 are interpreted as no burnout, scores greater than or equal to 2.54 and less than 3.02 as entailing a risk of burnout, and scores equal to or greater than 3.02 as indicating burnout highly likely.

The process of adapting the PTSD-8 (Post-traumatic Stress Disorder) scale also involved translating it into Polish and back-translating it, as well as obtaining the author’s permission. The PTSD-8 consists of 8 items and three dimensions – *Intrusion*, *Avoidance*, and *Hypervigilance*.

The PTSD-8 has been shown to have good psychometric properties in three independent samples: among head trauma patients ( $N = 1710$ ), rape victims ( $N = 305$ ), and disaster victims ( $N = 516$ ). It has proven to be a good tool for use in screening for PTSD in different trauma populations at different times. It also has advantages over other screening measures in that it assesses symptom severity. In addition, the PTSD-8 has been validated in three large, heterogeneous trauma samples with high rates of PTSD. The PTSD-8 shows good psychometric properties and can be used by a variety of healthcare professionals without trauma-related specialties (Hansen et al., 2010). To conclude that the syndrome is present, there must be at least one of four intrusion items with a score  $> 3$ , at least one of two avoidance items with a score  $> 3$ , and at least one of two hypervigilance items with a score  $> 3$ .

For the purpose of our analyses, healthcare employees were divided into 4 groups – physicians, nurses, paramedics, and other medical and non-medical professions. The criterion for inclusion in the analyses was contact with patients on a daily basis and work during the COVID-19 pandemic period, as determined by the question “Did you work professionally during the COVID-19 pandemic period?” – in response to which one or more of the following statements could be selected: “yes, in 2020,” “yes, in 2021,” and “yes, in 2022.”

These two established measurement scales were used describe occupational burnout and PTSD, while for the rest of the questions, an original questionnaire was used, developed by the research team after reviewing

the literature and available tools, analyzing responses to individual questions. Further questions from the section “Working during the COVID-19 pandemic” asked about working hours, working with infected people, the decision to work with infected people, daily cooperation among medical workers, and experiencing bullying.

## 2.3. Results

### 2.3.1. Working during the COVID-19 pandemic

Among the group of 2303 healthcare professionals surveyed, in response to the question “How much did you work during the COVID-19 pandemic?”, paramedics (3%) least often reported that they worked less than in the pre-pandemic period. The same percentage (5.8%) of doctors and nurses said that they worked less, while 9.5% of other health professions answered in this way. More than half of paramedics (52.4%) reported that they worked more than before the pandemic period, more than one-third of nurses (36.5%) and doctors (33.3%), and 21.0% of those in other medical or non-medical professions. A majority of respondents in almost all the surveyed groups said that they worked the same amount – 60.8% of doctors, 57.6% of nurses and 69.5% of those in other professions. Only in the group of paramedics did 44.6% of respondents report working the same amount of time – a smaller percentage than those reporting that they worked more (Table 25).

**Table 25.** Working hours in the COVID-19 pandemic, broken down by professional group ( $N = 2303$ ).

	Professional group							
	Physicians $N = 498$		Nurses $N = 1216$		Paramedics $N = 166$		Other professions $N = 423$	
	$n$	%	$n$	%	$n$	%	$n$	%
the same as previously	303	60.8	701	57.6	74	44.6	294	69.5
less than before the pandemic	29	5.8	71	5.8	5	3.0	40	9.5
more than before the pandemic	166	33.3	444	36.5	87	52.4	89	21.0

The next two questions were presented to respondents who worked with patients infected with SARS-CoV-2. Employees were asked “How was the decision to work with patients infected with the SARS-CoV-2 virus

made?” and could respond by indicating more than one answer. The largest group of respondents (42.1%) said the decision had been made voluntarily, with them volunteering to do so, 30.7% were delegated with their consent, 8.1% were delegated without their consent, and 19.9% of respondents refused to answer (Table 26).

**Table 26.** Decision to work with patients infected with SARS-CoV-2 virus ( $N = 1575$ )

	<i>n</i>	%
I was delegated with my consent	484	30.7
I was delegated without my consent	129	8.1
voluntarily (I volunteered myself)	648	42.1
refused to answer	314	19.9

The next question identified the burdens associated with working with patients infected with SARS-CoV-2. Respondents responded to three statements on a five-point scale, from “definitely yes” to “definitely no.” The statement “Others avoided me because I could pose a risk of contracting the SARS-CoV-2 virus” was agreed with by 31.3% of physicians, 45.6% of nurses, 44.2% of paramedics, and 41.1% of those in other professions. The statement “I avoided contact with friends for fear that I might infect them with SARS-CoV-2” was considered accurate by 47.7% of physician, 59.3% of nurses, 53.8% of paramedics and 50.5% of those in other professions. The assertion “I isolated myself from my loved ones for fear that I might infect them with SARS-CoV-2” was answered affirmatively by 21.9% of doctors, 25.5% of nurses, 27.8% of paramedics and 21.5% of those in other professions, as shown in Table 27.

To the question “What impact has the COVID-19 pandemic had on your daily cooperation with...? (please exclude staff changes),” respondents answered on a five-point scale, ranging from “definitely improved” to “definitely worsened.” The question was presented for the entire population of surveyed employees, without dividing them into groups. Employees were asked to determine the quality of their daily interaction with six different groups: physicians, nurses, paramedics, other medical and non-medical staff, patients, and patients’ families and relatives (Table 28).

For all the groups analyzed, healthcare employees most often felt that their day-to-day cooperation remained unchanged. Respondents noted that their interactions had deteriorated (including the responses “definitely deteriorated” and “rather deteriorated”) to the greatest extent in contact with patients’ families (48.2%) and with patients (36.3%). This was followed

**Table 27.** Social isolation associated with working with patients infected with SARS-CoV-2 (N = 1547)

	Professional group							
	Physicians N = 342		Nurses N = 854		Paramedics N = 147		Other professions N = 204	
	n	%	n	%	n	%	n	%
<b>Others avoided me because I could pose a risk of contracting the SARS-CoV-2 virus.</b>								
definitely yes	38	11.1	195	22.8	30	20.4	38	18.6
generally yes	69	20.2	195	22.8	35	23.8	46	22.5
neither yes nor no	68	19.9	187	21.9	31	21.1	48	23.5
generally no	98	28.7	177	20.7	34	23.1	41	20.1
definitely no	69	20.2	100	11.7	17	11.6	31	15.2
<b>I avoided contact with friends for fear that I might infect them with SARS-CoV-2.</b>								
definitely yes	56	16.4	256	30.0	37	25.2	59	28.9
generally yes	107	31.3	250	29.3	42	28.6	44	21.6
neither yes nor no	60	17.5	142	16.6	32	21.8	42	20.6
generally no	72	21.1	131	15.3	23	15.6	31	15.2
definitely no	47	13.7	75	8.8	13	8.8	28	13.7
<b>I isolated myself from loved ones for fear that I might infect them with SARS-CoV-2.</b>								
definitely yes	22	6.4	82	9.6	18	12.2	18	8.8
generally yes	53	15.5	136	15.9	23	15.6	26	12.7
neither yes nor no	55	16.1	176	20.6	31	21.1	46	22.5
generally no	70	20.5	200	23.4	27	18.4	41	20.1
definitely no	142	41.5	260	30.4	48	32.7	73	35.8

**Table 28.** Assessment of changes in day-to-day cooperation (%) during the COVID-19 pandemic (N = 2303)

Cooperation with ...	definitely improved	rather improved	remained the same	rather deteriorated	definitely deteriorated	refused to answer
doctors	6.5	10.2	62.4	12.2	5.3	3.4
nurses	7.8	13.1	62.9	9.9	3.3	2.9
paramedics	5.7	10.7	65.7	8	3.1	6.9
other employees	4.7	10.2	67.3	10.3	3.8	3.7
patients	3.3	6.6	50.7	26.6	10.1	3.0
patients' families	2.4	4.9	39.7	26	22.2	4.8

by perceived deterioration in cooperation with doctors (17.5%), with other staff (14.1), with nurses (13.2%) and with paramedics (11.1%). The largest percentage of respondents declared improved relations (“definitely improved” and “rather improved”) with nurses (20.9%) and, in turn, with doctors (16.7%), with paramedics (16.4%), with other employees (14.9%), with patients (9.9%), and with patients’ families (7.3%).

When asked “Have you experienced workplace bullying in connection with the COVID-19 pandemic?”, 24.1% of paramedics, 20.7% of nurses, 14% of physicians and 17.7% of those in the group of other professions declared that they had indeed experienced bullying (“sometimes,” “fairly often,” or “very often”). Bullying was experienced “never” or “almost never” by 80.1% of doctors, 72.6% of nurses, 67.5% of paramedics, and 75.9% of those in the other health professions (Table 29).

**Table 29.** Experiencing bullying in the workplace ( $N = 2303$ )

	Professional group							
	Physicians N = 498		Nurses N = 1216		Paramedics N = 166		Other professions N = 423	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
never	338	67.9	724	59.5	85	51.2	281	66.4
almost never	61	12.2	153	12.6	27	16.3	40	9.5
sometimes	52	10.4	177	14.6	32	19.3	56	13.2
fairly often	11	2.2	50	4.1	6	3.6	13	3.1
very often	7	1.4	24	2.0	2	1.2	6	1.4
refused to answer	29	5.8	88	7.2	14	8.4	27	6.4

### 2.3.2. Mental health risks

Respondents were asked “Did you experience a traumatic (very difficult) event at work during the COVID-19 pandemic?”; their answer to this question determined the subsequent display of PTSD questions. If they stated that they had experienced such an event, respondents then answered questions related to experiencing post-traumatic stress, in the form of a standardized scale. Experiencing a traumatic event was affirmed by the largest share of respondents in the group of paramedics (39.8%), followed by 35.5% of nurses, 33.1% of physicians, and 19.6% of those in the group of other professions (Table 30).

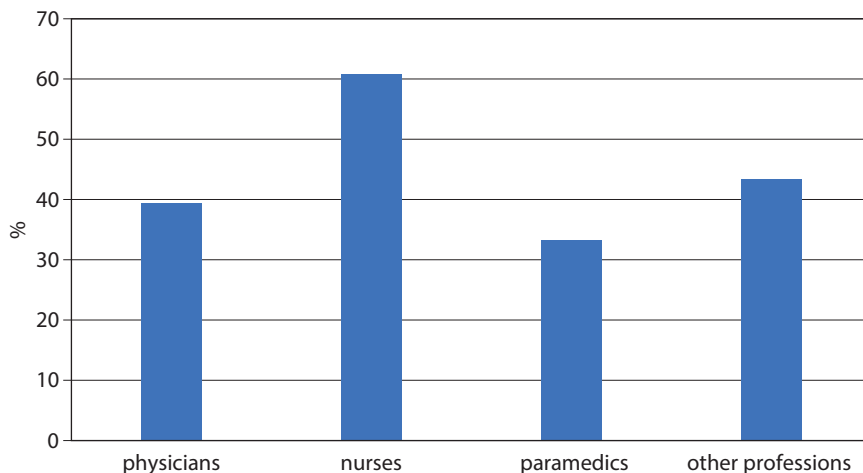
**Table 30.** Experiencing a traumatic event during the COVID-19 pandemic ( $N = 2303$ )

	Professional group							
	Physician $N = 498$		Nurses $N = 1216$		Paramedics $N = 166$		Other professions $N = 423$	
	$n$	%	$n$	%	$n$	%	$n$	%
yes	165	33.1	432	35.5	66	39.8	83	19.6
no	257	51.6	553	45.5	59	35.5	253	59.8
I don't know	43	8.6	141	11.6	24	14.5	47	11.1
refused to answer	33	6.6	90	7.4	17	10.2	40	9.5

PTSD syndrome was observed in more than half of nurses (60.9%), in 43.4% of workers in other professions, 39.4% of physicians, and 33.3% of paramedics. Mean scores on the PTSD scale ranged from 17.95 to 21.90 (minimum 8, maximum 32) and remained the highest for nurses, as shown in Table 31 and Figure 7.

**Table 31.** PTSD incidence, broken down by professional group ( $N = 746$ )

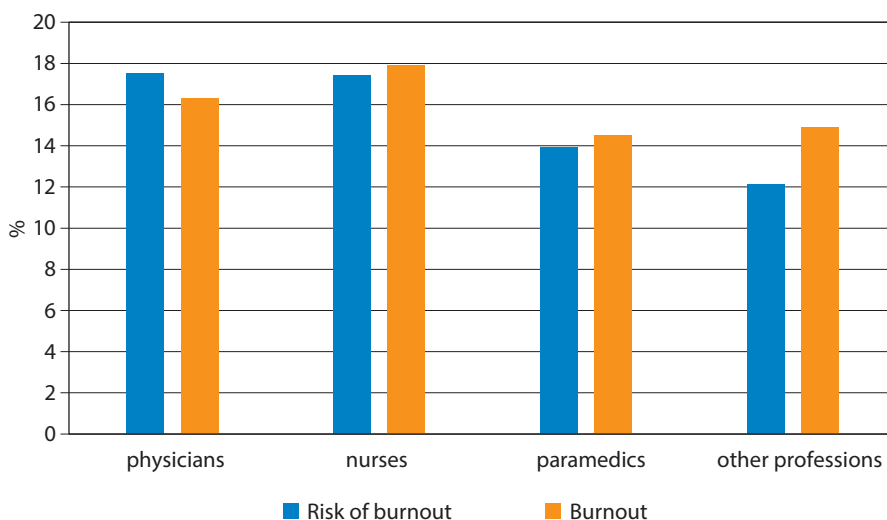
	Professional group							
	Physicians $N = 165$		Nurses $N = 432$		Paramedics $N = 66$		Other professions $N = 83$	
	$n$	%	$n$	%	$n$	%	$n$	%
PTSD present	65	39.4	263	60.9	22	33.3	36	43.4
PTSD absent	100	60.6	169	39.1	44	66.7	47	56.6

**Figure 7.** Prevalence of PTSD, by professional groups

In the study population, the highest risk of burnout was found within the group of nurses (35.3%), followed by physicians (33.8%), paramedics, (28.4%) and the other professions (27.0%), as shown in Table 32. The percentage breakdowns of reported burnout risk and likely occurrence of burnout are further shown in Figure 8.

**Table 32.** Levels of professional burnout ( $N = 2303$ )

	Professional group							
	Physicians $N = 498$		Nurses $N = 1216$		Paramedics $N = 166$		Other professions $N = 423$	
	$n$	%	$n$	%	$n$	%	$n$	%
no burnout	330	66.3	786	64.6	119	71.7	309	73.0
at risk of burnout	87	17.5	212	17.4	23	13.9	51	12.1
experiencing burnout	81	16.3	218	17.9	24	14.5	63	14.9



**Figure 8.** Burnout risk and burnout by professional group

## 2.4. Summary, practical implications, and directions for further research

Our analysis confirmed that working during the COVID-19 pandemic proved to be challenging for healthcare facility employees. The personal experience of working in a pandemic can have a profound impact on the mental health of hospital employees and should be taken into account in supportive interventions.

During this period, healthcare workers had to experiment with their communication skills in previously unknown ways. With one's face obscured by personal protective equipment, efforts to speak had to follow new paths: sentences had to be concise, clear, and loud. At the same time, through their experience – not just cognitive experience – healthcare employees deeply understood the importance of non-verbal communication. Hence their choosing to write their names in capital letters on their protective suits, or to use their tone of voice to convey closeness and sympathy. In addition, healthcare workers had to consciously learn to cope with verbally communicating with patient family members via phone or tablet (Vegni et al., 2022). Our own research also indicates that day-to-day interactions were seen as having deteriorated the most in contact with patients' families (48.2%) and with patients themselves (36.3%).

Among those who had experienced a traumatic event, 60.9% of nurses, 43.4% of workers in other professions, 39.4% of those in the medical group and 33.3% of paramedics showed symptoms of PTSD. Lamiani et al. (2021) assessed the results of mental health indicators among employees, in a survey conducted electronically among hospital employees between July and October 2020. Employees reported moderate/severe symptoms of anxiety (23%), depression (53%) and post-traumatic stress disorder (40%). Being female was associated with a higher risk of moderate/severe depression, whereas having a family member affected by COVID-19 was associated with a higher risk of moderate/severe post-traumatic stress disorder. In light of these results, the group most affected by PTSD is that of nurses, and further analyses should take into account gender differences and analysis of factors affecting the occurrence of PTSD.

The group reporting the highest prevalence of burnout risk is the group of nurses (35.3%), followed by the group of physicians (33.8%), the paramedic group (28.4%) and the other professions group. Similarly, C. Wang et al. (2020) studied a sample of 2014 frontline nurses working at two hospitals in Wuhan, China, and more than half reported moderate to high burnout. It therefore seems advisable to devise studies that target specific professional groups (e.g. nurses) and take into account the gender of respondents and other social and demographic characteristics, as well as paying attention to the determinants of burnout. Future studies should also include the prevalence of making use of psychological/psychiatric help and support groups, broken down by the particular difficulties reported by the respondents. To our knowledge, this is the first application of the BAT-12 and PTSD-8 scales to such a large Polish sample, and as such further research should also include a detailed study of the psychometric properties of the scales.

Moreover, studies have shown that psychological violence increased in the workplace during the pandemic period, that among those with increased exposure to bullying during the pandemic, verbal, emotional and economic domestic violence was significantly more frequent, and that the risk of any behavior related to domestic violence increased 4.77 times in those with increased exposure to bullying (Mete et al., 2022). In view of the above, the results of our own study, which indicate that 24.1% of paramedics, 20.7% of nurses, 14% of doctors and 17.7% of those belonging to other professions reported that they had experienced bullying during the COVID-19 pandemic period, do appear disturbing.

Healthcare facilities must recognize and implement pathways to prevent and treat burnout among employees. Healthcare workers have been the ones out there fighting COVID-19 on the front lines, amidst rapidly changing procedures for dealing with the ongoing crisis. They have been experiencing challenges in dealing with an unpredictable pandemic. Limited preparedness can lead to physical and psychological problems such as high stress levels, anxiety, fear, helplessness, hopelessness, anger and stigma. The workload can lead to professional burnout and, as well, jeopardize patient safety. A better understanding of healthcare providers' experiences during the COVID-19 pandemic can help better training programs to be developed for them and enable them to better handle global crisis situations. In addition, programs focusing on healthcare workers' PTSD symptoms can be implemented to help them cope more effectively with the current crisis, improve their mental health while at work, and reduce post-traumatic disorders resulting from the COVID-19 pandemic. Finally, future research should look into what impact difficulties experienced in professional life may have on healthcare workers' communication skills.

### 3.

## The COVID-19 pandemic, the treatment process, and the approach to healthcare from patients' perspective

### 3.1. Background of the analysis

The high transmission rate of the SARS-CoV-2 virus has led to isolation of infected patients not only from other patients, but also from all medical personnel, their families and loved ones, and the stress caused by social isolation resulting from the pandemic has been linked to reducing

people's capacity to work, to seek support from loved ones, and to engage with the community (WHO, 2022).

During the COVID-19 pandemic, a tendency to defer routine healthcare has repeatedly been identified – as high as 48% in some surveys – while telemedicine services have been rated more positively than before the pandemic and seen as a viable option for providing deferred care, especially by respondents over 65, women and those with higher education (Atherly et al., 2020). A significant increase in delayed routine care could have a negative impact on quality of life, disease rates, and mortality, which is likely in the future to be further compounded by additional, as yet unknown negative consequences (Woolf et al., 2020).

Moreover, the increase in the prevalence of mental health problems has coincided with major disruptions in mental health services, leaving huge gaps in care for those who need it most. For most of the pandemic, mental health, neurological and substance-use services were the most disrupted of all primary health services reported by WHO member states. Many countries have also reported major disruptions in lifesaving mental-health services, including suicide prevention (WHO, 2020a).

During the first months of the COVID-19 pandemic, attention was drawn to the increase in symptoms of psychological distress, which was particularly pronounced among young people, women, and the parents of children under the age of 5. Evidence suggests that those who faced a higher risk of infection, a significant economic burden, and more household and childcare responsibilities were at greater risk of mental health problems (Aknin et al., 2022).

Loneliness, fear of becoming infected, of suffering, of dying or experiencing the death loved ones, the bereavement of loss, and financial problems have also been cited as stressors leading to anxiety and depression. In the wake of the pandemic, many healthcare employees and employers had to switch over, quite suddenly – for the first time and without any preparation – to working remotely (Galanti et al., 2021). Working in this system was disrupted by having partners and children also present at home, constant involvement in household chores and childcare, and supporting children's education when schools and other educational institutions were shut down (Xiao et al., 2021).

However, some survey results have shown that some managed to find certain positive aspects in their experiences. For example, 78% of respondents in one study (Cleveland Clinic, 2020) reported that although the quarantine and social distance were difficult, it made them value their relationships. Moreover, 65% said the pandemic forced them to reevaluate how they spend their time, and 58% said it forced them to reassess their life goals. And while

58% of respondents in this same study said the pandemic had changed their way of life forever, nearly three-quarters (72%) reported that they were still hopeful for the future.

In light of the potentially protracted duration of the pandemic, and given the varying psychological responses of different subgroups, it is essential to identify vulnerable populations that experience persistent and long-term challenges. Early identification of risk and protective factors and the strengthening of personal resources will safeguard these populations and reduce the risk of morbidity or exacerbation of pre-existing symptoms (Kalaitzaki, 2021).

There is no doubt that the global COVID-19 pandemic has been a crisis of enormous proportions, the cause of accumulating hardships and suffering. However, at the same time, the beneficial results that have emerged from these disruptions cannot be overlooked. The human capacity to rise above challenges needs to be nurtured during this time; via institutionally embedded and society-wide interventions it can contribute to post-traumatic growth, when positive changes occur in the wake of grappling with difficult experiences.

The objective of our analyses in this section is to try to assess the level of impediments experienced by patients in terms of obtaining treatment during the COVID-19 pandemic, and also to identify any positive effects of this period in terms of the availability of certain services and changing attitudes toward health and other significant values in life.

### **3.2. Research tools and method of presenting results**

Our patient survey questionnaires presented a series of questions assessing the impact of the pandemic on treatment and diagnosis, on restrictions on access to treatment, and on attitudes toward health. The subsection will first examine responses in terms of the circumstances in which patients obtained medical services. Here each of the two samples had a number of questions specific to them, due to the method of recruitment and the adopted retrospective (the patients in the Survey at Healthcare Facilities included individuals currently seeking treatment at a facility, while the Patient Population Survey included individuals who had received treatment at some point up to 24 months previously).

The following subsections will then discuss:

- Perceptions of work-related risk of SARS-CoV-2 virus infection;
- Positive and negative impacts of the COVID-19 pandemic on treatment and diagnosis;

- Delays in access to medical care;
- Avoiding contact with healthcare facilities;
- Mental reaction to the epidemiological situation;
- Changes in attitudes toward life, including the place of health in the hierarchy of personal values.

Due to the heterogeneity of these topics, they will be described in separate subsections, indicating which group of patients is involved in the analysis. In several cases we also decided to combine the group of patients recruited at healthcare facilities and the patient population sample: this applies to questions where emphasis was placed on the exact distribution of responses to a given question (including refusals), and it was less important to compare the two groups. The final subsection addresses the demographic and social determinants of the five indicators selected on the basis of previous analyses. Statistical inferences are drawn based on data from the combined sample of 3622 respondents.

The relevant questions of the survey questionnaires were developed by the research team and tested in the pilot study. The design of each question is discussed in tandem with the results obtained.

### 3.3. Results

#### 3.3.1. Location, reasons and other circumstances of treatment

The questionnaires of both patient surveys first probed for a range of information characterizing where and why patients had obtained medical services. This information complements the description of the two samples in terms of demographic and social characteristics presented in the methodology section. The following characteristics described in Table 33 can later be used as cross-sectional characteristics in targeted analyses. In the population sample, respondents described where they had been treated in the past 24 months, including all remembered visits. The most common visit was to an independent clinic, a hospital-affiliated outpatient clinic, or a specialist physician's stand-alone office (those who marked only the latter option were not included in the sample). The majority of respondents had availed themselves of both in-patient and telemedicine visits. This is important from the point of view of the entire project, as it indicates direct contact with healthcare professionals. Most patients had obtained services under the publicly-funded National Health Fund (NFZ) system, but one in two respondents had obtained mixed care (both privately and under the National Health Fund).

**Table 33.** Patient characteristics related to circumstances of treatment, for both patient samples

PATIENT POPULATION SURVEY (N = 2050)		n	%
<b>place of treatment in the last 24 months</b>			
• at hospital as a 24-hour patient		501	24.4
• at hospital as a daytime patient		209	10.2
• at a hospital Emergency Room (ER)		385	18.8
• at a hospital-affiliated outpatient clinic		877	42.8
• at an independent clinic (outside any hospital)		1391	67.9
• at a specialist's office (in a stand-alone doctor's office outside any clinic/hospital)		1133	55.3
<b>form of obtaining medical service</b>			
• exclusively by phone, video conference, chat		35	1.7
• exclusively on-site		1179	57.5
• both via telemedicine and on-site		836	40.8
<b>type of medical care</b>			
• public system only (NFZ)		900	43.9
• only private		61	3.0
• both public (NFZ) and private		1089	53.1
SURVEY AT HEALTHCARE FACILITIES (N = 1572)		n	%
<b>reason for current visit</b>			
• planned hospitalization		565	35.9
• emergency hospitalization		202	12.8
• a visit to the nighttime and holiday-time medical service		36	2.3
• appointment with a family doctor		269	17.1
• appointment with a specialist		432	27.5
• other		68	4.4
<b>treatment stage</b>			
• waiting for doctor's appointment / hospital admission		251	16.0
• waiting for treatment / surgery / lying in hospital		268	17.0
• after a doctor's appointment / examination / treatment / surgery		715	45.5
• in the process of being discharged from hospital		118	7.5
• undergoing rehabilitation/treatment procedures		220	14.0
<b>length of treatment of the current disease</b>			
• under a month		301	19.1
• up to 3 months		199	12.7
• up to 6 months		168	10.7
• up to 12 months		156	9.9
• up to 24 months		138	8.8
• over 2 years		390	24.8
• not applicable / no data		220	14.0

Data on the treatment received by patient-respondents recruited at healthcare facilities include the type and circumstances of the currently sought health service. Most of the respondents were at the facility where they were surveyed for a planned hospitalization or for an appointment with a specialist. The interviewers most often made contact with patients when they had completed their appointment, examination, procedure, or hospitalization. One-third of the patients were undergoing treatment for an illness lasting more than 12 months.

### 3.3.2. Work-related infection risks

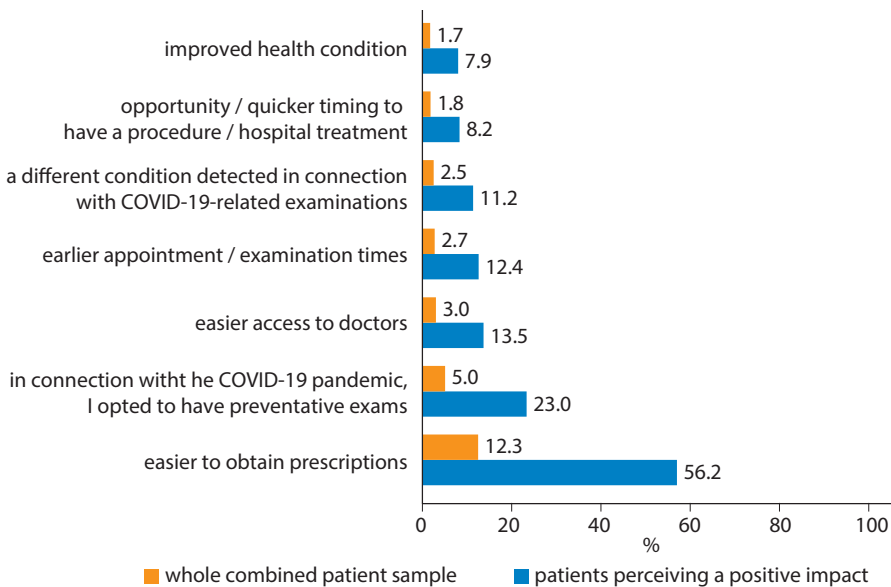
In the combined sample of 3,622 people treated during the COVID-19 pandemic surveyed as part of the two independent studies, more than half (56.7%) were professionally employed. Patients at Healthcare Facilities (65.2%) were more likely to belong to the employed group, compared to respondents from the Patient Population sample (50.1%). The professionally employed respondents from the two samples rated their risk of contracting SARS-CoV-2 similarly: the mean risk score on a visual scale (a slider from very low to very high risk, converted to a range of 0-10) was 6.60 points (SD = 2.90) – more specifically, 6.65 (2.74) in the Patient Population sample and 6.56 (3.06) in the Healthcare Facility sample ( $p = 0.734$ ). Contact with a large number of people was most frequently cited as the reason for increased risk, as this factor was indicated by 71.0% of respondents. The second most important risk factor was cited as the need to come to work, not being able to work remotely (43.7%). Even fewer respondents stated that their risk of infection was increased by commuting and business travel (33.2%). Sporadically, being employed in healthcare was indicated by patients in the Healthcare Facility sample as a risk factor for infection. Among those working in this group, 5.1% considered working in healthcare to pose an occupational risk of infection with SARS-CoV-2. In the Patient Population sample, in turn, being employed in healthcare was an exclusion criterion for the study.

The patient's household financial situation is also associated with professional employment. The collected data made it possible to assess the extent to which it was affected by the COVID-19 pandemic. Half of the respondents noted no change in this regard (51.0%), 4.7% noted an improvement, 35.6% a deterioration, and the remaining 8.7% were undecided or unwilling to answer. The sporadic cases of improvement in household financial situation were twice as common among those who were professionally employed (6.0%) as among those who were not working (2.9%).

### 3.3.3. Impact of the pandemic on the treatment process and diagnosis

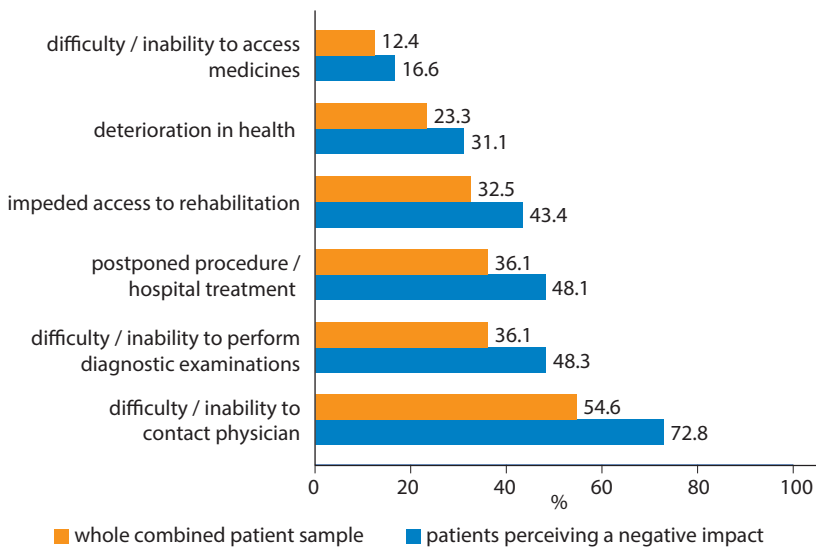
An important block of questions concerned the impact of the COVID-19 pandemic on the treatment and diagnostic process. The majority of respondents rated the impact as only negative (55.8%), almost one in five (19.2%) saw positive and negative consequences, and 2.7% saw only positive consequences. The remainder believed that the pandemic had no impact on the diagnostic and treatment process (14.2%), or were unable or unwilling to answer this question (8.1%). Patients in the population sample were more likely to see only negative sides of the pandemic, more likely to find it difficult to decide on any one answer, and less likely to choose no impact.

Next, respondents commented on the type of positive or negative effects of the pandemic on health and treatment. The appearance of this specific question depended on the answers to the previous one. In terms of positive impacts, seven possible answers were included, as well as an “other” option. The results can be considered in terms of the entire combined sample, or the 793 people who previously considered the pandemic’s impact to be exclusively positive or both positive and negative (Figure 9). Greater ease of obtaining prescriptions was mentioned most commonly as a positive effect of the pandemic, followed by a change in attitudes toward preventive examinations.



**Figure 9.** Areas of positive impact of pandemic COVID-19 for the combined sample of patients from both surveys ( $N = 3622$ ) and for those who declared that they perceived some kind of positive impact ( $N = 793$ )

In the area of negative impacts, six possible responses were included, as well as an “other” option. Here again, the results can be considered in terms of all respondents, or only to those who previously responded that the impact of the pandemic was exclusively negative or both positive and negative ( $N = 2717$ ). The most frequently cited problem was the inability to contact a doctor directly, followed by difficulties or inability to perform diagnostic tests (Figure 10). According to the rate calculated in relation to the entire population, one in four people (23.3%) felt that the COVID-19 pandemic had caused a deterioration in their health.



**Figure 10.** Areas of negative impact of pandemic COVID-19 for the combined sample of patients from both surveys ( $N = 3622$ ) and for those who declared that they perceived some kind of negative impact ( $N = 2717$ )

### 3.3.4. Delays in access to medical care

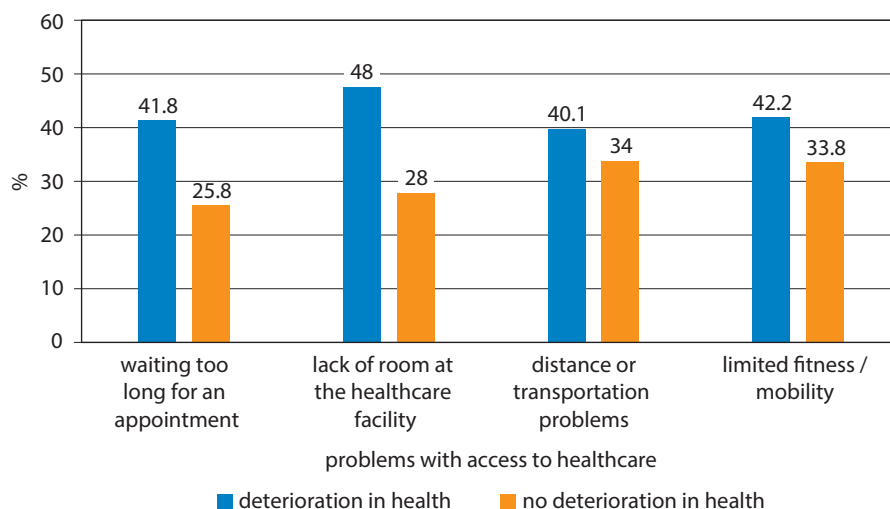
Questions about limited access to medical services during the COVID-19 pandemic were posed only to patients in the Patient Population sample ( $N = 2050$ ). Respondents answered from the perspective of the last 12 months. The following items were analyzed separately: waiting too long for an appointment; lack of room at the healthcare facility; distance or transportation problems; limited fitness/mobility. The results are shown in Table 34. The most frequently reported problem was waiting too long for an appointment, followed by lack of room at the healthcare facility. An estimated 54.9% of patients in the population sample indicated at least one limitation.

**Table 34.** Opinions of patients in the Patient Population sample regarding limitations on access to services in the last 12 months

type of limitation		yes	no	not applicable*	don't know	refuse to answer
waiting too long for an appointment	<i>n</i>	988	810	178	58	16
	%	48.2	39.5	8.7	2.8	0.8
lack of room at the healthcare facility	<i>n</i>	560	1028	360	84	18
	%	27.3	50.1	17.6	4.1	0.9
distance or transportation problems	<i>n</i>	244	1445	284	56	21
	%	11.9	70.5	13.9	2.7	1.0
limited fitness / mobility	<i>n</i>	281	1420	270	63	16
	%	13.7	69.2	13.2	3.1	0.8

\*not applicable if there is no need for healthcare

A deterioration in health during the pandemic period was much more frequently reported by those who had difficult access to medical services during that time (Figure 11).

**Figure 11.** Percentage of patients in the population-based sample who felt that their health deteriorated during the COVID-19 pandemic, broken down by limitations in access to medical care

Respondents in the same group were also asked the question: “During the past 12 months, did it occur that you could not afford the following type

of healthcare despite needing it?” The percentage of affirmative responses ranged from 10.8% for treatment of mental health problems up to 25.1% for dental treatment (Table 35). It was estimated that one in three respondents in the Patient Population sample (35.0%) opted out of at least one type of service because they could not afford it.

**Table 35.** Opting out of medical services for financial reasons ( $N = 3622$ )

Type of care		yes	no	not applicable*	don't know	refuse to answer
healthcare	<i>n</i>	308	1428	244	48	22
	%	15.0	69.7	11.9	2.3	1.1
dental care	<i>n</i>	514	1174	308	38	16
	%	25.1	57.3	15.0	1.8	0.8
prescription drugs	<i>n</i>	337	1533	130	33	17
	%	16.4	74.8	6.3	1.7	0.8
care of a psychologist or psychiatrist	<i>n</i>	222	986	746	62	34
	%	10.8	48.1	36.4	3.0	1.7

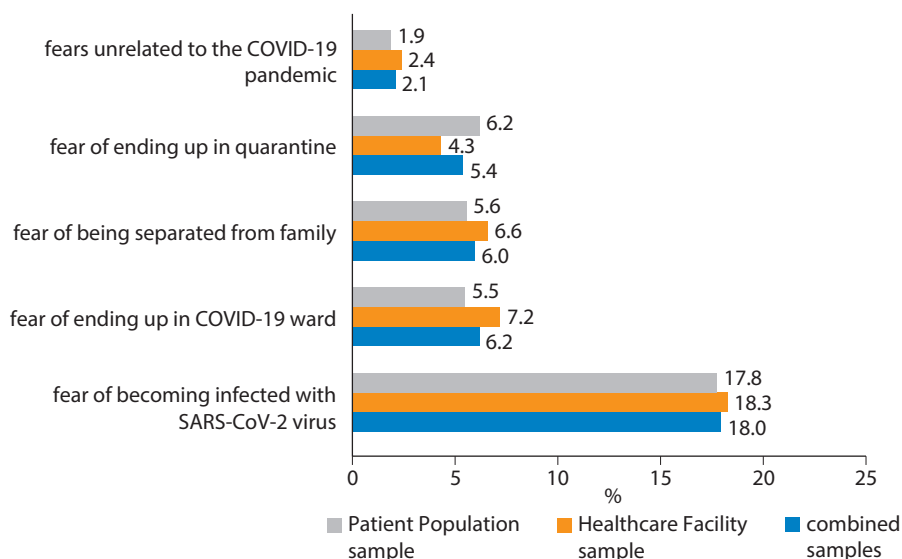
\*not applicable if there is no need for healthcare

### 3.3.5. Consciously avoiding contact with healthcare facilities

The restrained utilization of medical care during the COVID-19 pandemic may also have been due to fear of becoming infected. A question on this topic was included in the questionnaires of both surveys. Among the 3,622 respondents in total, 26.0% said they were afraid to visit a healthcare facility, 57.8% had no such fear, and 12.8% said the problem did not apply to them because there was no need. The question was not answered by 122 respondents (3.4%). The percentage of refusals to answer was significantly higher in the Healthcare Facility sample than in the Patient Population sample (6.2% vs. 1.2%). Respondents in the population sample, on the other hand, were more likely to report a lack of concern (60.9% vs. 53.7%).

Figure 12 shows the reported reasons for the fear separately for each patient group, also giving the overall frequency. The most common reason was fear of becoming infected with SARS-CoV-2 virus, which was reported by 18.0% of respondents. Other reasons were given with a frequency of 5-6%, while 76 individuals said they had fears but not related to the pandemic. Regarding fear of infection, there were no differences between the two groups of patients. Patients from the Healthcare Facility

sample were more likely to fear ending up in a COVID-19 ward ( $p = 0.033$ ), but less likely than those in the Patient Population sample to fear ending up in quarantine ( $p = 0.013$ ). A similar percentage expressed fear of getting separated from loved ones if they stayed in the hospital, as well as declarations of other fears unrelated to the pandemic.



**Figure 12.** Reasons for fear of visiting a healthcare facility during the COVID-19 pandemic in the two samples of patients.

### 3.3.7. Mental response to the epidemiological situation

Patients in both groups were asked whether, during the pandemic, the general epidemiological situation triggered such emotional states for them as frustration or uncertainty about the future, loneliness, anger, or anxiety. In the full combined sample, the percentage of those experiencing the given symptoms “quite often” or “very often” ranged from 18.7% (for loneliness) to 28.7% (for frustration, uncertainty about the future). The differences between the two groups of patients were influenced by a higher percentage of refusals to answer among patients recruited at healthcare facilities. If we exclude these refusals, the biggest difference between the groups is in the distribution of responses to the question on feelings of frustration or uncertainty about the future. Patients in the Healthcare Facilities sample were more likely to indicate the occurrence of such a feeling at times, while responses in the Population Sample were more polarized (Table 36).

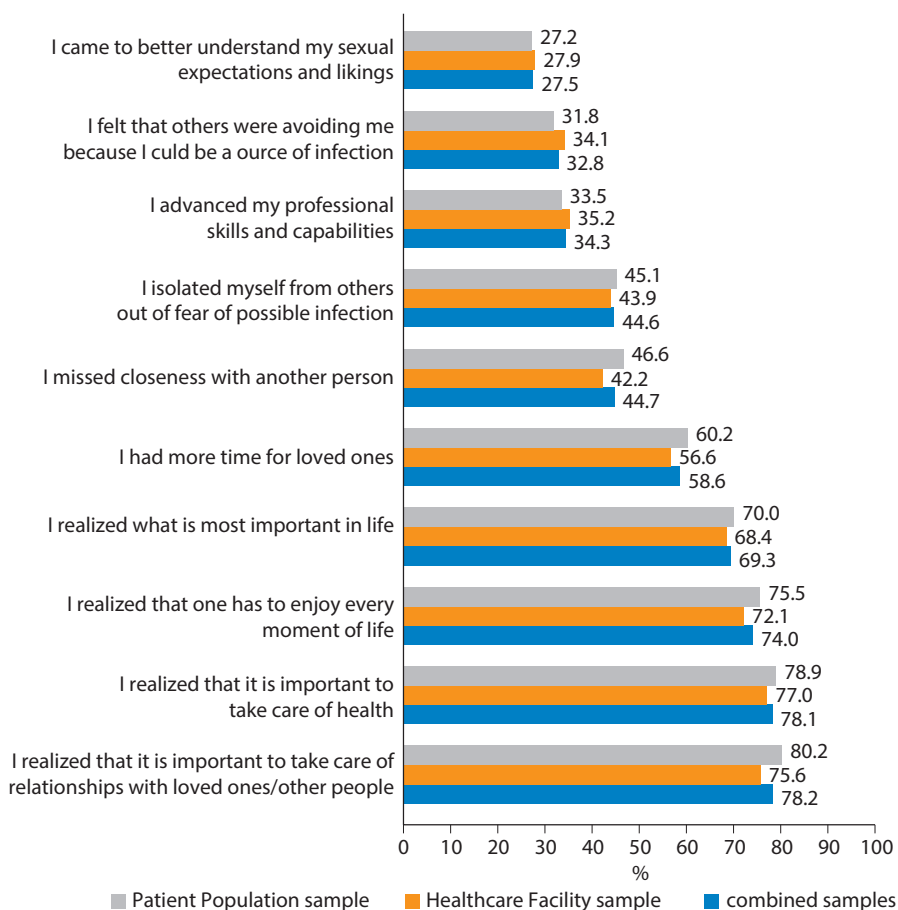
**Table 36.** Perception of negative mental states in relation to the epidemiological situation

Symptoms		never	almost never	sometimes	fairly often	very often	refuse to answer
frustration / uncertainty about the future	<i>n</i>	422	548	1501	654	419	78
	%	11.7	15.1	41.3	18.1	11.6	2.2
solitude	<i>n</i>	885	865	1117	418	260	77
	%	24.4	23.9	30.9	11.5	7.2	2.1
anger	<i>n</i>	600	697	1340	584	332	69
	%	16.6	19.2	37.0	16.1	9.2	1.9
anxiety	<i>n</i>	586	731	1280	510	340	75
	%	16.2	20.2	38.0	14.1	9.4	2.1

### 3.3.8. Changes in outlook on different spheres of life

Returning to the topic of the positive and negative effects of the pandemic, it is worth noting what impact the COVID-19 pandemic has had on various areas of life. Respondents were asked to respond to ten statements, determining to what extent they agreed with them (Figure 13). Eight referred to positive changes and two to negative experiences of social isolation. The positive statements dealt with a variety of issues, touching upon how the meaning of life is understood, but also relating to personal development during the pandemic. The percentage of “strongly agree” or “moderately agree” responses was highest for the statements “I realized that it is important to take care of health” and “I realized that it is important to take care of relationships with loved ones/other people” (78.1% and 78.2%, respectively). Four statements showed differences between the two groups of patients, always in favor of the population sample. The biggest difference was for the statement “I realized that it is important to take care of relationships with loved ones/other people,” where the percentage of positive responses was 80.2% and 75.6% in the two groups, respectively ( $p < 0.001$ ). A significant difference was also noted for the statement that closeness to another person was lacking during the pandemic ( $p = 0.008$ ). The other two statements where there were differences between the patient groups were “I realized that one should enjoy every moment of life” and “I had more time for loved ones,” where the differences in the percentage of affirmative responses were on the order of 3-4 percentage points.

In terms of negative experiences, indications of isolating oneself from others in order to protect them were more frequent than the impression that others wished to isolate themselves.



**Figure 13.** Percentage of patients in the two samples “strongly agreeing” or “moderately agreeing” with statements about the impact of the pandemic on different spheres of life

### 3.3.9. Socio-demographic determinants of some pandemic impact indicators

A thorough analysis of the sociodemographic determinants of the issues presented above would exceed the scope of this book, and will instead be included in thematically focused articles. In the following, the existing relationships are signaled by selecting five indicators. One of them is the indicator of positive changes under the impact of the pandemic and relates

to a better understanding of the value of health. The other four relate to negative experiences of the COVID-19 pandemic period (Table 37).

**Table 37.** Selected indicators (%) of the perceived impact of the COVID-19 pandemic, broken down by certain patient characteristics in the combined sample from both patient studies

	Impact of pandemic viewed only negatively	Fear of visiting a health-care facility	Opting out of treatment for financial reasons*	A sense of frustration or uncertainty about the future	Realized that it is important to take better care of one's health
<b>TOTAL</b>	<b>55.0</b>	<b>26.0</b>	<b>35.0</b>	<b>29.6</b>	<b>78.1</b>
<b>Gender</b>					
men	54.5	22.6	28.8	28.4	74.4
women	56.9	28.8	41.7	34.1	81.1
<b>Age in years</b>					
18–29	52.3	21.3	33.2	37.3	72.1
30–49	57.3	25.2	38.2	28.7	75.1
50–64	58.6	25.1	35.9	26.9	81.5
65+	51.1	32.9	30.1	29.8	83.7
<b>Education</b>					
below secondary	51.1	25.9	42.1	29.6	74.1
secondary / post-secondary	57.3	25.7	34.3	30.2	79.9
higher	59.1	26.4	30.5	29.7	79.8
<b>Financial status of the family</b>					
low	53.8	36.1	63.8	42.4	79.3
average	59.8	27.9	37.9	30.7	79.0
rather high	55.0	18.9	17.6	26.4	77.3
very high	52.5	20.8	15.5	22.4	77.8
<b>Professional status</b>					
professionally employed	59.3	24.7	32.1	27.9	77.1
not professionally employed	52.2	28.3	36.3	32.8	80.9

\*only in the population sample (N = 2050).

**Gender** proved to be a differentiating factor in four cases ( $p < 0.001$ ). Only perceptions of exclusively negative sides of the pandemic were similar among men and women ( $p = 0.136$ ). Women were more likely to come to understand the value of health under the influence of the pandemic experience. However, all three of the other negative indicators were at a less favorable level for women than in the male group. There was a particular difference in terms of opting out of treatment due to financial constraints.

Differences between **age** groups were statistically significant for all five indicators. In the older age groups, there was a clear increase in the percentage of those who understood that it was important to take better care of their health. The span between the two extreme age groups here exceeds 10 percentage points. With regard to negative indicators, it is difficult to speak of a clear statistical inference concerning a relationship with age. The impact of the pandemic as exclusively negative was most often reported by those aged 30–49 ( $p = 0.004$ ). Fear of visiting a health-care facility during the pandemic increased with age ( $p < 0.001$ ). The link between age and financial constraints on taking or continuing treatment was found to be the weakest ( $p = 0.035$ ), with those in the middle age groups more likely to report such constraints. Frustration and feelings of uncertainty about the future were far more likely to affect young people in the first age group ( $p < 0.001$ ).

The link with **education level** proved significant in three cases ( $p < 0.001$ ) – with the exception of fear of visiting a healthcare facility ( $p = 0.916$ ) and feeling frustrated and uncertain about the future ( $p = 0.942$ ). As the patient's level of education improved, the percentage of those seeing only negative effects of the COVID-19 pandemic increased, but positive reevaluation and coming to appreciate of the importance of health were also more common. With regard to such reevaluation, there was no difference between respondents with secondary and higher education, and only those with less than secondary education were less likely to agree with the statement. Those with lower levels of education were more likely to be unable to afford treatment for financial reasons. As with gender-related differences, the significant span of more than 10 percentage points between educational groups is noteworthy.

The household's **financial situation** showed no relationship with positive reevaluation toward appreciating the importance of health as a personal value ( $p = 0.776$ ). However, its link with the other four negative indicators was significant. People from the most affluent families were least likely to see only negative consequences of the pandemic, and the

highest level of this indicator was recorded for the largest group, with average financial status ( $p = 0.004$ ). Fear of visiting a healthcare facility decreased as the family's financial situation improved ( $p < 0.001$ ). The difference between the two most affluent groups is small, while the poorest group is clearly different from the others. The link between current financial situation and foregoing treatment based on economic considerations seems obvious, but it is worth noting the huge difference between the poorest and most affluent families (62.8% vs. 15.5% of those declaring that they could not afford treatment,  $p < 0.001$ ). Low financial status is also associated with a significant increase in the percentage of people sensing frustration and uncertainty about the future; the span between the extreme groups here exceeds 20 percentage points ( $p < 0.001$ ).

The last factor that could determine the level of the analyzed indicators was **employment** status. This was a differentiating factor in four cases – all except for foregoing treatment for financial reasons ( $p = 0.128$ ). Those who were currently employed compared to those currently not in the labor force were more likely to see only negative sides of the COVID-19 pandemic ( $p < 0.001$ ), but less likely to report fear of visiting a healthcare facility ( $p = 0.016$ ) and frustration with the epidemiological situation ( $p = 0.002$ ). Positive reevaluation toward a better appreciation of the value of health was more often observed in the non-employed group ( $p = 0.007$ ).

Omitted from Table 37 is the relationship between the **size of the locality** and the level of the five indicators, as no significant variation was found in most cases. There are differences only with regard to the last positive indicator. The percentage of those declaring they had experienced a positive reevaluation was lowest in large cities with more than 500,000 residents (73.5%), with no significant differences between the previous categories of place of residence.

### 3.4. Summary, practical implications, and directions for further research

This chapter has presented patients' perspectives on the treatment process during the COVID-19 pandemic, including access to medical care. Considerable emphasis has been placed on the negative and positive consequences of the nearly two years of coping with the pandemic.

By various accounts, access to medical care does appear to have posed a very important issue during the COVID-19 pandemic. According to many reports, treatment of many diseases may have been neglected during this period, affecting the overall health of the population as measured by mor-

bidity and mortality. In light of the OECD's periodically released "Health at a Glance" report, the number of excess deaths per million population between March 2020 and June 2021 was particularly high in Mexico, Poland, Czechia, and Slovakia (OECD, 2021). Various types of resources – such as spatial, temporal, financial, informational, human and technological – need to be taken into account when it comes to access to treatment. These resources can act as barriers, inhibitors, catalysts, or drivers of physical and virtual access to different types of healthcare (Núñez et al., 2021). Many of the above issues were addressed in our research. A separate subsection was devoted to reluctance to visit a healthcare facility out of a fear of becoming infected, hospitalized, and separated from one's family. Social inequalities in access to medical care were also highlighted, identifying less and more privileged groups. Concerns about the risk of infection and the socially disparate impact of the pandemic are topics that have been addressed by other authors (Luo et al., 2022; Alkouri et al., 2022). One surprising finding is that women much more frequently reported financial barriers to receiving medical care as compared to men. This can be seen as a manifestation of cumulative risk factors, referred to in the literature as multiple discrimination (Maestriperi, 2021).

In the future, it will be useful to further analyze certain sub-groups of patients that can be distinguished among our surveyed population of 3622 adult Poles, including by using the data described in other chapters of this book. Here we are referring in particular to patients who have undergone infection with the SARS-CoV-2 virus – who made up a quarter of the respondents. According to the literature, this group is more likely to experience mental health problems (Chaudhary et al., 2022). Another feature that should guide in-depth analyses is the objectified assessment of patients' health status, including symptoms of reduced function, which was measured in our questionnaire with the EQ-5D-5L questionnaire.

In the Patient Population sample, the proportion of patients availing themselves exclusively of remote services (telemedicine) was small (1.7%). The majority (57.5%) made use of both traditional inpatient appointments and remote appointments. However, we do not know about the proportions of these two forms of contact, as the most frequently reported negative impact of the pandemic was cited as difficult contact with a physician, which is also an indicator of limitations in access to medical care.

A much higher percentage of patients perceived negative impacts of the pandemic than positive impacts. An important portion of our analysis presented above concerns the impact of the pandemic on the treatment process and diagnosis. When describing negative experiences, patients pointed

to the lack of direct contact with a physician as a major impediment. This indicates the importance they attribute to good and direct communication with healthcare professionals. In further research, it will be good to assess the extent to which pandemic-related restrictions were associated with a more or less negative assessment of the impact of the COVID-19 pandemic on treatment and diagnosis.

Our survey results also pointed to certain positive impacts of the pandemic, necessitating for instance the remote provision of certain services, consequently improving the entire system of care. In particular, respondents pointed to the ability to obtain prescriptions more quickly as a positive change.

Interesting findings were obtained in relation to change in attitudes and social behavior and the phenomenon of reevaluation, which often occurs in crisis situations. Respondents emphasized that they began to construe the meaning of life differently, and understood how important relationships with loved ones and time spent together had become for them. Self-imposed social isolation can also be a manifestation of a sense of responsibility for others (Lachowicz-Tabaczek & Kozłowska, 2021). Wolf et al. (2020) emphasized the importance of being aware of cherishing similar values as other people and undergoing a similar process of reorienting one's approach to life, one's attitude to oneself and others.

## 4.

### The health status of healthcare workers and patients

#### 4.1. Background of the analysis

Like all highly developed countries, Poland has a system for collecting health information, which includes administratively collected data, incorporated into the system of state statistics, as well as a number of registers and other systematically maintained sources. Questionnaire surveys are an important complementary component of this system, representing for many problems the only source of data. Monitoring the health of the population in an emergency is one of the main tasks of public health. Thus, when the COVID-19 pandemic emerged, a system was created to record infections, deaths, also examining the level of vaccination and immunity of the population. A number of thematically focused studies have looked at the health effects of past infection. Surveys can be an

important source of information on the indirect effects of a pandemic, not only relating to infected and recovered individuals, but providing a picture of the health status of various groups in society. The focus has been on healthcare workers, as those on the front line of the fight against the pandemic (Kinge et al., 2022).

The three major surveys we carried out as part of our project on the humanization of medicine supplied a range of data on the social and health consequences of the pandemic. This chapter focuses on traditional health indicators, taking three dimensions of health as a basis: physical, mental and social. The sections on healthcare workers compare the four professional groups, as in other chapters. The sections on patients, in turn, include summaries comparing different social groups. Analyzing social inequalities in health is an ongoing challenge for researchers, with the pandemic context prompting the initiation of new research (Cash-Gibson et al., 2021). The importance of having a social support network as a health enhancer has been pointed out, and is often discussed in the context of coping with disease (Gallant, 2003).

The purpose of the present chapter is to present the physical and psychosocial health of healthcare workers and patients, based on the example of selected indicators relating to the COVID-19 pandemic.

## **4.2. Research tools and method of presenting results**

### **4.2.1. Physical health indicators**

The design of the main survey questionnaires included only a small number of questions relating to physical health, due to the need to optimize survey time. Taking into account the strongly present context of the pandemic, both groups of patients were asked about past infection with the SARS-CoV-2 virus and place of treatment, which can be regarded as health indicators of morbidity. Questions were also asked about preventive measures, i.e., vaccinations received and intentions to receive them, but these data have lost their validity.

A question on self-assessment of health condition was included in the questionnaires for all groups of respondents, with five response categories coded from 0 (“definitely bad”) to 4 points (“definitely good”). Also included in the following section is an assessment of nutritional status, measured by the body mass index (BMI) – defined as weight expressed in kilograms divided by the square of height expressed in meters. Patients in the population sample and healthcare workers stated their own body height and

current weight, so this was self-reported data. Results are presented as mean BMI and the percentage of having normal weight or being underweight (as one category), being overweight, or being obese. Standard cutoff points were adopted, the same for all respondents (overweight as over 25 kg/m<sup>2</sup> and obese as over 30 kg/m<sup>2</sup>). The category of self-assessed health condition and BMI are treated in some of the following sections as cross-sectional variables.

The Polish-language EQ-5D-5L questionnaire, a health-related quality of life tool geared toward assessing limited function, was also applied for both patient groups. It takes into account five dimensions of quality of life: mobility, self-care, ability to perform usual activities, feelings of pain/discomfort, feelings of anxiety/depression. Survey respondents, on a 5-point scale, rated their current health condition as:

- no problems (code 1);
- minor problems/significant severity (code 2);
- moderate problems/moderate severity (code 3);
- serious problems/significant severity (code 4);
- inability to perform activities/very high severity (code 5).

In describing the results, we distinguished between a group of people completely free of the above problems vs. those with at least one problem, of any severity. In accordance with the rules for using this tool, the average EQ index was also given, using Polish norms (Golicki et al., 2019). The health status of each person can be characterized by a sequence of digits consistent with the layout of the responses to the above questions. As such, “11111” is interpreted as representing the best state of health, which is assigned a value of 1. Norms developed for many countries, including Poland, specify the EQ index values assigned to all possible combinations of answers to the 5 questions. As the state of health deteriorates, the EQ indexes decline, in Poland to −0.590 for the worst score of “55555.”

Respondents from the population sample further answered a question about the occurrence of long-term health problems or chronic diseases lasting (or expected to last) 6 months or longer, as determined by a doctor.

#### 4.2.2. Mental and social health indicators

Two standardized scales, assessing sleep problems and perceived stress levels, were chosen to assess mental health. Both scales have a Polish-language version and both were included in the questionnaire for all three

groups of respondents. In the case of the patient Survey at Healthcare Facilities, the number of cases collected is smaller, as the questionnaire had to be shortened during data collection.

The Sleep Disorders Scale, also known in the literature as the Jenkins Sleep Scale (JSS), was developed for clinical use (Jenkins et al., 1988), but is also used in population-based studies (Juhola et al., 2021). It consists of 4 questions regarding, respectively, problems falling asleep, waking up repeatedly during the night, waking up too early, and feeling tired or exhausted after a typical sleep period. Respondents answered from the perspective of the past month, specifying the number of days on which the problems occurred. Six response categories were included, coded from 0 to 5, as follows: 0 – not occurring at all (0 days); 1 – occurring on 1 to 3 days; 2 – occurring on 4 to 7 days; 3 – occurring on 8 to 14 days; 4 – occurring on 15 to 21 days; 5 – occurring on 22 to 31 days. The summary index ranges from 0 to 20 points, with a score above 11 points taken to indicate sleep difficulties. In the alternative scoring system, those with sleep problems are considered to be those who gave one of the latter two responses to at least one question, i.e., those who experienced some problem at least 15 days per month. The tables show the mean indexes and percentages of those with sleep difficulties, with a cutoff point of 11/12 points. The Patient Population sample, which has a demographic structure closest to national data, confirmed the univariate structure and high reliability of the JSS (Cronbach's  $\alpha = 0.874$ ).

To measure stress, we used a scale known in the literature as the Perceived Stress Scale (PSS), also called the Cohen scale after its author (Cohen et al., 1983). It comes in versions with 14, 10, and 4 questions. The middle version is the most recommended, with some authors raising objections regarding the shortest version. However, the shorter version works well in multi-question questionnaires, in view of the need to shorten survey time or in telephone surveys. A common feature of all versions is the simultaneous occurrence of positively (P) and negatively (N) oriented questions, which occur in equal numbers in the PSS-4. Respondents answer from the perspective of their past month's experience. In the PSS-4, the questions relate to the following: control of important things in their life (N), belief in one's ability to cope with one's problems (P), feeling that things are going in the right direction (P), and feeling that too many problems have accumulated (N). The PSS family questionnaires take into account 5 response categories, from "never" to "very often," allowing the calculation of a summary index with a range of 0-16 points. Researchers agree that there is no clinically supported cutoff point defining high levels of stress,

and many studies report only average PSS-4 values. A value of 6 or more points is sometimes suggested as a cutoff point, which is based on the standards of the British study by Warttig et al. (2013). Relating these norms to the results of Polish research pursued external to our project – a study of 2500 Poles surveyed in 2021 – it is reasonable to adopt three ranges: 0-5 points, 6-8 points and 9-16 points. Consistency with international publications is preserved, and at the same time it is possible to distinguish a group at higher risk of experiencing the effects of living under stress. A drawback of the Polish version is the two-factor structure of the PSS-4, which is confirmed by data from various self-reported studies covering the pandemic period. The reliability of the tool is also at the limit of acceptability – Cronbach's alpha of 0.687 in the 2022 population-based study discussed in this report.

Complementing this section is an assessment of perceptions of one's own professional and personal life among the three groups of respondents, related to the social dimension of health. Respondents were asked how they rated various aspects of their lives, including: the atmosphere, relations with family, relations with friends and acquaintances, and professional achievements. Responses were coded on a scale from 0 (definitely bad) to 4 points (definitely good). Attention was paid to the percentage of positive ratings, as well as the aggregate rating of these three aspects of life. The corresponding scale, with a range of 0-12 points, has a univariate structure in the employee population and a reliability at the level of Cronbach's alpha of 0.739. When interpreting the summative index in patient groups, it is necessary to take into account the significant percentage of non-employed individuals.

The following section also points to the importance of social support, which links the subsections on physical and psychosocial health. Respondents from the Patient Population sample were asked whether they felt they could count on someone, and whom, when their health deteriorated, distinguishing between six groups of significant individuals. Risk factors for a lack of support from others and selected health consequences are presented.

Discussion of other extended blocks of questions relating to social health falls outside the planned scope of this report, but narrower publications targeting these responses have and will be issued successively (e.g., Kozakiewicz et al., 2022). In other chapters of this report, respondents' characteristics related to their family situation, staying in relationships, or work situation are treated as cross-sectional variables.

### 4.3. Results

#### 4.3.1. Physical health

When asked to rate their own health, 97.3% of **healthcare workers** in the Survey at Healthcare Facilities responded. Most evaluations were positive, but 8.4% of respondents rated their health as “definitely bad” or “rather bad.” There were no gender-related differences ( $p = 0.805$ ), nor differences between professional groups ( $p = 0.256$ ) – see Table 38.

Data on self-declared height and weight were available for all individuals in the group; three extremely low or high BMI outliers were discarded. The mean BMI was 25.87 kg/m<sup>2</sup> (SD = 4.46), including 27.35 (3.66) for men and 25.52 (4.56) for women. Differences between professional groups were found to be statistically significant ( $p < 0.001$ ). The highest value of mean BMI was recorded among paramedics, the lowest among representatives of other medical and non-medical professions. Overweight or obesity occurred among 52.5% of the healthcare workers surveyed (73.7% of men and 48.5% of women), including obesity in 16.7% (20.6% of men and 5.8% of women).

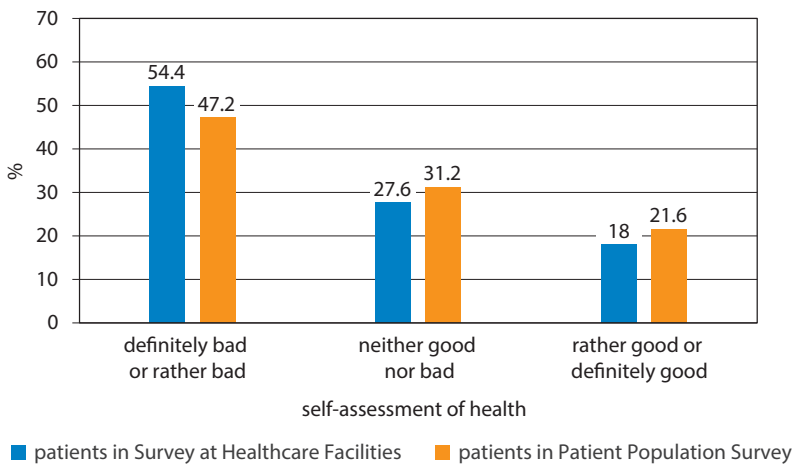
Significant differences were found among the four professional groups in the distribution of BMI values, and the statistical inference is the same as for the mean values of this index. Overweight and obesity were recorded most frequently in the paramedic group, and least frequently in other medical and non-medical professions.

**Table 38.** Self-assessed health and BMI values (%) in the sample of healthcare workers, broken down by occupation

	Professional group (% in columns)			
	Physicians <i>N</i> = 498	Nurses <i>N</i> = 1216	Paramedics <i>N</i> = 166	Other professions <i>N</i> = 423
<b>Self-assessment of health</b>				
definitely bad or rather bad	6.8	9.9	9.7	6.8
neither good nor bad	21.1	19.9	18.8	22.8
rather good or definitely good	72.1	70.2	71.5	70.4
<b>BMI categories</b>				
underweight, normal	49.9	44.4	33.1	59.2
overweight	36.8	36.5	45.8	28.2
obesity	13.3	19.1	21.1	12.6
Mean BMI (SD)	25.44 (4.15)	26.24 (4.53)	26.76 (4.15)	24.95 (4.56)

It is noteworthy that there is a clear relationship here between self-assessment of health and BMI level. In the analyzed group of healthcare workers, the percentage rating their own health condition as “definitely bad” or “rather bad” was 6.2% in the absence of excess body weight, increasing to 17.1% in those with obesity. At the same time, the percentage rating their health as “rather good” or “definitely good” decreased (76.9% vs. 56.7%).

Similar results were obtained for **patients**. In the combined sample from the two surveys, 98.7% of respondents answered the question relating to self-assessment of health. More than half (50.2%) rated their health well, but one in five respondents (20.1%) rated it poorly. A comparison of the two groups is shown in Figure 14. The results indicate a better self-assessment of health by patients recruited for the study at healthcare facilities, than from the population survey.



**Figure 14.** Self-assessment of health condition by patients in the Healthcare Facility sample and Population sample

Table 39 shows data relating to patients’ history of SARS-CoV-2 infection, divided into definite and likely cases. One in four respondents had a confirmed positive test result. Patients at healthcare facilities, who were likely to have been routinely tested in connection with their stay at a particular facility, indicated this response more often. Refusals to answer were also more frequently recorded in this group. Suspected infection, in turn, was more common in the population sample. The percentage of those confident that they had not undergone coronavirus infection, on the other hand, was similar in both groups.

The fact of having undergone infection with the SARS-CoV-2 virus was not found to affect the respondents' self-assessment of their health condition ( $p = 0.615$ ). However, the group that underwent infection and received hospital treatment showed an above-average increase in the percentage of those who evaluated their health worse. For example, in the patients in the Survey at Healthcare Facilities, 85 individuals had been hospitalized for this reason, and the percentage currently assessing their health worse was 22.9%.

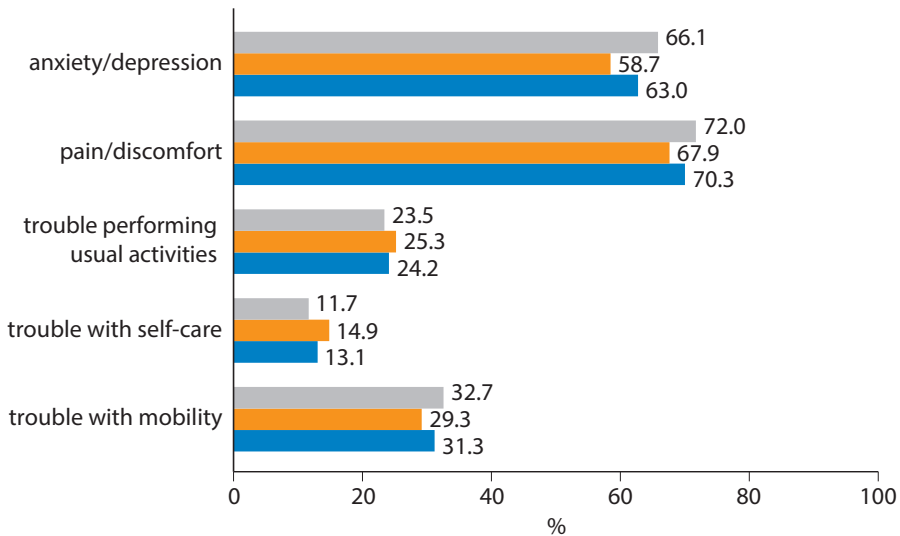
**Table 39.** History of COVID-19 infection according to patient declarations in both samples

Symptoms of infection COVID-19	Total		Patients in the Survey at Healthcare Facilities		Patients in the Patient Population Study	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
I definitely did – I had a positive test result	884	24.4	457	29.1	427	20.8
Yes – although I did not have the test performed	396	10.9	146	9.3	250	12.2
I think so – I had very similar symptoms to COVID-19	484	13.4	189	12.0	295	14.4
Rather not – I had no symptoms of COVID-19	1061	29.3	385	24.5	676	33.0
Certainly not – I had negative test results	636	17.6	269	17.1	367	17.9
Refused to answer	161	4.5	126	8.0	35	1.7

The data collected also allowed us to assess the health-related quality of life of patients in the two groups using the EQ-5D-5L questionnaire. Data were obtained for 3523 patients. In this combined sample, 17.7% of respondents reported none of the listed problems. In the sample from healthcare facilities, the percentage was 20.5%, compared to 15.7% in the population sample. In an independent question, 60.1% of respondents in the latter sample said they suffered from a chronic illness diagnosed by a doctor. Among those free of long-term health problems, the percentage having very good health in light of the EQ-5D-5L was 31.5%, compared to 7.8% among those reporting that they had a chronic disease.

A mean EQ index of 0.900 (SD = 0.132) was obtained, including 0.905 (SD = 0.131) in the sample of patients from healthcare facilities and 0.896 (SD = 0.133) in the population sample ( $p < 0.001$ ).

Figure 15 shows the prevalence of each problem included in the EQ-5D-5L in the two samples of patients, regardless of the severity of the problems. Pain and mental problems (anxiety or depression) were reported most frequently, and problems with self-care (washing, dressing) were reported least frequently.



**Figure 15.** Problems declared by patients in the two samples, according to EQ-5D-5L

Comparing the two groups of patients, the greatest differences were found in the incidence of anxiety/depression, with the population sample faring worse ( $p < 0.001$ ). Results were also on the borderline of statistical significance for reporting pain/discomfort, which was also reported more frequently by respondents in the population panel ( $p = 0.070$ ), and for self-care problems, reported more frequently by patients from the healthcare facilities ( $p = 0.080$ ). Patients from the two samples reported mobility problems and problems in performing ordinary activities with similar frequency.

#### 4.3.2. Psychosocial health

Data on stress levels were obtained from 2157 **healthcare workers**, which means 6.3% lacked data for at least one PSS-4 component question. The actually observed values ranged from 0 to 14, i.e., maximum values were not reached. The mean index was 5.63 (SD = 3.04) in this sample. The stress level was intensified to the greatest extent by question two (meaning, after coding, that the respondent was unsure of his/her ability to cope with

personal problems). The lowest average value was obtained in the group of other medical and non-medical professions, and the highest in the group of nurses. Relatively high values were also recorded for paramedics. The difference between professional groups is statistically significant ( $p = 0.008$ ). It was shown that 55% of respondents have an elevated or very high level of stress, including 13.2% with decidedly high stress according to the accepted criteria. Analysis of the distribution of PSS-4 index values confirmed the least favorable results in the groups of nurses and of paramedics. In the group of physicians, the results were more favorable, taking into account both the mean value and the categories of stress level; the percentage of very high stress levels was the lowest in this group (Table 40).

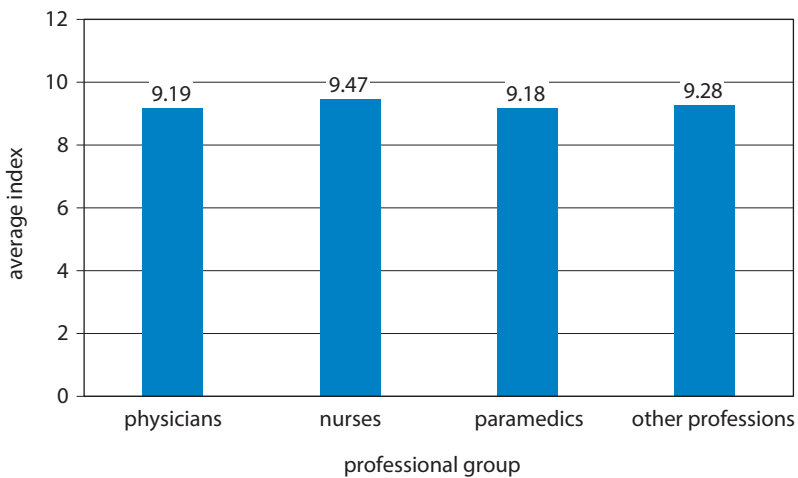
**Table 40.** Selected mental health indicators for healthcare workers ( $N = 2303$ )

Mental health indicators	Professional group			
	Physicians	Nurses	Paramedics	Other professions
<b>Stress according to PSS-4</b>				
mean (SD)	5.40 (2.93)	5.79 (3.01)	5.72 (2.92)	5.33 (3.26)
low (%)	50.0	41.5	42.6	50.3
elevated (%)	38.3	44.3	45.2	37.2
very high (%)	11.7	14.2	12.3	12.6
<b>Sleep difficulties according to JSS</b>				
mean (SD)	4.64 (4.60)	5.65 (5.50)	5.30 (5.05)	5.38 (5.47)
not present (%)	90.2	84.2	86.7	85.3
occur (%)	9.8	15.8	13.3	14.7
<b>Positive evaluation of selected spheres of life (%) *.</b>				
families	87.1	88.9	82.4	85.3
friends	82.7	87.5	81.2	87.4
professional achievements	77.2	80.4	72.6	69.1

\* combined percentage of “definitely good” and “rather good” responses

The questions regarding sleeping difficulties were answered by all surveyed healthcare workers, due to the online form of the survey with no option to refuse to answer. Again, the theoretically possible maximum values were not recorded for the JSS either, as the score range was from 0 to 18 points. Respondents most frequently reported experiencing morning fatigue despite having gotten an adequate length of rest at night, and least frequently reported difficulty falling asleep. The mean JSS index was

5.35 (SD = 5.29) in this sample. The lowest mean value was obtained in the group of physicians, the highest in the group of nurses. However, the difference between professional groups was not statistically significant ( $p = 0.066$ ). Clearer differences between professional groups become evident if we consider the percentage of people classified as having sleep disorders. A JSS score of more than 11 points was obtained by from 9.8% (physicians) to 14.8% (nurses) of respondents. With a dichotomous division, the difference becomes statistically significant ( $p = 0.016$ ). Only the physician group differed from the others, to the disfavor of physicians. The percentages of sleep difficulties reported by paramedics and representatives of other medical and non-medical professions are also high, although lower than among nurses.



**Figure 16.** Average index of evaluation of three spheres of life for healthcare workers, broken down by professional group

Representatives of the different professional groups also differed in their evaluation of various spheres of life related to their professional work and social relations. Occupational achievements were rated the worst, and here the differences between professional groups were the greatest. The percentage of positive evaluations of work achievements ranged from 69.1% in the group of other professions up to 80.4% in the nursing group ( $p < 0.001$ ). Significant differences between the four groups also persisted with regard to relationships with friends and acquaintances ( $p = 0.015$ ). Male and female physicians and members of other professions rated these relationships worse, while nurses and paramedics rated them better. In the case of assessing the family atmosphere, the result was on the verge

of statistical significance ( $p = 0.051$ ). In the nursing group, ratings were the best, and in the paramedic group the worst.

Figure 16 shows the values of the index of the composite evaluation of the three spheres of life by professional groups. The average value of this index ranges from 9.18 (paramedics) to 9.80 (nurses). The score obtained by physicians is very close to the lower value of this range.

Table 41 similarly shows indicators of mental and social health in the two samples of **patients**. Data on stress levels were obtained from 3467 patients in the two samples. The percentage of missing data was much higher among patients in the Survey at Healthcare Facilities than among those in the Patient Population Survey (7.4% vs. 1.9%). In the combined sample, the average index was 6.07 (SD = 3.19), which is higher than among healthcare facility staff. Patients' stress level was more influenced by answers to extreme, negatively oriented questions than those of healthcare staff. The patients surveyed at healthcare facilities reported higher average stress levels. The difference between the two groups is statistically significant ( $p < 0.001$ ). However, the level was often "elevated" (6-8 points) rather than "very high."

**Table 41.** Selected mental health indicators of patients in two groups of respondents

	Total <i>N</i> = 3622	Patients in the population-based study <i>N</i> = 2050	Patients in the Survey at Healthcare Facilities <i>N</i> = 1572 **
<b>Stress according to PSS-4</b>			
mean (SD)	6.07 (3.19)	5.92 (3.26)	6.28 (3.07)
low (%)	40.5	43.9	35.6
elevated (%)	41.0	36.9	46.8
very high (%)	18.5	19.2	17.6
<b>Sleep difficulties according to JSS</b>			
mean (SD)	7.00 (5.41)	7.13 (5.48)	6.31 (4.94)
not present (%)	78.9	77.8	85.4
occur (%)	21.1	22.2	14.6
<b>Positive evaluation of selected spheres of life (%) *.</b>			
families	75.1	72.3	78.9
friends	76.2	73.5	79.9
professional achievements	54.6	49.2	61.9

\* combined percentage of "definitely good" and "rather good" responses; \*\* JSS scale data collected for 363 individuals

It is difficult to compare the two groups in terms of sleep disorders, as the relevant data was collected from only a quarter of the sample at healthcare facilities. In the group of 2414 people for whom data were collected, the mean JSS scale score was 7.00 (SD = 5.41), and 21.1% of respondents were classified as having difficulties.

Turning to the social dimension of health, three different spheres of life were assessed by patients, as they were by healthcare staff. The relevant data were collected from almost all patients in both samples; the percentage of missing data ranged from 1.7% to 3.9%, being higher in the Survey at Healthcare Facilities sample than in the Patient Population Survey sample. Refusals to answer were most often noted in terms of assessing achievements in professional work. Patients recruited from hospitals and outpatient clinics rated all three spheres of life better.

We examined whether selected demographic and social variables differentiated the psychosocial health indicators discussed above. For this analysis, we took the combined sample from two surveys (Table 42).

No gender-related differences were found only with regard to perceptions of one's own professional performance. Women were more likely to report elevated levels of stress, but they rated the atmosphere in the family and relationships with friends and acquaintances better than men. Younger age groups were more likely to have elevated stress levels, but less likely to have sleep-related difficulties. Older people scored much better than younger people on social health indicators.

An important factor that differentiates psychosocial health indicators is the level of education. With regard to all five indicators, those with less than a secondary school education fare unfavorably, while there is a marked improvement among those with a university education.

When analyzing the relationship with place of residence, its significance was confirmed in only two cases. In the largest cities, the percentage of people reporting elevated levels of stress decreases, with little difference between the other three categories of locality. Smaller towns fare worst in this comparison. In contrast, ratings of job performance improve in the next categories of locality size, but again decline in the largest cities (over 500,000 residents). Patients from the largest cities also scored relatively worse in terms of relationships within the family and with friends, but statistical differences related to place of residence were not confirmed.

A comparison of patient groups distinguished by family affluence clearly indicates that problems are exacerbated in the poorest families, which cannot even afford to meet basic living needs. The greatest differences

**Table 42.** Analyzed psychosocial health indicators (%) according to selected patient characteristics from the combined two samples

	Elevated and high stress	Difficulties with sleep	Positive assessment		
			families	friends	jobs
Gender					
men	53.5	17.6	73.0	72.4	54.0
women	63.1	24.2	76.9	79.5	55.1
Age in years					
18–29	65.6	17.2	65.3	74.3	43.2
30–49	62.9	18.6	74.5	74.1	55.4
50–64	57.8	23.8	78.1	77.3	55.7
65+	50.5	24.1	79.5	80.5	60.0
Education					
below secondary	70.1	23.3	69.8	72.3	43.9
secondary / post-secondary	59.6	20.6	74.7	76.8	53.2
higher	52.6	19.8	79.3	78.8	62.9
Place of residence					
village	59.7	20.6	76.2	77.4	51.5
town up to 100,000	62.0	20.8	75.6	75.0	54.8
town up to 500,000	59.2	23.5	74.9	78.1	59.6
city over 500,000	54.1	19.3	73.5	75.7	53.3
Financial status of the family					
low	79.8	33.2	63.5	62.2	34.8
average	61.3	21.5	74.9	75.9	51.3
rather high	49.8	16.7	78.6	79.9	66.1
very high	45.7	12.2	82.0	85.3	68.7
employment status					
professionally employed	58.8	17.3	77.9	77.7	62.2
not employed	60.0	25.3	72.2	74.7	44.3

between affluence groups were noted with regard to the evaluation of professional achievements, and the least for the level of satisfaction with the family atmosphere.

The last factor analyzed was employment status. Ninety-five cases in which patients refused to answer the relevant questions were excluded from the analyses. Those who were currently employed and those who were not differed in all respects except in terms of stress levels, and the

difference was close to the limit of statistical significance when evaluating relationships with friends. The biggest differences were in the evaluation of professional achievements, when those not employed could not relate it to the current situation.

#### 4.3.3. Social support vs. stress levels

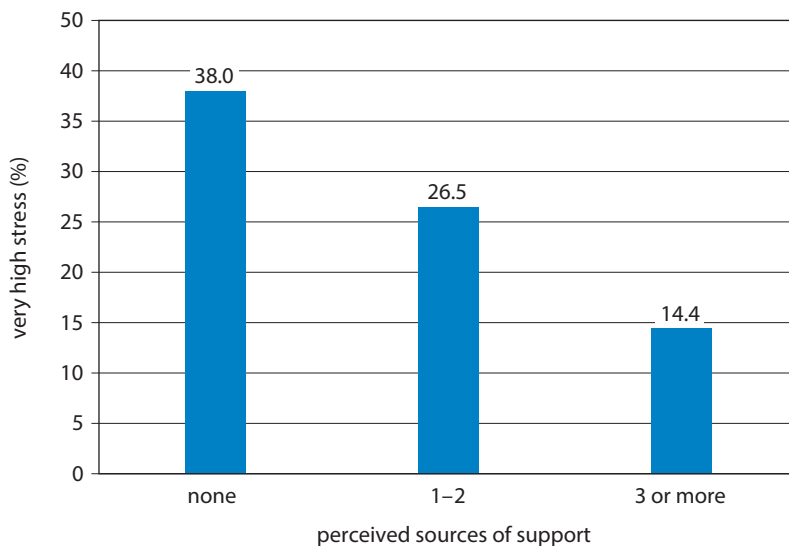
As is evident from the data in Table 43, based on a population-based sample, respondents gave positive evaluations of their ability to secure help from others in the face of illness. They rated other people in their immediate family even better in this respect than their own spouse/partner or children, in view of the lower number of cases of not having any such person.

Respondents were divided into three groups according to the number of sources of potential support. Two-thirds of people (66.0%) indicated more than two sources, a quarter (27.6%) indicated one or two sources, and 6.4% had no one close to them who could be counted on in a deteriorating health situation. The percentages correlated with age, with the highest percentage of those without anyone to turn to in the event of illness being recorded among those aged 30–49. There was also a very strong correlation with household affluence, education and self-assessment of health. The percentage of respondents believing they could not count on anyone increased to 10.2% among those with poorer health self-assessment, and to 10.3% among those with less than a secondary school education. As for family affluence, there was a tenfold decrease in the percentage of those with no one to turn to for assistance in the event of illness as wealth levels increased – the percentages for the four successive household affluence categories were 15.1%, 6.3%, 2.8%, and 1.9%, respectively.

**Table 43.** Percentage breakdown of assessments of one's ability to secure support from various other people in the event of a deterioration in health, among the population sample ( $N = 2050$ )

Source of support	"definitely yes" or "rather yes"	"neither yes nor no"	"definitely no" or "rather no"	there is no such person
spouse	53.9	5.4	5.0	35.7
partner/partner	40.3	4.8	4.3	50.6
adult/adolescent	54.4	7.6	5.8	32.2
another family member	73.6	13.7	8.4	4.3
friends	59.3	21.0	10.5	9.2
different person	36.9	31.3	15.8	16.0

It can be assumed that awareness of the possibility of getting help from significant loved ones projects onto self-assessments of health, especially mental health indicators. Fig. 17 shows the relationship with PSS-4 scores. The group with very unfavorable results (stress index of 9 points or more) included almost three times fewer respondents with a good potential support network, as compared to those without such support.



**Figure 17.** Percentage of patients experiencing very high levels of stress according to PSS-4, broken down by number of sources of support in the event of illness (population sample,  $N = 2050$ ).

#### 4.4. Summary, practical implications, and directions for further research

In discussing the health status of medical workers and patients, a section on physical and psychosocial health has been distinguished. In the summary, however, the two groups will be discussed separately, and there is no justification for comparing them. One common conclusion for both groups, however, is to emphasize the importance of support, which can be provided at different levels, tailored to signaled needs, and possible sources of support (Halms et al., 2022).

Our research on healthcare workers found that during the COVID-19 pandemic, a number of negative health-related symptoms concerning the personal and professional spheres were prevalent among them. The number

of available indicators was limited by the length of the questionnaire, but the data presented above do tally well with the results in Chapter 2, where the focus was on work-related problems (extended working hours, bullying, traumatic experiences related to the pandemic, occupational burnout), and Chapter 5, which highlighted the increased prevalence of healthcare workers' use of various psychoactive drugs during the pandemic. As for how the professional groups compared with one another, the least favorable results were found among the nursing group, where women were the most numerous. One possible reason for this may be the imposed multitasking and shaky work-life balance in this group. Other studies related to COVID-19 have found that depression was more highly prevalent among nurses as compared to physicians, alongside stress, anxiety and worry, and sleep disorders (Vamvakaset al., 2022; Peregoet al., 2022; Tietet al., 2021). Our findings indicate that nurses rated their satisfaction with their social relationships better than in other professional groups. One advantage of our study is that four different groups of healthcare facility employees were distinguished. Worthy of special attention are paramedics, given that their self-assessment of their own health condition was worse than that of doctors, and they also reported relatively high levels of stress and decidedly lower satisfaction with professional achievements. The problems faced by this particular professional group in the context of the COVID-19 pandemic have been indicated by a few national studies (Wojtysiak & Zielińska-Więczkowska, 2022).

Our research on patients, in turn, assessed their health and health-related quality of life (HRQoL) using the EQ-5D-5L questionnaire, with a total sample of 3,523 people, providing unique empirical material that should be used for in-depth analyses. Studies conducted in five different countries at the onset of the pandemic (Long et al., 2021) highlighted differences between healthy people and those with chronic diseases, and the relationship with sociodemographic characteristics. The multi-faceted questionnaire of our study offers the possibility of similar analyses, as well as examining the relationship with access to medical care, psychological response to the new reality, or other psychosocial effects of the pandemic. These types of effects of living in a pandemic were addressed in section three of this part of the book, where the outcome variables directly addressed the pandemic already in the way the questions were asked. In this chapter, attention was paid, as in healthcare workers, to stress levels and sleep problems. With regard to these indicators, groups of respondents were compared by gender, educational age, place of residence, family financial situation and employment status. Stress levels and sleep

problems were found to be exacerbated in women and in groups disadvantaged by low financial status and poorer education. Inferences regarding age-related changes were less clear. Younger respondents were more likely to report elevated stress levels, but less likely than older respondents to report sleep disturbances. The final section of this chapter shows the power of being able to secure support from important people in one's social environment during a health emergency as a stress-reducing factor. It would be good for more attention to be paid in the future to those who do not have anyone to count on in this respect.

## 5.

### **Selected health consequences of living in the COVID-19 pandemic linked to behavioral factors**

#### **5.1. Background of the analysis**

The forced quarantine and social isolation during the COVID-19 pandemic and the shift to remote-work modes may have triggered a range of negative psychological and behavioral reactions in society, which were further compounded by general disinformation and a sense of danger. The newly created situation disorganized existing lives and consequently changed multifaceted lifestyle behaviors (van der Werf et al., 2021). Separate problems arose in the general population and among medical professionals.

Healthcare workers are considered a group particularly vulnerable to developing health problems as a result of working with COVID-19 patients. As people on the frontlines of the struggle against the pandemic, they were particularly vulnerable to transmission of the infection, especially in the absence of high-quality personal protective equipment. The heavy emotional burden, more frequent contact with patient deaths than before, longer working hours, social stigma, as well as concern for the safety of loved ones may have further affected their psychological well-being, feelings of frustration and loneliness (Beiter et al., 2022). Various studies have emphasized the need for positive coping strategies to deal with stress, such as the use of formal and informal support networks, constructive problem-solving, and positive reevaluation (Yubonpunt et al., 2022). Less favorable strategies involve running away from the problem, overreacting emotionally or turning to stimulants, which has

also been studied in other countries, particularly in the context of alcohol abuse (Cedrone et al., 2022; Cousin et al., 2022). The health consequences of alcohol abuse during the pandemic period also include a higher risk of SAR-CoV-2 infection and a more severe course of the disease, as well as a range of social consequences, including increased domestic violence (Bantounou, 2022).

The issue of the use of medications to reduce mental health problems is complex, and their uncontrolled intake (which is not part of therapy) can be considered risky behavior. Nevertheless, the mere assessment of the frequency of use of such drugs is a sensitive indicator of the mental condition of the subjects, which can be monitored.

In terms of behavioral changes, the effects of the pandemic analyzed across society can include inadequate nutrition, increased sedentary behavior, the development of new addictions, reduced sleep quality and decreased physical activity.

Weight changes during the COVID-19 pandemic period have been analyzed in many countries. It has been hypothesized that changes in an individual's lifestyle can explain their weight gain during this period. Altered eating behavior (Sidor & Rzymiski, 2020) and physical inactivity (Ji et al., 2022), but also stress and increased depressive symptoms (Kuk et al., 2021) are predisposing factors.

In view of the small amount of information available and the adoption of the thematic blocks described below as the basis for analysis, the following objectives were formulated for this part of the report:

- comparison of professional groups of healthcare workers in terms of the frequency of their use of stimulants and intake of selected groups of drugs, as well as changes in this regard during the COVID-19 pandemic period;
- analysis of short- and medium-term changes in the body weight of the general population, represented by those who had received medical treatment in the last 24 months, and selected correlates of these changes.

## 5.2. Research tools and method of presenting results

In this section of the report covering the results of the quantitative survey, two thematic blocks related to health behavior are discussed. Due to time constraints in completing the survey, we decided against attempting a detailed examination of health-promoting and anti-health-promoting behaviors

across all groups of respondents. However, these issues were hinted at in the context of behavioral change as a health effect of the pandemic.

The first thematic block pertained to cigarette smoking, alcohol drinking and the intake of selected groups of medications, supplements and other substances by healthcare workers, and the second thematic block concerned weight change during the pandemic period, according to data declared by patients in the population sample. Despite the thematic divergence and the availability of information for different groups of respondents, the aspect of changes occurring during the COVID-19 pandemic period can be considered a common feature of this section of the report, due to the way the questions were formulated. One can associate these changes with attempts to cope with stress, the imposed restrictions and the changing living and working conditions. The topics discussed here complement the content of the chapters on health and on the functioning of healthcare workers and patients during the COVID-19 pandemic, with particularly strong links to mental health assessment.

The first area included questions included in the health section of the survey. Medical professionals surveyed in the Survey at Healthcare Facilities answered the question of whether they had started using, or began using more frequently than usual, various types of stimulants and drugs during the COVID-19 pandemic, broken down into:

- cigarettes, e-cigarettes, tobacco,
- alcohol,
- sedative or sleep-inducing medications,
- sedative or sleep-inducing supplements,
- stimulant drugs or substances,
- opioid painkillers,
- drugs from the SSRI group (selective serotonin reuptake inhibitors), also known as antidepressants,
- other psychoactive or intoxicating substances.

With regard to the change in frequency of use, three response options were provided: “more often,” “the same,” “less often than usual,” and in addition, one could choose “not used,” “just started using during the pandemic,” or “refuse to answer.” In accordance with the principles adopted throughout the report, we opted not to generate tabular results for the combined sample of all healthcare workers, as the professional groups clearly differed in terms of numbers and demographic characteristics – when interpreting the indicators for the full sample of 2303

employees appearing in the text, it would be important to keep in mind the overrepresentation of the nursing group and, consequently, of women. Posting detailed response distributions for all eight groups of potential substances vs. all four professional groups exceeds the scope of this report. Instead, tabular summaries will here be limited to two derived indicators. One is defined as a positive indicator, which refers to the percentage of non-users of a measure. The second indicator is negative and relates to the percentage of unfavorable changes, i.e., the combined responses of “used more often than usual” and “just started using during the pandemic.” More detailed distributions of responses and refusal rates are commented on in the text. Given the low frequencies of declared drug use, we also estimated the percentage of people who had started taking or were taking more often than usual any substance belonging to at least one of the six groups given, that is, in addition to tobacco and alcohol. In inferring differences between professional groups, the results of the chi-square test and analysis of standardized residuals in composite cross-tabulations were used.

The second type of issue discussed in this section of the report concerns excess body weight. All three groups of respondents reported their current height and weight, which made it possible to assess the prevalence of overweight and obesity as an important health characteristic. As mentioned above, it has strong behavioral determinants due to its association with physical activity levels and eating behaviors, which, in light of the results of many studies, often significantly changed during the pandemic. Only in the population-based sample of patients were patients additionally asked about weight changes in the last 12 months and the last three months, which could be due to lifestyle changes. Three responses were possible: “weight increase,” “maintaining weight at the same level,” and “weight decrease.” In other studies, comparing body weight before the pandemic and at the time of the survey also allowed for the future option of weight fluctuation, or alternating periods of weight loss and gain (Assaf & Antoun, 2022).

Those who noticed changes in their body weight in the last three months were additionally asked to estimate the amount of change in kilograms. Results were presented for the entire study group and by current BMI body mass index level, gender and other demographic and social characteristics. BMI was calculated based on declared height and weight. One outlier was eliminated from the analyses. Subjects with normal or low weight, overweight and obese weight were distinguished.

### 5.3. Results

#### 5.3.1. Use of stimulants and selected drugs by healthcare workers

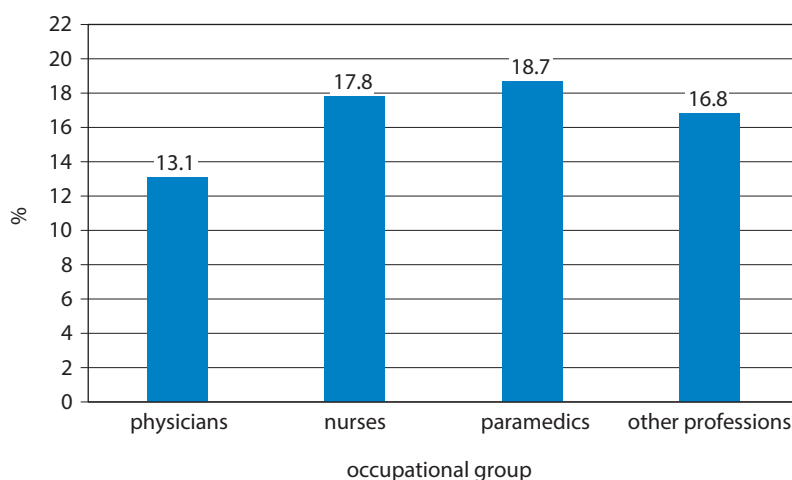
Table 44 shows the percentages of healthcare workers who did not make any use of the listed substances (abstainers and non-users). Subtracting these figures from 100% yields the percentages of those using them, with various frequencies. Refusals to answer more likely reflected a reluctance to use stimulants and take medication, rather than “abstinence.” In the combined group of 2303 healthcare workers, the percentage of refusals to answer ranged from 2.1% (for antidepressants) down to 3.4% (for alcohol). Looking at the various professional groups, the highest percentage of refusals to answer was noted among representatives of other medical and non-medical professions, which reached 5.0% for the questions on drinking alcohol and taking sedatives or sleeping pills. According to the data in Table 44, abstinence was noted the least frequently for alcohol, but most prevalently for stimulant drugs.

**Table 44.** Healthcare workers who declared that they did not use particular psychoactive substances or drug groups at all

		Professional group			
		Physicians <i>N</i> = 498	Nurses <i>N</i> = 1216	Paramedics <i>N</i> = 166	Other professions <i>N</i> = 423
cigarettes, e-cigarettes, tobacco	<i>n</i>	384	849	75	288
	%	77.1	69.8	45.2	68.1
alcohol	<i>n</i>	192	718	46	229
	%	38.6	59.0	27.7	54.1
sedatives or sleeping pills	<i>n</i>	407	983	122	332
	%	81.7	80.8	73.5	78.5
sedative or sleeping supplements	<i>n</i>	416	934	113	323
	%	83.5	76.8	68.1	76.4
stimulant drugs or substances	<i>n</i>	455	1123	135	386
	%	91.4	92.4	81.3	91.3
opioid painkillers	<i>n</i>	459	1088	137	373
	%	92.2	89.5	82.5	88.2
drugs from the SSRI group (antidepressants)	<i>n</i>	429	1090	142	375
	%	86.1	89.6	85.5	88.7
other psychoactive or narcotic substances	<i>n</i>	464	1147	141	396
	%	93.2	94.3	84.9	93.6

Differences between professional groups proved statistically significant in all cases ( $p < 0.001$  according to the original tables with six response categories, and  $p = 0.007$  only for antidepressants). The declared frequency of smoking, drinking alcohol and taking all groups of medications proved to be highest in the group of paramedics. Physicians also frequently declared that they drink alcohol (although less frequently than paramedics), but they smoke cigarettes significantly less often than other professional groups, and take drugs from the sedative or sleep and painkiller groups less often. Taking stimulant drugs or substances was declared least often by nurses, although the percentages in the group of physicians were only slightly higher.

Figure 18 summarizes the adverse changes with regard to the use of drugs and other agents from the six groups (i.e., in addition to cigarettes and alcohol). In the combined group of healthcare workers, 16.7% started using at least one substance during the pandemic period, or began using it more frequently than before. The percentage ranges from 13.1% for physicians to 18.7% for paramedics, but with this number of respondents, the difference is not statistically significant ( $p = 0.094$ ).



**Figure 18.** Healthcare workers who started using drugs from at least one of the analyzed groups during the pandemic, or began using them more frequently

A more detailed summary of adverse changes declared during the pandemic period, broken down by group of substances used and professional groups, is shown in Table 45. Interpretation of the results is further enhanced by analysis of certain unpublished, more detailed distributions of responses to the questions in question.

In a combined sample of 2303 healthcare workers, the percentage of adverse changes associated with the COVID-19 pandemic ranged from 1.2% (taking other psychoactive or narcotic substances) to 11.1% (taking sedative or sleeping supplements). It was relatively common (about 8% of adverse changes) for the pandemic-related behavioral change to involve taking drugs from a similar group, as well as smoking cigarettes.

Looking at the figures in Table 45, the physician group stands out in terms of more frequent use of antidepressants, while the nursing group is distinguished by more frequent use sedative or sleeping drugs or supplements. In this case, the percentages obtained in the group of other medical and non-medical workers were only slightly lower. The paramedic group stands out in terms of smoking and drinking alcohol more often than among representatives of other professions, and in terms of taking stimulants or substances and other psychoactive or intoxicating substances more often.

**Table 45.** Healthcare workers who started using drugs from at least one of the analyzed psychoactive substances or drug groups during the pandemic period, or began using them more frequently

		Professional group			
		Physicians N = 498	Nurses N = 1216	Paramedics N = 166	Other professions N = 423
cigarettes, e-cigarettes, tobacco	n	38	100	26	32
	%	7.6	8.2	15.7	7.6
alcohol	n	53	66	21	18
	%	10.6	5.4	12.7	4.3
sedatives or sleeping pills	n	26	114	10	38
	%	5.2	9.4	6.0	9.0
sedative or sleeping supplements	n	32	153	19	51
	%	6.4	12.6	11.4	12.1
stimulant drugs or substances	n	13	24	7	12
	%	2.6	2.0	4.2	2.8
opioid painkillers	n	8	35	2	16
	%	1.6	2.9	1.2	3.8
drugs from the SSRI group (antidepressants)	n	32	49	4	15
	%	6.4	4.0	2.4	3.5
other psychoactive or narcotic substances	n	9	11	4	4
	%	1.8	0.9	2.4	0.9

Combining these two types of responses into a single category of adverse changes represented a certain simplification of the results. In most cases, more people admitted to using a particular drug more frequently than to having started taking it during the pandemic. Only in the case of taking antidepressants were the percentages identical.

Less attention was also paid to the *reduction* of substance-use behaviors, i.e., instances of reduced frequency of substance use during the pandemic period. A sizeable group did report drinking alcohol less frequently than before (7.9%). In other cases, declared less frequent use of a substance ranged from 0.7% (other psychoactive substances) to 2.6% (smoking cigarettes) of respondents.

### 5.3.2. Weight changes according to patients in a population-based sample

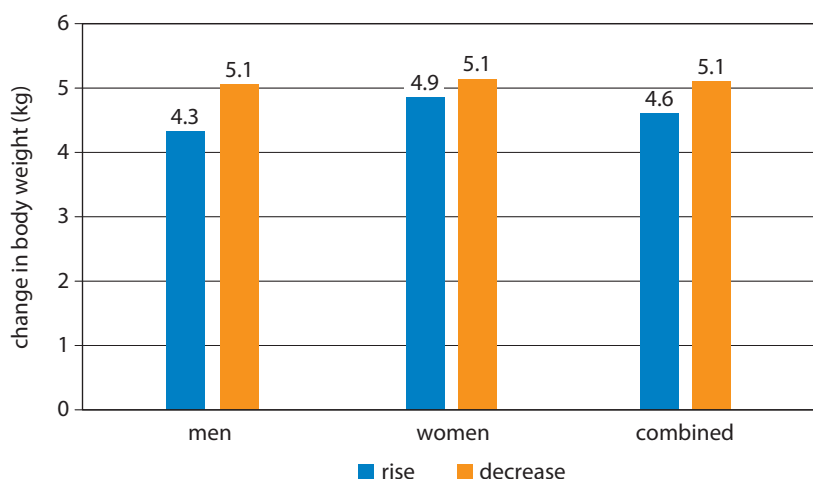
Table 46 presents data on body weight changes. Out of 2050 respondents from the population-based sample of patients, 22 refused to answer this question, more often women than men. Nearly half of the respondents declared that their weight underwent no change in the preceding 12 months, with the percentage rising to more than 60% over the preceding 3 months. Weight gain was noted more often than weight loss. Men were more likely than women to declare no change in body weight. Women were more likely to indicate both an increase and decrease in body weight. In the longer perspective of the past year of the pandemic, gender-dependent differences were significant ( $p = 0.004$ ); in the past 3 months, no more differences were shown between men and women.

**Table 46.** Changes in body weight (%) during the pandemic period in the Patient Population sample, broken down by sex

	Total		Men		Women	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
<b>in the past 12 months</b>						
growth	612	29.9	280	27.3	332	32.4
unchanged	1006	49.0	542	52.9	464	45.2
decrease	410	20.0	195	19.0	215	21.0
refused to answer	22	1.1	8	0.8	14	1.4
<b>in the past 3 months</b>						
growth	432	21.1	213	20.8	219	21.3
unchanged	1258	61.3	642	62.6	616	60.1
decrease	338	16.5	162	15.8	176	17.2
refused to answer	22	1.1	8	0.8	14	1.4

Comparing weight changes over the last year and the last 3 months, a group of 45.7% of respondents can be identified who consistently declared no such changes (49.0% of men and 42.3% of women). One in every ten individuals declared that they had reached stability in the last 3 months, after previous a period of weight increase.

Respondents estimated that their body weight had changed, on average, by 5 kilograms over the past 3 months. The average magnitude of the decrease was greater than that of the increase, at  $5.10 \pm 3.81$  and  $4.60 \pm 3.49$  kilograms, respectively. Gender-dependent differences were found to be statistically insignificant ( $p = 0.130$  for height and  $p = 0.854$  for weight loss) – see Figure 19.



**Figure 19.** Magnitude of weight change over the past 3 months, as declared by patients in the population sample

Table 47 shows the presents changes in respondents' weight over the past 3 and 12 months, broken down by selected demographic and social characteristics and current BMI. Refusals to answer were omitted from this analyses.

**Age** was a differentiating factor for declared changes in body weight, which was true for both the perspective of the twelve and the last three months ( $p < 0.001$  in both cases). Across the successive age groups, the percentage of those reporting an increased body weight went down, while the percentage declaring no change increased. The frequency of noting a decrease in body weight was similar in successive age groups when the last 12 months were considered, while it was more frequently noted by younger people when asked about the last 3 months. Thus, it can be

concluded that the increase in body weight during the pandemic period particularly affected younger people, who, however, then made an effort to reduce their body weight over time.

**Table 47.** Changes in body weight (%) during the pandemic period declared by patients in the population sample,\* broken down by selected sociodemographic characteristics and current BMI level ( $N = 2028$ )

	past 12 months			past 3 months		
	increased weight	unchanged	decreased weight	increased weight	unchanged	decreased weight
<b>Age in years</b>						
18–29	38.1	41.6	20.3	30.9	49.9	19.2
30–49	33.9	45.4	20.7	22.8	58.8	18.4
50–64	29.5	52.3	18.2	20.5	65.0	14.5
65+	20.0	58.0	22.0	13.8	71.3	14.9
<b>Education</b>						
below secondary	33.3	44.9	21.8	24.6	56.7	18.7
secondary / post-secondary	28.8	52.1	19.1	20.2	65.0	14.8
higher	29.2	50.7	20.1	20.0	63.0	17.0
<b>Financial status of family</b>						
low	38.9	39.6	21.5	27.8	52.6	19.6
average	29.0	51.4	19.6	19.9	63.9	16.2
rather high	27.5	50.4	22.1	20.6	62.9	16.6
very high	28.8	52.3	18.9	19.3	65.2	15.5
<b>Current BMI level</b>						
normal/underweight	21.6	57.2	21.2	16.4	65.5	18.1
overweight	33.0	47.6	19.4	22.1	63.0	14.9
obesity	41.1	39.2	19.7	28.9	54.2	16.9

\* with refusals to answer excluded

An association was also observed between respondents' **education** level and changes in their body weight, but a statistically significant difference appeared only for declared changes over the past 3 months ( $p = 0.036$ ). Respondents with less than a secondary-school education were more likely to notice an increase in their body weight. In all groups distinguished by education level, no change in body weight was more

often noted from the perspective of the past three months than over the past year.

The size of the **locality** in which the lives respondent showed an association with changes in body weight (data not shown).

The family's **financial situation** may have been more important. Weight changes were declared more often in the least affluent families. These were statistically significant differences when analyzing both the past year ( $p = 0.009$ ) and the past 3 months ( $p = 0.025$ ). Weight loss in the last 3 months was also more frequently observed in this group than in the others.

The last cross-sectional characteristic analyzed was the current BMI level. In the study group, the mean BMI value was 26.48 (SD = 5.03). These values were significantly higher in men than in women ( $27.16 \pm 4.60$  and  $25.80 \pm 5.35$ , respectively;  $p < 0.001$ ). 40.9% of the respondents could be classified in the group without excess weight, overweight was noted in 38.1% and obesity in 21.0% of the respondents. Excess body weight was found in 67.9% of men and 50.3% of women. Weight gain in the last 12 and 3 months was more common among those who currently are overweight or obese. As one moved to a higher BMI category, the percentage of respondents reporting no change in body weight decreased. In contrast, those without excess weight were more likely to declare a decrease in weight during the pandemic period.

#### 5.4. Summary, practical implications, and directions for further research

The conducted analyses confirmed that changes in health behaviors were another effect of functioning in a pandemic, which, on the example of selected behaviors, applied to both the general population and the professional groups of healthcare facility employees. A picture was also obtained of the health status of the analyzed populations in terms of the frequency of engaging in selected risk behaviors (employees) and nutrition status (patients).

Significant weight changes during the pandemic were found to have occurred to a greater extent during its first year. A higher percentage of respondents declared no change in the past 3 months than for the past 12 months. Weight gain was reported more often than weight loss. Attention was also paid to those population groups where weight gain was reported more frequently: these included women, younger people, less educated and those from poorer families. The pandemic may have

further increased the prevalence of overweight and obesity, as weight gain was reported more often by those with higher BMIs. The results dovetail with an earlier population-based study conducted by the same team during the first months of the pandemic (Białorudzki & Izdebski, 2021). At that time, the declared percentage of weight gain was 33.9% compared to 29.9% in the current study for the perspective of changes over the past year, and 21.1% for the perspective of changes over the past 3 months. Such a comparison supports the claim that weight gain was recorded more often at the beginning of the pandemic. In earlier studies, the average level of weight increase also fluctuated around 5 kilograms.

The material collected provides opportunities for further analysis of the determinants of weight changes (growth and decline) with factors previously not included in the questionnaires. It is also possible to compare results from various cross-sectional studies conducted over the pandemic.

As mentioned in the introduction to this chapter, alcohol consumption by physicians and other medical personnel has been extensively described in the literature, and publications in recent years also take into account the context of the pandemic (Beiter et al., 2022). In a cross-sectional Canadian study, Mongeau-Pérusse et al. (2021) compared workers in healthcare and other sectors. In both groups, the prevalence of alcohol drinking increased during the pandemic, the main difference between the two groups being a greater tendency to opt for beverages of lower alcoholic content among the medical group during the pandemic. Taking medication as a default strategy for coping with stress has been discussed far less frequently. Another original feature of our analyses is the comparison of different professional groups. In light of our results, the group at greatest risk is paramedics, among whom the declared use of all types of substances was found to be the most frequent. However, if we look at unfavorable changes during the pandemic period, problems peculiar to other professional groups also emerge. For physicians, starting to use or more frequent use of SSRI (antidepressant) drugs was more typical, while for nurses and representatives of other medical and non-medical professions, starting to use or more frequent use of drugs or supplements with sedative or sleep-inducing effects was more prevalent. One interesting observation is the relatively less prevalent use of tobacco by physicians, which may be ascribable to greater awareness of its harmfulness among this particular professional group.

Further studies should aim to combine data on the use of the substances in question with the characteristics of work during the pandemic

period, while assessing the mental health of respondents. It also seems advisable to devise studies aimed at specific professional groups and to take into account the gender of respondents and other social and demographic characteristics. In our study sample, only the group of physicians was gender-balanced. The nursing group was dominated by women (97.6%), the paramedic group by men (69.3%). A certain limitation of our study is its lack of information on whether doctor-prescribed medications were being taken. However, previous analyses suggest that medical workers rarely sought professional help for a deterioration in their mental condition during the pandemic, increased stress or symptoms of job burnout or post-traumatic stress. In interpreting the data presented earlier in Table 45, it was noted that for many psychoactive substances, adverse changes were noted in isolated cases within professional groups. Thus, in future studies, it will be useful to define derived variables by combining information on the use of different types of drugs or supplements.

The indirect effects of the COVID-19 pandemic have potential impacts on people's physical and mental health, especially for vulnerable groups, which should prompt the development of effective and targeted measures. In units dealing with prevention and health promotion, it is worth highlighting the increasing risk of addictions developing in a pandemic situation, as well as the prevention of excessive weight gain to prevent many chronic diseases in the future.

## 6.

### Patients' rights

#### 6.1. Background of the analysis

The COVID-19 pandemic revealed many weaknesses in the healthcare system, although some of them had been apparent already previously (Włodarczyk & Juszczak, 2022). Governments faced the need to impose rapid legislative solutions to prevent the spread of the SARS-CoV-2 virus, to enable effective treatment and isolation of infected people. In the face of the global crisis, a number of ethical dilemmas arose over the extent to which individual freedom could be restricted, including by restrictions on movement, forced remote work, and/or mandatory quarantine. The epidemic period also significantly affected the ability of patients to

exercise their rights – particularly in the case of SARS-CoV-2 infected patients requiring hospitalization and their families (Chmielowiec et al., 2022). Access to healthcare services and the ability to access medical records were impeded. In many places, the right to have a loved one present when medical personnel are taking actions was suspended (Giermaziak et al., 2021). In addition, it is worth noting the trust model proposed by Bending (2015), positing that measures should be taken to inform patients about the duties that medical professionals have with respect to them and the available means of seeking redress in the event of their violation.

The rights of patients, as citizens of the Republic of Poland, are enshrined in the country's highest legal act – the Constitution of the Republic of Poland<sup>9</sup> – which guarantees the right to:

- legal protection of life and health,
- equal access to publicly funded healthcare services, with an obligation to provide special healthcare to children, pregnant women, people with disabilities and the elderly,
- respect for freedom, dignity, protection from inhuman or degrading treatment,
- information, expression, secrecy and protection of their views,
- freedom of religion, worship and the ability to participate in religious practices,
- voluntary participation in medical experiments,
- filing a complaint with the Civil Rights Ombudsman.

The Constitution of the Republic of Poland simultaneously obliges the public authorities to combat epidemic diseases. In the event of an epidemic emergency or for the sake of patient health and safety, existing regulations do allow for restrictions to be imposed on patients' rights, but not their complete deprivation. Pursuant to Article 5 of the Polish Act of November 6, 2008 on Patients' Rights and the Patients' Rights Ombudsman (*Journal of Laws* 2009 No. 52 item 417), such a decision is to be made by the head of the healthcare provider, or by a physician authorized by him or her. Because this relates to the situation of a person as a patient, additional regulations also apply:

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<sup>9</sup> The Constitution of the Republic of Poland, the text adopted on April 2, 1997 by the National Assembly. An official English version is available at: <https://www.sejm.gov.pl/prawo/konst/angielski/kon1.htm>

- 1) the aforementioned Polish Act on Patients' Rights and the Patients' Rights Ombudsman, together with supplementary acts of law implementing that Act,
- 2) international regulations or guidelines, including but not limited to:
  - the Charter of Patients' Rights, issued at the initiative of the European Parliament,<sup>10</sup>
  - the Declaration on the Promotion of Patients' Rights in Europe, adopted by the World Health Organization in Amsterdam in 1994,<sup>11</sup> and the European Charter on Patients' Rights based on it,<sup>12</sup>
  - the Convention for the Protection of Human Rights and Dignity of the Human Being with regard to the Application of Biology and Medicine: the Convention on Human Rights and Biomedicine.<sup>13</sup>

Patients' rights should be recognized as an integral and inseparable part of broader human rights and civil rights.

Awareness of patients' rights has a systematizing and disciplinary effect on the functioning of the healthcare system, and significantly affects the quality of medical services offered at healthcare facilities. Although the legal regulations on patients' rights, adopted in Poland after 1990, do not differ in essential content from those adopted in most European countries, the respect shown for them in our country still raises a great many objections and comments (Wronski, 2007). Respecting patients' rights is a legal obligation as well as a moral obligation for all employees in the healthcare system.

The Ombudsman indicates that during the SARS-CoV-2 outbreak, from March to September 2020, there was a significant increase in signals (by 60%) submitted by patients to the Office of the Patients' Rights Ombudsman, largely (71%) regarding a lack of or reduced access to services (Patients' Rights Ombudsman, 2020).

<sup>10</sup> [https://ec.europa.eu/health/ph\\_overview/co\\_operation/mobility/docs/health\\_services\\_co108\\_en.pdf](https://ec.europa.eu/health/ph_overview/co_operation/mobility/docs/health_services_co108_en.pdf)

<sup>11</sup> [http://www.nurs.uoa.gr/fileadmin/nurs.uoa.gr/uploads/Nomothesia\\_Nosilefton/Evropaika\\_keimena/eu\\_declaration1994\\_1\\_.pdf](http://www.nurs.uoa.gr/fileadmin/nurs.uoa.gr/uploads/Nomothesia_Nosilefton/Evropaika_keimena/eu_declaration1994_1_.pdf)

<sup>12</sup> Opinion of the European Economic and Social Committee on Patients' rights (*Official Journal of the European Union* 2008/C 10/18), <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2008:010:0067:0071:EN:PDF>

<sup>13</sup> [https://www.coe.int/t/dg3/healthbioethic/texts\\_and\\_documents/ETS164Polish.pdf](https://www.coe.int/t/dg3/healthbioethic/texts_and_documents/ETS164Polish.pdf)

The purpose of the analysis we carried out in this section of our research is to determine the extent to which patients are aware that they have rights and whether, in their opinion, these rights were complied with as they made use of medical services during the pandemic. It was also hypothesized that an increase in trust in doctors and other medical professionals is associated with better knowledge of patients' rights.

## 6.2. Research tools and method of presenting results

Questions regarding patients' rights formed a separate part of the questionnaires. The purpose of the first question was to diagnose the scale of awareness of patients' rights as such. Wanting to avoid misjudging the scale of the phenomenon, given that respondents might act out of a fear of expressing an opinion that is considered less socially acceptable or suggestive of their ignorance – we opted to make it possible to mark an answer from among three possible ones:

- no – I have not heard of patients' rights at all,
- I have heard of patients' rights, but am unable to name any,
- yes, I am familiar with patients' rights.

Regardless of the answer given, each person evaluated how each particular right, in turn, looked in practice, indicating whether the right was complied with or not. Since the situation of patients was so diverse that it was not possible in every case to personally check the compliance of each particular right – respondents could mark the answer “don't know” or “not applicable” (in this study, for the sake of clarity of analysis, both answers were combined into one category “don't know / not applicable”).

The implementation of eleven rights was evaluated, displayed in slogan form in the following order:

- the right to health services,
- the right to information,
- the right to consent to the provision of health services,
- the right to confidentiality of information (known as medical confidentiality),
- the right to report adverse reactions to medicinal products,
- the right to object to a doctor's opinion or ruling,
- the right to medical records,
- the right to respect for intimacy and dignity,

- the right to respect for private and family life,
- the right to pastoral care,
- the right to keep valuables in safe deposit.

Patients in the Survey at Healthcare Facilities made evaluations from the perspective of their visiting a particular healthcare facility at the time of completing the survey. The online Patient Population Survey asked for a broader perspective – covering experiences over the past 12 months prior to completing the survey (i.e., 2020–2022).

Most of the analyses in this chapter are presented for the combined sample of patients from both the Survey at Healthcare Facilities and Patient Population Survey – made possible by the similar demographic and social characteristics of the two samples.

Trust is one of the indispensable components of communication, and communication is a fundamental element of building the patient–physician relationship (Bending, 2015). For this reason, this chapter also analyzed the awareness of rights in relation to the level of trust towards this group and additionally towards nurses, paramedics. Patients were asked to indicate their level of trust on a visual graphical scale (slider), where a score of 0 indicated no trust, 10 indicated complete trust. For the purpose of analysis in this chapter, three levels were identified: no trust/low trust (level 0,1,2,3), moderate trust (4,5,6), high trust (7,8,9,10).

## 6.3. Results

### 6.3.1. Knowledge and perception of compliance with patients' rights

Systemic and performance-level negligence is fostered by a lack of sufficient awareness on the part of patients themselves of their rights. The awareness that one even has rights at all, as well as the awareness of what a particular right entails for the patient and what it means to the healthcare worker, is significantly correlated not so much with the ability to notice them (for this seems obvious), as with noticing how those rights are being complied with.

Although nearly a decade and a half have passed since Poland's enactment of the Act on Patients' Rights and the Patients' Rights Ombudsman in 2009, of the 3,622 patients who took part in our project, 7.4% remained unaware of any rights they had as patients. The percentage of patients aware of their rights is similar among those who were surveyed in the Survey at Healthcare Facilities (hospitals and outpatient clinics) and in the Patient Population Survey (the percentage of those aware that

they had rights as patients was 91.5% and 93.4%, respectively). There is a telling difference in the declarative value of this awareness. Close to one-half of the patients at healthcare facilities (49.9%), that is, people who took part in the survey at the time of actually receiving health services, had only a general awareness that they did have rights as patients, whilst simultaneously admitting that they could not name any of those rights. In the population-based survey – which is more retrospective, as it includes patients who received healthcare services within the 24 months prior to the survey – the percentage is significantly higher, at 70.5%. Patients who are generally aware of their rights and, in their own self-assessment, are also able to name them, represent less than 1/3 of the population. The percentage of patients who declare that they are aware of their rights (and implicitly – that they can verbalize them) differed significantly in the Survey at Healthcare Facilities and in the Patient Population Survey. The difference in the percentage of declarations is almost twofold: in the Survey at Healthcare Facilities, when asked about knowledge of any patient rights, 41.6% of patients answered in the affirmative, whereas in the Patient Population Survey, 22.9% of patients made such a declaration (Table 48).

**Table 48.** Awareness of patients' rights

Patient categories	patients in the Survey at Healthcare Facilities N = 1572		patients in the Patient Population Study N = 2050		total patients N = 3622	
	n	%	n	%	n	%
Patients who know their rights	654	41.6	470	22.9	1124	31.0
Patients who have heard about such rights, but are unable to name any	785	49.9	1445	70.5	2230	61.6
Patients who have not heard of patients' rights at all	133	8.5	135	6.6	268	7.4

For the effective functioning of the idea of humanizing medicine, awareness-building activities are clearly needed.

Those who have even a general awareness of the fact that they have certain rights as patients are more likely to notice how they are being complied with than those who are not even aware that patient rights in Poland should be observed. In the group unaware of their rights, nearly one-fifth indicated that none of the eleven rights evaluated were complied with when they made use of medical services (whereas the percentage in the aware group was five times lower). At the same time, one-fifth of those unaware of their rights confirmed that almost all (9 to 11 categories) were complied with. In the group of those who aware of patients' rights, the percentage was almost two times higher (Figure 20).

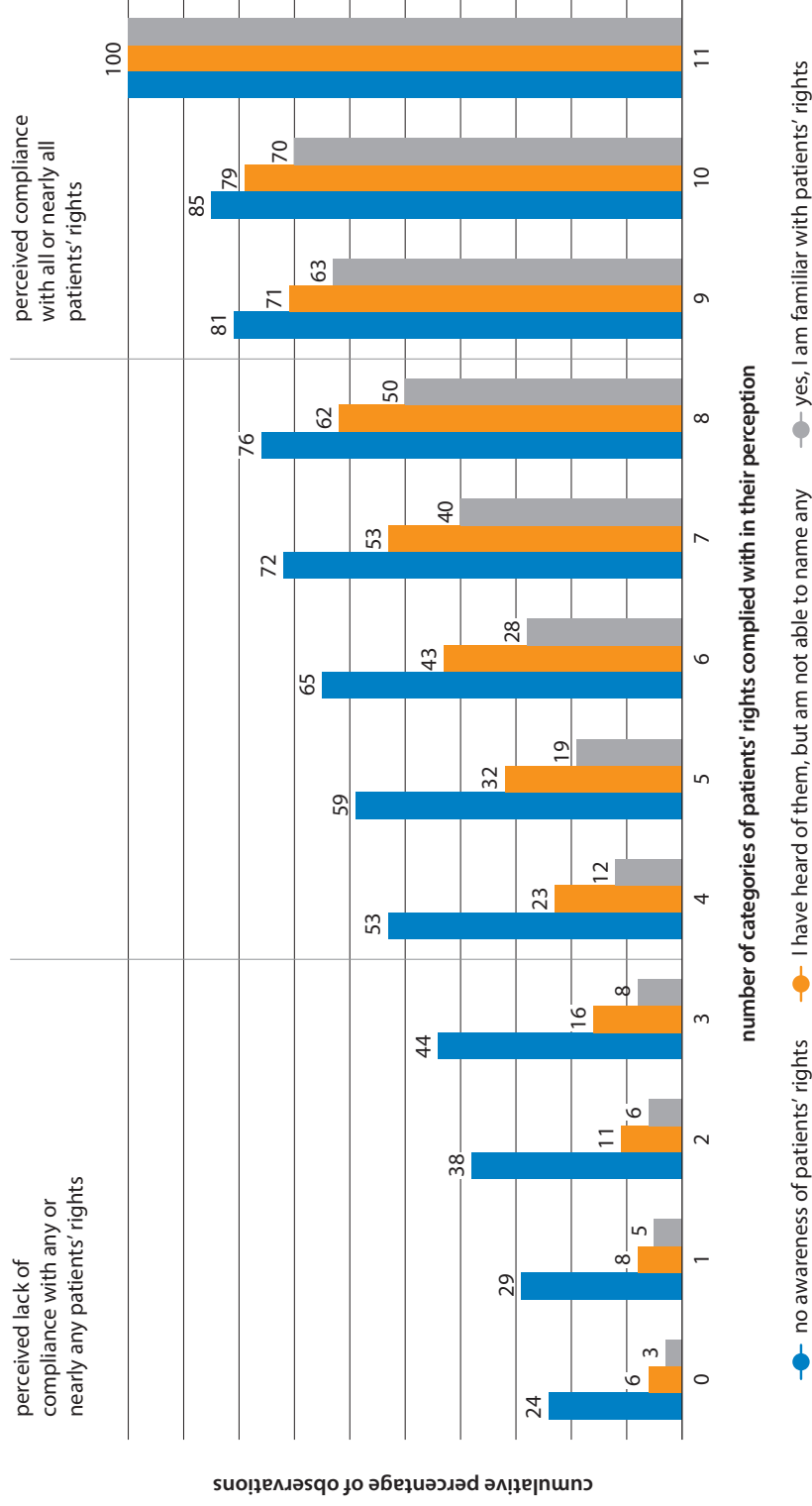
### **6.3.2. Perceptions of patients' rights, broken down by demographic and social characteristics**

Analysis of the demographic profile of patients indicates that educational efforts promoting awareness of patients' rights need to target all demographic groups – regardless of gender, age, class of city of residence, labor force participation, or household size (although a strong statistically significant relationship was shown for all of the characteristics indicated in Table 49 –  $p < 0.001$ , for age  $p < 0.009$ ).

The profiles of the “unaware” vs. “aware” patients are similar; in general, there are few visible characteristics that strongly differentiate the groups of those “unaware” from those “aware” of patient rights. The exception is level of education, where among those unaware of patients' rights, a higher percentage of those who have not completed secondary school is visible in the structure. The need for patient education is also seen more strongly in the group of the youngest patients surveyed (aged 18–29).

Data on the perceived observance of individual rights are shown in Table 50. The patients' rights that they feel are most often complied with are “the right to health services” and “the right to information.” The percentage of those who felt that these rights were complied with during their visit to a particular healthcare facility (patients from the Survey at Healthcare Facilities) was 84.2% and 81.7%, respectively. Patients asked to confirm compliance more generally, over the preceding 24-month period (patients from the Patient Population Survey) were slightly less likely to agree with this opinion (81.4% and 80.9%, respectively).

The survey participants were patients who sought the provision of medical services, hence the results obtained regarding compliance with the “right to consent to medical services” (78.8% in the Survey at Healthcare Facilities and 78.0% in the Patient Population Survey) hardly seem



**Figure 20.** Observance of patients' rights as perceived by patients with different degrees of awareness of the existence of such rights

**Table 49.** Awareness of patients' rights among different demographic groups  
(*N* = 3622)

	level of knowledge of patients' rights					
	no – I have not heard of patients' rights at all		I have heard, but I am not able to name any		yes, I am familiar with patients' rights	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
<b>gender</b>						
men	135	8.2	1055	64.1	457	27.7
women	133	6.7	1175	59.5	667	33.8
<b>age in years</b>						
18–29	51	10.0	332	64.8	129	25.2
30–49	104	7.3	839	59.2	474	33.5
50–64	71	6.5	685	62.3	344	31.3
65 years and older	42	7.1	374	63.1	177	29.8
<b>education</b>						
below secondary	96	12.5	515	66.9	159	20.6
secondary / post-secondary	98	7.1	871	63.2	410	29.7
higher	56	4.3	742	56.9	506	38.8
refused to answer	18	10.7	102	60.4	49	29.0
<b>place of residence</b>						
village	77	7.4	667	64.1	297	28.5
town up to 100,000	100	8.3	760	63.0	346	28.7
town of 100,000 to 500,000	55	7.3	433	57.7	263	35.0
city of 500,000 and above	31	5.6	341	61.9	179	32.5
refused to answer	5	6.8	29	39.7	39	53.4
<b>professional status</b>						
employed	147	7.2	1227	59.8	678	33.0
not employed	112	7.6	962	65.2	401	27.2
refused to answer	9	9.5	41	43.2	45	47.4
<b>number of people in the household</b>						
one	27	27	7.0	235	61.4	121
two	76	76	6.8	713	63.5	333
three	48	48	6.1	493	63.0	241

	level of knowledge of patients' rights					
	no – I have not heard of patients' rights at all		I have heard, but I am not able to name any		yes, I am familiar with patients' rights	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
four	38	38	5.6	433	63.8	208
five and over	43	43	11.7	225	61.0	101
refused to answer	36	36	12.5	131	45.6	120
<b>children under the age of 19 in the household</b>						
yes	101	5.6	1155	64.1	545	30.3
no	124	8.8	855	60.9	426	30.3
refusal / children older	43	10.3	220	52.9	153	36.8
<b>household financial status</b>						
low	54	10.3	344	65.4	128	24.3
moderate	125	7.2	1124	65.0	479	27.7
rather high	42	6.5	374	58.1	228	35.4
very high	26	5.1	298	58.5	185	36.3
refused to answer	21	9.8	90	41.9	104	48.4

surprising. It is worth pointing out here that significantly fewer respondents felt that they had the “right to object to a doctor’s opinion or ruling” (50.1% in the Survey at Healthcare Facilities and 37.2% in the Patient Population Survey). The difference in the perception of these two rights, on the one hand, may be due to the lack of a need to express negation and due to confidence in doctors, while on the other hand, the reason may be insufficient awareness of having such a right.

The majority of patients confirm compliance with medical confidentiality (73.9% in the Survey at Healthcare Facilities and 77.7% in the Patient Population Survey) and the right to access medical records (72.0% and 73.0%, respectively). A similar percentage of respondents felt that their intimacy and dignity were respected, but the scale of respect for the right to respect for private and family life is already significantly lower (50.1% in the Survey at Healthcare Facilities and 37.2% in the Patient Population Survey). Nearly two-thirds of patients knew that they have a right to pastoral care. This right is noted by both believers and non-believers, although it is significantly more often affirmed by those who practice their faith regularly than by those who practice irregularly. Slightly more

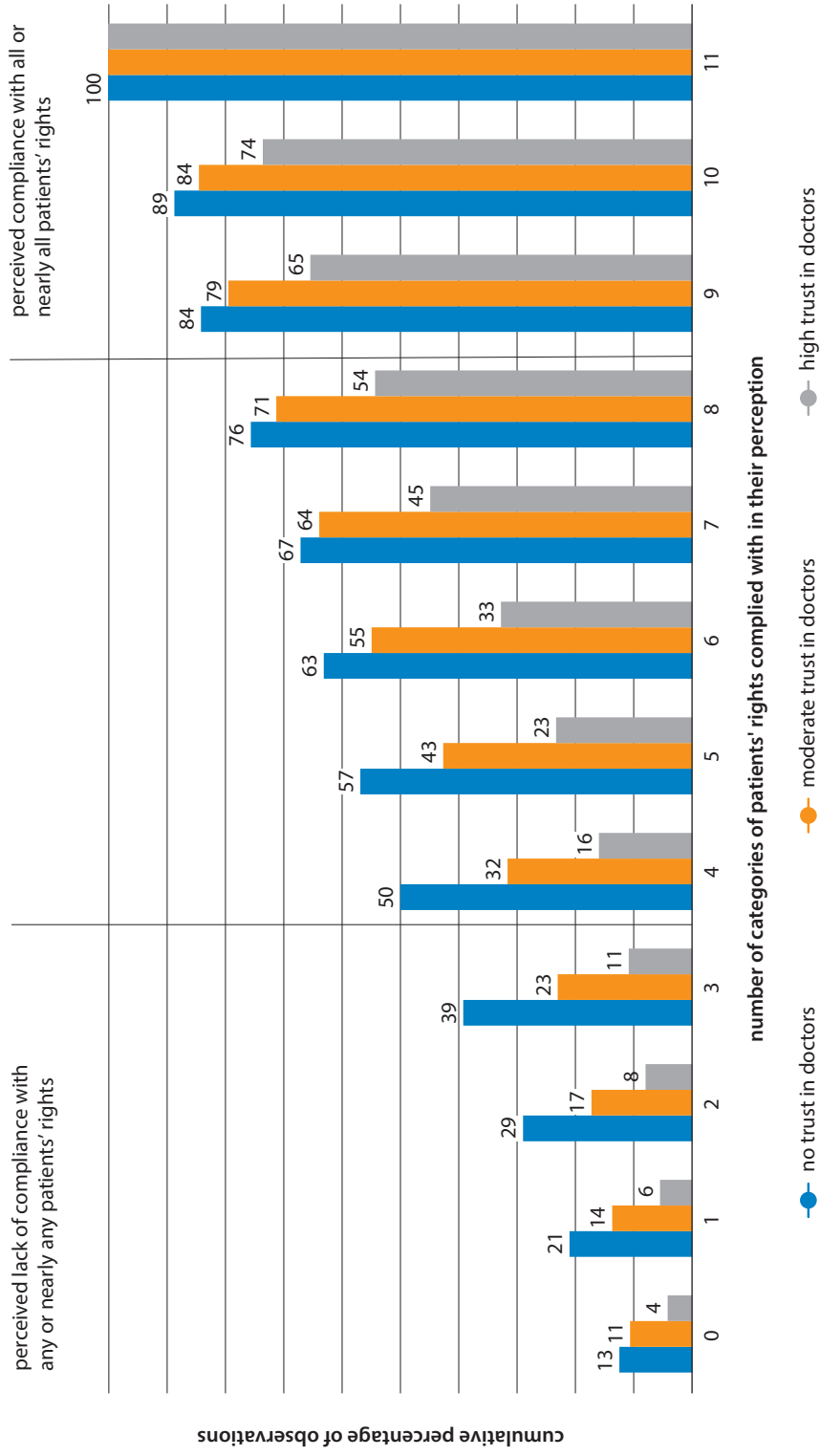
than half of respondents perceived compliance with the right to report adverse drug reactions.

A comparison of the opinions of patients in the Survey at Healthcare Facilities and from the Patient Population Survey clearly shows that confirmation of compliance with the right to keep valuables in safe deposit depends on the nature of the healthcare service received and the length of stay at the facility (47.9% in the Survey at Healthcare Facilities, with a response rate of 58.4% among those who spent more than one day in the hospital, and 41.2% in the Patient Population Survey).

**Table 50.** Compliance with patients' rights as perceived by patients in two time perspectives

	Compliance with patients' rights during a particular visit to a healthcare facility – Survey at Healthcare Facilities N = 1572		Compliance with patients' rights over the past 24 months – Patient Population Study N = 2050	
	n	%	n	%
<b>Right to health services</b>				
yes	1323	84.2	1668	81.4
no	85	5.4	164	8.0
don't know / not applicable	164	10.4	218	10.6
<b>Right to information</b>				
yes	1284	81.7	1658	80.9
no	120	7.6	188	9.2
don't know / not applicable	168	10.7	204	10.0
<b>Right to consent to the provision of health services</b>				
yes	1239	78.8	1599	78.0
no	92	5.9	147	7.2
don't know / not applicable	241	15.3	304	14.8
<b>Right to confidentiality of information (known as medical confidentiality)</b>				
yes	1161	73.9	1592	77.7
no	98	6.2	114	5.6
don't know / not applicable	313	19.9	344	16.8
<b>Right to medical records</b>				
yes	1132	72.0	1497	73.0

	Compliance with patients' rights during a particular visit to a healthcare facility – Survey at Healthcare Facilities N = 1572		Compliance with patients' rights over the past 24 months – Patient Population Study N = 2050	
	n	%	n	%
no	125	8.0	181	8.8
don't know / not applicable	315	20.0	372	18.1
<b>Right to respect for intimacy and dignity</b>				
yes	1137	72.3	1487	72.5
no	174	11.1	195	9.5
don't know / not applicable	261	16.6	368	18.0
<b>Right to pastoral care</b>				
yes	1021	64.9	1331	64.9
no	181	11.5	220	10.7
don't know / not applicable	370	23.5	499	24.3
<b>Right to report adverse reactions to medicinal products</b>				
yes	804	51.1	1096	53.5
no	180	11.5	291	14.2
don't know / not applicable	588	37.4	663	32.3
<b>Right to keep valuables in safe deposit</b>				
yes	753	47.9	844	41.2
no	168	10.7	229	11.2
don't know / not applicable	651	41.4	977	47.7
<b>Right to object to a doctor's opinion or ruling</b>				
yes	692	44.0	889	43.4
no	217	13.8	344	16.8
don't know / not applicable	663	42.2	817	39.9
<b>Right to respect for private and family life</b>				
yes	788	50.1	762	37.2
no	109	6.9	224	10.9
don't know / not applicable	675	42.9	1064	51.9



**Figure 21.** Perceived compliance with patients' rights, by level of trust in doctors

### 6.3.3. Perception of compliance with patients' rights vs. level of trust in healthcare professionals

The more trust patients have in doctors, the more often they perceive that their rights are respected. This relationship applies to all the rights verified in the survey, but is most pronounced for the right to respect for intimacy and dignity, the right to respect for private and family life, the right to object to a doctor's opinion or ruling, the right to report adverse reactions to medicinal products, and the right to information (Figure 21).

Among patients who do not trust doctors, 12.5% said that none of the eleven evaluated rights were complied with during their receiving of health-care services (by comparison, this percentage is four times lower in the group that largely trusts doctors). At the same time, one-fifth of those who admitted to "not trusting" doctors confirmed that almost all of the evaluated patient rights (at least nine categories) were respected, while among the group of people trusting doctors, this percentage was twice as high.

In relation to each of the patients' rights evaluated, there is a significant correlation between the level of trust in doctors and the perceived compliance with them in the eyes of patients. The strongest correlation is seen for the right to respect for intimacy and dignity, the right to respect for private and family life, the right to report adverse reactions to medicinal products, and the right to information (Table 51).

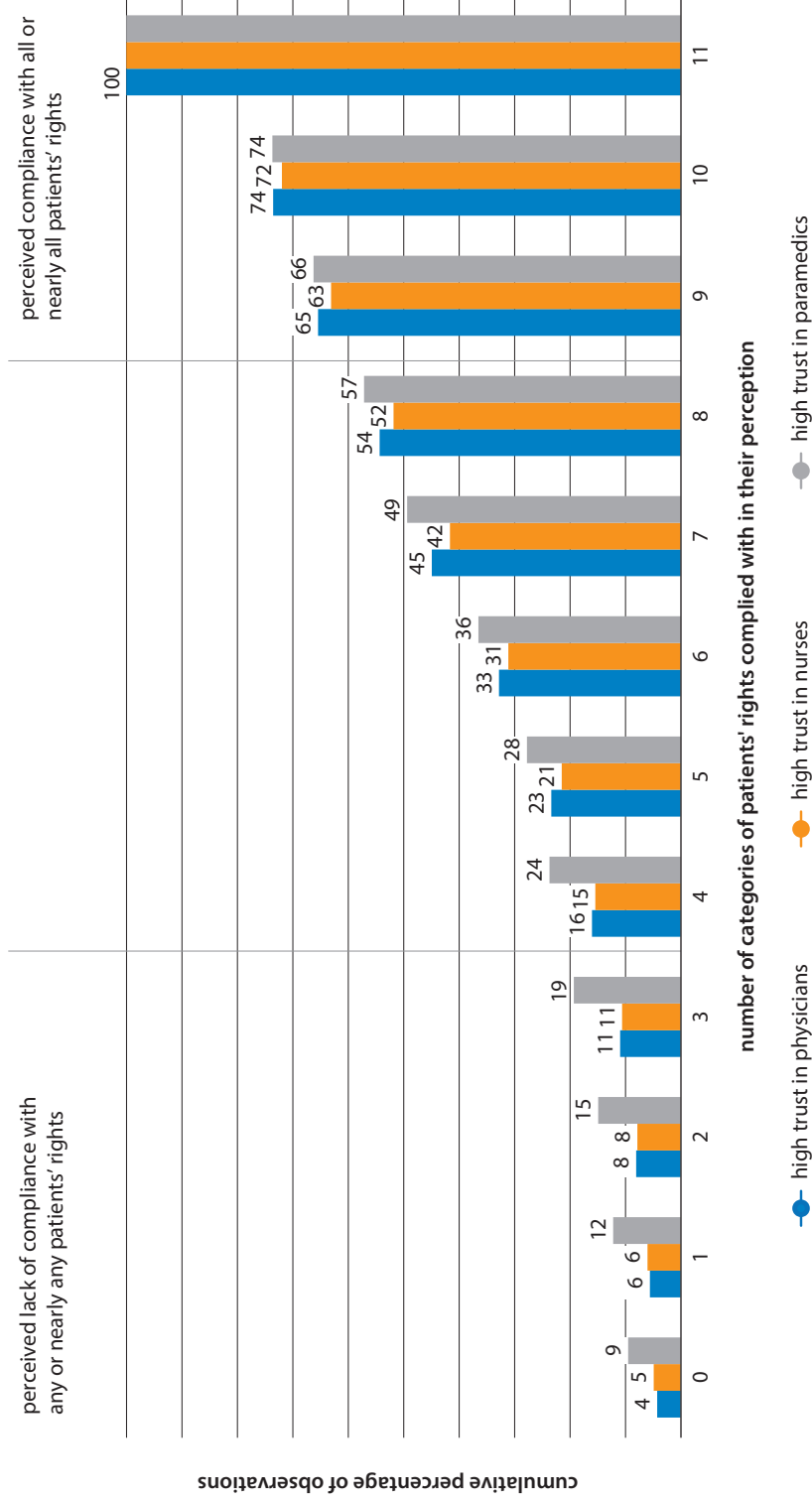
**Table 51.** Perceived compliance with patients' rights, by level of trust in doctors

	Level of trust in doctors (% in columns)					
	none / very low confidence		medium confidence		high confidence	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
<b>Right to health services</b>						
yes	110	62.5	611	74.9	2208	87.1
no	35	19.9	59	7.2	135	5.3
don't know / not applicable	31	17.6	146	17.9	191	7.5
<b>Right to information</b>						
yes	96	54.5	584	71.6	2196	86.7
not	41	23.3	99	12.1	153	6.0
don't know / not applicable	39	22.2	133	16.3	185	7.3
<b>Right to consent to the provision of health services</b>						
yes	106	60.2	575	70.5	2092	82.6
not	27	15.3	58	7.1	137	5.4
don't know / not applicable	43	24.4	183	22.4	305	12.0

Table 51. continued.

	Level of trust in doctors (% in columns)					
	none / very low confidence		medium confidence		high confidence	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
<b>Right to confidentiality of information (known as medical confidentiality)</b>						
yes	103	58.5	548	67.2	2043	80.6
no	24	13.6	49	6.0	124	4.9
don't know / not applicable	49	27.8	219	26.8	367	14.5
<b>Right to medical records</b>						
yes	100	56.8	533	65.3	1937	76.4
no	38	21.6	83	10.2	174	6.9
don't know / not applicable	38	21.6	200	24.5	423	16.7
<b>Right to respect for intimacy and dignity</b>						
yes	78	44.3	502	61.5	1983	78.3
no	57	32.4	100	12.3	196	7.7
don't know / not applicable	41	23.3	214	26.2	355	14.0
<b>Right to pastoral care</b>						
yes	49	27.8	279	34.2	1176	46.4
no	31	17.6	87	10.7	197	7.8
don't know / not applicable	96	54.5	450	55.1	1161	45.8
<b>Right to report adverse reactions to medicinal products</b>						
yes	67	38.1	334	40.9	1451	57.3
no	51	29.0	120	14.7	281	11.1
don't know / not applicable	58	33.0	362	44.4	802	31.6
<b>Right to object to a doctor's opinion or ruling</b>						
yes	60	34.1	268	32.8	1210	47.8
no	48	27.3	179	21.9	317	12.5
don't know / not applicable	68	38.6	369	45.2	1007	39.7
<b>Right to keep valuables in safe deposit</b>						
yes	62	35.2	279	34.2	1212	47.8
no	32	18.2	109	13.4	237	9.4
don't know / not applicable	82	46.6	428	52.5	1085	42.8
<b>Right to object to a doctor's opinion or ruling</b>						
yes	60	34.1	268	32.8	1210	47.8
no	48	27.3	179	21.9	317	12.5
don't know / not applicable	68	38.6	369	45.2	1007	39.7
<b>Right to respect for private and family life</b>						
yes	72	40.9	442	54.2	1781	70.3
no	56	31.8	105	12.9	223	8.8
don't know / not applicable	48	27.3	269	33.0	530	20.9

\* rights ranked according to the average percentage of "yes" answers



**Figure 22.** Observance of patients' rights according to patients among patients who have high trust in doctors, nurses / midwives, paramedics

Physicians and other medical professionals can influence public perception of patients' rights. Not only trust in doctors but also trust in nurses and midwives, paramedics and other employees who have direct contact with patients can improve these perceptions.

#### **6.4. Summary, practical implications, and directions for further research**

Awareness of patients' rights is extremely important for everyone who makes use of healthcare facilities. In most cases, it is the patient who is the first to report that his rights have been violated. Patients' rights in Poland protect those who have been wronged and provide a basis for pursuing possible compensation claims. However, in our survey sample, 31% of patients knew their rights, 61.6% had heard of patients' rights but are unable to name any, while 7.4% had not heard of patients' rights at all. Despite the passage of years since the rights of patients as citizens of the Republic of Poland were enshrined in the Constitution of the Republic of Poland and laid forth in the Act of November 6, 2008 on Patients' Rights and the Patients' Rights Ombudsman, a significant share of the public nevertheless remains unaware of them.

The SARS-CoV-2 pandemic has brought to light many problems in healthcare and necessitated dynamic organizational changes. Analysis indicates that patients in Poland primarily reported problems related to healthcare accessibility. They encountered difficulties when availing themselves of healthcare services of any type – primary healthcare, outpatient specialized care, or hospital treatment (Chmielowiec et al., 2022). In our own research, the patients' rights that respondents felt were most often respected were “the right to health services” and “the right to information.” The percentage of those who felt these rights were complied with during their visit to a given healthcare facilities (patients from the Survey at Healthcare Facilities) was 84.2% and 81.7%, respectively.

However, it is worth noting that the percentage of people who felt that their right to respect for private and family life was respected was just 50.1% in the Survey at Healthcare Facilities and 37.2% in the Patient Population Survey. Visiting patients was prohibited at hospitals, parents were forbidden from staying with their children in hospital wards, and no accompanying individual was allowed to be present at family births.

Among patients who state that they do not trust doctors, 12.5% report that none of the eleven laws evaluated were complied with while they were utilizing medical services (the same percentage is four times

lower in the group that largely trusts doctors). Trust in the healthcare system is a generalized attitude resulting from both one's own or other people's experiences and the media-projected image of the system. The results of Krot and Rudawskas (2018) study confirm that both positive and negative image elements of the system affect trust in treatment methods and trust in the system as a whole.

For the effective functioning of the idea of humanizing medicine – both at the general level of “I have rights as a patient” and individual rights, awareness-building activities are crucially needed. An important factor influencing the perception of compliance with patients' rights is the very awareness of these rights, knowledge of their existence. However, while it is obvious that such awareness alone does not affect compliance in practice, it does stimulate the attention and expectations of patients regarding their observance, and thus should lead to improved communication, better diagnosis, better implementation of recommendations, and in the long term – increased quality of medical services.

To the best of our knowledge, there have been no previous studies of such a large scale (with a sample of 3622 patients) on the above subject in Poland. Additional advantages of our study include its nationwide scope and its being carried out in the waning period of the COVID-19 pandemic. One well-known report by Poland's Supreme Audit Office (NIK) included the results of inspections of 12 hospitals, reporting data collected from a smaller sample of 1104 patients (Najwyższa Izba Kontroli, 2018). Moreover, it focused only on the right to respect for patients' intimacy and dignity in hospitals. This same dataset was used again in the report assessing the healthcare system in Poland, issued a year later, in the chapter discussing patients' rights and safety (Najwyższa Izba Kontroli, 2019).

It is worth noting that the publication of research results is always an opportunity for making recommendations and initiating changes, as well as sensitizing the public to the issues at hand. As such, the present project, dealing with humanizing the treatment process and clinical communication during the COVID-19 pandemic, provides, as a follow-up to the analyses, a unique opportunity to associate a number of questions in patient questionnaires with the block on patient rights discussed above. It would be good for future work to explore in more detail the relationship between perceptions of these rights and other elements of the patient / medical staff relationship besides the described trust, to explore the relationship with actual adherence to physician recommendations, etc.

## 7.

### Public perception of clinical trials (according to patients in the population-based sample)

#### 7.1. Background of the analysis

Ineffective recruitment of patients to participate in clinical trials can be an impediment ultimately preventing such trials from being successfully carried out, or at least delaying the dissemination of results and evidence-based clinical decision-making (Arnetz et al., 2019). The systematic review by Mills et al. (2006) selected 12 qualitative and 21 quantitative studies, summarizing knowledge about barriers to participation in this type of research. Barriers related to the study protocol, patient-related factors and the physician were identified. Other studies also identify favorable factors, such as health and financial benefits, trust in physicians and research, or altruistic attitudes, understood as a desire to help others and contribute to science (Sheridan et al., 2020). Knowledge, attitudes and opinions have been studied in many countries in the general population, and especially among patients, especially oncology and cardiology patients, including patients invited to clinical trials. Other studies have focused on volunteers willing to participate in the development of new vaccines, for example, against HIV (Detoc et al., 2017). Also during the COVID-19 pandemic, the urgent need to obtain and introduce effective vaccines on a large scale involved recruiting volunteers to participate in clinical trials (Bonneton et al., 2022).

Studies on public perception of clinical trials were published as early as 40 years ago (Cassileth et al., 1982), but recent years have seen an increasing number of publications and attempts to implement standardized questionnaires. The design of questionnaires intended for actual participants in clinical trials can take into account the phases of the project and overall satisfaction after completion (DasMahapatra et al., 2017), whereas with regard to the general population, clinical trial participation can be addressed as a hypothetical situation. In this case, sociodemographic characteristics, current health status, the respondents' personal experiences and the experiences of significant individuals in the social environment can shape the opinions expressed. The impact on the general population can shape normative beliefs and influence the decision of people with illnesses being recruited for such a study.

The recommendations published so far have been tailored to the specifics of specific countries and health systems (for example, related to the universality of health insurance, or the problems of ethnic groups), which may not always be applicable in Poland. However, it is important to point out the need to improve the general public's knowledge of clinical trials, to improve the communication competence of medical personnel, as well as to identify the social groups that are most difficult to reach out to, and therefore have unequal opportunities to participate in various research projects, not only randomized trials (Bodicoat et al., 2021).

To the best of our knowledge, there have been no previous studies examining the opinions of Poles on participating in clinical trials. Our project on the humanization of medicine has provided an opportunity to test a number of questions dealing with this issue in a large representative sample, and to obtain preliminary results.

The purpose of the following analyses is to present the distribution of responses to questions on factors that favor and discourage participation in clinical trials. This question was posed only to individuals participating in the Patient Population Study, where the inclusion criterion was having utilized medical services in 2020-2022. We opted to focus on willingness to potentially participate in clinical trials in the future, as it was assumed that a random sample of 2050 respondents would not likely include a sizeable number of current participants in such trials or individuals who had so participated in the recent past.

## **7.2. Research tools and method of presenting results**

An original questionnaire developed by our research team was used, after a review of the existing literature and available tools.

The questions were preceded by information on what is meant by a "clinical trial": as "scientific study conducted with human subjects to discover or confirm the efficacy and safety of drugs or other therapies." It was explained that patients who are invited to participate in clinical trials are informed of their purpose and sign an informed consent to participate. They can withdraw at any time or stop participating in such a study whenever doing so might jeopardize their safety. Recognizing that a few respondents may have participated in such a trial in the past, all respondents were specifically asked to relate their answers to a potential study in which they might participate in the future.

The first filter question checked whether the respondent would be interested in participating in clinical trials, with yes/no response categories. Subsequent questions were answered only by those who did express such potential interest. The next section of the questionnaire covered four topic areas, dealing respectively with the reason for such interest, the possible burdens of the research protocol, the importance of the relationship with the physician, and the possible benefits and risks. Respondents responded to a total of 18 statements, indicating on a five-point scale how important each factor was to them.

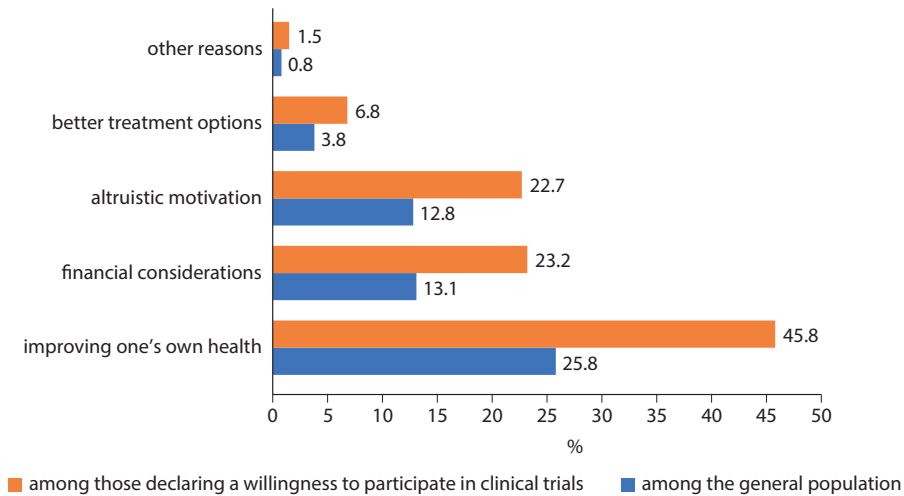
At this stage of analysis, the survey tool was not treated as a scale with specific psychometric properties, analyzing responses to individual questions. Differences related to gender, age, education level, place of residence, family wealth and self-assessment of health were also presented.

## **7.3. Results**

### **7.3.1. Willingness to participate in future clinical trials**

In the surveyed group of 2050 adult Poles, 56.3% expressed their willingness to participate in clinical trials in the future. Accordingly, these 1155 people answered the further questions. The questionnaire included four motives of interest, from which respondents were asked to choose one best-fitting answer, or choose the “other reasons” option, which was verified for inclusion in the main categories (Figure 23). Nearly half of those declaring their willingness opted to cite a desire to improve their own health. If we relate this result to the entire survey sample, we can conclude that one in four Polish adults (25.8%) treated during the pandemic period felt that by participating in clinical trials in the future they had a chance to improve their own health. Two other motivations were chosen with a similar frequency of about 23% – financial considerations and a desire to do something for the sake of science and others, described as an altruistic attitude. Relative to the total population, this represents about 13% for each. Only one in fifteen respondents declaring a willingness to participate in clinical research indicated a lack of standard treatments for their disease as the main reason for their willingness.

In the surveyed group, 17 people cited “other” reasons. In eight cases it was curiosity or a desire for new experiences, in five it was previous experience with their own or their loved ones’ illnesses, and three people considered all the reasons indicated in the questionnaire equally valid. One person could not identify a specific reason.



**Figure 23.** Reasons for interest in clinical trials in the future

### 7.3.2. Factors that may influence the decision to participate in clinical trials

As for the answers to 18 questions on factors that may facilitate or hinder participation in clinical trials, it is noteworthy that most of those declaring themselves willing to participate considered these issues to be “very important” or “rather important.” The percentage of combined positive responses mostly exceeded 80%, even reaching 96.7% (knowledge of risks, side effects and adverse reactions).

Table 52 describes factors related to the survey implementation process. The highest rated was the issue of the distance to be traveled for survey visits and the issue of ethical standards. The possibility of getting paid was considered an important factor much less frequently.

**Table 52.** Factors influencing the decision to participate or not to participate in clinical trials, related to the study protocol ( $N = 1155$ )

		very important	rather important	neither important nor unimportant	rather unimportant	completely unimportant
distance to travel for follow-up appointments	<i>n</i>	607	388	102	45	13
	%	52.6	33.6	8.8	3.9	1.1

**Table 52.** continued.

		very important	rather important	neither important nor unimpor- tant	rather unimpor- tant	completely unimpor- tant
the number of appointments and the overall duration of participation in the study	<i>n</i>	436	490	150	68	11
	%	37.7	42.4	13.0	5.9	1.0
the possibility of continuing treatment after the study	<i>n</i>	523	459	134	29	10
	%	45.3	39.7	11.6	2.5	0.9
opinions about the people or institution conducting the research	<i>n</i>	519	459	140	29	8
	%	44.9	39.8	12.1	2.5	0.7
receiving payment for participation	<i>n</i>	366	402	285	64	38
	%	31.7	34.8	24.7	5.5	3.3
study approved, bioethics committee's opinion	<i>n</i>	632	366	115	26	16
	%	54.6	31.7	10.0	2.3	1.4

Another block of questions dealt with factors related to communication and the relationship with the doctor, which concerned both the current doctor and the team that would implement the clinical trial (Table 53). The friendliness of the medical staff and researchers, as well as issues of confidentiality of information, were rated the highest. The recommendation of one's current physician and maintaining contact with him or her while participating in a clinical trial, mostly conducted at another site, were considered less important. However, here, too, the percentage of very positive opinions stood at 73.6-74.2%, but a significant number of respondents chose the middle, neutral response.

The last block of questions analyzed opinions on the expected risks and benefits of participating in a clinical trial (Table 54). The lowest rated question related to the possibility of being classified into the placebo or standard treatment group, due to the principle conducting randomized trials with a control group. With regard to the other five statements, the percentage considering a factor to be very important or rather important

**Table 53.** Factors influencing the decision to participate or not to participate in clinical trials, related to communication and relationship with the doctor ( $N = 1155$ )

		very important	rather important	neither important nor unimportant	rather unimportant	completely unimportant
maintaining contact with your current physician	<i>n</i>	448	432	183	66	26
	%	38.8	37.4	15.8	5.7	2.3
the kindness of medical staff and researchers	<i>n</i>	690	411	45	8	1
	%	59.7	35.6	3.9	0.7	0.1
confidentiality issues	<i>n</i>	726	356	63	5	5
	%	62.9	30.8	5.5	0.4	0.4
recommendations from your current physician	<i>n</i>	461	389	219	58	28
	%	39.9	33.7	19.0	5.0	2.4
understanding the importance of the study for medicine	<i>n</i>	600	445	96	10	4
	%	51.9	38.6	8.3	0.9	0.3
participation in decision-making in connection with treatment	<i>n</i>	602	467	73	9	4
	%	52.1	40.5	6.3	0.8	0.3

**Table 54.** Factors influencing the decision to participate or not to participate in clinical trials, related to perceived benefits and risks ( $N = 1155$ )

		very important	rather important	neither important nor unimportant	rather unimportant	completely unimportant
knowledge of risks, side effects, adverse reactions	<i>n</i>	891	236	30	5	3
	%	76.3	20.4	2.6	0.4	0.3
receiving a placebo or standard treatment	<i>n</i>	454	439	227	27	8
	%	39.3	38.0	19.7	2.3	0.7
being informed about the results after participation	<i>n</i>	807	291	41	16	0
	%	69.9	25.2	3.5	1.4	0.0

**Table 54.** continued.

		very important	rather important	neither important nor unimpor- tant	rather unimpor- tant	completely unimpor- tant
possible improvement in health/quality of life	<i>n</i>	845	246	55	8	1
	%	73.1	21.3	4.8	0.7	0.1
access to innovative treatment	<i>n</i>	715	322	98	15	5
	%	61.9	27.9	8.5	1.3	0.4
access to diagnostics and treatment free of charge	<i>n</i>	820	271	54	8	2
	%	71.0	23.4	4.7	0.7	0.2

ranged from 89.8% to 96.7%. Having reliable knowledge of risks, side effects and adverse reactions can particularly strengthen the decision to participate in a clinical trial or induce a decision to opt out. Nevertheless, the importance of health benefits, including improved health status and quality of life, as well as obtaining feedback on the effectiveness of treatment and the patient's current condition after the trial, was also appreciated.

### 7.3.3. Interest in participating in clinical trials in the future, broken down by selected characteristics of respondents

The data collected also allowed us to compare different social groups in terms of their level of willingness and different opinions about participating in clinical trials in the future (Table 55). With regard to overall interest in participating in clinical research, we found that gender, education and place of residence were not differentiating factors. A statistically significant relationship was obtained with regard to the association with self-assessment of health ( $p = 0.008$ ) and household financial situation ( $p = 0.016$ ). Those most interested in participating in future clinical trials were those from less affluent families and those with current reservations about their own health. For the relationship with age, the result was on the borderline of statistical significance ( $p = 0.056$ ). Respondents aged 30–49 were the most interested in clinical trials, while those at the extremes, especially those under 30, were the least interested.

The respondents' stated reasons for interest in potentially participating in clinical trials were also compared across various groups (Table 55). The statistical significance of the differences was checked by eliminating

**Table 55.** Interest in participating in clinical trials in the future vs. selected patient characteristics

Patient characteristic	Interest in participating in clinical trials (%)*	Main reason for interest (%)**			
		financial considerations	improving one's own health	lack of standard treatment methods	altruistic considerations
Gender					
men	57.8	24.9	46.1	5.5	23.5
women	54.9	22.3	46.9	8.3	22.5
Age in years					
18–29	50.7	40.0	32.0	3.3	24.7
30–49	59.2	31.6	41.3	5.9	21.2
50–64	57.5	17.4	51.9	10.2	20.5
65+	54.1	7.9	57.4	6.2	28.5
Education					
below secondary	55.8	27.6	43.5	7.5	21.4
secondary / post-secondary	56.2	23.7	46.4	7.7	22.2
higher	56.9	20.7	48.8	5.6	24.9
Place of residence					
village	56.1	24.4	45.6	8.6	21.4
town up to 100,000	56.6	22.3	47.9	7.0	22.8
town up to 500,000	54.5	22.6	50.8	5.5	21.1
city over 500,000	58.6	26.1	40.4	3.7	29.8
Financial status of the family					
low	62.8	36.4	45.2	5.4	13.0
average	57.8	22.4	47.6	7.7	22.3
rather high	51.6	18.0	44.3	6.2	31.5
very high	52.8	20.3	46.3	5.1	28.3
Health self-assessment					
rather bad	62.9	18.8	51.5	13.0	16.7
average	53.9	21.6	52.4	4.7	21.3
good/very good	55.2	27.5	40.0	5.0	27.5

\* relative to the entire sample  $N = 2050$ ; \*\* relative to the group of those expressing willingness to participate, while excluding “other reasons” responses  $N = 1138$

the 17 cases of “other reasons” from the structure of responses. The associations with age ( $p < 0.001$ ), health status ( $p < 0.001$ ) and family financial situation ( $p < 0.001$ ) were found to be significant.

People from different age groups circled altruistic motives, i.e., the desire to help other people and contribute to science, at similar percentages. The lack of standard treatments as a reason for a possible decision to participate was most often cited by those aged 50–64, and least often by the youngest respondents. The percentage citing the need to improve their own health as the main reason clearly increased with age, whereas younger respondents were more likely to focus on financial benefits.

As self-assessment of health improved, the percentage of respondents citing health reasons as the main reason for their willingness to participate in clinical trials decreased, but the declared share of financial reasons increased. Among those with a lower self-assessment of their health, the percentage indicating a lack of standard treatments for their disease was twice the population average, although this is an infrequently cited motivator overall. Altruistic reasons were cited more often by those satisfied with their health at present, and distinctly less often among those experiencing health problems (27.5% vs. 16.7%).

As for the four family affluence groups, comparison showed that the percentage of financial reasons increased markedly, and the percentage of altruistic motives decreased, in the least affluent group as compared to the average for the entire sample. Clear changes associated with improved wealth were best seen in relation to “financial reasons.”

A detailed comparison, encompassing the sociodemographic and health characteristics of respondents for all eighteen statements regarding barriers and factors supporting interest in participating in clinical trials in the future, is beyond the scope of this report. We do plan in the future to carry out such in-depth comparisons, using multivariate analyses and including additional variables. So far, using preliminary calculations and collected material, statistically significant associations have been identified in bivariate analysis (Table 56). The significance of differences reported in the table below refers to the groups defined earlier and the source responses to a given question on a five-point scale. Also marked (as \*) are results at the limit of statistical significance ( $0.05 < p < 0.01$ ).

**Gender** showed an association with all eighteen opinions analyzed, although it did not affect the level of willingness to participate in clinical trials. In all cases, the percentage of women who considered a given factor “very important” was found to be higher than the corresponding percentage of men. In eight cases, this difference was highly statistically

**Table 56.** Significance of the relationship between opinions about participating in clinical trials in the future vs. certain patient characteristics

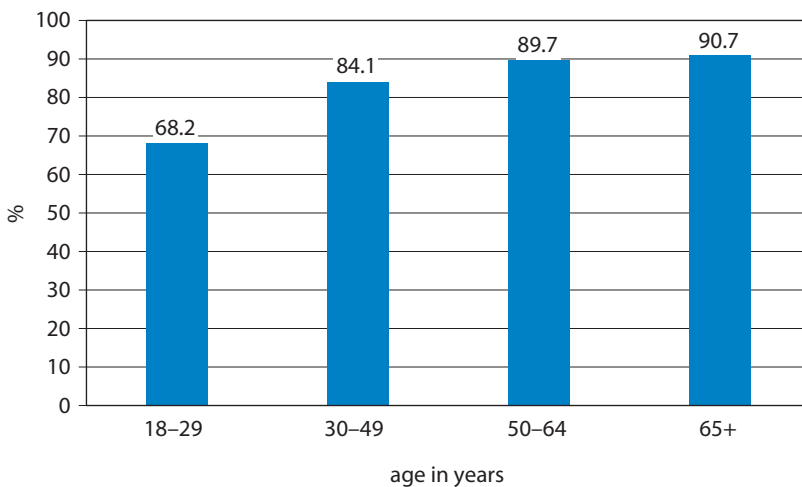
	GEN	AGE	EDU	RES	OCC	SHFS
<b>factors related to the test protocol</b>						
distance to travel for follow-up appointments	***	–	–	**	***	**
the number of appointments and the total duration of participation in the study	**	–	–	–	–	*
the possibility of continuing treatment after the study	**	***	**	**	**	***
opinions about the people or institution conducting the research	**	–	–	–	–	–
receiving payment for participation	**	***	**	–	***	**
study approved, bioethics committee's opinion	***	–	–	–	**	*
<b>factors related to communication and relationship with the doctor</b>						
maintaining contact with your current physician	***	*	*	–	–	*
the kindness of medical staff and researchers	***	***	**	–	–	***
confidentiality issues	***	*	–	–	–	**
recommendations from your current physician	***	*	–	*	*	**
understanding the importance of the study for medicine	**	**	–	–	–	**
participation in decision-making in connection with treatment	***	–	–	–	–	–
<b>factors related to perceived benefits and burdens</b>						
knowledge of risks, side effects, adverse reactions	*	**	*	**	–	**
receiving a placebo or standard treatment	***	–	–	–	–	**
being informed about the results after participation	**	***	–	–	–	–
possible improvement in health/quality of life	**	***	**	–	–	*
access to innovative treatment	**	***	–	–	–	–
access to diagnostics and treatment free of charge	**	***	–	–	**	–

\*  $p < 0.10$  (borderline result); \*\*  $p < 0.05$ ; \*\*\*  $p < 0.001$ ; – statistically insignificant result; GEN – gender; AGE – age; EDU – education; RES – size of place of residence; OCC – occupational status; SHFS – self-assessment of household financial status; SH – self-assessment of health

significant, that is, at the  $p < 0.001$  level. For example, for women, traveling a considerable distance for follow-up visits may be a much stronger barrier to participating in clinical trials than for men (60.7% vs. 44.8% of “very important” responses).

Only two questions were not contingent on any factor other than the respondent’s gender. The first concerned the importance of opinions about the people or institution conducting the clinical trial, and the second concerned participation, i.e., being involved in decision-making in connection with care and treatment. On the other hand, the question about the possibility of continuing treatment after the clinical trial was the only one that showed a statistically significant association with all six of the respondents’ characteristics analyzed.

The results show an association of 12 opinions about clinical trials with the **age** of the respondents, and in 7 cases highly statistically significant differences were obtained. In the context of possible participation in clinical trials, older people are more likely than younger people to be concerned about the continuation of treatment, they attach more importance to the kindness of healthcare professionals, they care a lot about receiving feedback on the results of the study and the overall improvement of their health. It is less important to them to get paid for participating in the study, but free access to modern treatment and diagnostics is very important. An example of the strong relationship with age is shown in Figure 24, combining the categories of “rather important” and “very important” factors.



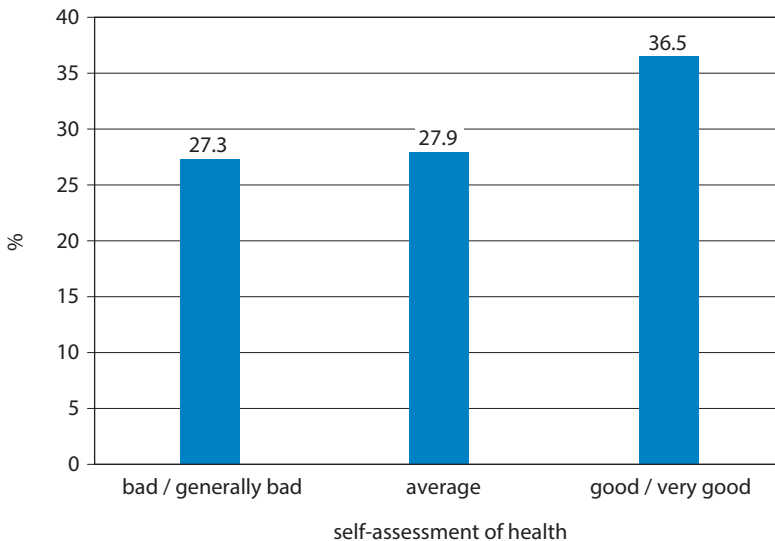
**Figure 24.** Percentage of respondents believing that the ability to continue treatment is an important factor in their decision to participate in a clinical trial, broken down by age group

Six opinions about factors limiting or supporting participation in clinical trials showed an association with respondents' **education**, but in no case was the result highly statistically significant. Relatively speaking, the strongest relationship appeared to be with the expected payment for participation. Those with less than a secondary-school education were more likely than respondents with a college education to report that this was a very important factor for them (38.1% vs. 28.4%).

The relationship with **place of residence** proved statistically significant for four opinions, and in one case there was a borderline result. It is particularly noteworthy that for those living in rural areas, the distance to be traveled to make a follow-up visit is of greater importance.

Six opinions also showed an association with the **level of family wealth**, and in two cases this was a relationship at the  $p < 0.001$  level. As the level of wealth increased, distance from the survey center was less important. Receiving payment for participation was clearly more important among the poorest families, while the difference between the next three wealth groups was already small.

Also, the respondents **self-assessment** of their current **health** showed a strong relationship with their willingness to participate in clinical research in the future. This relationship proved statistically significant for thirteen of the eighteen opinions analyzed. In two cases it was a correlation



**Figure 25.** Percentage of respondents believing that receiving payment is a “very important” factor in the decision to participate in a clinical trial, broken down by self-assessment of health status

at the  $p < 0.001$  level. Those in the extreme groups attributed greater importance to such factors such as the friendliness of the medical staff and the possibility of continuing treatment compared to the middle group. Receiving a salary was more important to those with a better assessment of their own health (Figure 25). Comparing the groups with extreme (good or bad) assessment of their own health, it was found that the percentage of very positive opinion ratings increased in the healthier group by 9.1%, with a decrease in the percentage of negative ratings (an “unimportant” factor) by 4.9%.

#### **7.4. Summary, practical implications, and directions for further research**

Our online survey of adult Poles who had received medical care between 2020 and 2022, conducted in March 2022, found a significant level of willingness to participate in clinical trials in the future – declared by 56.3% of respondents. The desire to improve their own health was cited as the main reason for their decision. Respondents responded to 18 statements describing factors that may be conducive to their recruitment to clinical trials, or induce them to opt out. The factors were analyzed in three areas as related to: the study protocol, the doctor–patient relationship, and perceived benefits and risks.

The authors of a systematic review published in the Cochrane Library have proposed a conceptual model, compiling the factors that influence an individual’s decision to join a clinical study (Haugton et al., 2020). This model takes the form of a graphical weighting, illustrating what might tip the scales toward opting out. It lists the overall burden of the process, the feeling that there is something to lose and nothing to gain, and the lack of support from those around and those encouraging participation. The Polish research presented here can be seen as a step toward developing such a model, based on empirical studies in the general population.

Most of the factors defined by our research team were considered important by respondents. The percentage indicating each given factor as “very important” ranged from 31.7% (receiving payment for participation) to 76.3% (knowledge of risks and side effects and side effects). Thus, the sense of safety provided by knowledge of the risks associated with treatment with a new method and knowledge of side effects or adverse reactions was considered most important. This corroborates the results obtained in other countries, where general-population studies have found people’s willingness to participate in clinical trials to be associated with

trial safety, and with understanding of the desirability of introducing new treatments (Chu et al., 2015).

Women showed stronger attitudes toward clinical trials than men, being more likely to consider the factors in question important. Age and current health status also showed a strong relationship with perceived barriers and facilitators, which is consistent with the findings of other studies. Nelson et al. (2015) even posit intergenerational differences, not just the age factor. This was particularly evident in the area of factors related to communication and the doctor–patient relationship. Perceptions of one’s own health clearly influenced the opinions expressed. People who already had health problems (including older people) were more likely to pay attention to the opportunities provided by participation in clinical trials (better diagnosis and health monitoring, access to innovative methods, continuation of treatment). The association with education level, family financial situation and place of residence appeared weaker, but stronger in the area of factors related to the implementation of the study (the study protocol).

Our research and analysis so far involve a number of limitations, but nevertheless provide an interesting picture of the opinion of the Polish public in 2022. For example, knowledge of clinical trials was not verified, as in other studies (Chu et al., 2015), as we provided only a brief description of them and used a filter question.

Analyses to date confirm the need, suggested by other authors, to educate the public about clinical trials and on the specifics of different subpopulations. This is not an easy task in view of the changing structure of research conducted, including support for non-commercial research conducted by research centers in order to improve knowledge about the effectiveness of new treatments, without the intention of bringing a therapeutic product to market. Both the Polish literature (Kaczynski & Solnica, 2012) and the international literature (Goldstein et al., 2018) refer to the concept of pragmatic clinical trials, which should be carried out in the conditions of typical clinical practice. They must have a methodological regime and ethical standards, as well as an elaborate model of cooperation with the patient from the moment of recruitment to the end of the study (or onward to continued treatment). Public campaigns bringing the issue of clinical trials closer to the public are organized in many countries, and in Poland an initiative in this direction has recently been undertaken by the Medical Research Agency. It is assumed that some social groups are more difficult to reach out to than others, and the channels and methods of influence must also be different. However, the focus is more

on recruitment problems that researchers may face. It can be assumed that people with serious health problems may also actively (including through the Internet and contact with their own doctor) seek innovative treatments, often as a last resort.



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The survey results presented herein concern four different groups of healthcare employees (physicians, nurses, paramedics, and representatives of other medical and non-medical professions) working at 114 health care units located across the country, a sample of patients at the same medical units, as well as a separate population-based sample of patients from across Poland (individuals who had received medical treatment in the last 24 months). The findings are described in connection with the most important topics in the debate regarding the humanization of medicine, with a strong emphasis on the context of the COVID-19 pandemic.

*The work reported in this book is based on research material that is impressively extensive. It analyzes the results of surveys of adult Poles receiving healthcare services (two samples) and also a survey of representatives of different categories of medical professions: doctors, nurses, paramedics and others. Some surveys were performed twice. This makes it possible to make a number of comparisons, and thus take into account the different experiences and perspectives of the various parties involved in the treatment process. Such extensive research findings are of great value, presenting a lot of relevant information for medical practice, and will probably underlie many more important studies in the future.*

from a review by Prof. Antonina Ostrowska



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