

Evaluation of mental health services delivered before and after the introduction of pilot Mental Health Centers in Poland using monitoring indicators

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Summary

Aim. The study assessed the performance of Mental Health Centers compared to previous non-integrated mental health facilities.

Method. The study used National Health Fund (NHF) data of individuals over 18 years treated in 27 centers (January 2017–February 2020). Performance indicators from 19 months before ($N = 124,497$) and after the introduction of Mental Health Centers ($N = 182,789$) were compared for outpatient care, community treatment teams, inpatient wards, and day wards.

Results. The total number of patients who received mental health care increased, compared to before the establishment of those Centers; whereas the number of hospitalizations decreased by 6% and the number of patient days per person decreased by 9%. Day care saw a 14% increase in admissions following the introduction of Mental Health Centers, with a 5% decrease in patient days per person. The proportion of patients in community care increased by 86%, in outpatient care by 62% and in day care by 14%. The number of first-time patients after the introduction of Mental Health Centers increased and the number of follow-up patients decreased. For all groups of mental disorders, the priority indicator in inpatient care decreased, while increasing in outpatient and community care for most groups of disorders.

Conclusions. The results confirmed the effectiveness of the implemented National Mental Health Protection Program project in relation to the availability and reduction of inpatient treatment through Mental Health Centers. The methodology used in this study can be used for assessing the effectiveness of Mental Health Center activities in subsequent stages of the pilot.

Key words: mental health, quality indicators, healthcare reform

Introduction

The reform of psychiatry in Poland follows the model proposed by the World Health Organization (WHO), which is embodied by two key challenges referred to as ‘deinstitutionalization’ and ‘destigmatization’. It recommends that countries build or transform their mental health services according to a specific blueprint [1]. The fundamental reform should comprise three main actions, i.e.: (1) integration of mental health services into primary healthcare, (2) establishment of community psychiatric services together with the provision of inpatient services in general hospitals, and (3) limitation of the role of mental hospitals to specific tasks only (long-term or specialist treatment).

In Poland, only as part of the second phase of the National Mental Health Protection Program implemented between 2017 and 2022, have measures in this area been implemented [2]. In 2018, 27 pilot Mental Health Centers were established – to provide comprehensive mental healthcare services in territorially defined populations, financed *per capita* and not, as before, “per medical service provided” [3].

According to the National Health Fund (NHF), the value of the lump sum allocated to Mental Health Centers in 2019 was 129.3 per cent higher than the funding of mental healthcare services in 2017 in the same area of activities as the later Mental Health Centers. A cost simulation covering the same benefits showed an increase in funding of PLN 114 million [4]. One of the criteria for evaluating the pilot was the percentage of the population covered by the program. In Appendix 2 to the Regulation of the Council of Ministers of 28 December 2010 on the National Mental Health Protection Program (NMHPP), among the tasks of the NMHPP [5] the establishment of a MHC to provide care to at least 1,500 adults, in an area inhabited by at least about 50,000 inhabitants (3,000/100,000 inhabitants, 3%) is mentioned. The NHF, on the other hand, indicates that the aim of Mental Health Centers is to obtain access to the mental healthcare services by at least 8% of adult residents in the area of activities of Mental Health Centers [6]. The indicator obtained in 2019 was 3.3% (almost 2.5 times lower than the target value set by the NHF), exceeding the result obtained in 2017 by only 0.37%, which indicates a large difference with respect to the expected result and, moreover, the existence of an even larger disparity between population (real) prevalence and treatment demand in outpatient psychiatric treatment [6, 7].

At the end of the first year of the pilot (2018–2019), the Pilot Program Office presented its analyses and the resulting conclusions. The most important were the following: reversal of the long-term downward trend of the total number of patients treated per 100,000 inhabitants; significant development of outpatient and community-based services; an increase in the indicator of psychological counseling and psychotherapy sessions; and a reduction in total patient days of hospital stay per 100,000 inhabitants during the year. The overall performance was better in the adult population residing in the areas of operation of Mental Health Centers-1 group, with a lump sum value per population in 2019 different from Mental Health Centers-2 group [8]. In the Mental Health Centers-2 group the results were comparable or, in some respects, slightly worse than in the control group [8].

The inconsistency in the assessment of the observed effect, even though the interpreted data come from a single source (the National Health Fund), accounts for the need to apply a uniform methodology in these studies, using indicators that will help monitor efforts aimed at reforming mental healthcare, as recommended by the WHO [9, 10]. Among the many thematic areas, those covered by the maps of outpatient and inpatient care of the entire population are considered particularly useful for monitoring the progress of reforms. These include the indicators of resources and their use within psychiatric care, costs of mental disorders, statistics for suicides and mortality among people with mental disorders [11, 12]. Studies that have been carried out in countries reforming their mental healthcare systems [13–16] point to the need to collect and analyze the relevant ranks of data to demonstrate the effectiveness of the measures taken, but also allowing for the possibility of changing the process in the right direction.

Referring to the experience of other countries, it seems obvious that, as part of the pilot, the scientific method should be used to assess the effectiveness of Mental Health Centers in terms of psychiatric care compared to the traditional model, using indicators to monitor the progress of reform implementation in Poland.

Material

The starting point for this article is the *Maps of Health Needs – Database of System and Implementation Analyses* project, under which 20 interactive applications for health services provided to patients, including those receiving psychiatric care and addiction treatment, and pilot programs in Mental Health Centers, were created in 2021. The applications are based on data from the National Health Fund and constitute an analytical tool that enables its users to access data on the fulfillment of the health needs of the Polish population.

The study used individual reporting data of the National Health Fund, which were reported to the payer from January 2017 until February 2020. The analysis of the data on the activities of Mental Health Centers included the first 27 centers qualified for the program. A comparative analysis of facilities was performed for the 19 months before and after their transformation into Mental Health Centers. The first period covered 19 months starting in 2017 until transforming selected facilities into Mental Health Centers (the period before the launch of the program of Mental Health Centers: 1 January 2017 – 31 July 2018). The beginning of August 2018 marks the start of the second investigated period, which covers the next 19 months and ends in February 2020 (period after the launch of the program of Mental Health Centers: 1 August 2018–28 February 2020). Data from March 2020 were not included in the analyses due to the outbreak of the COVID-19 pandemic, caused by the SARS-CoV-2 coronavirus, which undoubtedly had an impact on the provision of services. The study included 124,497 patients with a diagnosis of mental disorder (excluding addiction) in the first period and 182,789 patients in the second period. The NHF database contains data on persons identified by unique PESEL (Personal identification) numbers.

The analysis is based on publicly funded healthcare services provided to adults, i.e., persons who were at least 18 years of age on the date of the service and received

at least one Mental Health Center care service. The following forms of care were referred to in the analysis: outpatient clinics – mental health clinics (Ministry of Health ID code: 1700, 1702, 1704, 1706, 1710, 1750, 1790); psychiatric wards (Ministry of Health ID code: 4700, 4702, 4704, 4710, 4712, 4714, 4716); day wards (Ministry of Health ID code: 2700, 2702, 2704, 2706, 2710); community treatment teams (Ministry of Health ID code: 2730, 2732, 2734)¹. The study was approved by the Ethics Committee of University of Lower Silesia in Wrocław (No. 2/2022). The research procedures followed the recognized research standards set out in the Declaration of Helsinki.

Method

Performance indicators

This study aimed to compare selected mental healthcare performance indicators for services provided before and after establishing Mental Health Centers under the National Mental Health Protection Program. The following indicators were included in the analysis:

1. Treatment prevalence – the number of patients who received at least one service in a specified period, per 100,000 population;
2. Number of inpatient admissions;
3. Day care treatment prevalence – the number of patients in a day care unit, per 100,000 population;
4. The number of patient days; the number of patient days per patient (for day care), the number of patient days per hospital admission (for 24-hour care)
5. Percentage of admissions of inpatients – the number of patients in a 24-hour ward divided by the total number of patients;
6. Percentage of outpatient appointments – the number of patients in an outpatient clinic divided by the total number of patients;
7. Percentage of admissions of patients in day care – the number of patients in a day care unit divided by the total number of patients in all forms of treatment;
8. Percentage of patient appointments in community care – the number of patients in community treatment divided by the total number of patients in all forms of treatment;
9. Hospital care priority indicator for a specific diagnosis-related group – the number of patients in a 24-hour ward divided by the total number of patients in all forms of treatment grouped by disease;
10. Day care priority indicator for a specific diagnosis-related group – the number of patients in a day care unit divided by the total number of patients in all forms of treatment grouped by disease;

¹ Ministry of Health identification codes refer to part VIII of the Ministry of Health identification code of the organizational unit of the hospital and are set out in the Regulation of the Minister of Health of 17 May 2012 on the system of Ministry of Health identification codes and the detailed method of assigning them (Dz. U. /Journal of Laws/ of 2012, item 594)

11. Ambulatory care priority indicator for a specific diagnosis-related group – the number of patients in an outpatient clinic divided by the total number of patients in all forms of treatment grouped by disease;
12. Community care priority indicator for a specific diagnostic group – the number of patients in community treatment divided by the total number of patients in all forms of treatment grouped by disease;
13. First-time and follow-up patients in a 5-year period – the number of unique patients who appeared for the first or subsequent time in the analyzed centers;
14. Inpatient preadmission in mental health clinics – the number of patients who appeared in a 24-hour ward within a maximum of 30 days of a visit to a mental health clinic.

Statistical analysis

A 2-sample Z-test for equality of proportions with continuity correction (two-sided) was used to compare the indicators from the period of operation of Mental Health Centers and the period before their establishment. All statistical analyses were carried out using R statistical software version 3.6.1 and Microsoft Excel.

Results

The results of the analyses are presented in Table 1. The first indicator analyzed is the prevalence of persons treated, expressed as the number of patients receiving at least one service in a given period. The results indicated a statistically significant increase in the prevalence of patients in centers qualified for the program since the beginning of their operation as Mental Health Centers compared to before the establishment of Mental Health Centers. This increase was 47% ($\chi^2(1) = 11,685.00; p < 0.001$) compared with 19 months before program introduction. Figure 1 shows that this increase occurred with the introduction of the program of Mental Health Centers in selected centers and has since remained steadily higher than it was before August 2018.

Since the establishment of Mental Health Centers, the total number of inpatient hospitalizations has decreased by 6% compared to the period before their establishment ($\chi^2(1) = 89.383; p < 0.001$) (Figure 2). With regard to the number of patients admitted to 24-hour wards, there was a 6% decrease after the introduction of Mental Health Centers ($\chi^2(1) = 49.752; p < 0.001$).

The total number of patient days decreased by 20%, while the number of patient days per hospitalization decreased significantly by 9% ($\chi^2(1) = 563.64; p < 0.001$). In Figure 3, it can be seen that there was no change in the number of patient days at the beginning of operation of Mental Health Centers and there was a sudden increase in January–May 2019. Around July, the number of patient days began to fall regularly, reaching in January 2020 the lowest level during the 38 months analyzed.

Regarding the prevalence of day care, there was a significant increase (by 14%) in the number of admissions to the day unit after the introduction of Mental Health Centers ($\chi^2(1) = 49.752; p < 0.001$). Figure 4 suggests that the increase in day unit admissions

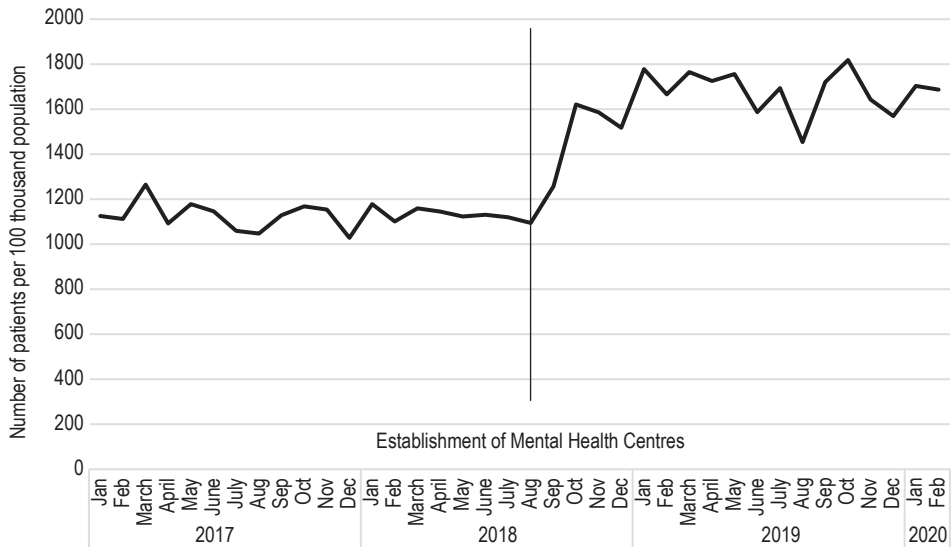


Figure 1. Prevalence of people treated in the period before and after the introduction of the program of Mental Health Centers

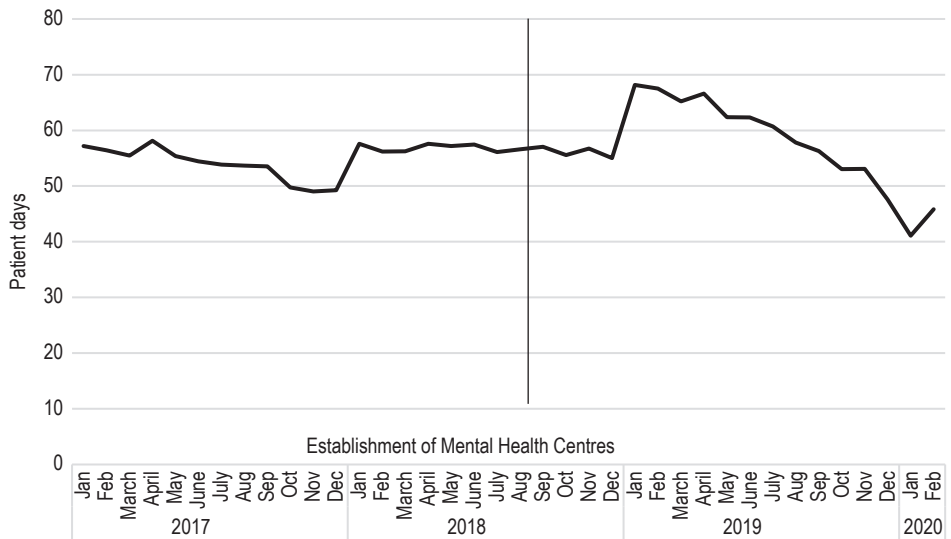


Figure 2. The number of patient days in a 24-hour hospital in the period before and after the establishment of Mental Health Centers

occurred around October–November 2018 and remained more or less constant until February 2020. At the same time, the number of patient days per patient decreased by 5% ($\chi^2(1) = 6.504$; $p < 0.01$).

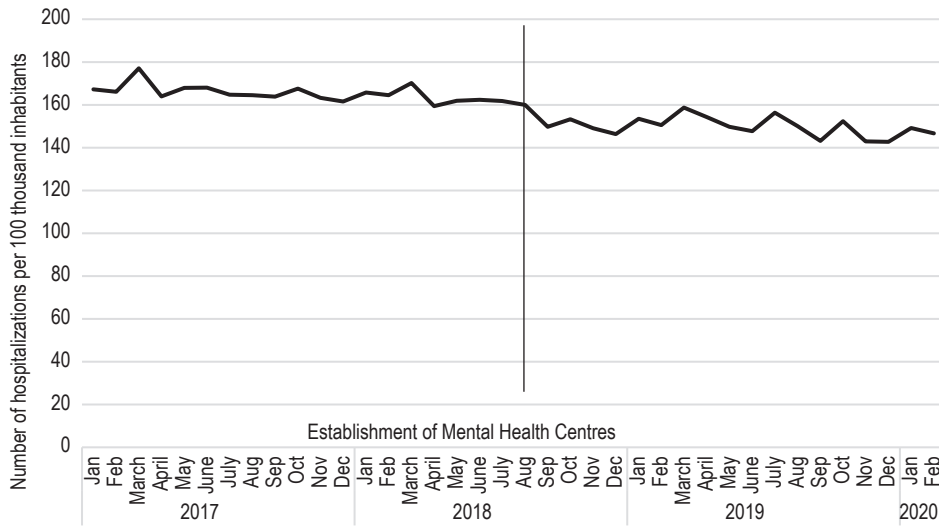


Figure 3. Number of hospitalizations per 100 thousand inhabitants in the period before and after the establishment of Mental Health Centers

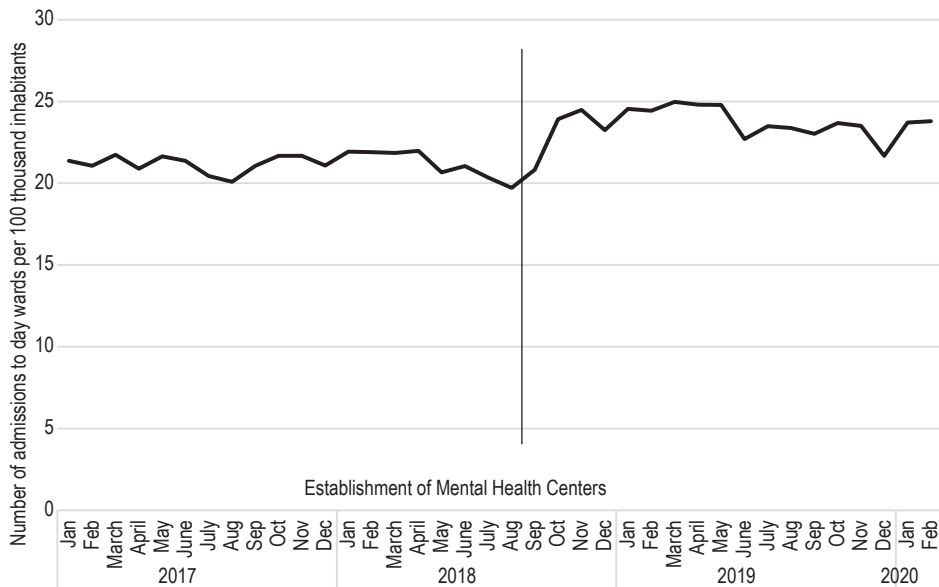


Figure 4. Number of admissions to day wards per 100 thousand inhabitants in the period before and after the establishment of Mental Health Centers

The percentage of patients in 24-hour hospital care after the establishment of Mental Health Centers decreased by 6 percentage points compared to the period before the

operation of Mental Health Centers. In Figure 5, it can be noticed that there is a sudden drop in the proportion of patients in 24-hour hospital care, which coincides with the time of the establishment of Mental Health Centers (August 2018). In September 2017, the percentage of inpatients was 9% and from then until January 2020, the percentage of hospitalized patients fluctuated between 8% and 10%.

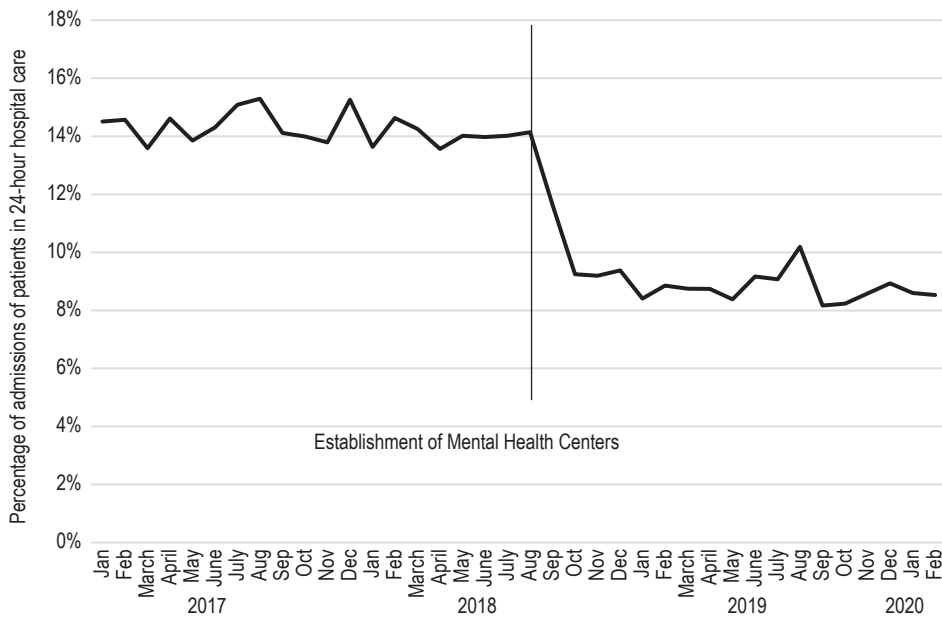


Figure 5. Percentage of admissions of patients in 24-hour hospital care in the period before and after the establishment of Mental Health Centers

In contrast, the proportion of patients in day care, ambulatory care and community care increased significantly after the introduction of Mental Health Centers. The largest increase (by 86%) can be observed in community care ($\chi^2(1) = 1,073$; $p < 0.001$). The proportion of patients in outpatient care increased by 62% ($\chi^2(1) = 15,059$; $p < 0.001$) and in day care by 14% ($\chi^2(1) = 49.752$; $p < 0.001$) (Table 1). For outpatient care, the increase in the percentage of patients occurred around October 2018 (following the introduction of Mental Health Centers) and from then until January 2020. The percentage of patients remained at around 85% (Figure 6).

Figure 7 shows the percentage of patients in community care. Until the introduction of Mental Health Centers, this percentage was relatively stable, oscillating between 5 and 6%. From August 2018 (establishment of Mental Health Centers) there is a sudden drop in the percentage of patients treated in community care from 6% to around 5%. Since December 2018, in turn, an increase in the proportion of patients in community care can be observed. However, the percentage still did not significantly exceed 6%.

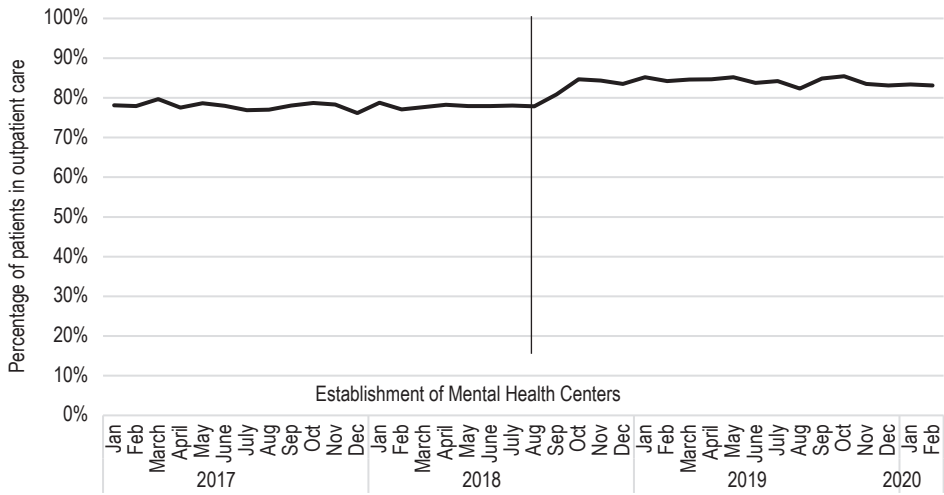


Figure 6. Percentage of admissions of patients in 24-hour hospital care in the period before and after the establishment of Mental Health Centres

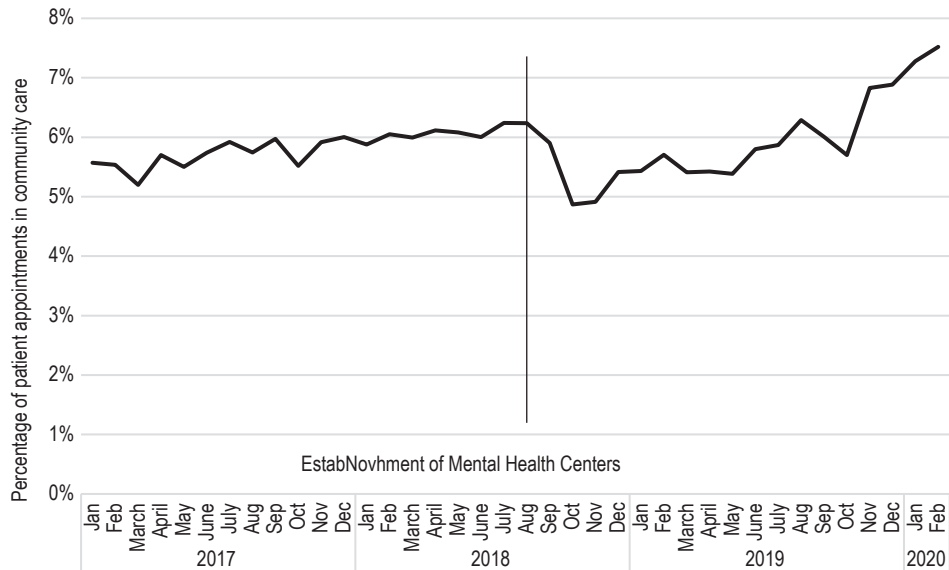


Figure 7. Percentage of patient appointments in community care in the period before and after the establishment of Mental Health Centres

Since November 2019, the percentage of patients treated in community care has been increasing, reaching 7.5% in January 2020.

There was also an increase in the number of first-time patients and a decrease in the number of follow-up patients in the 19 months following the introduction of

Mental Health Centers compared to the period before their introduction. The number of hospitalizations preceded by a Mental Health Center advice accounted for 5.2% of all hospitalizations (Table 1).

Table 1. Results of analyses comparing healthcare performance indicators before and after the introduction of the program of Mental Health Centers

Indicator	Before introducing Mental Health Centers (1)	After introducing Mental Health Centers (2)	(2)-(1)	χ^2	p
Prevalence of treated persons					
Number of patients	124,497	182,789	47%	11,685	<0.001
Number of patients per 100 thousand population	4,354	6,393			
Total number of hospital admissions					
Number of hospital admissions	44,035	41,293	-6%	89.383	<0.001
Number of hospital admissions per 100 thousand population	1,540	1,444			
Number of patient days	1,647,073	1,315,979	-20%		
Number of patient days per hospital admission	37.3	34.0	-9%	563.64	<0.001
Prevalence of day care					
Number of patients in day care	5,451	6,213	14%	49.752	<0.001
Number of patients per 100 thousand population	190.6	217.3			
Number of patient days	312,948	340,294	9%		
Number of patient days per patient	57	55	-5%	6.504	<0.01
Percentage of admissions of patients in 24-hour hospital care					
Number of patients admitted to hospital (% of total)	31,768 (26%)	29,789 (16%)	-6%	64.25	<0.001
Percentage of appointments in outpatient care					
Number of patients in outpatient clinics (% of total)	96,827 (78%)	157,299 (86%)	62%	15,059	<0.001
Percentage of admissions of patients in day care					
Number of patients in day wards (% of total)	5,451 (4.4%)	6,213 (3.4%)	14%	49.752	<0.001
Percentage of patient appointments in community care					
Number of patients in community care (% of total)	4,408 (3.5%)	8,063 (4.4%)	86%	1,073	<0.001

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First-time and follow-up patients					
First-time patients (% of total)	31,746 (25.6%)	48,700 (26.7%)	1.1%	49.1	<0.001
Follow-up patients (% of total)	92,431 (74.4%)	133,709 (73.3%)	-1.1%	48.9	<0.001
Hospital preadmission in a mental health clinic					
Number of hospital admissions preceded by a Mental Care Center consultation (% of total)	N/A	1,827 (5.2%)			

The results indicated that after the introduction of Mental Health Centers, there were also significant changes in relation to priority indicators for specific mental disorders within inpatient, day, outpatient, and community healthcare (Table 2).

For all analyzed groups of mental disorders, the priority indicator for inpatient care decreased. Only for disorders such as behavioral syndromes associated with physiological disturbances and physical factors (F50–59) and unspecified mental disorders (F99) was the observed decrease not statistically significant ($p > 0.05$). In day care, after the establishment of Mental Health Centers, the priority indicator decreased significantly for most disorders, except for schizotypal and delusional disorders other than schizophrenia (F21–29), intellectual disabilities (F70–79), behavioral and emotional disorders with onset usually occurring in childhood and adolescence (F90–98), and unspecified mental disorders (F99).

In contrast, outpatient and community care saw an increase in the priority rate for most groups of disorders. In outpatient care, for disorders such as behavioral syndromes associated with physiological disturbances and physical factors (F50–59) and unspecified mental disorders (F99), the observed increase was not statistically significant ($p > 0.05$). The priority indicator in community care increased significantly for disorders such as organic mental disorders (F00–09), schizophrenia (F20), neurotic, stress-related and somatoform disorders (F40–48), disorders of adult personality and behavior (F60–69), intellectual disabilities (F70–79), behavioral and emotional disorders with onset usually occurring in childhood and adolescence (F90–98), and unspecified mental disorders (F99) (Table 2).

Table 2. Results of analyses comparing the priority indicator of different forms of care for specific diagnosis-related groups before and after the introduction of Mental Health Centers

Group of diseases	Number of patients in care (% of total)				All patients in the diagnosis – related group		(2)–(1) [%]	p	χ ²
	Before introducing Mental Health Centers	%	After introducing Mental Health Centers	%	Before introducing Mental Health Centers	After introducing Mental Health Centers			
Hospital care									
F00–09	8,387	30%	7,599	19%	28,425	39,367	–35%	<0.001	952.9
F20	9,477	40%	8,804	30%	23,572	29,043	–25%	<0.001	561
F21–29	1,609	51%	1,492	42%	3,137	3,556	–18%	<0.001	58

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F30-39	6,909	21%	6,406	13%	32,377	49,433	-39%	<0.001	1007.7
F40-48	4,289	12%	4,127	7%	35,411	62,137	-45%	<0.001	855.5
F50-59	21	2%	24	1%	1,221	1,971	-29%	0.31	1
F60-69	1,748	31%	1,803	23%	5,623	8,010	-28%	<0.001	125.7
F70-79	803	18%	742	11%	4,342	6,900	-42%	<0.001	134
F90-F98	20	10%	18	5%	199	383	-53%	0.021	5.3
F99	39	3%	47	2%	1,233	1,961	-24%	0.234	1.4
Day care									
F00-09	536	0%	594	2%	28,425	39,367	-20%	<0.001	14.1
F20	1,462	3%	1,609	6%	23,572	29,043	-11%	<0.001	10.3
F21-29	105	6%	122	3%	3,137	3,556	2%	0.904	0
F30-39	1,527	4%	1,610	3%	32,377	49,433	-31%	<0.001	112.6
F40-48	1,519	5%	1,939	3%	35,411	62,137	-27%	<0.001	89.8
F50-59	25	2%	22	1%	1,221	1,971	-45%	0.049	3.9
F60-69	499	9%	529	7%	5,623	8,010	-26%	<0.001	24.1
F70-79	17	1%	16	0%	4,342	6,900	-41%	0.179	1.8
F90-F98	2	0%	4	1%	199	383	4%	1	0
F99	3	2%	3	0%	1,233	1,961	-37%	0.877	0
Outpatient care									
F00-09	19,949	70%	31,194	79%	28,425	39,367	12.90%	<0.001	730.4
F20	15,983	68%	22,540	78%	23,572	29,043	14.50%	<0.001	637.3
F21-29	1,716	55%	2,275	64%	3,137	3,556	17.00%	<0.001	59.2
F30-39	26,258	81%	43,943	89%	32,377	49,433	9.60%	<0.001	975.2
F40-48	31,025	88%	57,744	93%	35,411	62,137	6.10%	<0.001	777.7
F50-59	1,183	97%	1,916	97%	1,221	1,971	0.30%	0.677	0.2
F60-69	3,926	70%	6,285	78%	5,623	8,010	12.40%	<0.001	130.8
F70-79	3,607	83%	6,070	88%	4,342	6,900	5.90%	<0.001	53
F90-F98	173	87%	342	89%	199	383	2.70%	0.478	0.5
F99	1,186	96%	1,879	96%	1,233	1,961	-0.40%	0.671	0.2
Community care									
F00-09	1,751	6%	3,036	8%	28,425	39,367	73%	<0.001	60.3
F20	1,505	6%	2,503	9%	23,572	29,043	66%	<0.001	91.9
F21-29	92	3%	119	3%	3,137	3,556	29%	0.37	0.8
F30-39	839	3%	1,210	2%	32,377	49,433	44%	0.207	1.6
F40-48	249	1%	1,022	2%	35,411	62,137	310%	<0.001	154.8
F50-59	10	1%	33	2%	1,221	1,971	230%	0.06	3.5

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F60–69	53	1%	175	2%	5,623	8,010	230%	<0.001	30.3
F70–79	109	3%	389	6%	4,342	6,900	257%	<0.001	60.8
F90–F98	4	2%	23	6%	199	383	475%	0.049	3.9
F99	7	1%	40	2%	1,233	1,961	471%	0.001	10.3

F00–09 – organic, including symptomatic, mental disorders; F20 – schizophrenia; F21–29 – schizotypal and delusional disorders, other than schizophrenia; F30–39 – mood [affective] disorders; F40–48 – neurotic, stress-related and somatoform disorders; F50–59 – behavioral syndromes associated with physiological disturbances and physical factors; F60–69 – disorders of adult personality and behavior; F70–79 – mental retardation; F90–98 – behavioral and emotional disorders with onset usually occurring in childhood and adolescence; F99 – unspecified mental disorders.

Discussion of results

One of the objectives of the National Mental Health Protection Program is to check and assess the effectiveness of the activities and the implementation of the tasks resulting from the program [2]. This study is the first to analyze the effects of the reform of mental healthcare in Poland using indicators monitoring the effectiveness of care. Data from the Maps of Health Needs – Database of System and Implementation Analyses, implemented by the Department of Analyses and Strategies of the Ministry of Health, was used as the starting point for the presented analysis. They allowed deepening the aspect of efficiency of psychiatric care in the periods before and after the introduction of the network of Mental Health Centers. The results of the study will provide a starting point for monitoring the long-term effects of the reform, including a planned assessment of the effectiveness of psychiatric care during the COVID-19 pandemic.

Between 2010 and 2014, there was a gradual increase in the number of patients treated in all forms of psychiatric care (from 1,319 thousand to 1,480 thousand) and this number was higher than in the period before the reform and lower than after the introduction of Mental Health Centers [17]. With a simultaneous increase in the number of first-time patients in the period following the establishment of Mental Health Centers, the results of the study may suggest that during the 19 months of the operation of Mental Health Centers, the availability of all mental healthcare services was higher both compared to the preceding 19-month period and in comparison to the availability of services between 2010 and 2014.

Although the total number of hospital admissions, as well as hospital admissions per 100 thousand population, was significantly reduced after the introduction of Mental Health Centers compared to the 19 months prior to the implementation of the reform, it is still higher than in the period from 2010 to 2014, when it was in the range of 279–307 thousand total hospital admissions and 886–983 hospital admissions per 100 thousand adults [17].

The Polish part of the EDEN study determined the average length of hospital stay in inpatient psychiatric wards to be 58 days, while in day wards it was 150 days [18]. During the period analyzed in the study, the average length of hospital stay in an inpatient psychiatric ward, defined by the number of patient days per hospitalization,

was reduced from 37.3 in the period before, to 34 days in the period after the implementation of Mental Health Centers. At the same time, in the UK in 2016, the average duration of hospital stay in an inpatient unit was similar – 35.9 days, while in Estonia in 2010 it was shorter – 24.3 days [19, 20]. It should be noted that the average number of patient days per patient in day psychiatric wards can also be influenced by other factors: in day psychiatric wards, as opposed to inpatient wards, part of the hospital admissions is aimed at psychiatric rehabilitation and implies a stay in a day ward for the full treatment period financed by the National Health Fund – a shortening of the treatment time for any reason is in this situation often a deviation from the assumed rule. This fact may explain the lower variability in length of stay in day care units compared to inpatient units. Despite this, the presented study showed that also in day wards the number of patient days per patient decreased significantly.

WHO findings [21] indicate that outpatient care is the only effective means of increasing coverage for mental disorders and its availability is increasing, but this is strongly dependent on the income level of the country. In this study, the percentage of admissions of patients in outpatient care within mental health clinics increased from 78% in the period before the establishment of Mental Health Centers to 86% after their establishment. By comparison, in Portugal in 2005, 24% of patients receiving mental healthcare received it in inpatient settings [20].

In addition, the percentage of patient appointments in community care increased from 3.5% to 4.4% (some patients may have received both forms of care).

The decrease in the number of patients hospitalized in inpatient units, despite the increase in the number of people using mental healthcare services in general, and the simultaneous increase in the number of patients using other forms of care: especially community-based care and outpatient care, and to a smaller extent also therapy in day wards, suggests that the reform of mental healthcare in Poland is producing results in line with the objectives of the National Mental Health Protection Program for 2017–2022 and is headed for deinstitutionalization of care for people with diagnosed mental disorders [2].

This is the first Polish study to evaluate the results of a mental healthcare reform pilot using routine National Health Service (NHF) statistics to determine monitoring indicators. The study included 27 facilities from across the country, with a relatively large and territorially countable population (TERYT), which were first qualified for the program by the pilot office after meeting certain inclusion conditions, including having the resources to provide the evaluated services.

The determined indicators – in the adopted research model – allowed to evaluate the implementation of two important objectives of the reform, i.e., improvement of access to treatment as well as setting priority and gradual reduction of the role of inpatient care in favor of community-based treatment. The developed indicators, based on NHF registry data, can be used for research in further stages of the pilot study, but can also be expanded with new elements, such as mortality in persons receiving mental healthcare. The costs of the registry-based research study are relatively low, but subject to expertise in epidemiology and the possibility of collaboration with database analysts.

Weaknesses of the indicators used in the study include the lack of consideration of the financial aspect – a cost-economic analysis. These are typically quantitative indicators, not taking into account the quality of provided services and effectiveness of treatment.

The target percentage of the population covered by MHC services adopted in the Regulation of the Council of Ministers (3%) has been met [5]. In papers describing the methodology of the reform pilot in other European countries, the percentage threshold of the population covered by mental healthcare services is not indicated as a criterion for evaluating the pilot [22–24]. The indicators used in the present study are commonly accepted indicators for evaluating the effectiveness of the psychiatric care reform [8, 9]. Based on the evaluation indicators used in this study, the analyzed stage of the pilot should be considered effective.

Conclusions

The conducted study, referring to the analysis of several monitoring indicators, unambiguously confirmed the effectiveness of the project implemented within the National Mental Health Protection Program aimed at improving accessibility, limiting hospital treatment and developing the community forms of care through Mental Health Centers.

Maps of Health Needs are a unique tool for generating the data necessary for complex analyses.

Despite the limitation of the pandemic, which shortened the observation period to 19 months, the results of the study are highly valuable, and the used methodology, supplemented by other indicators postulated in the literature, can be used to evaluate the effectiveness of Mental Health Centers in subsequent stages of the pilot and with the division into individual Centers.

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