



Healthcare for children and adolescents in Poland

Grażyna Hejda¹, Artur Mazur², Łukasz Dembiński³, Jarosław Peregud-Pogorzelski⁴,
 Teresa Jackowska⁵, Mieczysław Walczak⁶, Tomasz Szczepański⁷

¹Institute of Nursing and Health Sciences, University of Rzeszow, Rzeszów, Poland

²Department of Pediatrics, Endocrinology, Diabetology, University of Rzeszow, Rzeszów, Poland

³Department of Pediatric Gastroenterology and Nutrition, Medical University of Warsaw, Warsaw, Poland

⁴Department of Pediatrics and Pediatric Oncology, Pomeranian Medical University, Szczecin, Poland

⁵Department of Pediatrics, Centre of Postgraduate Medical Education, Warsaw, Poland

⁶Department of Pediatrics, Endocrinology, Diabetology, Metabolic Diseases and Cardiology of the Developmental Age, Pomeranian Medical University, Szczecin, Poland

⁷Department of Pediatric Hematology and Oncology, Medical University of Silesia, Katowice, Poland

Abstract

Despite the constant tendency to decrease the number of births, children and adolescents account for one-fifth of the Polish population. Healthcare for children is free and it is organized similarly to the care for adult patients. In primary healthcare, children can be under the medical care of general practitioners, family physicians or pediatricians. In secondary and tertiary care, pediatricians or physicians with pediatric subspecialties provide medical services. The number of pediatricians and nurses is not sufficient and still differs from the European average. Nonetheless, population health indicators (e.g. infant mortality rate) are constantly improving, and despite the strong influence of the anti-vaccine movements, 90% of children are vaccinated according to the schedule.

Keywords: Adolescents, services, subspecialties

Introduction

Under Polish law, the right to health protection is guaranteed in Article 68 of the Constitution of the Republic of Poland of 1997. This article additionally contains a provision obliging public authorities to provide special healthcare to children (1).

The child's right to health protection is also safeguarded by international treaties, in particular by the United Nations Convention on the Rights of the Child (CRC, General Assembly of the United Nations, November 20, 1989) ratified by Poland in 1991, which among the rights of the child lists also the right to the best healthcare and facilities for the treatment of diseases and rehabilitation (2).

The healthcare system in Poland is based on the national social health insurance model, in which the main source of financing is an obligatory monthly fee calculated as a percentage of a salary. The National Health Fund (NHF) is a disposer of these funds acting in the system as the

main payer. The costs of outpatient and stationary health care are covered by the NHF in the form of a lump sum, a fee for a patient or specific services (3).

According to Polish law, every child (in legal terms, any person under 18) has the right to free health care, regardless of their or their parents' insurance status. A child, as a patient, is entitled to at least the same rights as an adult, subject to the limitations resulting from their age and the rights of their parents or legal guardians.

Demographic characteristics

Since 2010, the population of Poland has been slowly but gradually decreasing from 38,539,862 in 2010 to 38,433,558 in 2017 (Table I). At the same time, the percentage of children and adolescents in the total population is also systematically declining (Fig. 1). In 1990, this group accounted for 32%, in 2000–27.8%, and in 2017, only 20% of the total population. The number of live births also decreased from 14.4 per 1000 in 1990 to 10.4 in 2017 (4).

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Corresponding Author: Artur Mazur E-mail: drmazur@poczta.onet.pl

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Table 1. Population and health status indicators of children in Poland in the years 1990–2017

	1990	1995	2000	2005	2010	2015	2017
Total population	38073000	38284000	38253955	38157055	38529866	38437239	38433558
Number of children and adolescents aged 0–19	12183000	11914891	10636821	9058458	8280106	7732280	7689955
% of children and adolescents aged 0–19	32.0%	31.1%	27.8%	23.5%	21.5%	20.1%	20.0%
Number of children aged 0–14	9495000	8678164	7294451	6189175	585766	5754564	5824219
% of children aged 0–14	24.9%	22.7%	19.1%	16.2%	15.2%	15.0%	15.2%
Live births	547720	433109	378348	364383	413300	369308	401982
Dead births	3940	3206	2128	1712	1730	1075*	1101*
Infant deaths (per 1000 live births)	19.3	13.6	8.1	6.4	5.0	4.0	4.0
Infant deaths in cities (for 1000 live births)	19.1	13.7	8.3	6.3	5.0	4.0	3.9
Infant deaths in the countryside (for 1000 live births)	19.7	13.5	7.9	6.5	5.0	4.1	4.1
Deaths of male infants (per 1000 live births)	N/D	N/D	8.8	7.0	5.4	4.4	4.4
Deaths of female infants (per 1000 live births)	N/D	N/D	7.3	5.9	4.5	3.6	3.6
Neonatal deaths (per 1000 live births)	N/D	N/D	5.6	4.5	3.5	2.9	2.8
Deaths of children under the age of 5 (per 1000 live births)	N/D	N/D	N/D	7.5	5.8	4.7	4.6
Deaths of boys under the age of 5 (per 1000 live births)	N/D	N/D	N/D	8.1	6.2	5.2	5.1
Deaths of girls under the age of 5 (for 1000 live births)	N/D	N/D	N/D	6.8	5.3	4.2	4.1
Perinatal mortality (per 1000 births)	19.5	15.3	9.7	8.0	6.0	5.0*	4.8*
Deaths of infants over 30 days of live (per 1000 live births)	N/D	N/D	2.5	1.9	1.5	1.1	1.2

*: Estimated data

However, in the last two decades, the rate of stillbirths has decreased twice, from 7.3 per 1000 live births in 1995 to 2.9 in 2015 (5). The perinatal mortality rate also decreased from 19.5 per 1000 births in 1990 to 4.8 in 2017.

In 1990–2017, infant mortality in Poland declined continuously (Fig. 2). In 1990, 10,600 deaths of children aged under one year were registered, whereas in 2000–3067, and 2017–1604. The infant mortality rate was 3.99 per 1000 live births in 2017, which was 4.12 lower than in 2000, and over 15 in comparison with 1990. The average annual rate of decline in infant mortality in Poland in the analyzed period was thus approximately 5.7%. Despite this positive trend, the infant mortality rate is still slightly higher than the European Union (EU) average in 2016, when it was 4.0 in Poland, and 3.6 in the EU (6).

The healthcare system for children and adolescents

Human resources

One of the main problems of healthcare in Poland is the inadequate number of medical personnel. In comparison with other EU member states, Poland has one of the lowest rates regarding both the number of physicians (2.4) and nurses (5.0) per 1000 citizens (Table 2) (7).

In 2010–2017, the number of pediatricians ranged between 3216 and 3584 (Fig. 3, 4). The role of the pediatrician in primary care has been significantly reduced because of the reform of the healthcare system from 1999 – it was family physicians and general practitioners who became the main decision-makers in the field of medical care for children. Therefore, a reduced interest in specializing in the field of pediatrics was observed. In 2014, the law was amended and the pediatrician’s leading role in caring for patients up to the age of 18 years was restored (8). In addition to primary care, pediatricians provide services in secondary care in general hospitals of various levels. In tertiary care, pediatricians with subspecialties provide services in specialist outpatient clinics or hospitals.

As in the case of physicians, the main problem of nursing care is staff shortage, which

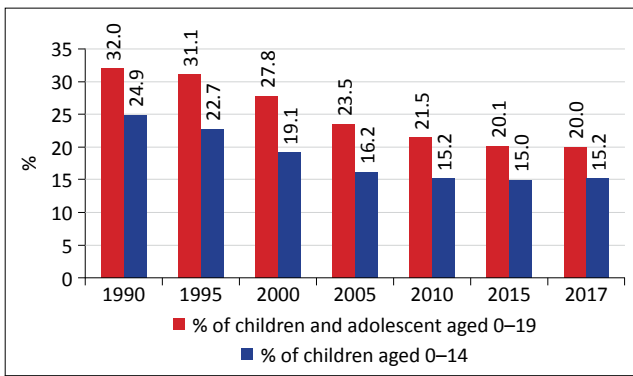


Figure 1. Percentage of children and adolescents in the total population in Poland in the years 1990–2017

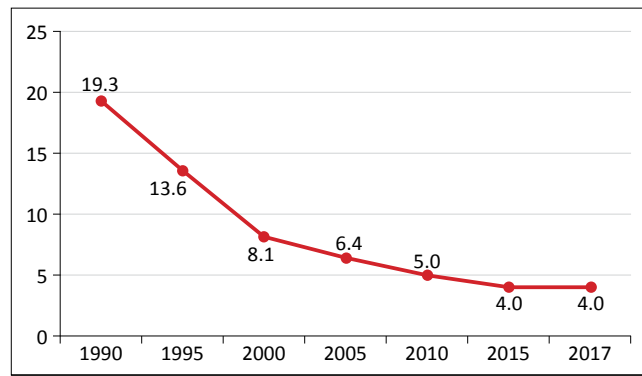


Figure 2. Infant deaths per 1000 live births in Poland in the years 1990–2017

Table 2. Medical staff in Poland in the years 2010–2017

	2010	2011	2012	2013	2014	2015	2016	2017
Physicians	52715	54230	48408	57847	59542	60031	60888	60123
Pediatricians	3216	3224	3228	3236	3321	3378	3624	3584
Nurses for 1000 people	4.79	4.84	5.49	5.21	5.17	5.14	5.10	5.04

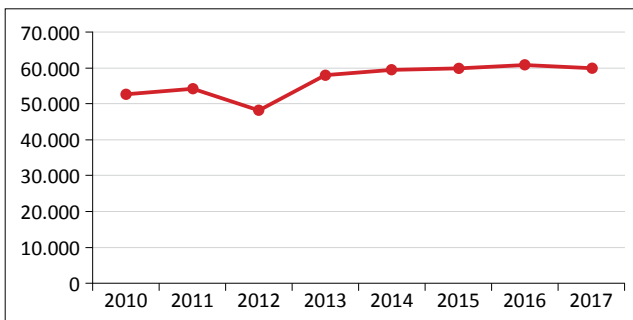


Figure 3. Number of physicians in the years 2010–2017

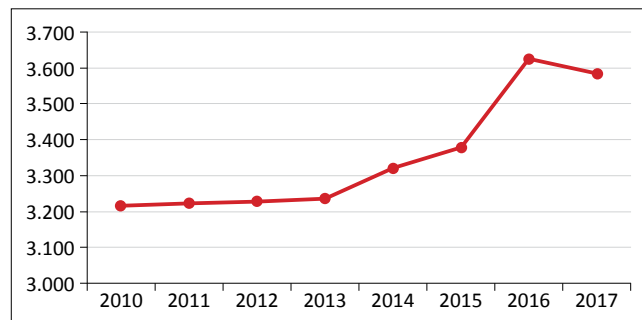


Figure 4. Number of pediatricians in the years 2010–2017

will most likely increase due to the high average age and successive retirement of nurses with too few people willing to work in this profession (Fig. 5) (10).

Outpatient healthcare

In 2017, outpatient healthcare was provided in total by 21,685 health centers, 963 individual medical practices, and 4143 individual dental practices. Medical services are provided as part of primary or specialized health care (4).

Primary healthcare

Until the end of the 20th century, children were assigned to the outpatient clinic nearest to their place of residence and only there could they receive primary health care. In cities, clinics had two separate parts: for healthy children (assessing child’s development, providing vaccinations and dietary advice) and for infectious children. In both sections, only physicians with a specialization in pediatrics provided medical services. In rural areas, children were under the care of general practitioners.

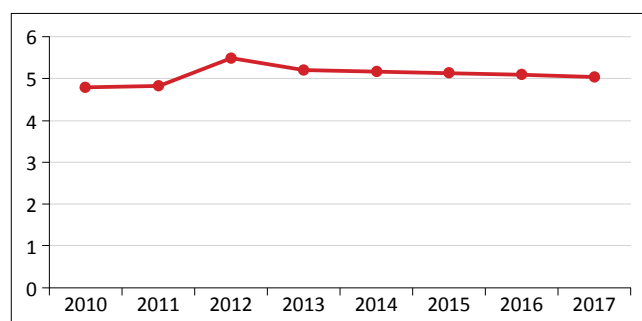


Figure 5. Number of nurses for 1000 people in the years 2010–2017

Since 1999, when the major reform of the healthcare system was introduced, primary healthcare for children was entrusted to physicians with a new specialization – family medicine. Currently, after several changes in the regulations, children from birth to the age of 18 years can remain under the medical care of family physicians, general practitioners or pediatricians. Parents and legal guardians of young patients have a guaranteed free choice of physician.

In 2017, over 169 million medical services were provided in primary healthcare, of which 21.5% (36.3 million) were administered to children and young people up to the age of 18 years (4).

Specialized healthcare

In 2017, over 116 million medical services were provided in specialized health care, of which 12.9% (nearly 15 million) were administered to children and young people up to the age 18 of years. As part of dental care for children and adolescents, nearly 9 million medical consultations were provided, which was approximately 29% of the total number of annual dental consultations (34.5 million) (4).

Stationary healthcare

In 2017, there were 951 general hospitals in Poland with 185,300 beds and 191 day hospitals with 1200 daycare places. There were 388 pediatric wards and 380 neonatal wards with 9795 pediatric (5.3% of all) and 9179 neonatal beds (5.0%). It should be noted that pediatric wards should have a reserve of beds related to the seasonality of infectious diseases. In comparison with 2010, the number of pediatric departments decreased by 26, but the number of neonatal wards remained at the same level. In 2017, 7.8 million patients were hospitalized in general hospitals, with children and adolescents making up 17.6% of them (4).

Since 2017, the network of essentials hospitals has been established. It is intended to improve the organization of providing healthcare services and increasing patients' access to specialist treatment. The network includes 594 hospitals, including general hospitals, divided into three levels of reference, along with specialized facilities: pediatric (13), oncology (20), pulmonology (30), and nationwide multidisciplinary centers (90). Network hospitals have guaranteed funding from the NHF in a flat-rate form, without the need to compete for financing with other institutions (11). However, after a year of network functioning, it is difficult to unequivocally evaluate this new solution, because any assessment of its far-reaching impact requires a much longer time.

Health resort treatment

Health resort treatment in sanatoriums, spa towns, and rehabilitation centers is one of the stationary care forms, which is an integral part of the healthcare system. In 2017, there were 271 health resort centers in Poland, of which 88.6% provided stationary care. The remaining 11.4% were outpatient clinics and physiotherapy centers. Younger children, aged between 3 and 6 years, stay in sanatoriums with their legal guardian, older children can

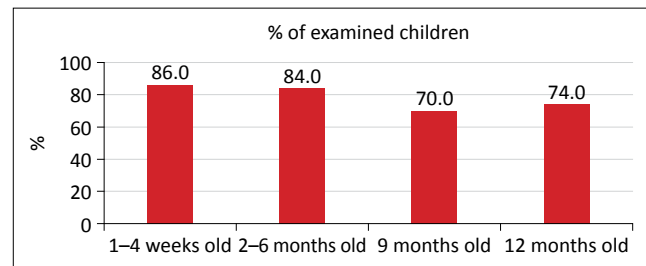


Figure 6. Percentage of preventive examined children in the first year of life in 2015

stay there alone. Sanatoriums provide children with the opportunity to learn at the elementary and middle school level, just like boarding schools; therefore, children aged 7–15 years can benefit from treatment throughout the year. Stationary care for adolescents is available during the school-free period.

Despite the undoubted benefits of health resort treatment, the possibility of continuing education and total coverage of treatments, accommodation, and meal costs by the NHF, this type of service is not very popular among young people. The main reason is the reluctance of being separated from family and friends, changing schools, and interrupting additional classes. Consequently, despite the great interest in sanatorium treatment in Poland (734,447 patients in 2017), only 3% were children and adolescents. In recent years, there has been a growing tendency to shut down facilities dedicated to children.

Preventive healthcare for children and adolescents

In Poland, there is a legal obligation to perform periodic, preventive medical examinations with a comprehensive review of children's and adolescents' health status, along with an assessment of development regularity. In the case of infants, nurses, midwives, and physicians come to the patient's home on so-called patronage visits. This type of healthcare is provided by primary healthcare facilities. Also, there is a nurse or hygienist in every school, who takes preventive care of pupils, performs screening tests, and conducts health education in the broad meaning of this term.

However, according to the data provided by the Center of Information Systems for Health Care in 2015, almost 14% of newborns did not have appropriate medical care and this percentage increased with the age of the child, reaching 26% at the age of one year (Fig. 6) (12).

Preventive examinations carried out in further years concern specific age groups: 2, 4, 6, 10, 13, 16 and 18-year-olds. Regrettably, in all these groups, the percentage of examined children and adolescents is insufficient (Fig. 7). This applies mainly to 4-year-olds (63.9%), 16-year-olds

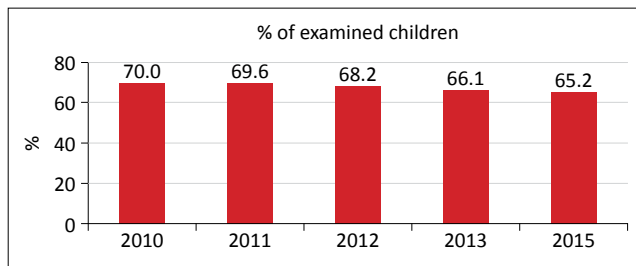


Figure 7. Percentage of preventive examined children over one year of age in the years 2010–2015

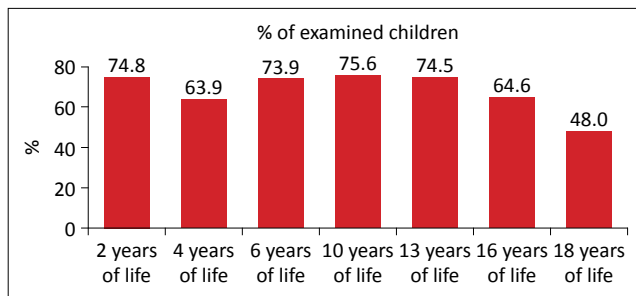


Figure 8. Percentage of preventive examined children over one year of age in the years 2010–2015 according to age

(64.6%), and 18-year-olds (48%), but it does not exceed 75% also in the remaining age groups (Fig. 8). In 2010–2015, the percentage of preventive examined children dropped by about 5% (13). This may be related to the increasing number of children who are solely under the care of private pediatricians, because these are not obliged to report preventive health care actions.

An important element of preventive care is the prevention of infectious diseases, especially through vaccinations. The Chief Sanitary Inspectorate publishes an annually updated vaccination schedule, which contains a list of mandatory and recommended vaccinations. Since mandatory vaccinations for children are paid for by the state, they are free of charge for the patients, but parents or guardians must purchase recommended vaccinations. In 2016, 98.5% of children at the age of 2 years were vaccinated according to the schedule, 97.8% in the third year of life, 96.9% at the age of 7 years, 93.9% at the age of 11 years, and 94.2% at the age of 15 years, and 93.4% of girls at the age of 14 years were vaccinated against rubella (Fig. 9) (14). This high level of the vaccinated population (over 90%) is sufficient to achieve community resistance and to prevent the epidemic spread of disease. However, although the percentage of people vaccinated in Poland is still high, in recent years more and more parents have been refusing to vaccinate their children, out of fear of adverse effects and under the influence of anti-vaccine movement propaganda (15).

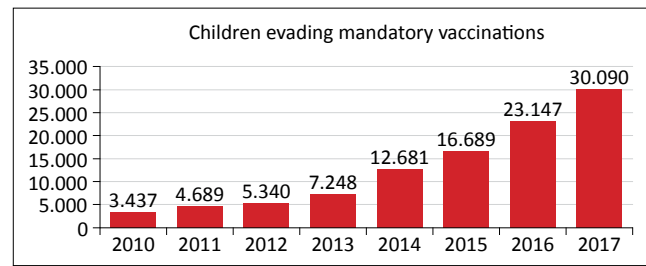


Figure 9. Number of children evading mandatory vaccinations in the years 2010–2017

Conclusions

Regardless of their insurance status, Polish children and adolescents (0–18 years' age group) have an unlimited right to use healthcare financed from public funds. An unquestionable success of the Polish healthcare system is the significant reduction in the infant mortality rate, almost to the average level of the EU countries, achieved thanks to its average annual decline of about 5.7% over the last 27 years. Even though anti-vaccine movements are gaining more and more supporters around the world, including Poland, the percentage of vaccinated children remains high, and the epidemiologic situation of infectious diseases in Poland is relatively favorable and stable.

Providing children with proper healthcare is a task that should mainly belong to pediatricians. This applies to both primary and secondary care. People prepared to provide them will best perform such tasks as careful assessment of the health status of each newborn child, tracking their development and providing full access to preventive care, early diagnosis, and treatment of children's diseases. According to the authors, pediatricians are best prepared for this particular type of healthcare. Therefore, the shortage of these specialists should arouse justified anxiety.

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