

Measurement of health care services in long-term residential mental health care institutions

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Summary

This study concerns measuring the quality of health services in long-term residential mental health care. The issue of measuring the quality of health services has been limited to services at residential health care centers (ZOL).

The aim of the study is to propose measures associated with the provision of services in long-term residential mental health care. Currently, there are no tools for measuring the psychiatric services provided. The consequence of that is that the monitoring-supervisory-control mechanism that should ensure the required level of quality of services provided in this area of psychiatric care is inefficient. The aim of the deliberations made in this study is presenting an appropriate set of measures to assess the performance of a residential health care provider, taking into account the specificity of long-term mental health care (ZOL). The application of the Team Patient Functioning Scale allows for the specification of the changes occurring in the patient's functioning and comparing them at time intervals, and indirectly causes the Team Patient Functioning Scale to be used to draw conclusions about the aggravation, stabilization, or regression of the illness, and to prove the effectiveness of the therapeutic team.

The presented results of the application of the proposed measures may constitute a reference base – as a benchmark – for the improvement and development of the quality of health services for patients in residential health care centers in Poland.

Key words: health care services; mental health care; measurement of health care services

1. Protection of mental health as a social system area

The generic structure system of psychiatric care is varied¹ [1]. The proposed method of measuring the quality of services was limited to long-term residential services at care and treatment wards. Mental health, including mental disorders and diseases, and mental health protection are areas/spheres of social life and public activities, in the area of which there are many prejudices and barriers in our country [2]. Inadequate financing of psychiatric care is still taking place, and there are no visible or measurable effects of health education, including long-term activities related to health promotion and prevention of mental disorders in Polish society.

The research we currently have at our disposal – conducted in Poland – confirms slowdown in the area of the infrastructure, financing and knowledge resources for introducing modern solutions in mental health care in Poland. There are few discussions on the methods of multi-aspect support of this segment of health care, and there is only sparse information available on the criteria and determinants of the quality of health services in residential psychiatric care and on their role in the “loop” of improving services in psychiatric treatment. In 2012 a comprehensive examination of the mental health status of Poles under the acronym EZOP, in line with an American questionnaire, was conducted in Poland. The authors of the research report *Epidemiology of mental disorders and availability of psychiatric health care. EZOP – Poland* stated that the EZOP survey, using an international questionnaire, could not incisively indicate the following barriers [3]:

- (a) political – due to vacillation and temporariness of decisions;
- (b) legislative – due to ignoring good law;
- (c) economic – due to inadequate financing and investing in facilities in Poland.

However, the research, carried out by the team under the direction of D. Trawkowska, concerned the social assistance and access to psychiatric health care. It demonstrated that the main type of barriers in social assistance is the lack of a full diagnosis of two systems of support for mentally ill people: health care system and social welfare system; this is the case with persistent, chronic mental illness (e.g., schizophrenia) or periodic mental health crises (e.g., depressive disorders and depression and anxiety disorders of a reactive nature) [4]. A detailed analysis of problems in the interactions of the health care system and the social welfare system has revealed the barriers to the development of these systems in the form of, i.a., lack of concepts and indicators for monitoring the quality of care, assistance, rehabilitation, and environmental integration. The society’s needs in the field of psychiatric care, both in Poland and in the world, are intensifying. The degree of use of specialized mental health centers is increasing,

¹ The following facilities are considered long-term residential 24-hour psychiatric care institutions: psychiatric hospitals, alcohol addiction treatment centres, rehabilitation centres for psychoactive substance addicts, MONAR facilities, care and treatment centres and nursing and care centres of the psychiatric type, and national and regional centres of forensic psychiatry. Mental health care is also carried out at the psychiatric and detoxification wards in general hospitals.

which leads, i.a., to the increase in the use of prescription drugs and the frequency of hospitalization [5–8].

Available epidemiological information on the prevalence of mental disorders and mental illnesses based on data from psychiatric health care facilities in Poland, which are published annually by the Institute of Psychiatry and Neurology in Warsaw (IPiN) confirm the growing number of patients with mental disorders, in particular in the group of adolescents and children [9]. The need to create new models of psychiatric care is also growing: for adults and for children and adolescents in Poland. Long-term care models for both age groups: adults and children and youth urgently need to be developed, among others as part of the National Mental Health Program [10].

This article focuses on the concept of measures, including indicators for monitoring mental disorders and reporting the results. The system of monitoring and evaluation of the effects of the quality of health services within the framework of long-term residential mental health care and treatment institutions (ZOL) is imperfect; it is used not very transparently and inconsistently. There is inconsistency in collecting data necessary to measure the level of service quality, which causes a lack of an efficient control mechanism to ensure the required level of quality of psychiatric services provided in the said area.

Quality of health care includes structure/organization of care, the clinical processes of care as delivered by providers and the influence on the improvement of clinical outcomes on patient level [11]. Which can be characterized as follows:

- (1) Structural indicators – of the organization of the hospital and its capabilities: material, technical quality of buildings and equipment, education and competence of the staff, and the financial functioning of the hospital;
- (2) Process indicators (evaluation of the course of treatment) – of the relationship between the staff and the patient (implemented diagnostic and treatment procedures). Process indicators may refer to: nosocomial infections, repeated hospitalizations and responsiveness to health and life risks.
- (3) Result indicators (outcomes/effects) – of the obtained clinical effects in different time intervals informing about: progress in therapy, morbidity, mortality, comfort of life, and patient satisfaction.

The measurement² of processes and their results requires the development of indicators for the measurement of treatment/care processes and the results of treatment and care, which may be an objective basis for evaluating the effectiveness of health services provided by the healthcare provider [12]. In order to effectively measure the basic processes and the obtained effects – in line with the process approach of service

² Measurement as a category has different interpretations. According to *Wielki słownik języka polskiego (Great Dictionary of the Polish Language)*, this is the act of determining the measure of a physical size; in another sense, it is the result of the act of determining a measure of a certain physical quantity. Starting from the definition of measurement as the assignment of figures to objects or events based on certain rules in the construction of indicators, the following measurement scales were adopted: nominal, order, interval, and ratio. An interval scale has been applied in the proposal of measurements for evaluating progress in psychiatric care [13].

management – one should diagnose the state of the organisation’s functioning, get to know the planned and achieved results by the entity’s branches and on this basis determine whether the values of indicators of the studied area fall within the designated “goal field” which the organization should achieve.

2. Measurable indicators of monitoring and evaluating health service quality

The quality of health services should be analyzed and evaluated using measurable indicators that can be used to assess the activities of the ZOL and its individual departments, as well as for other forms of medical activity – individual and group medical practices, nurses, and midwives [14–17]. In psychiatric practice of long-term residential care in Poland, there are problems with the availability of relevant data. Measurements are performed using what the data allow for, and not what matters in terms of the goals set for long-term residential mental health care. The reliability of the data as well as the possibility of comparing the data using indicators suitable for monitoring the quality of a given care and treatment process are important. When creating and selecting the indicators, the aspects of the indicator should be taken into account in a transparent way; what are the indicators for/what will be their use – on the basis of an article by B. Marr [18] – is presented below:

1. Identification of a strategic element that will be evaluated;
2. Description of the indicator’s main application;
3. Short description of the way in which the data are collected;
4. Presentation of the scale based on which evaluation will be made;
5. Identification of the source of information;
6. How often will the information be gathered?;
7. Who is responsible for collecting and entering data?;
8. Who is responsible for the evaluated element?;
9. Identification of target values and scale;
10. Who are the recipients and who should have access to this information?
11. How often the indicator values should be reported?;
12. In what form should the indicator be presented?;
13. Sequence of transferring information;
14. How long should the indicator be valid?;
15. Estimation of the costs associated with data collection;
16. Descriptive evaluation/Reliability of the indicator.

Having at disposal an appropriately prepared set of indicators that are understandable to the interested parties, it is possible to manage staff more effectively by monitoring their work using appropriate measures, and perhaps, above all, to make strategic decisions using objective numerical or descriptive data with a smaller margin of error compared with the measures used intuitively.

In care and residential mental health care institutions, several areas can be distinguished in terms of designing, implementing and analyzing the system of performance measurement indicators. It is suggested to consider the following areas [16]:

- (a) effectiveness, which alongside the objective “evaluation” of the quality of medical services is supplemented by a subjective assessment of the quality of these services made by the patient or his/her representative;
- (b) cost-financial efficiency, which also takes into account the infrastructure and administration in a health care facility. The efficiency category related to different scopes and resources is dependent on the use of resources available to the entity and on the ability to adapt to external conditions, market requirements, competitive systems, and the management’s ability to anticipate future conditions for providing health services and make pertinent decisions on this basis.

The problem is to obtain coherence of the adopted measures – within the framework of the measurement system – to assess performance in the selected areas. It is justified to search for and continuously adjust the economic and financial mechanisms of management that shape the dependence between the quantity and quality of demand for health services to rationalize them. It is necessary to precisely determine the mechanism of collecting information about specific indicators, their monitoring as well as evaluation in relation to the adopted model measures. i.e., benchmarks. For example, the quality management system used in Germany may be a solution for our country. An external unit was introduced to evaluate the system. The appointed company, BQS (Bundesgeschäftsstelle Qualitätssicherung GmbH), is responsible for the coordination and implementation of the external process of comparative assessment of the quality of work and services in hospitals. Hospitals collect the data necessary to measure the quality level and send them to the appointed company. BQS and LQS (Landeschäftsstelle Qualitätssicherung GmbH) present comparative results for a particular health care organization. In this process, independent experts in individual Länder (LQS) identify hospitals with suspect indicators. In this case, the so-called systematic dialogue (*Strukturierter Dialog*) is performed. Indicators falling within the reference range are unsuspected indicators and do not require any action. Indicators that go beyond the reference range are analyzed during systematic dialogue. This solution allows hospitals to determine their position in terms of the quality of their services; it also allows for benchmarking [19].

The comparison of indicators is difficult and can potentially be misleading. It is important that the indicators help to identify areas of low efficiency (sensitivity) and that the areas indicated as not very effective are actually like this (familiarity). A low level of sensitivity and familiarity can lead to false conclusions and calumny, that is, to situations where improperly selected indicators, errors in interpreting the results indicated by them and the unawareness of the limitations of the applied system of measurements will cause the environment to have an impression of inconsistency, including errors in evaluation [20]. The diverse nature of mental health providers also challenges the health care system to take into consideration the perspectives of frontline staff, including nurses, social workers and increasingly peer specialists in owning quality improvement [11].

Helpful in designing a consistent system of performance measures can be the answers to the following questions:

- (a) Who should participate in the methodology of developing the performance evaluation system?
- (b) How should the information channels of the planned and achieved results of measures/performance indicators run?
- (c) Who is to supervise the consistent application of the implemented measurement system in health care entities?

3. On the practices in measuring services as regards long-term residential mental health care

An appropriate set of measures to assess the achievements of an inpatient treatment facility, taking into account the specificity of long-term psychiatric care (ZOLs), will be presented below.

In the Mental Health Care and Treatment Institution (PZOL) – after the implementation of the process-based approach, controlling (the element of management accounting) – a need to measure and evaluate the performed treatment and rehabilitation processes has arisen. The goal was to develop criteria and indicators that would allow a comprehensive assessment of the level of functioning of mentally ill patients in all areas associated with treatment, nursing and rehabilitation in a residential mode, and thus to assess the progress of the patient's mental health. An interdisciplinary team was established in the institution which developed a quantitative and qualitative (descriptive) method of analysis and assessment of the patient's functioning in the care ward [21]. The team included: a doctor, psychologist, nurse, physiotherapist, and an occupational therapist. The result of the team's work was development of a *Team Patient Functioning Scale* (ZSFP). When creating individual categories of the assessment method being designed, the following factors were taken into account:

- focus on directly observable phenomena;
- usefulness of the description for formulating recommendations for individual professional groups;
- synthesis of other documents, including evaluation scales, which so far have been doubled;
- wording clarity;
- transparency of the structure in relation to the areas studied.

The Team Patient Functioning Scale consists of two separate, complementary parts:

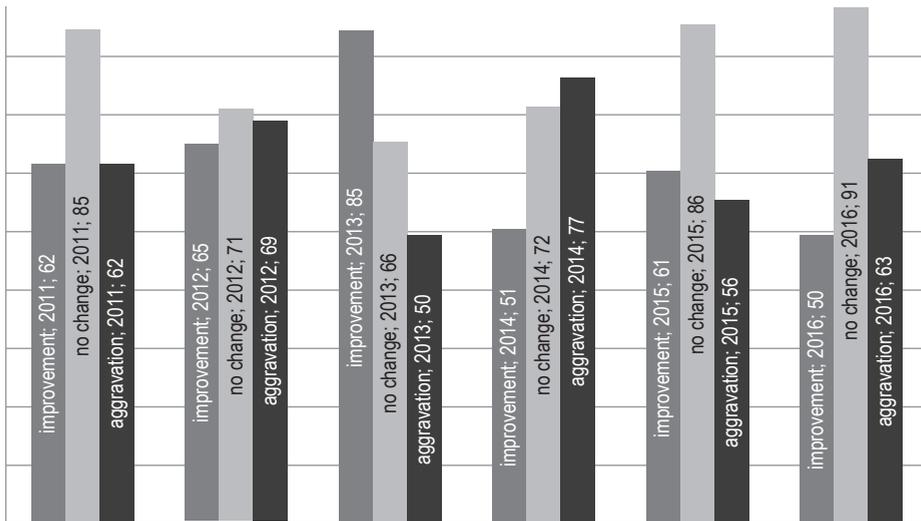
- (1) description and recommendation sheet;
- (2) a manual, containing a full description of the categories highlighted in the sheet and a list of recommendations for all professional groups. (For more information on the ZSFP, see Appendix 1).

In the opinion of the institution's management and the ZSFP project team [21], the adopted scale of measurement gives the possibility of multidirectional impact on the patient by the therapeutic team. The patient's stimulation – importantly – is not

mechanical, accidental, and results from the patient assessment by an interdisciplinary team. The assessment of the patient's level of functioning according to the adopted scale is made once a year and at every change in the patient's health condition, both decreasing and increasing his level of dependence on the staff. The results of the evaluation in individual areas from subsequent measurements are written down on the sheet, and then presented in the form of a graph at the bottom of the sheet. The results thus recorded give a picture of the aggravation, improvement, or stabilization of the patient's condition in the care and treatment ward. Table 1 presents the results of evaluation according to the ZSFP in the years 2011–2016 for care and treatment wards of the PZOL.

Table 1. Evaluation of the level of functioning of care and treatment ward patients according to the Team Patient Functioning Scale at the PZOL

Patient's condition	Year					
	2011	2012	2013	2014	2015	2016
Improvement	62	65	85	51	61	50
No change	85	71	66	72	86	91
Aggravation	62	69	50	77	56	63



Source: results of own research of the Mental Health Care and Treatment Institution (PZOL), 2017.

The collection of data and information as well as the analysis of the results over several years allowed for determining the numerical values of the measurement of the treatment, nursing and rehabilitation process conducted in the organization under discussion. The result included the recurrence of mental illness, the occurrence of medical condition affecting the patient's activity other than mental illnesses, as well

as physiological processes related to the body aging. The results of the measurement of processes are presented in a systematic manner during audits and reviews of the quality management system performed by this institution's management [21].

The characteristics of *the Team Patient Functioning Scale* in long-term mental health care at the PZOL is provided in Appendix 1.

4. Recapitulation and conclusions

1. The aim of using *the Team Patient Functioning Scale* (ZSFP) in long-term mental health care is to obtain a relatively objectivized, comparable description of the functioning of patients by members of interdisciplinary therapeutic teams in each care ward. The application of the scale allows for the specification of the changes occurring in the patient's functioning and comparing them at intervals of time, and indirectly causes the scale to be used to draw conclusions about the aggravation, stabilization, or regression of the illness, and to prove the effectiveness of the therapeutic team.
2. The evaluation according to the ZSFP brings a different, new perspective to the description and evaluation of the patient's health condition compared to measurement tools used so far. It is the starting point for further actions, not just a condition record that closes the assessment of the patient within the assigned category. The rating according to this scale focuses on the benefits that are important for the services provided in care and treatment wards.
3. In the applied ZSFP, it is important to gain a patient willing to cooperate and his/her active participation. The aggravation of psychotic symptoms and re-hospitalization are often the reason to repeat and consolidate skills that the patient has already acquired. When planning work with the patient, pre-disease personality traits, pre-disease adaptation, severity of negative symptoms and the extent of deficit symptoms should be taken into account. Working with chronically mentally ill people often exposes those who work with them to frustration – you cannot expect spectacular and quick successes; you should prepare yourself for a long-lasting effort.,

Appendix 1

TEAM PATIENT FUNCTIONING SCALE (ZSFP)

On the first page of the description and recommendation sheet, basic information about the patient is recorded and a quantitative description is made, the qualitative equivalents of which can be found in the methodological manual attached to the ZSFP. The overleaf part includes recommendations for individual professional groups and the planned date of the next description.

First name surname.....

date of birth Date of admission to the PZOL

Diagnosis

Interests

date				
Comorbidities				
Dysfunctions of the locomotor organs				
1. Psychotic symptoms				
2. Behavioral disorders				
3. Locomotor efficiency				
4. Manual dexterity				
5. Eating meals				
6. Personal hygiene				
7. Communication				
8. Social activity				
9. Memory				
10. Attention focus				
11. Finance management				
12. Activity in organized activities				
13. Self-reliance in public transport				
14. Carefulness in public transport				
15. Care for order in the surroundings				
16. Activity in free time				
TOTAL				

5.																			
4.																			
3.																			
2.																			
1.																			
	Psychotic symptoms	Behavioral disorders	Locomotor efficiency	Manual dexterity	Eating meals	Personal hygiene	Communication	Social activity	Memory	Attention focus	Finance management	Activity in organized activities	Self-reliance in public transport	Carefulness in public transport	Care for order in the surroundings	Activity in free time			

RECOMMENDATIONS (CHANGES) CHART OF THE TREATMENT-NURSING-REHABILITATION TEAM

Persons present:

1. attending physician
2. nurse
3. physiotherapist
4. psychologist
5. social worker
6. Occupational therapy instructor

Patient

date	physician wards	nurse wards	psychological wards	physiotherapeutic wards	social worker ward	OT instructor ward

Source: PZOL Team elaboration

In each **dimension accepted for the research**, the scale of the functioning level evaluation is specified, the patient may get from 1 to 5 points.

For example, for the dimension of **psychotic symptoms** (disorders of perception, thinking, will, action, and emotional life) the following score has been assigned:

1 pt. – The patient is completely absorbed in psychotic experiences – he/she does not establish adequate contact with the reality almost at all.

2 pts. – The patient is absorbed in psychotic experiences, but he/she notices other persons, phenomena, and reacts to some comments and commands.

3 pts. – The patient is absorbed in psychotic experiences, reacts adequately to the presence of other people and the sense of spoken words.

4 pts. – The patient's psychotic symptoms persist, but they reveal themselves after being additionally questioned and have a limited effect on behavior.

5 pts. – The patient is lacking psychotic symptoms.

In turn, in the **social activity** dimension, the following points have been awarded:

1 pt. – The patient does not interact, does not react and does not keep in touch with anyone.

2 pts. – The patient does not make contact on his/her own, but he/she responds to other people's attempts to get in touch in a simple way, e.g., he/she answers questions.

3 pts. – The patient makes contact with some people in order to meet his/her needs.

4 pts. – The patient establishes and maintains relationships in a narrow circle and/or gives assistance to selected persons.

5 pts. – The patient establishes and maintains relationships, takes actions for the benefit of others, the wards' community.

The following evaluation scale has been developed for the **personal hygiene** dimension:

1 pt. – The patient does not carry out any hygienic actions on his/her own.

2 pt. – The patient carries out hygienic actions partly on his/he own.

3 pt. – The patient when supervised and instructed carries out hygienic actions on his/her own.

4 pt. – The patient carries out hygienic actions on his/her own when motivated.

5 pt. – The patient carries out hygienic actions on his/her own.

The patient is assessed by the team based on 16 dimensions as part of systematic meetings of the therapeutic team composed of: a physician, nurse, psychologist, occupational therapist, physiotherapist, and social worker. Based on the adopted scales, the dimension and severity of the patient's dysfunctions are determined. The patient is also invited to the meeting and it is with his/her participation and acceptance that the scope and type of interventions are agreed and noted down in the recommendation sheet. [16]

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