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**CLINICAL MANAGEMENT OF PEOPLE WITH SEVERE MENTAL DISORDERS:  
DIAGNOSIS, REHABILITATION AND PSYCHOSOCIAL INTEGRATION**

**Specialisation: 321.06 Psychiatry and narcology**

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## CONTENTS

CONCEPTUAL REFERENCES OF RESEARCH	5
THESIS CONTENTS	10
1. THE CONTEXT OF MENTAL HEALTH, THE EVOLUTION OF MENTAL HEALTH SERVICES AT GLOBAL AND NATIONAL LEVELS. SEVERE MENTAL DISORDERS – CONCEPTS AND THEORIES	10
2. RESEARCH METHODOLOGY	10
3. ANALYSIS OF THE MENTAL HEALTH SYSTEM OVER 13 YEARS: POLITICAL, LEGISLATIVE AND ORGANIZATIONAL COURSE	12
4. THE CLINICAL-EPIDEMIOLOGICAL COURSE OF PEOPLE WITH SMD FROM HOSPITAL AND COMMUNITY MENTAL HEALTH SERVICES	17
4.1 Analysis of the clinical-epidemiological course of people with severe mental disorders in hospital and community mental health services in the country (detailed questionnaire)	17
4.2 Comprehensive diagnostic and functional assessment of mental health service recipients to determine mental health service needs. (MINI) Nosological structure within studied cohort	18
4.3 Analysis of the quality of life, disability and level of self-stigma of people with SMD in hospital versus community services, based on the recovery of people with severe mental disorders (CANSAS, EQ-5D, WHODAS, SMISS-SF)	21
4.4 Analysis of the dynamics of quality of life, functionality and disability indicators of people with severe mental disorders 18 months after the initiation of the pilot study (Follow-up: EQ-5D, WHODAS și CANSAS)	22
5. PROTOCOL FOR REHABILITATION AND PSYCHOSOCIAL INTEGRATION OF PEOPLE WITH SEVERE MENTAL DISORDERS	28
5.1 Option to reorganize mental health and community-based rehabilitation interventions for people with SMD	28
5.2 Staging of mental health care for people with mental and behavioural disorders in the Republic of Moldova – proposed algorithm	33
CONCLUSIONS AND RECOMMENDATIONS	37
BIBLIOGRAPHY	40
LIST OF SCIENTIFIC WORKS PUBLISHED ON THE THEME OF THE THESIS	41
ADNOTARE	47
АННОТАЦИЯ	48
ANNOTATION	49

## CONCEPTUAL REFERENCES OF RESEARCH

Health is a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity [11]. However, mental health (MH) remains a neglected part by the world in efforts to improve health. People with MS suffer widespread human rights violations, discrimination and stigmatization. Over 80% of people suffer from mental health problems, including people with neurological diseases and substance use disorders. People living with MH problems are also more likely to experience other physical health problems (e.g. HIV, TB, non-communicable diseases), causing mortality 10-20 years earlier. Suicide mortality is high (nearly 800 000 deaths per year), disproportionately affecting low- and middle-income youth and older women. MH conditions are particularly common for people affected by humanitarian crises and other forms of adversity (e.g., sexual violence).

Most people with mental illness live in low- and middle-income countries, only a small proportion of them have access to services, let alone adequate and evidence-based services [4, 10]. In many of these countries, bio-medically oriented hospital care is the basis of the MH service system, which is characterized by low results in the treatment of patients [9].

The „*severe mental disease (disorder)*” (SMD) term brings together two complex concepts. The first is defined in terms of five groups of disorders in the International Classification of Diseases (ICD-10) [13]:

- Schizophrenic and delusional disorders;
- Mood (affective) disorders, including depressive, manic and bipolar forms;
- Neurotic disorders, including obsessive-compulsive disorders and post-traumatic stress disorder;
- Behavioural disorders, including eating, sleep disorders and stress;
- Personality disorders of eight different types.

SMD has major consequences for both patients and their families or circle of friends. For the person, they include suffering arising from the specific symptoms of the respective disease, loss of independence and work capacity, as well as reduced social integration. A high level of stigmatization of people with MH problems can lead to discrimination and diminished self-esteem. Complex health interventions, such as the implementation of a community-based MH service model, can be more effective and sustainable, and the intensity of care can be adjusted, if these needs, barriers and facilitators to context-specific implementation are well understood [2, 5, 6].

The developed WHO model recommends (5 levels of care [14]) for countries to build or transform their MH services. Deinstitutionalization and the transition to a community model of

MH services were included in Moldova's political agenda as early as 2003 (WHO Regional Office for Europe, 2004). Community MH services are delivered in the community by a network of primary care workers, community MH teams, social work teams and hospital workers, in collaboration with carers, and focused on service recipients, have been shown to be beneficial to the recovery of the beneficiaries, as they work towards recovery, leading a fulfilled life, as part of the community and society [1, 7]. Moreover, community-based MH care has been shown to be cost-effective, producing better outcomes at equal or lower costs [8].

**Scientific novelty:** To understand the level of satisfaction and quality of life of people with SMD, how many and which patients qualify for the transition to community services, this research is a pilot and aims to perform a complex clinical, psychological and socio-functional assessment of patients in MH institutions from the Republic of Moldova. Until now, no research has been carried out in this field in the Republic of Moldova, which is why the results of this research will be even more relevant for the further improvement of the model of community services of MH in the Republic of Moldova and the treatments applied to people with SMD.

**Scientific problem approached:** the importance of the quality of life and functionality of people with SMD depending on the approaches and types of treatment applied in various MH services.

**Subject of research:** patients with SMD [13].

**The practical importance/impact of study:**

This study is innovative because it highlights the correlation between the needs of people with SMD, their socio-psychological functional status, applied treatments and clinical management and psychosocial rehabilitation actions within MH services. The study established:

1. patient profile from hospital and community services;
2. highlights the profile differences;
3. help to develop effective programs and additional services within the MH services;
4. facilitating the development, reorganization and initiation of MH services;
5. development of individualized intervention plans and programs and those of deinstitutionalization.

**Research hypothesis:** Quality of life, functionality and health status of the person with SMD, is better with services provided in the community, which in turn leads to effective social integration and maintenance of social functioning capabilities.

**Purpose of research**

Identifying the clinical-epidemiological and diagnostic characteristics of people with SMD, their satisfaction, social functionality and quality of life in various MH services for the development of a medical and psychosocial rehabilitation protocol.

**Research objectives:**

1. Assessment of community and hospital MH services and analysis of the course and evolution of political, legislative, organizational and system changes in MH in Moldova.
2. Analysis of the incidence and prevalence of SMD in the Republic of Moldova during the 2007-2020 period (full study).
3. Studying the clinical-epidemiological course of people with SMD from hospital and community MH services in the country (developed questionnaire).
4. Comprehensive diagnostic and functional evaluation of the beneficiaries of MH services, to determine the needs for MH services.
5. Analysis of the quality of life, disability and level of self-stigma of people with SMD in hospital services compared to community services, based on recovery of people with SMD.
6. Studying the dynamics of indicators of quality of life, functionality and disability of people with SMD 18 months after the initiation of the pilot study.
7. Development of a rehabilitation and psychosocial integration protocol for people with SMD adjusted to the context of the Republic of Moldova.

The following studies are planned to achieve the aim and objectives of the research:

**1. The descriptive study, according to the volume of the full sample**, which will allow for the analysis of the incidence and prevalence of SMD according to: space - urban and rural environment, according to development regions - North, Centre, UTA Gagauzia and South of the Republic of Moldova; timeframe - 2000-2020 period.

**2. Descriptive cohort study by selective sample size.** Representative sample size is 122 respondents with SMD.

**3. Pilot clinical trial to evaluate the effectiveness of care provided to patients with SMD in community centres and psychiatric hospitals**

Thus, to have a comprehensive assessment in order to create a patient profile, the elaborated research consists of several validated instruments and outcome measurements, which evaluate the following dimensions:

- Diagnosis evaluation (psychiatric medical evaluation);
- Functional evaluation (social functionality, functionality in daily life, quality of life);

- Evaluation of the self-stigma level (Corrigan toolkit).
1. The evaluation questionnaire includes personal and socio-demographic data, the number of years lived with the diagnosis, the number of hospitalizations/relapses, the treatments used and the services received during these years;
  2. Diagnosis Interview for Psychiatric Assessment - **MINI** International Neuropsychiatric Interview, version 7.0.2;
  3. **CANSAS** Social Functionality Scale - Short Camberwell Inventory for Assessment of Needs;
  4. **EQ-5D** Quality of Life Inventory;
  5. **WHO-DAS** Disability Assessment Inventory;
  6. **SSMIS-SF** Self-Stigma Of Mental Illness Scale-Short Form.

Research will be carried out in:

1. 1. In 3 psychiatric hospitals – Chisinau, Balti, Orhei – 61 patients;
2. 2. In 3 pilot CMHC - north, centre, south - 61 patients;

#### **Medical/psychiatric evaluation**

To assess mental status, we will use the MINI International Neuropsychiatric Interview, version 7.0.2. This version was chosen to be able to map results according to ICD-10 diagnoses. MINI was translated into Romanian. The MINI is internationally recognized in clinical practice and research as a diagnostic interview tool. The MINI is a clinician-administered instrument and will be administered by trained psychiatrists and psychologists working in the RM. MINI will be applied on paper, in the clinical service where the patient receives care.

#### **4. Cross-sectional study to assess the quality of life of patients with severe mental illness**

EQ-5D instrument will be used to assess quality of life. The EQ-5D is a standardized instrument used to measure health outcomes. It can be used among patient populations with low educational attainment, in special cases when patients are mentally or physically unable to report on their quality of life in health care, for example, due to severe intellectual disability or MH problems (proxy version administered by caretaker). In such circumstances, the Visual Analogue Scale shall be used. EQ-5D scores will be converted to interval-level Quality Adjusted Life Years (QALYs) estimates. EQ-5D has 5 domains: 1- mobility, 2 - self-care, 3 - usual activities, 4 - pain/discomfort and 5 - anxiety/depression and vertical visual analogue scale on general health status on the same day. EQ-5D is a well-validated instrument and is available in Romanian and Russian.

#### **5. Cross-sectional study for assessment of psychosocial functioning in patients with SMD**

To assess quality of life and care needs, we will use the Camberwell Brief Inventory of Needs Assessment (CANSAS), which addresses 22 areas of a person's life, such as housing, food, self-care, activities of daily living, psychotic symptoms, childcare, money, stress, physical health and relationships. CANSAS is available in Romanian.

#### **6. The cross-sectional study to assess the level of functionality and disability of patients with SMD**

To assess the level of functionality and disability of patients with SMD we will use the WHO Disability Assessment Inventory (WHO-DAS). WHO-DAS is a well-validated instrument, available in Romanian and Russian. After the completion of this research, the WHO-DAS can be used as a measure for routine monitoring of outcomes in MH services in the Republic of Moldova. In the context of the present research, the WHO-DAS is useful for services as it directs care and highlights specific areas of life/sectors with impairments (e.g., problematic areas of life). As a patient self-report measure, the WHO-DAS can also be administered by clinicians.

#### **7. The cross-sectional study for the evaluation of the level of self-stigma in patients with severe mental illnesses**

To assess the level of self-stigma, we will use the Self-Stigma Of Mental Illness Scale-Short Form (SSMIS-SF), which contains 3 sections, 5 statements each. This scale is self-rating.

Sample: 133 people with SMD from

1. psychiatric hospitals - Chisinau, Balti, Orhei - 61 patients;
2. Pilot CMHCs - north, centre, south – 61 patients.

**Implementation of results in practice:** All proposed innovations and study results are applied in the planning and management of community-based (CMHC) and hospital-based MH services. The clinical-epidemiological tools and course (procedure) are applied by psychiatrists, psychologists and social workers from MH services to select effective and appropriate rehabilitation intervention procedures and methods, with a personalized approach to each person with SMD.

**Key words:** severe mental disorders, drug and non-drug treatment, recovery, social and family integration.

## THESIS CONTENTS

### **1. LITERATURE REVIEW – THE CONTEXT OF MENTAL HEALTH, THE EVOLUTION OF MENTAL HEALTH SERVICES AT GLOBAL AND NATIONAL LEVELS. SEVERE MENTAL DISORDERS – CONCEPTS AND THEORIES**

Chapter 1 is a synthesis of recent publications in the literature reflecting the problem of SMD and their approach to clinical management. The chapter contains information on MH in an international context. MH problems are found in all countries of the world and affect different categories of people, regardless of age, sex, social status or living environment. The thesis elucidates the WHO approach to Mental Health, the analysis of morbidity in the field. The impact of mental health problems on health includes a description by analysing evidence from the past 15 years. International legislation that has contributed to changes in mental health has been described, MH information has been listed: definitions, contemporary concepts; evidence-based mental health rehabilitation services. for people with SMD; WHO's mental health concerns and their place in the contemporary health system. Special attention was paid to the impact of mental health in the context of the COVID-19 pandemic.

### **2. RESEARCH METHODOLOGY**

**The scientific problem approached in the study is:** the importance of the quality of life and functionality of people with SMD depending on the approaches and types of treatment applied in various MH services.

**Subject of research:** patients with severe mental disorders [13].

**Practical importance/impact of the study:**

1. It will establish the profile of the patient from the hospital services as well as from the community ones;
2. It will highlight the profile differences;
3. It will help to develop effective programs and additional services within the MH services;
4. It will facilitate the development, reorganization and initiation of MH services;
5. It will help to develop individualized intervention and deinstitutionalization plans and programs.

**Methodological basis:** Research consists of several studies with various applied tools. In addition to all evaluated patients, epidemiological, heredo-collateral and socio-demographic data were collected based on a multidimensional questionnaire developed for people with SMD.

## **Investigation stages:**

### **I stage:**

1. Assessment of community and hospital MH services, as well as analysis of the course and evolution of political, legislative, organizational and system changes in MH in Moldova: September 2016 - February 2017.
2. Development of the research hypothesis: March - April 2017.
3. Analysis of the incidence and prevalence of SMD in Moldova: 2000-2020 period – January – June 2017
4. Research design development: May-June 2017
5. Approval of study at Ethics Committee – July 2017

### **II stage:**

6. Implementation of study: August 2018 – December 2020.
7. Research data processing: January - October 2021.
8. Development of conclusion, defence of thesis: November 2021 - May 2022.

**Data processing methodology.** Descriptive statistics of continuous variables included mean, 95% CI for mean, standard deviation, median, 95% CI for median, 25th and 75th percentile, interquartile range, minimum and maximum value, data visualization through histograms and box-plot. The normality of data distribution was performed using the Shapiro-Wilk test. The comparative evaluation between the studied groups (initial values and follow-up values) was carried out by means of non-parametric tests (Mann Whitney Wilcoxon test with  $\alpha = 0.05$ ) for repeated measurements, supplemented by the estimation of the effect size (biserial r rank test with CI 95 %). The graphic representation in the form of a box-plot, completed by the data distribution (violins) was made by the ggwithinstats library of the RStudio software component. Some of the continuous indicators, such as prevalence and incidence (indicator per 10,000 population), average assessment score, etc. was represented by means of bar graphs, in some cases by radial bar diagram. Descriptive statistics for rank variables or nominal variables included absolute frequency, relative frequency (%) as well as 95%  $\hat{\Pi}$  for this, the indicators being visualized through pie charts and bar graphs. When necessary, the Pearson test was applied  $\chi^2$  corrected for 2x2 tables.

### **3. ANALYSIS OF THE MENTAL HEALTH SYSTEM OVER 13 YEARS: POLITICAL, LEGISLATIVE AND ORGANIZATIONAL COURSE**

In this chapter, the analysis of the situation and indicators of MH in the Republic of Moldova for the 2007-2020 period was described (full study). In 2020, the prevalence of mental and behavioural disorders in absolute numbers attests to 78,394 registered people, of which 9,378 (approx. 12%) are children up to 18 years old, presenting an alarming share of mental pathology in children. Mental and behavioural disorders affect the population of our country, registering a prevalence rate of 2211.3 patients per 100 thousand in 2020.

In 2020, the incidence data for mental and behavioural disorders in absolute numbers attests to 3,809 registered persons or an incidence rate of 107.4 patients per 100 thousand, of which 752 (19.7%) are children under 18.

Prevalence and incidence have been decreasing in recent years, possibly as a result of the implementing new mechanisms and approaches, but also possibly due to patients' fear of being on the psychiatric record, low addressability among people with moderate and mild health problems, and stigmatization of the problems by MH. At the same time, the number of people, especially children affected by mental illnesses, is far from the real one due to the low addressability to MH services. The lack of specialized services and the motivation to address involves the phenomenon of stigmatization and insufficient knowledge for the early detection of mental pathology. In the Republic of Moldova, there were 703 patients with autism, including 588 children under the supervision of psychiatrists in 2020. The number of patients with autism is increasing, explained on the one hand by the improvement of the screening and diagnosis system, at the same time a large part of them is in medical records with other disabilities (intellectual, language disorders, hyperactivity disorder, tics, etc.) or conditions such as epilepsy, genetic syndromes, hereditary metabolic disorders, etc.

In the primary disability structure, 3.9% are mental and behavioural disorders. There are about 60 thousand patients on psychiatric records, half of which, i.e. 30 331 patients (85.4 per 10 thousand inhabitants) with a degree of mental disability in 2017 and who constitute the most vulnerable section of society. Official statistical data show a number of 12 094 children with disabilities of which 22.3% (2705 people) with mental and behavioural disabilities in 2020. Intellectual disabilities (mental retardation) have a large share in the sphere of psychopathology, approx. 64.7% (1750 people) according to the data for 2020 but requires specific measures of intervention and psycho-social education.

This chapter describes mental health services at all levels: primary, secondary and tertiary as follows:

- the family doctor diagnoses, initially consults and treats mild and medium forms of anxiety and depression at primary medical care level;
- the multidisciplinary treatment of medium and severe states of a MH disorder is carried out within the CMHC;
- the acute states of MH disorders are treated on the acute beds of district hospitals;
- the long-term and performance treatment of MH disorders is carried out at the level of psychiatric hospitals.

The evolution of changes in MH in Moldova was described in detail.

1. The post-Soviet period (1995-2000).
2. The 2000-2005 period
3. The 2005-2014 period
4. The period 2014 – 2018 – until present.

National trends in the reform of the health system in the Republic of Moldova are elucidated by describing the "Support for the Reform of Mental Health Services in Moldova" (MENSANA) Project which built a platform for the advancement of MH services reform in Moldova.

In this chapter, 3 clinical audits of the CMHC were analysed: the assessment of the situation in the clinical audit regarding the activity of the CMHC and the pilot and non-pilot PHC within the phase I of the MENSANA project – 2018; Summary of the situation found in the 2019 clinical audit regarding the activity of 15 CMHC and PHC in Moldova; The situation of community MH services in 2021 within the clinical audit of 24 CMHCs and AMPs in Moldova.

In the clinical audit, hospitalizations were analysed over 3 years, in order to be able to see the evolution of a basic indicator – *the rehabilitation* - of community-level services. Out of 40 CMHCs, 17 had a positive trend in PH admissions, 16 of them fluctuated in these 3 years, 2 CMHCs were without dynamics and with negative dynamics, i.e. they increased admissions.

### **Conclusions of the 2021 clinical audit**

- The analysis of the situation in the 24 assessed CMHCs shows us the lack of specialists within the multidisciplinary teams of the CMHCs. The available financial resources are often insufficient to ensure a multidisciplinary approach, although the largest proportion of the budgets is directed to payments related to labour remuneration. Under such conditions, none of the CMHCs has the human resources stipulated in GD no. 55 of 30.01.2012 where the supply of staff would involve a composition of the multidisciplinary team for 40 thousand inhabitants of the administrative-territorial unit served, in accordance with WHO recommendations, as follows: psychiatrist – 1;

psychotherapist – 1; psychologist – 1; occupational therapist (social assistant or medical assistant) – 2; social worker – 2; psychiatric nurses - 5. In the case of teams for children, additionally: speech therapist - 1 and physiotherapist - 1 will be added. In the same vein, in most cases, the conditions for carrying out the activity related to the provision of adequate spaces, the technical material base is mostly modest, which diminishes the efficiency of the documentation and statistical record of the recuperative process.

- Out of the total 480 patients whose medical records were checked, only 36.6% could be contacted, the biggest impediment being the lack of contact telephone numbers indicated in the medical records, within a centre none of the 20 checked records it had no contact phone, which makes it difficult to monitor patients and ensure continuity of treatment.
- During the discussions with patients, the need to inform them about all the services available within the CMHC was determined. Often recovery focuses only on the medical side, the patients not being informed about all the services available within the CMHC and especially the activities within the day centre. Only a limited number of patients were aware of the existence of the social worker in the centre and did not have information regarding the possibility to benefit from the consultation by a social worker. The psychologist's involvement in the recuperative activity also leaves much to be desired, as situations were reported where psychological consultations were not offered upon request, although in the majority of evaluated CMHCs there are staff and psychologists. Also, psychologists are not fully involved in the psychodiagnostics process, although they are trained within MENSANA activities. Certain interviewed beneficiaries did not know about the possibility to benefit from reimbursed medicines courtesy of the National Program, they often have to ensure their treatment from their own resources, or the reimbursed medicines are not available according to their needs.
- The informed consents in the medical records are present in the majority of CMHC evaluations, however, not all the agreements present in the records had the signatures of beneficiaries.
- Establishing the diagnosis in CMHCs requires improvement, CMHC specialists preferring referral to Psychiatric Hospitals for diagnosis and treatment with continuity at community level. For these reasons, although specialists are trained in the use of the NCP and access to information on the latest drugs is provided, often the treatments

prescribed are a continuation of those indicated in the hospital, which only partially correspond to the recommendations included in the NCP.

- The documentation of the interventions of all specialists also registers deficiencies. There are centres where the registers are filled-out by the psychiatrist only. The psychologist's interventions are often not found in the medical records. The interventions of all the members of the multidisciplinary team are only sporadically found in the case files. In this context, evidence of the multidisciplinary approach in the recovery process of patients with SMD is difficult.
- Home visits have suffered, especially during the pandemic period, there are still centres that do not provide this service or are limited to telephone monitoring. At the same time, not all beneficiaries visited at home with SMD have a case file, which restricts the validation of the performance indicator regarding home visits that provides for visiting at least 15 beneficiaries at least 2 times per quarter with the opening of case files and recording of progress patients for the period in question. The documentation of home visits also leaves much to be desired, as the standardized home visit sheets developed by MESANA are not implemented in all assessed CMHCs. Also, home visits are not found in all patient records (registry, medical record and case file).
- Referral of patients to other specialists is at satisfactory level, although adequate monitoring is often not provided. Collaboration with social services is sporadic, resolution of social problems is often neglected. Cooperation with the police leaves much to be desired, since often responding to calls and evaluating recruits for certification disrupts CMHC's core work for SMD patients.
- The implementation of case files for patients with SMD is sporadic, there are centres where case files far exceed the recommended period of 3-6 months for solving the beneficiaries' problems, these being open and extended for periods of up to several years, in certain cases. The formulation of recovery objectives is often superficial or focuses predominantly on medical recovery, the psychological and social part being omitted or described very briefly. In the case of centres where not all the specialists who form the multidisciplinary team can be found, it becomes complicated to ensure a multidisciplinary approach to the recuperative process.
- The activity management within the centres is well defined, for the most part the specialists know their responsibilities, however, better communication and planning of the activities related to the day centre and the recuperative process within the sessions is necessary, as well as their documentation.

***Recommendations following the 2021 clinical audit.***

- Training CMHC human resources according to requirements of GD 55 of 30.01.2012
- Ensuring the necessary technical and material base for the CMHC activity
- Indication of contact telephone numbers in patients' medical records for better monitoring and to ensure continuity of treatment
- Informing patients about all services provided within the CMHC
- Presentation of the lists with the needs regarding the compensated drugs in optimal terms so that the patients are insured according to the needs
- More active involvement of the psychologist in the psycho-diagnostic process and the curative process
- Strengthening the capacities for establishing the diagnosis within the CMHC and reducing the number of referrals for establishing the diagnosis to psychiatric hospitals
- Implementation of informed consent for all CMHC beneficiaries
- Application of national clinical protocols in diagnosis and treatment
- Inclusion of patient information in registries, medical records and case files
- Implementation of services provided at home by all CMHCs
- Implementation of case files for patients visited at home
- Use of MENSANA sheets for documenting home visits in electronic format and including them both in the medical record and in the case file
- Referral of patients to other specialists to ensure access to all medical services necessary in the recovery process
- Improving collaboration with social assistance services and more active involvement of social workers within CMHC in the recovery process of patients
- Better collaboration with the police and law enforcement agencies and the delivery of questioning and certification services on a schedule that does not disrupt CMHC's core work for SMD patients
- Monitoring patients and ensuring continuity of treatment
- Organizing the activity within the weekly meetings and documenting them
- Records of consultations offered by all CMHC specialists with their inclusion in electronic registers and patients' medical records, as well as case files if the patient has a file
- Focusing on rehabilitation activities, case management and home visits of people with SMD to avoid relapses.

#### **4. THE CLINICAL-EPIDEMIOLOGICAL COURSE OF PEOPLE WITH SMD FROM HOSPITAL AND COMMUNITY MENTAL HEALTH SERVICES**

##### **4.1. Analysis of the clinical-epidemiological course of people with severe mental disorders in hospital and community mental health services in the country (detailed questionnaire).**

From 133 respondents, the place of residence was collected for 96 (72.2%) respondents, 37 respondents having missing values (27.8%). This moment, of course, is a limitation, since each missing value reduces the number of respondents in the analysis and can "shift" the results in the direction opposite to the real situation. On the other hand, it is necessary to consider the studied contingent.

Finally, the research included 49 (51%, CI 95% [41.1-60.9]) respondents from the rural area and 47 (49%, CI 95% [39.1-58.9]) respondents from urban areas. The comparative evaluation (Fisher's Exact Test) of the relative frequencies in the management structure in the different areas did not reveal significant differences. Instead, there is a tendency for those from the village to indicate sleeping pills more often compared to those from the city, who, instead, showed a tendency to have an increased value of the use of timostabilizers/anticonvulsants.

The preliminary conclusion of the pilot study – the management structure according to the living area does not differ, at least from the data presented. To answer the question, it is necessary to carry out larger research, of around 500 respondents.

We cannot talk about access because it may be that service, but it is not indicated by the doctor. Moreover, the comparative evaluation between the total number of medicinal and non-medicinal "interventions" did not reveal statistically significant differences (Fisher's Exact Test,  $p = 0.877$ ), the relative values being practically identical (non-medicinal therapies were applied to 26.6% (CI 95% [18.6-35.0]) versus 24.5% (95% CI [16.8-34.2]) of the rural and urban study population, respectively).

We can observe that the most frequently prescribed drugs are antipsychotics, which constitute 57.4 - 59.2%, which is evident in the case of SMD, being followed by antidepressants and tranquilizers from drug treatment (34.7% and 22.4 %), by psychologist and psychotherapist in non-medicinal treatment (30.6% and 24.5%) in the same proportion.

Although there is a diversity of drug and non-drug treatments prescribed for people with SMD, we could mark a hierarchical ranking for all of them, the priority being for antipsychotics

(63.2%), tranquilizers (33.8%), antidepressants (33.1 %) and sleeping pills (24.8%). Psychological and psychotherapeutic intervention are only on 5th and 6th respectively, with 20.3% and 19.5%, however, this is insufficient and requires more frequent application. We can see a very low indicator in the case of occupational therapy with only 4.5% and here we could assume that there are no services or specialists to provide these services.

#### **4.2. Comprehensive diagnostic and functional assessment of mental health service recipients to determine mental health service needs. (MINI) Nosological structure within the studied cohort**

The research included 133 respondents, of whom 92 were female (69.2% (95% CI [61.0-76.5])) and 41 male (30.8% (95% CI [23.5-39,0])), the differences between the mentioned values being statistically significant ( $\chi^2 = 18,797$ ,  $df = 1$ ,  $p = 1.454e-05$ ). These data do not correspond to data from international literature, because among MDS the percentage by gender is insignificantly different, the ratio being of 1:1.

The age of the respondents in the research tends towards the value 36 (median), the interquartile range (IQR) being 25, which corresponds to the international literature, the onset of the MDS disease in the environment is between 21-32 years.

Distributional analysis of the data (Shapiro Wilk test,  $W = 0.95139$ ,  $p = 0.0001203$ ) shows uneven distribution, probably bimodal, with right skewness, i.e. young people predominate. However, it draws attention to the fact that among the people for whom severe mental disorders were detected for the first time, there are also elderly people, this fact could lead us to the assumptions that accessibility to MH services is limited or addressability is low. All this speaks of the insufficiency of mental health promotion and societal education in the field.

One of the objectives of the research was the analysis of the nosological structure for the primary mental disorders detected in the research group.

Maximum value demonstrated Diagnosis [F29] all ( $n = 32$ ) – ***Non-organic non-specific psychosis***, which constituted practically a fourth of all cases (24,1%, CI 95% [17,4-31,8]) detected. *This diagnosis is often made at the first address of a psychotic patient who does not meet the criteria for an SMD.* Next is a group of pathologies relative frequency, which exceeded 10%: Diagnosis [F32.x] – ***Depressive episode*** - ( $n = 18$ , 13,5%, CI 95% [0,5-20,1]), Diagnosis [F20.9] – ***Unspecified schizophrenia*** - ( $n = 16$ , 12,0%, CI 95% [7,3-18,4]), Diagnosis [F33.x] - ***Recurrent depressive disorder*** - ( $n = 14$ , 10,5%, CI 95% [6,2-16,6]). The Diagnosis with a relative frequency of less than 10% [F23] – ***Polymorphic acute psychotic disorder without a schizophrenia symptom***

- (n = 11, 8,3%, CI 95% [4,5-13,9]) and Diagnosis [F25.0/F25.1] – **Schizoaffective disorder** - (n = 8, 6,0%, CI 95% [2,9-11,0]).

The group of pathologies with a relative frequency of less than 5% included 15 nosological units of which the Diagnosis [F41.1] - **other anxiety disorders** – was present in 5 cases (3,8%, CI 95% [1,4-8,0]), The Diagnosis [F40.0] – of **Anxiety-phobic disorders**, the Diagnosis [F22.0] – of **Persistent delusional disorders** – and the Diagnosis [F32.3/F33.3] – of **Moderate and severe depressive episode** - with n = 4 (3,0%, CI 95% [1,0-7,0]), the others having an extremely significant percentage. Diagnosis [F31.0--F31.76], Diagnosis [F31.2/31.5], Diagnosis [F43.10], Diagnosis [F20.xx-F29] with n = 3 (2,3%, CI 95% [0,6-5,9]), Diagnosis [F41.0], Diagnosis [F10.10-20], Diagnosis [F32.8] with n = 2 (1,5%, CI 95% [0,3-4,7]) and Diagnosis [F31.81], Diagnosis [F28], Diagnosis [F31.2/F31.5] with n = 1 (0,8%, CI 95% [0,1-3,5]).

Part of the 10 nosological units (Diagnosis [F31.9], Diagnosis [F42], Diagnosis [F11.1xF19.288], Diagnosis [F10.159-F19.959], Diagnosis [F31.89], Diagnosis [F32.9], Diagnosis [F50.01-02], Diagnosis [F50.2], Diagnosis [F50.8], Diagnosis [F60.2]) were not detected in the research, their frequency being 0. We speculate that this result can be determined by several factors such as the low frequency in the population, some particularities of the evolution that do not allow the person to be included in the medical system to facilitate the services from the respective centres. This requires us to make some corrections regarding health policies to optimize their detection.

Important to note that the same person can suffer from two or more primary mental disorders. According to study data 85% (CI 95% [78,2-90,3]) of the participants presented only one disorder, 9,8% (CI 95% [5,6-15,7]) having 2 disorders and 5,3% (CI 95% [2,4-10,1]) three disorders.

Another nuance - the collected data are not enough to classify them by confidence intervals, since the latter include the relative frequencies of "neighbouring" categories (nosological units).

The management of a patient with primary mental disorders consists of 2 sides. One side is the drug treatment, another side is the non-drug treatment, which provides for the adaptation/socialization of such a patient. In that study, drug treatment prevailed, with **antipsychotic** drugs having the highest frequency (84 cases out of 133 respondents, 63,2%, CI 95% [54,7-71,0]). On the second place in terms of frequency were the **tranquilizers** and **antidepressants**, with one third of the participants benefiting from the respective treatment (33,8%, CI 95% [26,2-42,2] and 33,1%, CI 95% [25,5-41,4], respectively). Somniferous treatment was indicated in 33 of the respondents (24,8%, CI 95% [18,1-32,6]). **Psychologist and psychotherapy** showed low relative frequencies (27 and 26 cases out of 133 participants, 5-6th place by absolute values), that is, every fifth respondent benefits from the mentioned services. As for counselling

and occupational therapy, these were only applied to 19 patients (14.3%, 95% CI [9.1-21.0]) and 6 patients (4.5%, CI 95% [1.9-9.1]), respectively. Anxiolytics (n = 21, 15.8%, CI 95% [10.4-22.7]), Nootropic (n = 21, 10.5%, CI 95% [6.2-16.6]), Anticonvulsants (n = 11, 8.3%, CI 95% [4.5-13.9]), Vascular medicine (n = 10, 7.5%, CI 95% [3.9-12.9]) and Cognitive (n = 8, 6%, CI 95% [2.9-11.0]) compared to the mentioned drug therapies were used with frequencies close to the frequencies of non-drug therapies. The imbalance found, even within the reformed centres, makes us move towards harmonizing management, the optimal indicators being drug treatment: non-drug treatment in a 1:1 ratio, the emphasis being on psychotherapy, psychological counselling and occupational therapy.

Similar to nosological structure,  $\chi^2$  Pearson test performance with corrections for continuity, the effect of biological gender for the management of a patient with MDS did not show statistical significance, the exception being 4 cases of using Anticonvulsant treatment in women and 7 cases in men ( $p < 0.05$ ). At the same time, considering a small number that required the given treatment, the clinical significance of the detected difference is questionable. In conclusion, biological gender does not affect the structure of the services provided to a patient with primary mental disorders.

Patients with SMD are people who require care from relatives or specialists in CMHCs. The data shows that just 3.8% (CI 95% [1.4-8.0]) of the respondents live alone, the vast majority live with their parents or spouse, 33.8% (CI 95% [26.2-42.2]) and 28.6% (CI 95% [21.4-36.6]), respectively. Children or other persons have assumed responsibility for care in 11.3% (CI 95% [6.7-17.5]) and 12.8% (CI 95% [7.9-19.2]). Almost 10% of the information is missing. The information obtained is valuable in terms of supporting the people who live with the patients, creating information programs and involving them in the socialization of the beneficiaries.

The *How many times in the last year have you been hospitalized in a psychiatric ward/hospital?* question presents information regarding the availability of these persons to the medical services, the fact that they appeared late in the sight of the respective service, on the other hand, it can suggest information regarding the severity of the disease. Almost 2/3 of the participants (61.7%, CI 95% [53.2-69.6]) were not hospitalized in the past year in a psychiatric ward/hospital, 28.6% were hospitalized once (CI 95% [21.4-36.6]), 6.8% were hospitalised 2 and 3 times and more (CI 95% [3.4-12.0]) and 3.0% (CI 95% [1.0-7.0]), respectively. The last 2 categories constituted almost 10% and the fact that they were hospitalized without detecting the diagnosis of severe mental disorders raises the question of identifying these patients through the implementation of the MINI questionnaire.

#### 4.3. Analysis of the quality of life, disability and level of self-stigma of people with SMD in hospital versus community services, based on the recovery of people with severe mental disorders (CANSAS, EQ-5D, WHODAS, SMISS-SF)

Beneficiaries were surveyed through a series of instruments, such as EQ5D, CANSAS, SMISS-SF, WHODAS. Part of the questionnaires were applied dynamically (follow up) over 18 months.

The SMISS-SF questionnaire, having the ability to determine the stigma of patients with primary mental disorders in different aspects, showed the results as follows.

SMISS-SF<sub>Awareness</sub> was assessed at the level of 25 points (Median, IQR = 13), values ranging from 0 to 45. The distribution analysis shows that the data are normally distributed, the results of the Shapiro-Wilk test being insignificant ( $W = 0.98986$ ,  $p = 0.4442$ ). The SMISS-SF<sub>Agreement</sub> component showed the same maximum and minimum value, median = 20, IQR = 15, the data distribution being almost flattened. However, the Shapiro-Wilk test was not significant ( $W = 0.98205$ ,  $p = 0.07662$ ).

Discussion: Internalization of public stigma by people with serious mental illness can lead to self-stigma, which damages self-esteem, self-efficacy, and empowerment. Previous research has assessed a hierarchical model that distinguishes between stereotype awareness, agreement, self-enforcement, and self-harm with the 40-item Self-Stigma of Mental Illness Scale (SSMIS) [3]. Future research with the SSMIS-SF should assess its sensitivity to change and its stability through test-retest reliability.

The section about the *awareness* of the stereotype regarding mental illness shows us an average of 25, the maximum being 36, and the section about *agreement* with stigma in MH is 20, which also denotes a figure above the average. All this proves to us that at the community level the stigma towards people with MH problems is quite high and requires community interventions to reduce the phenomenon.

The section on *applying* self-stereotyping and *self-harm* is 12 and 13 which are small numbers considering that these patients are at first contact with MH services.

Compared to the above indicators demonstrated the distribution with asymmetry to the right with the predominance of low scores, Median 13, IQR = 14 compared to Median 12, IQR = 15, Shapiro-Wilk test  $W = 0.91577$ ,  $p = 4.548e-07$  and  $W = 0.86495$ ,  $p = 1.158e-09$ , respectively. The SMISS-SF<sub>TOTAL SCORE</sub> value, estimated at the level of 76 points (Median, IQR = 41), after the Shapiro-Wilk test shows a normal distribution, on the other hand, the graphic analysis demonstrates a bifocal distribution, which suggests an idea of the influence of a factor that "splits" the estimated values into two groups.

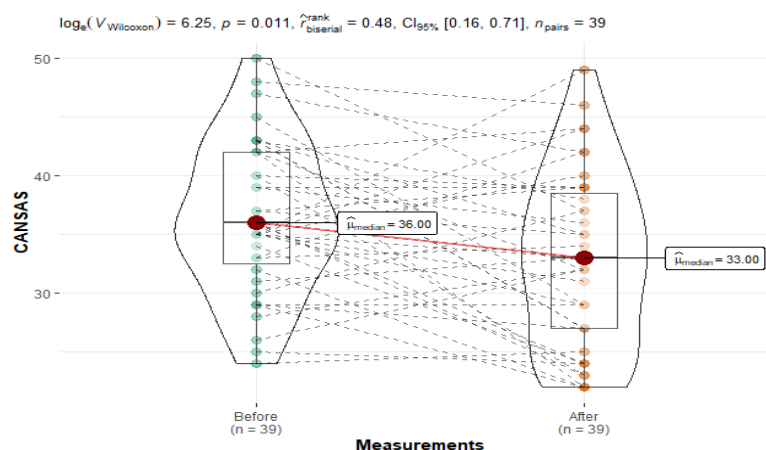
The next questionnaire applied was WHODAS 2.0 which helps us identify the general level of disability, but also on certain compartments. The data obtained show a low level of difficulty, as the disease has not yet affected their social functionality and there was no motor disability.

#### 4.4. Analysis of the dynamics of quality of life, functionality and disability indicators of people with severe mental disorders 18 months after the initiation of the pilot study (Follow-up: EQ-5D, WHODAS and CANSAS)

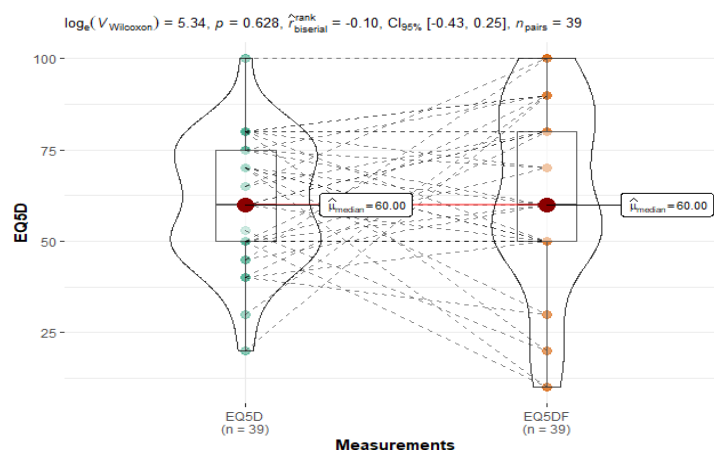
*The CANSAS and EQ5D questionnaires compared to the SMISS-SF questionnaire were applied in dynamics.* This solves one of the limitations, at the same time, considering the fact that the given category of patients is a specific one, the follow-up information was collected only for *39 respondents*. On the one hand, this is a limitation, on the other hand, it is a pilot study and allows us to take these moments into account in the following studies.

The dynamic comparative evaluation of the CANSAS values showed a reduction in the score (Median 36, IQR = 10 compared to 33, IQR = 11.5), the difference being significant (Wilcoxon signed rank test,  $V = 520.5$ ,  $p = 0.01093$   $p = 0.6277$ ). The effect size estimated by the biserial rank  $r$  test = 0.48 (95% CI [0.16-0.71]) was estimated as moderate, with interpretation reserved due to a large confidence interval. It probably takes time to change the CANSAS score even more. *With very high probability, the clinical effect is a significant one.*

The comparative evaluation in the dynamics of EQ5D values showed the stability of the score (Median 60, IQR = 30 compared to 60, IQR = 30), the difference being insignificant (Wilcoxon signed rank test,  $V = 280.5$ ,  $p = 0.6277$ ) (Figure 4.1.). Effect size estimated by biserial  $r$ -rank test = -0.10 (95% CI [-0.43-0.25]), confidence interval includes 0, *the effect is missing or requires a larger batch to identify it, the effect being small*. Accordingly, interpretation is reserved. It probably takes time to change the situation even more. *Based on the obtained data, the EQ5D score was not changed dynamically, or the clinical effect is reduced.*

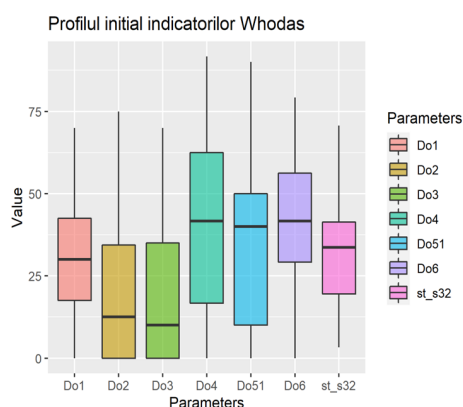


**Fig. 4.1. Comparative evaluation of CANSAS before and after a period of 18 months (follow up). Boxplot, violin and jitters combination.**

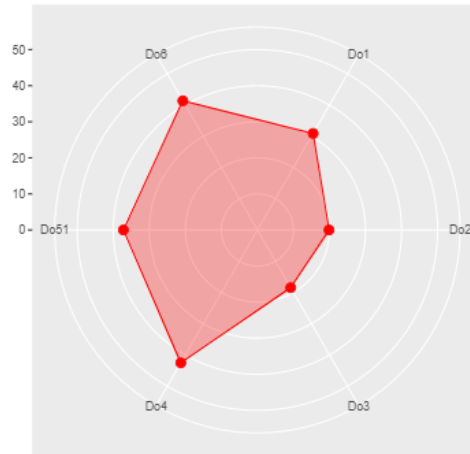


**Fig. 4.2. EQ5D comparative evaluation before (EQ5D) and after (EQ5DF) a follow-up period.**

The following elucidated data are following the 18-month evaluation of 39 patients through the WHODAS questionnaire, which can show us whether this period spent in illness and services provided to them worsened functionality or led to disability

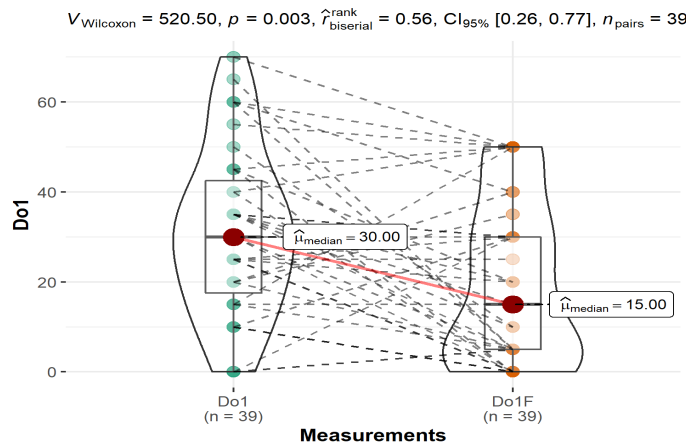


**Fig. 4.3. Profile of patients with severe mental disorders before intervention and inclusion in the mental health service according to the WHODAS questionnaire.**



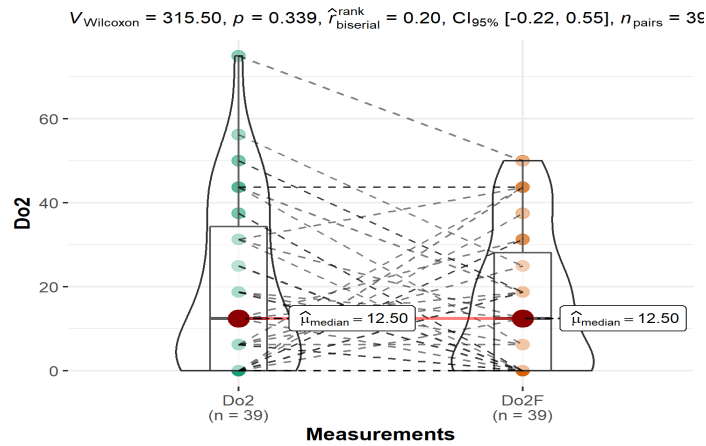
**Fig. 4.4. Profile of patients with severe mental disorders before intervention and inclusion in the mental health service according to the WHODAS questionnaire.**

The dynamic comparative evaluation of Do1 values showed a reduction in the score (Median 15, IQR = 25 compared to Median 30. IQR = 40.5), the difference being significant (Wilcoxon signed rank test  $V = 520,5$ ,  $p = 0,003$ ) (Figure 4.5.). The effect size estimated by the biserial rank  $r$  test = 0.56 (95% CI [0.26-0.77]) was estimated as large, with interpretation reserved due to a large confidence interval. It probably takes time to change the score of this parameter even more. *The clinical effect is very likely to be significant.*



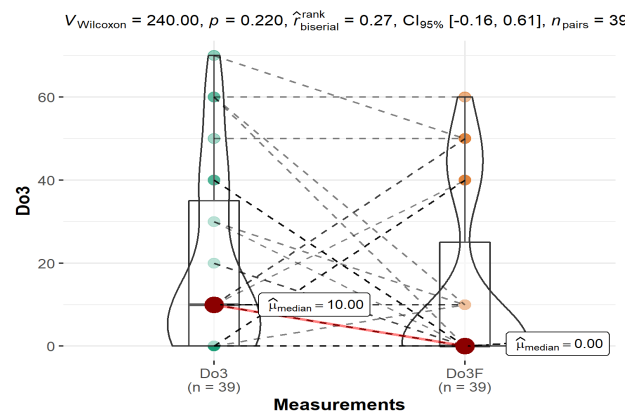
**Fig. 4.5. Changes in the WHODAS profile in 39 patients at 18 months per section Do1.**

The dynamic comparative evaluation of Do2 values showed the score at the same level (Median 12.5, IQR = 31.25 compared to Median 12.5, IQR = 40), the difference being insignificant (Wilcoxon signed rank test  $V = 315.5$ ,  $p = 0.339$ ) (Figure 4.6.). The effect size estimated by the biserial  $r$  rank test = 0.20 (95% CI [-0.22-0.55]) was estimated as small. It probably takes time to change the score of this parameter even more. *The clinical effect is very unlikely to be significant.*



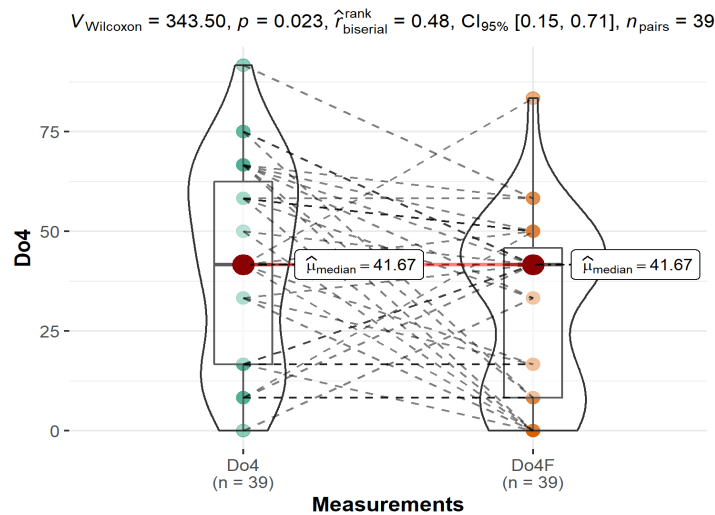
**Fig. 4.6. Changes in the WHODAS profile in 39 patients at 18 months per section Do2.**

The dynamic comparative evaluation of Do3 values showed the reduction of the score (Median 0, IQR = 40 compared to Median 10, IQR = 45), the difference being insignificant (Wilcoxon signed rank test  $V = 2405$ ,  $p = 0.220$ ) (Figure 4.7.). The effect size estimated by the biserial  $r$  rank test = 0.27 (95% CI [-0.16-0.61]) was estimated as small. It probably takes time to change the score of this parameter even more. *The clinical effect is very unlikely to be significant.*



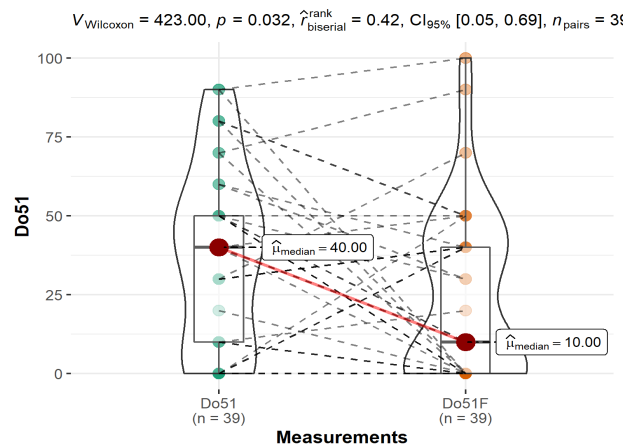
**Fig. 4.7. Changes in the WHODAS profile in 39 patients at 18 months per section Do3.**

The comparative evaluation in the dynamics of Do4 values showed the reduction of the score (Median 41.67, IQR = 43.66 compared to Median 41.67, IQR = 50). the difference being significant (Wilcoxon signed rank test  $V = 520.5$ ,  $p = 0.023$ ) (Figure 4.8.). The effect size estimated by the biserial  $r$ -rank test = 0.48 (95% CI [0.15-0.771]) was estimated as medium, with interpretation reserved due to a large confidence interval. It probably takes time to change the score of this parameter even more. *The clinical effect is very likely to be significant.*



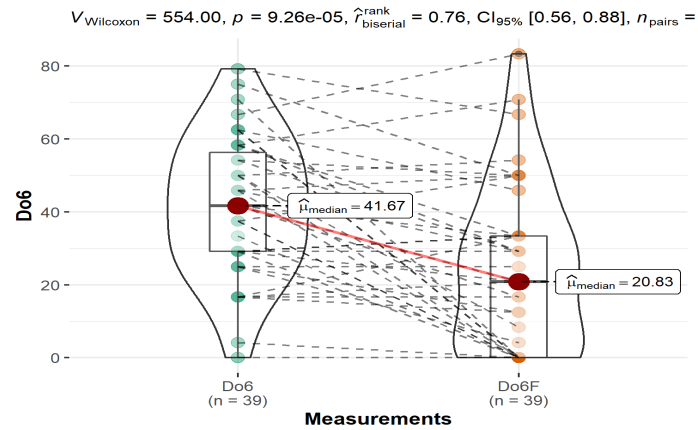
**Fig. 4.8. Changes in the WHODAS profile in 39 patients at 18 months per section Do4.**

The dynamic comparative evaluation of Do51 values showed the reduction of the score (Median 10, IQR = 40 compared to Median 40, IQR = 26), the difference being significant (Wilcoxon signed rank test  $V = 423, p = 0.032$ ) (Figure 4.9.). The effect size estimated by the biserial rank  $r$  test = 0.42 (95% CI [0.05-0.69]) was estimated as medium, with interpretation reserved due to a large confidence interval. It probably takes time to change the score of this parameter even more. *The clinical effect is very likely to be significant.*



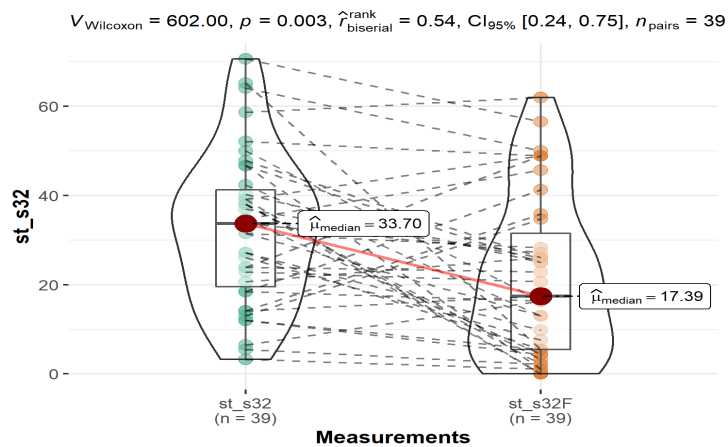
**Fig. 4.9. Changes in the WHODAS profile in 39 patients at 18 months per section Do51.**

The dynamic comparative evaluation of Do6 values showed a reduction in the score (Median 20.83, IQR = 33.33 compared to Median 41.67, IQR = 28), the difference being significant (Wilcoxon signed rank test  $V = 554, p = 9.26e^{-5}$ ) (Figures 4.10.). The effect size estimated by the biserial  $r$  rank test = 0.76 (95% CI [0.56-0.88]) was estimated as large. It probably takes time to change the score of this parameter even more. *The clinical effect is very likely to be significant.*

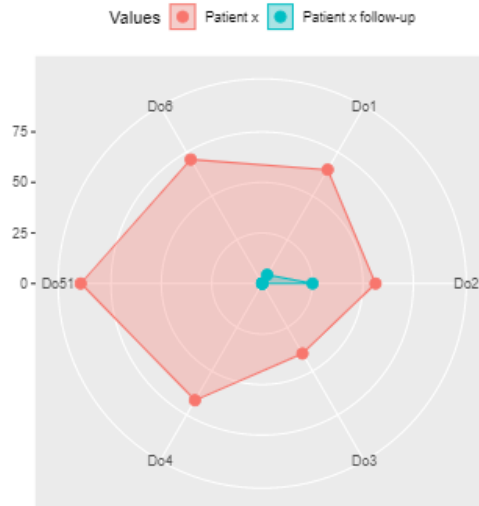


**Fig. 4.10. Changes in the WHODAS profile in 39 patients at 18 months per section Do6.**

The dynamic comparative evaluation of  $st\_s32$  values showed the reduction of the score (Median 17.39, IQR = 19.5 compared to Median 33.7, IQR = 18) the difference being significant (Wilcoxon signed rank test.  $V = 602$ ,  $p = 0.003$ ) (Figure 4.11.). The effect size estimated by the biserial  $r$  rank test = 0.54 (95% CI [0.24-0.75]) was estimated as medium. It probably takes time to change the score of this parameter even more. *The clinical effect is very likely to be significant.*



**Fig. 4.11. Changes in the WHODAS profile in 39 patients at 18 months per section  $st\_s32$ .**



**Fig. 4.12. Baseline (pink) and 18-month follow-up (green) of patient x after intervention and inclusion in the mental health service according to the Whodas questionnaire.**

## **5. PROTOCOL FOR REHABILITATION AND PSYCHOSOCIAL INTEGRATION OF PEOPLE WITH SEVERE MENTAL DISORDERS.**

### **5.1. Option to reorganize mental health and community-based rehabilitation interventions for people with SMD**

The new options proposed below can solve the problem, especially its causes, to improve the unsatisfactory situation in the field and to achieve the objectives set above. The number of proposed new options was limited based on an overall analysis of financial and technical constraints as follows:

- limited financial sources within the mandatory medical assistance insurance funds;
- qualified and experienced human resources concentrated in Chisinau;
- primary medical care reform approved by Law no. 191 of 27.07.2018, published on 24.08.2018 in Official Gazette no. 321-332, and which is to be definitively regulated by November 24, 2018;
- the previous successful experience regarding the delimitation/separation of primary medical care from district hospitals starting in 2008, through the creation of autonomous FDC and HC;
- the experience of successfully establishing the National Prehospital Emergency Medical Assistance Centre in 2015, through the reorganization and merger of the

regional stations and their dismantling (separation) from other public medical and sanitary institutions, including the National Agency for Public Health in 2017.

Based on objectives established by the WHO, the priorities of the reform of community MH services, with the new options proposed and analysed below, continue to be oriented towards the development of community MH services; de-institutionalization and psycho-social rehabilitation; changing the emphasis from the hospital pole to the extra-hospital pole; transfer from treatment to prevention of MH problems; etc.

Options are proposed to improve the service based on the multidisciplinary model of managing mental disorders through the Flexible Assertive Community Treatment (FACT) multidisciplinary approach, implemented in the UK, the Netherlands as well as low- and middle-income countries such as Montenegro. This FACT model includes recovery-oriented care by providing integrated community and hospital-based health care, applying evidence-based medicine. The FACT model emphasizes mutual support, individual engagement, and employment support and family-level interventions.

Following the above, the establishment of an institution called the autonomous National Mental Health Centre (NMHC) is a common element in all options analysed below, as a separate legal entity from the SCP, but subordinated to the Ministry of Health. Thus, a single body will be created to promote, monitor, evaluate and develop the MH service with full powers to represent CMHC interests.

The payment scheme for CMHC performance will be possible to implement only when NMHC and CMHC will no longer be subordinated to other institutions (SCP and PHC institutions). In order to pay bonuses based on the achievement of performance indicators, it is first necessary to equalize the chances of all CMHCs and to standardize the conditions of their activity.

The autonomous NMHC and the removal of the CMHC from the subordination of the family medicine system will ensure the active involvement of civil society and the private sector in the development of the community MH service, which will also be supported by international development partners.

In the aforementioned context, the 3 best new options for solving the problem are presented below, after analysing a multitude of possible alternatives. Through the 3 new options, the establishment of the optimal mixed organizational pyramid of the MH service, recommended by WHO, which clearly demonstrates that the highest impact and the lowest investments are achieved at the primary level and especially within the CMHC (Figure 5.1.)

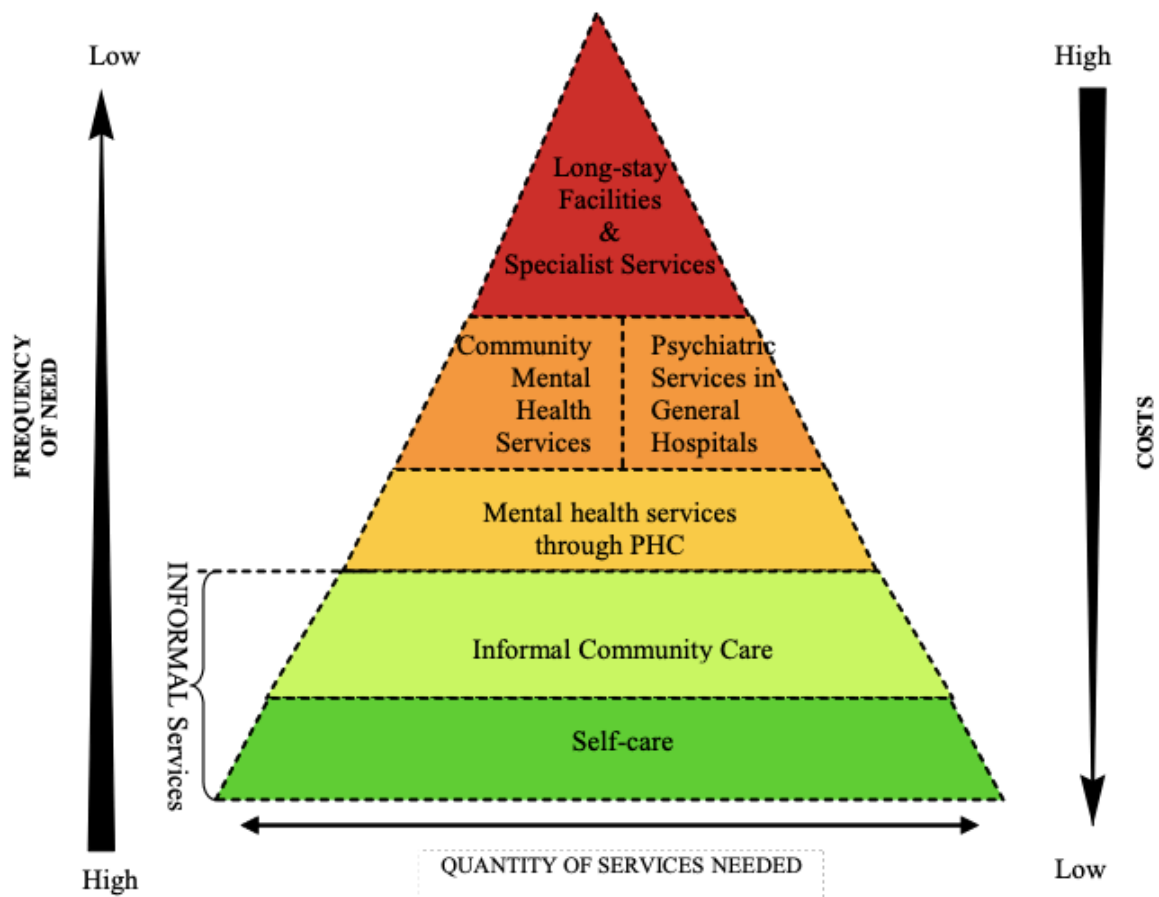
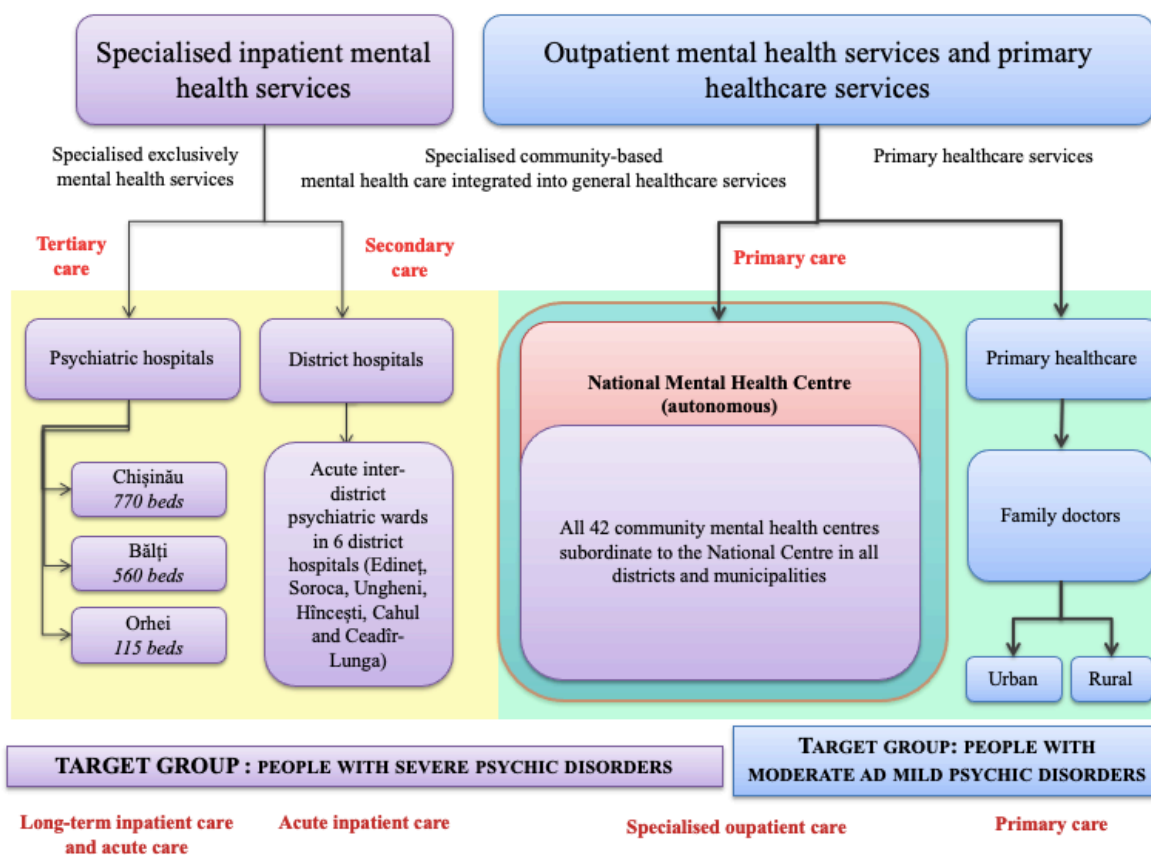


Fig. 5.1. The optimal pyramid of mental health services recommended by the WHO (2007).

**Option 1. The establishment of the National Mental Health Centre as a separate legal entity comprising all 40 Community Mental Health Centres.**



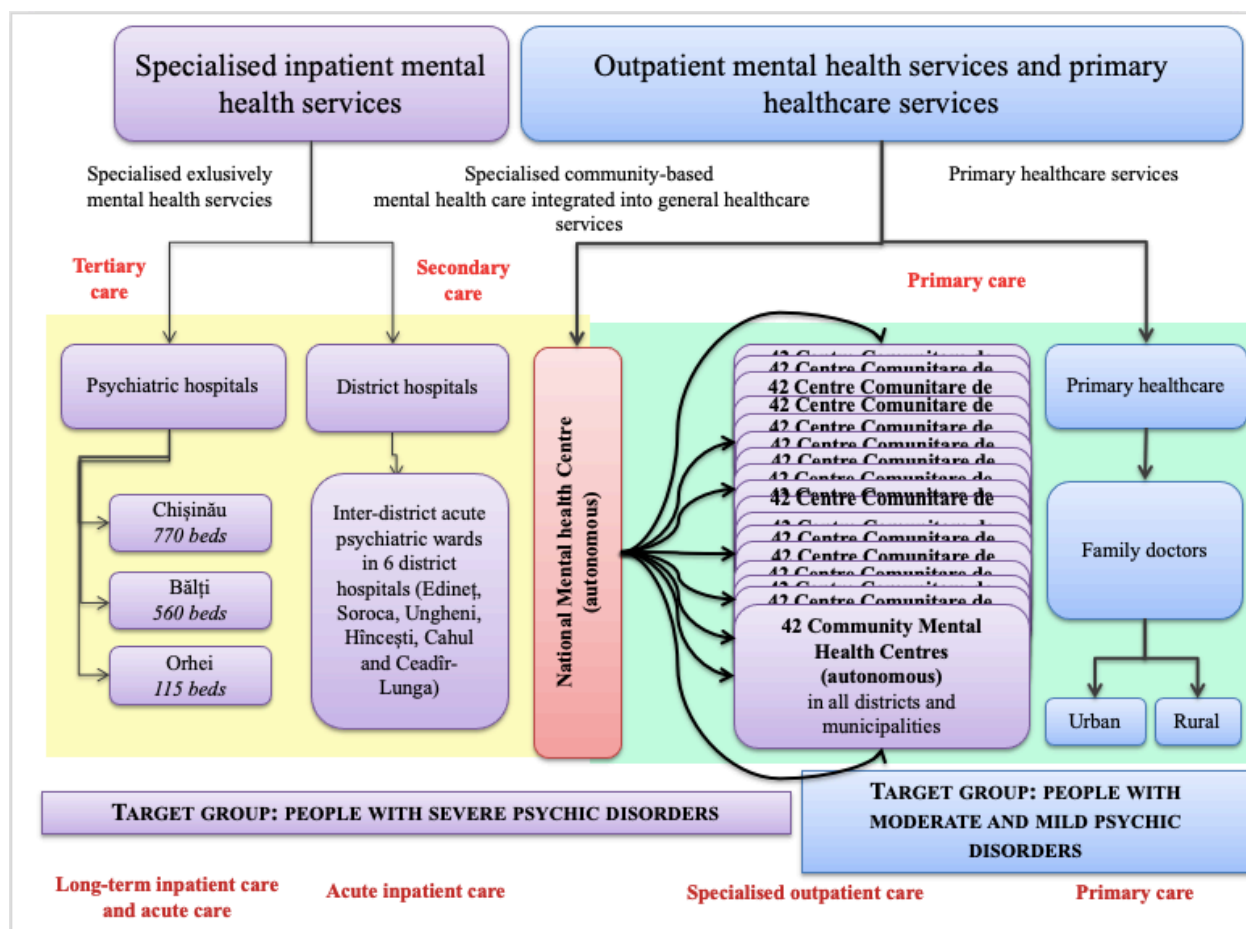
**Fig. 5.2. Option no. 1 for the reorganization of the mental health service in the Republic of Moldova.**

Description: The given option provides for the establishment of a NMHC independent of the SCP, which will bring together all 42 CMHCs in the country within its framework, the latter being separated (dismembered) from the PHC institutions.

Community specialized MH services remain to be integrated into PHC. This does not mean organizational and/or managerial integration within PHC institutions, but more importantly integration at the level of the referral system, i.e., all these services are provided at one level. The national centre will be established under the Ministry of Health and will operate in the same premises as at present. The Community Centres will be part of the National Centre, but the physical location will remain unchanged.

**Option 2. The establishment of the National Mental Health Centre and the other 42 Community Mental Health Centres as separate legal entities (+1 private), and the latter methodically and organisationally subordinated to the first one.**

Community specialized MH services remain to be integrated into PHC. This does not mean organizational and/or managerial integration within primary care institutions, but more importantly integration at the level of the referral system, i.e., all these services are provided at one level.

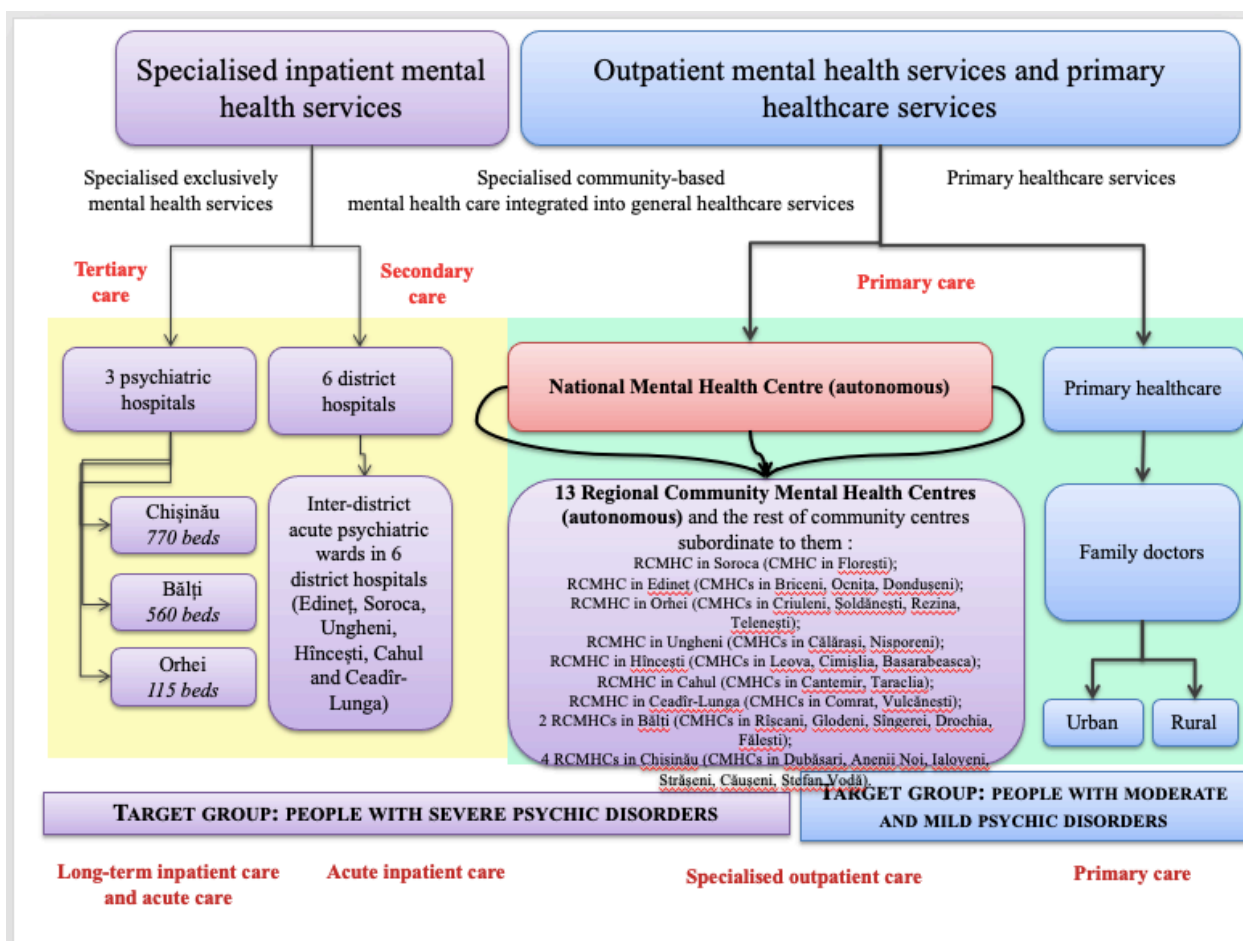


**Fig. 5.3. Option no. 2 for the reorganization of the mental health service in the Republic of Moldova.**

Option no. 2 provides for the establishment of an autonomous NMHC, independent of the SCP, and another 40 autonomous CMHCs, the latter being separated (dismembered) from the PHC institutions and subordinated only to the former as a methodical organizer. The national centre will be established under the Ministry of Health and will operate in the same premises as at present. The 40 Community Centres will be established in all the districts and municipalities of the country,

and the founder will be the Local Public Administration of level II, the location being preserved within the premises they occupy at the moment.

**Option 3. Establishment of the National Mental Health Centre and 13 other Regional Community Mental Health Centres as separate legal entities (+1 private) and the latter methodically and organisationally subordinated to the first one.**



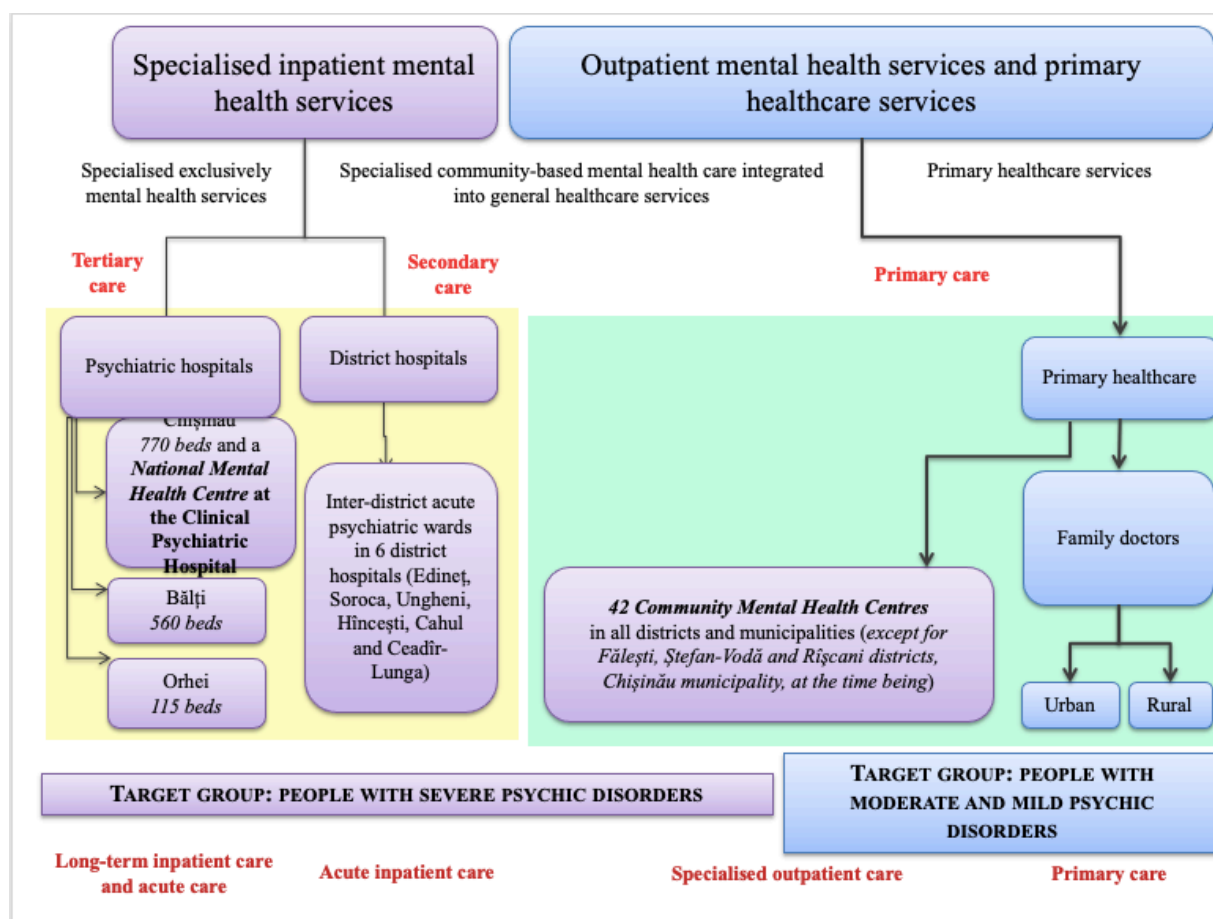
**Fig. 5.4. Option no. 3 for the reorganization of the mental health service in the Republic of Moldova.**

This option given implies the establishment of an autonomous NMHC, independent of the SCP, and 13 other autonomous regional community MH centres (RCMHC), the latter being separated (dismembered) from the PHC institutions and subordinated only to the former as a methodical organizer. The services remain to be integrated in the PHC but not organizationally and/or managerially within the HC, i.e., the services are provided at one level. The 13 regional community centres will be created analogously to the creation of psychiatric beds for acute cases in district hospitals, and the other community centres, from districts without beds, will be part of

the first ones. In the Balti and Chisinau municipalities, the number of inhabitants allows the establishment of 2 and more regional community centres, respectively.

The National Centre will be established under the Ministry of Health and will operate in the same premises as at present. And the 13 regional community centres will be established in the districts and municipalities of the country where there are psychiatric beds and the founder will be the Local Public Administration of level II, being kept with the location within the premises they currently occupy.

**Option 4. Status Quo – The National Mental Health Centre subordinated to the Clinical Psychiatry Hospital, and the Community Mental Health Centres within the primary healthcare institutions.**

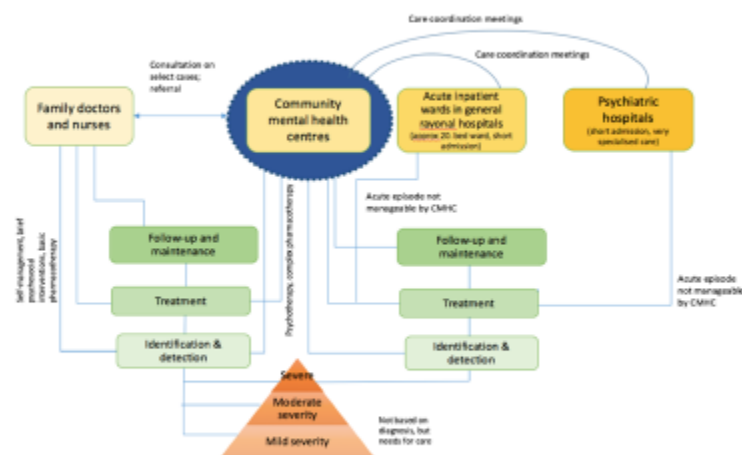


**Fig. 5.5 Option no. 4 for the reorganization of the mental health service in the Republic of Moldova.**

The "Status Quo" option implies keeping the current state of things, without undertaking any organizational, financial and/or regulatory measures for the activity of NMHC and CMHC.

## 5.2. Staging of mental health care for people with mental and behavioural disorders in the Republic of Moldova – proposed algorithm.

The purpose of the proposed Algorithm is to ensure equal opportunities for access to quality services and the protection of the rights of people with MH problems by respecting the principle of staged provision of medical assistance in MH.



**Fig. 5.6. The path of the patient with mental and behavioural disorders in the health system.**

Outpatient mental health care will be provided by:

- 1) the family doctor's team (family doctor and nurse);
- 2) the psychiatrist;
- 3) members of the multidisciplinary team of Community Mental Health Centres;
- 4) the pre-hospital emergency medical assistance team (in the case of psychiatric and/or medical-surgical emergencies).

Hospital assistance in mental health will be provided by the Emergency Reception Units (hereinafter UPU) of medical institutions (hereinafter IMU), psychiatric hospitals and acute psychiatric wards within general hospitals.

In the provision of MH services, regardless of the form of organization at the ambulatory or hospital stage, effective communication measures and the information circuit within the MH services system, provided by the legislative and normative acts in force regarding the consecutiveness and integrity of the medical act, are ensured.

For the purposes of this Algorithm, the terms used mean: *severe (serious) mental and behavioural disorder is often defined by its duration and the disability it produces. These illnesses include disorders that produce psychotic symptoms such as schizophrenia and schizoaffective disorder and severe forms of other disorders such as major depression and bipolar disorder* [12].

## **Stages of providing mental healthcare**

### **Stage I (primary):**

1. Outpatient medical assistance at stage I (primary) of people with MH problems is provided by the FD (Family Doctor) and the pre-hospital emergency medical assistance team.
2. The medical assistance of people with MH problems granted by the FD consists of: primary prophylaxis, screening, diagnosis, prescription of treatment in mild and medium mental and behavioural disorders, suspicion and detection of the first psychotic episode, referral for treatment at stage II (secondary, specialized) or, as the case may be, at stage III (tertiary, highly specialized) with the release of the patient referral-excerpt, clinical supervision, the issuance and record of the medical leave certificate, as well as the organization of the referral to the Council for the Determination of Disability and Work Capacity (CDDCM), other activities in accordance with the provisions of national clinical protocols, medical standards and normative acts in force.
3. To ensure the continuity of the medical act, prophylaxis activities and the reduction of the influence of risk factors, the Ministry of Health is informed about the need to assist therapeutic indications and rehabilitation measures for patients with mental and behavioural disorders on the list.
4. Emergency psychiatric medical assistance is provided by the pre-hospital emergency medical assistance team and consists of medical assistance at the place of request and during transportation to the UPU of the IMS, the general hospital, the psychiatric hospital, as well as assisted medical transportation of persons with mental and behavioural disorders (immovable) if necessary, in accordance with the normative acts in force.
5. FD ensures access to the specialized MH service on a scheduled basis for people with possible mental and behavioural disorders at the psychiatrist's consultation.

### **Stage II (secondary, specialized):**

1. Specialized medical assistance at stage II is provided by the multidisciplinary team within the CMHC, including at home and the general hospital (UPU and acute care psychiatry ward).
2. Specialized outpatient medical assistance for people with MH problems at stage II consists in providing mental health services regarding the screening of all people who request mental healthcare assistance, the evaluation of the mental state by the multidisciplinary team of the CMHC, the confirmation of the diagnosis, the selection of the type of intervention, the application of biological and psychological treatment, continuous clinical supervision and the undertaking of psychosocial rehabilitation and socio-family integration

measures in accordance with national clinical protocols, medical standards and normative acts in force.

3. The psychiatrist has the mission of early detection of mental and behavioural disorders, assessment of the stage and type of care required, making a joint decision with the person with MH problems regarding the need to initiate treatment and ensuring the continuity of treatment, maintaining the state of MH and clinical supervision, and if necessary the timely referral of the patient to the hospital (ward) and/or to the specialized public tertiary medical-sanitary institution, for examination and treatment in difficult cases from the perspective of diagnosis and treatment.
4. Hospital psychiatric medical assistance at stage II is provided in acute psychiatric wards in general hospitals, with free consent, and in the cases specified in point 3, with the consent of the patient (legal representative) or without free consent in the established manner, is moving towards stage III (tertiary, highly specialized).

**Stage III (tertiary, highly specialized):**

1. Specialized medical assistance at stage III for people with mental and behavioural disorders consists of providing a highly specialized form of consultative assistance, treatment and rehabilitation of patients in ambulatory and specialized tertiary hospital conditions (Clinical Hospital of Psychiatry, Balti Psychiatry Hospital, Orhei Psychiatry and Phthisiopneumology Hospital).
2. NMHC and SCP in collaboration with the Department of Psychiatry, Narcology and Medical Psychology of USMF "Nicolae Testemițanu", bear the responsibility of methodical support to the structures that provide MH medical assistance at all stages, carry out monitoring, evaluation and integration into the medical service system in mental health.
3. NMHC and SCP carry out quality control of the provision of medical assistance in mental health at all stages of provision, regardless of the form of organization (under public or private law), initiate and support scientific-practical and methodological collaborations with other medical institutions, including abroad.

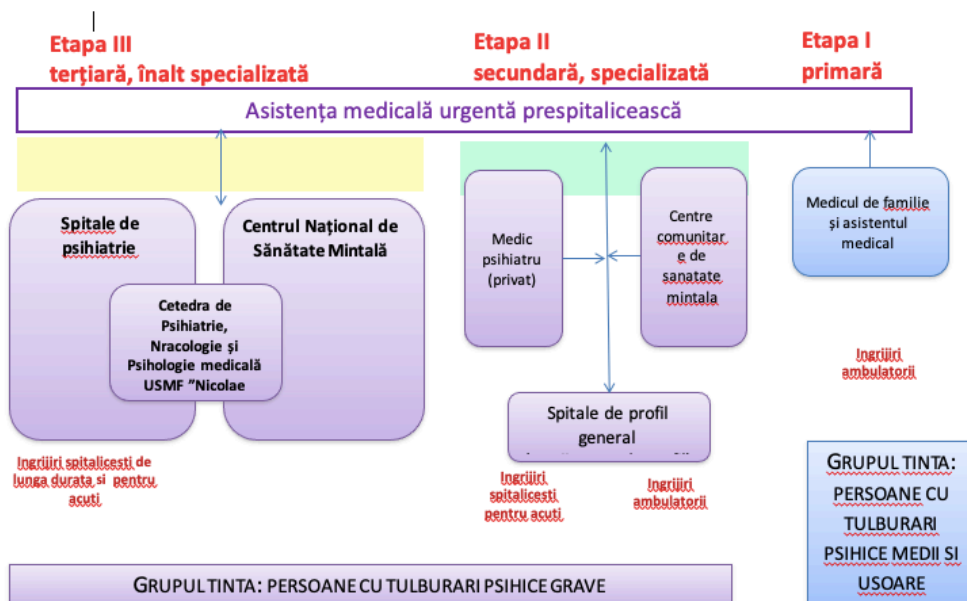


Fig. 5.7. Stages of mental healthcare for people with mental and behavioural disorders.

## CONCLUSIONS AND RECOMMENDATIONS:

1. Prevalence and incidence have been decreasing in recent years, possibly because of the implementation of new mechanisms and approaches, but also possibly due to patients' fear of being on the psychiatric record, low addressability among people with moderate and mild health problems, and the stigmatization of mental health problems.
2. The lack of specialized services and the motivation to address implies the phenomenon of stigmatization and insufficient knowledge for the early detection of mental pathology.
3. In the Republic of Moldova, there are legislative and political acts in mental health, but without a definite implementation mechanism being detected. This leads to fragmentation of services and the formal existence of a patient referral mechanism within mental health services.
4. Medical and social services are separated, there is no comprehensive approach to the mental health problem, which favours the discontinuity of the process of psycho-social rehabilitation and socio-professional inclusion.
5. The comparative analysis of the results obtained in the 3 clinical audits carried out so far shows us a positive evolution in the provision of community services.
6. Evidence-based interventions and treatments, while capable of producing specific outcomes, such as reduced symptomatology, decreased hospitalization, fewer relapses,

or improved employment, may vary in their compatibility with rehabilitation values and ingredients.

7. Community components in health services extend the coverage of mental health services to places where primary and specialist care services exist. They create a continuum of care from home to primary care and then specialist psychiatric and psychological care.
8. Preliminary conclusion of the pilot study – the management structure according to the living area does not differ, at least from the data presented. To answer the question, it is necessary to conduct a larger research with around 500 respondents.
9. The management of a patient with primary mental disorders consists of 2 types of intervention: one type is drug treatment, another type is non-drug treatment, which provides for the adaptation/socialization of such a patient.
10. Internalization of public stigma by people with serious mental illness can lead to self-stigma, which damages self-esteem, self-efficacy and empowerment
11. At the community level, the stigma towards people with mental health problems is quite high and requires community interventions to reduce the phenomenon.
12. The phasing of mental health care provided to people with mental and behavioural disorders in the Republic of Moldova needs to be promoted based on an algorithm - PROTOCOL FOR REHABILITATION AND PSYCHOSOCIAL INTEGRATION OF PEOPLE WITH SEVERE MENTAL DISORDERS through the lens of the community MH services reorganization.
13. The stage planning of medical care in mental health is proposed to be provided in: Outpatient mental health care; the family doctor's team (family doctor and nurse); psychiatrist; members of the multidisciplinary team of Community Mental Health Centres; pre-hospital emergency medical assistance team; Hospital care.
14. An important role in the management and coordination of an effective mental health system is the establishment of a National Mental Health Centre with the role of monitoring, data collection, policy development and coordination in MH.

### **Recommendations for practical applicability:**

#### ***A. For politicians and healthcare managers:***

1. The phasing of mental health medical assistance given to people with mental and behavioural disorders needs to be organized in stages: I – primary at the level of the family doctor; II - The specialized medical assistance that is provided by the multidisciplinary

team within the Community Mental Health Centre, including at home and the general hospital; III - Specialized medical assistance at stage III of people with mental and behavioural disorders consists in providing a highly specialized form of consultative assistance, treatment and rehabilitation of patients in ambulatory and specialized tertiary hospital conditions.

2. Improving the quality of mental health services requires assessing existing quality and measuring and quantifying it so that comparisons can be made over time at the local, state and cross-national levels.
3. By assessing and measuring quality of life and functional profile, areas of the mental health system can be complimented and improved.
4. It is important to involve beneficiaries/people with mental health problems in the planning and implementation of mental health services and to better document this process for mental health services.

#### ***B. For clinicians***

1. It is imperative that mental health services are delivered through the lens of rehabilitation.
2. The efficiency of the services provided must be evaluated by the satisfaction of the beneficiaries and their functionality using the clinical-epidemiological evaluation method of people with severe mental disorders in mental health services.
3. It is necessary to implement the clinical-epidemiological course of people with severe mental disorders in mental health services to ensure the continuity of mental health services at all levels.
4. Evidence-based interventions and treatments, while capable of producing specific outcomes such as reduced symptomatology, decreased hospitalization, fewer relapses, or improved employment, may vary in their compatibility with rehabilitation values and ingredients.

#### ***C. For social workers***

1. Compared to standard care, community-based care can reduce hospitalization and increase community retention. Social workers by implementing occupational therapy activities, support and social support for people with SMD in community MH services contribute to the social integration and prevention of institutionalization.
2. Ongoing assessment of social functioning and case management are important tools in the course of the person with SMD and their clinical management.

***D. For persons with SMD***

1. Community care/services are effective in improving many indicators of functioning for people with SMD.
2. Community-based care has been shown to reduce hospitalization, particularly less frequent and shorter hospitalization, and improve global functioning, in terms of personal and social autonomy.

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## ADNOTARE

Chihai Jana

### MANAGEMENTUL CLINIC AL PERSOANELOR CU TULBURĂRI MINTALE SEVERE: DIAGNOSTIC, REABILITARE ȘI INTEGRARE PSIHOSOCIALĂ

Teză de doctor habilitat în științe medicale

Chișinău 2022

**Structura tezei:** introducere, 5 capitole, concluzii generale recomandări, bibliografie din 322 de surse, 8 anexe, 146 de pagini de text de bază, 47 de figuri, 21 tabele. Rezultatele obținute sunt publicate și diseminate în 21 de lucrări științifice.

**Cuvinte cheie:** tulburări mintale severe, tratament medicamentos și nemedicamentos, recuperare, integrarea socială și familială.

**Scopul lucrării:** Identificarea particularităților clinico-epidemiologice, diagnostic a persoanelor cu tulburări mintale severe, a satisfacției, funcționalității sociale și a calității vieții a acestora din diverse servicii de sănătate mintală prestate pentru elaborarea unui protocol de reabilitare medicală și psihosocială.

**Obiectivele cercetării:** 1. Evaluare serviciilor comunitare și spitalicești de sănătate mintală, precum și analiza parcursului și evoluția schimbărilor politice, legislative, organizaționale și de sistem din domeniul SM în Republica Moldova. 2. Analiza incidenței și prevalenței tulburărilor mintale severe în Republica Moldova, perioada anilor 2007-2020. 3. Analiza parcursului clinico-epidemiologic a persoanelor cu tulburări mintale severe din serviciile de sănătate mintală spitalicești și comunitare din țară. 4. Evaluare diagnostică și funcțională comprehensivă a beneficiarilor de servicii de sănătate mintală, pentru a determina necesitățile în servicii de sănătate mintală. 5. Analiza calității vieții, dizabilității și nivelului de autostigmă a persoanelor cu SMD din serviciile spitalicești în comparație cu cele comunitare, bazată pe recuperare a persoanelor cu tulburări mintale severe. 6. Analiza dinamicii indicatorilor calității vieții, a funcționalității și a dizabilității persoanelor cu tulburări mintale severe la 18 luni după inițierea studiului pilot. 7. Elaborarea unui protocol de reabilitare și integrare psihosocială a persoanelor cu tulburări mintale severe ajustat la contextul RM.

**Noutatea și originalitatea științifică:** evaluarea complexă clinică, psihologică și socio-funcțională a pacienților din instituții de sănătate mintală este o componentă importantă în managementul clinic eficient.

**Rezultatele obținute:** contribuie la managementul clinic eficient al persoanelor cu SMD, facilitează crearea, dezvoltarea și reorganizarea serviciilor de SM și ajută la elaborarea planurilor și programelor de intervenție individualizate și a celor de dezinstituționalizare pentru persoanele cu SMD.

**Semnificația teoretică:** calitatea vieții și funcționalitatea persoanelor cu tulburări mintale severe depinde de abordările și tipurile de tratament aplicate în diverse servicii de sănătate mintală

**Valoarea aplicativă:** stabilirea profilului pacientului din serviciile spitalicești precum și din cele comunitare; pune în evidență diferențele de profil; ajută la elaborarea programelor eficiente și serviciilor adiționale din cadrul serviciilor de SM;

**Implementarea rezultatelor științifice:** este utilizată în practica Centrelor Comunitare de Sănătate Mintală și Spitalelor de Psihiatrie.

## АННОТАЦИЯ

Кихай Жана

### КЛИНИЧЕСКОЕ ВЕДЕНИЕ ЛЮДЕЙ С ТЯЖЕЛЫМИ ПСИХИЧЕСКИМИ РАССТРОЙСТВАМИ: ДИАГНОСТИКА, РЕАБИЛИТАЦИЯ И ПСИХОСОЦИАЛЬНАЯ ИНТЕГРАЦИЯ

Диссертация доктора медицинских наук  
Кишинев 2022

**Структура диссертации:** введение, 5 глав, общие выводы и рекомендации, библиография из 322 источников, 8 приложений, 146 страниц основного текста, 47 рисунков, 21 таблицы. Полученные результаты опубликованы и распространены в 21 научных статей.

**Ключевые слова:** тяжелые психические расстройства (ТПР), медикаментозное и немедикаментозное лечение, реабилитация, социальная и семейная интеграция.

**Цель работы:** выявление клинико-эпидемиологических особенностей, диагностика лиц с ТПР, удовлетворенность, социальная функциональность и качество жизни в различных услугах психического здоровья для разработки протокола медицинской и психосоциальной реабилитации.

**Задачи исследования:** 1. Оценка общинных и больничных служб охраны психического здоровья, а также анализ хода и эволюции политических, законодательных, организационных и системных изменений в области психического здоровья (ПЗ) в Республике Молдова. 2. Анализ заболеваемости и распространенности ТПР в Республике Молдова, 2007-2020 гг. 3. Анализ клинико-эпидемиологического течения лиц с ТПР в стационарных и внебольничных службах охраны ПЗ страны. 4. Комплексная диагностическая и функциональная оценка получателей услуг психического здоровья с целью определения потребностей в услугах. 5. Анализ качества жизни, инвалидности и уровня самостигматизации людей с ТПР в больничных службах по сравнению с таковыми в общинных, основанные на реабилитации людей с ТПР. 6. Анализ динамики показателей качества жизни, функциональных возможностей и инвалидности лиц с ТПР через 18 месяцев после начала пилотного исследования. 7. Разработка протокола реабилитации и психосоциальной интеграции людей с ТПР, адаптированного к условиям РМ.

**Научная новизна и оригинальность:** комплексная клинико-психологическая и социально-функциональная оценка пациентов в психиатрических учреждениях является важным компонентом эффективного клинического ведения.

**Результаты исследования:** способствует эффективному клиническому ведению людей с ТПР, облегчает создание, развитие и реорганизацию служб ПЗ, а также помогает разрабатывать индивидуальные и деинституционализированные планы и программы вмешательства для людей с ТПР.

**Теоретическая значимость:** качество жизни и работоспособность лиц с тяжелыми психическими расстройствами зависят от подходов и видов лечения, применяемых в различных службах охраны психического здоровья.

**Практическая ценность:** установление профиля пациента как в больничных, так и в общественных службах; выделяет различия профилей; помощь в разработке эффективных программ и дополнительных услуг в рамках сервисов МЗ;

**Внедрение научных результатов:** используется в практике общинных центров психического здоровья и психиатрических больниц.

## ANNOTATION

**Chihai Jana**

### **CLINICAL MANAGEMENT OF PEOPLE WITH SEVERE MENTAL DISORDERS: DIAGNOSIS, REHABILITATION AND PSYCHOSOCIAL INTEGRATION**

**Thesis of doctor habilitatus in medical sciences**

**Chisinau 2022**

**Thesis structure:** Introduction, 5 chapters, general conclusions and recommendations, bibliography of 322 sources, 8 annexes, 146 pages of basic text, 47 figures, 21 tables. The obtained results are published and disseminated in 21 scientific papers.

**Keywords:** Severe mental disorders, drug and non-drug treatment, recovery, social and family integration.

**Aim of the thesis:** Identification of clinical-epidemiological features, diagnosis of people with severe mental disorders, satisfaction, social functionality and quality of life in various mental health services provided for the development of a medical and psychosocial rehabilitation protocol.

**Research objectives:** 1. Evaluation of community and hospital mental health services, as well as the analysis of the course and evolution of political, legislative, organizational and system changes in the field of MS in the Republic of Moldova. 2. Analysis of the incidence and prevalence of severe mental disorders in the Republic of Moldova, 2007-2020. 3. Analysis of the clinical-epidemiological course of people with severe mental disorders in hospital and community mental health services in the country. 4. Comprehensive diagnostic and functional evaluation of the beneficiaries of mental health services, in order to determine the needs in mental health services. 5. Analysis of the quality of life, disability and level of self-stigma of people with MSDs in hospital services compared to those in the community, based on the recovery of people with severe mental disorders. 6. Analysis of the dynamics of indicators of quality of life, functionality and disability of people with severe mental disorders at 18 months after the start of the pilot study. 7. Development of a protocol for rehabilitation and psychosocial integration of people with severe mental disorders adjusted to the context of the Republic of Moldova.

**Novelty and scientific originality:** The complex clinical, psychological and socio-functional evaluation of patients in mental health institutions is an important component in effective clinical management.

**Research results:** Contributes to the efficient clinical management of people with MSDs, facilitates the creation, development and reorganization of MS services and helps to develop individualized and deinstitutionalized intervention plans and programs for people with MSDs.

**Theoretical significance:** The quality of life and functionality of people with severe mental disorders depends on the approaches and types of treatment applied in various mental health services

**Applicative value:** Establishing the profile of the patient from the hospital services as well as from the community ones; highlights profile differences; assist in the development of effective programs and additional services within MS services;

**Implementation of scientific results:** It is used in the practice of Community Mental Health Centres and Psychiatric Hospitals.

## LIST OF ABBREVIATIONS

<b>Abbreviation</b>	<b>Full form</b>
SMD	Severe Mental Disorder
ROMHP	Recovery Oriented Mental Health Program
MENSANA	"MENSANA" Project - Support for the Reform of Mental Health Services in Moldova", financed by the Swiss Cooperation Office
Clinical Audit	Comprehensive evaluation of mental health services
CMHC	Community Mental Healthcare Centre
PHC	Primary Healthcare
CPH	Clinical Psychiatry Hospital
MHLSP	Ministry of Health, Labour and Social Protection of the Republic of Moldova
MoH	Ministry of Healthcare
MLSP	Ministry of Labour and Social Protection of the Republic of the Republic of Moldova
SDC	Swiss Development Cooperation Agency in Moldova
MINI	MINI International Neuropsychiatric Interview, Version 7.0.2.
EQ-5D	Tool to assess quality of life
SMISS-SF	Self-Stigma of Mental Illness Scale-Short Form
WHODAS	The World Health Organisation Disability Assessment Schedule (WHODAS 2.0)
CANSAS	Camberwell Short Inventory for Needs Assessment (CANSAS)
SAMHSA	Substance Abuse and Mental Healthcare Services Administration
NSDUH	National Survey on Drug Use and Health
CDPD	Rights of Persons with Disabilities
NMHC	National Mental Healthcare Centre
FACT	Flexible Assertive Community Treatment
ACT	Assertive Community Treatment
FAOAM	Mandatory Healthcare Insurance Funds
PPP	Public Policy Proposal

**CHIHAI, JANA**

**MANAGEMENTUL CLINIC AL PERSOANELOR CU TULBURĂRI MINTALE  
SEVERE: DIAGNOSTIC, REABILITARE ȘI INTEGRARE PSIHOSOCIALĂ**

**Specialitatea: 321.06 Psihiatrie și narcologie**

**Rezumatul tezei  
de doctor habilitat în științe medicale**

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