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Clinical complexity – where to find it and how to use it

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Summary

Clinical complexity of a patient describes the complexity of issues faced by an individual in accordance with the biopsychosocial approach, the main focus of which is the assessment whether the patient experiences difficulties in the biological, psychological and social aspects of life and healthcare system. An effective, comprehensive assessment of a patient during the treatment process is crucial for efficient operation of Public Health Service. Thus, providing patients with an individual, holistic and comprehensive healthcare. Patients, who are not always able to seek help on their own, require assurance of complex help, effective diagnostics at the early stages of a disease and assistance with treatment coordination and continuation.

Clinical complexity concerns patients of many fields of medicine but especially emergency medicine, internal medicine, geriatrics, psychiatry, and primary care. Lack of access to complex healthcare with biopsychosocial approach causes a great deal of patient dissatisfaction and reduces the quality of available therapeutic options. There are couple of tools that can be used in screening for clinical complexity, for instance: INTERMED platform, INTERMED Self-Assessment, INTERMED for the Elderly, INTERMED for the Elderly Self-Assessment, and *the Probability of Repeated Admission*. There are also effective intervention schemes which can be used to manage a complex patient care, such as: *Case Management*, *Information Sharing* or *Self-Management*. Screening tools and interventions combined together can be effective in providing patients with a well-organized, high quality healthcare with a patient-centered biopsychosocial approach.

Key words: clinical complexity, IMSA, *Case Management*

Introduction

The concept of clinical complexity is one of the most popular trends in psychosomatic medicine. Nevertheless, it is not well known outside of this area of clinical practice and research, even though it is widely accepted that each disease emerges in the context of complex interactions between biological, psychological, and social factors. Moreover, complexity is related to the different ways and strategies that patients use in order to interact with the healthcare system. These complex relationships indicate a need for high-quality, multidisciplinary and integrated treatment for patients requiring such an approach [1]. Nowadays, clinicians are dealing with lack of time, lack of knowledge about biopsychosocial approach and lack of resources to implement this type of treatment. Moreover, the deepening division between specializations and subspecializations as well as focusing on details, individual organs and systems, makes it difficult or even impossible to perceive a man as a whole. According to the World Health Organization, "health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity", which confirms that the biopsychosocial approach is proper, needed and should be widely used [2, p. 1]. High-quality, patient-oriented care is an effective, comprehensive approach to a patient who reports himself/herself to a medical facility with a certain need or a health problem. High level of clinical complexity is followed by negative health consequences, such as: low quality of life, long duration of a disease, long hospitalization, longer recovery, and ultimately greater risk of loss of life [3–5]. Additionally, it is associated with frequent use of medical services and increased costs [6, 7]. Complexity is widely observed in patients with mental disorders, chronic diseases, systemic diseases, multimorbidity, age-related conditions, addictions, and also in the case of frequent emergency users [4, 8–12].

The first step to alleviate the impact of aforementioned issues on patients is using proper tools to identify complexity, such as:

- INTERMED (IM);
- INTERMED Self Assessment (IMSA);
- IM for the elderly (IM-E),

Probability of Repeated Admission (PRA) and many more [13].

The next step is introducing proper interventions, such as:

- *Case Management* (CM) – to provide patients with an individual and comprehensive case management and planning;
- *Information Sharing* (IS) – to avoid misunderstandings between different physicians;

Self-Management (SM) in relevant diagnoses [8, 14, 15];

developing an efficient care plan for each individual, regarding their need for complex care and offering intervention and care adapted to their needs.

Characteristic of patients with high level of clinical complexity

Patients with chronic conditions, comorbidity and multimorbidity

Nowadays, when the diagnostic process is very developed and the life expectancy is extended, medicine struggles with comorbidity, multimorbidity and chronic conditions. Unfortunately, knowledge about multimorbidity is still unsatisfactory [16]. The definition of multimorbidity used in different studies is inconsistent, moreover, the authors use diversified methodology hence drawing conclusions in a consistent way is difficult [16, 17]. The statement that patients with multimorbidity or multiple chronic conditions are, by default, complex, is a great simplification [18]. Safford et al. [19] presented the vector model of complexity, which takes into consideration socioeconomics, culture, biology/genetics, environment/ecology, and behavior that shows that multimorbidity and complexity are two distinct entities. Complex patients are frequent users of internal medicine departments. Usually they are treated in hospital due to a specific, current reason. Clinicians focus on the reason for current hospitalization. Biopsychosocial and healthcare system-related needs remain often unrecognized, which leads to worse treatment outcomes. [20]. Unfortunately, clinicians have no possibility to recognize complexity and rehospitalizations of complex patients are very common and inevitable [10, 20]. Lobo et al. [20], in their study, reported that using INTERMED method to assess complexity of patients in internal medicine departments is efficient and allows to indicate patients who need interdisciplinary treatment. The indication of patients of internal medicine departments with high needs in the field of psychological domain was particularly important. As much as 40% of patients with a history of mental illness showed an increased frequency of admission to the internal medicine department, and only 6% of those who were qualified as in need of complex healthcare received a referral to a psychiatrist during their treatment [20]. Patients requiring complex healthcare typically have a long and complicated medical history linked to social and psychological problems. According to Webster et al. [18], the key to the analysis of complexity is not focusing on medical or biological aspects but on taking into account social, mental and healthcare system-related needs, which is challenging for the Healthcare System [18].

Elderly patients

Nowadays, when life expectancy and expectations regarding the quality of life increase, it is of utmost importance to ensure elderly patients to maintain autonomy for as long as possible [17]. Elderly people often have multiple chronic conditions with complicated history. Moreover, very often old age is associated with loneliness, social problems, poorer emotional and social functioning, including frailty or varying levels of cognitive impairment [21]. According to Moose and Tsu, people with chronic diseases need to undergo a certain process to adapt to the new situation. They face the so-called adaptation tasks, which are divided into those related to the disease

and general ones leading to the acceptance of the new life situation [22, 23]. Hence elderly people need interdisciplinary support. They are treated by different healthcare professionals, use social help, visit psychologists etc. They are a perfect example of patients who require complex biopsychosocial care [24]. Clinicians can use special questionnaires to assess clinical complexity in elderly patients, which are described later in the article [25, 26]. It is worth to notice that Polish healthcare system has not enough solutions and lacks a biopsychosocial approach to elderly people. Studies have shown that elderly people function better with all day care assurance [27]. Complexity of elderly patients causes them to frequently visit hospitals and other healthcare services, which leads to increased costs of their treatment [24]. The biopsychosocial approach to the elderly can bring positive results in these patients due to the systematized and monitored analysis of the complexity of their problems. Using questionnaires designed for this purpose, such as INTERMED for the elderly, it is possible to detect specific needs and immediately respond to these needs, which would increase the quality of life of such patients [26]. Lack of studies regarding elderly people with multimorbidity is glaring. Usually they are excluded from researches, since they are focused on single organs, systems or diseases [28]. Before clinical assessment of complexity appears in Poland as part of standard patient management, an intervention – and-solution system needs to be established first. Knowledge of how to take care of elderly people with high level of complex is needed.

Emergency patients

The lower quality of care and poor treatment outcome can be observed especially in overcrowded and inefficient emergency departments (ED). Soril et al. [12] confirmed that the so-called high frequency ED users do not differ between countries all over the world. It indicates that different countries may use the same interventions to help complex patients in emergency departments. A decrease in emergency departments (ED) occupancy rate would bring positive effects for ED as well as for the healthcare system and would decrease overall costs [11, 29]. Althaus et al. [7] showed that after the introduction of structured interventions such as *Case Management* (CM) or *Counseling*, costs were reduced by at least the value of the intervention itself. However, these solutions require the introduction of 'new' employees, with competencies other than specialists, to the healthcare system. *Case Management*, which is described later in this article, was the most frequently used intervention in emergency departments. Several studies have shown that patients who are frequent visitors in ED usually also have severe disease, were hospitalized in psychiatry departments and have social problems [1, 11, 12, 29]. One German study indicates that although 80% of patients in ED had a high level of clinical complexity according to INTERMED, no psychosocial interventions such as: consultation with a psychotherapist, psychiatrist or social worker were noticed [30]. ED seems to be a good place to make screening for clinical complexity and to introduce interventions to patients who need it from the beginning

of treatment. However, it is also difficult to introduce additional questionnaires in ED due to dynamic character of work, lack of time and overwork. Kumar and Klein [31], in their systematic review, showed that interventions such as *Case Management* introduced in ED could be profitable for patients. Moreover, they could reduce the frequency of visits and decrease costs. Those results show that developing useful procedures for complex patients visiting ED can be very effective in the future, although it might be difficult at the beginning.

Mentally ill patients

Mental health problems are usually associated with negative social-and psychological consequences. Schmidt [4] describes frequent users of psychiatric emergency rooms as living alone or homeless, without family, often socially withdrawn, with economic problems, unemployed. Characteristics of this group indicate rather high level of clinical complexity. Intensified psychopathological symptoms lead to lower quality of life and lack of satisfaction with the treatment process or low level of cooperation in the treatment process. Moreover, social needs are for them equally important as medical needs. That is why psychiatric patients should be treated by interdisciplinary teams (coordinated by so-called recovery process coordinator) which focus not only on the biological side of the treatment but also practice a holistic approach to patients [32].

An interesting study showed that primary care providers claim that taking care of psychiatric patients, especially those with psychotic symptoms, is complicated and difficult for them, therefore cooperation with psychiatrists, psychologists and social workers is necessary and beneficial [33]. Nowadays in Poland the community psychiatry model, which assumes complex mental healthcare, is developing. The basics of this model are collaboration and working in interdisciplinary teams with holistic approach and focus on early interventions. The most important concern of this model is that it requires perfect cooperation between executors [34, 35].

More than 23% of the Polish population was diagnosed with at least one mental disorder [35]. Taking into consideration clinical complexity of psychiatric patients it is necessary to introduce biopsychosocial model of treatment. Using tools to assess clinical, biopsychosocial complexity of psychiatric patients is not popular in clinical practice. Even in the research field most studies on the complexity are related to somatic syndrome disorder (SSD). One of the studies reported that SSD patients are highly complex according to INTERMED, however, higher complexity is mostly associated with mental symptoms, much more than with somatic symptoms [36]. Meller et al. reported that patients with psychiatric illness, somatic illness and substance use (triple diagnosis) were assessed as highly complex by INTERMED and generated the highest costs of treatment [37].

Clinical complexity operationalization

The literature provides numerous examples of tools to identify clinical complexity of patients. Mostly they are focused on frequent users of healthcare services and on elderly people. Marcoux et al. [13], in their scoping review, described 14 different screening tools measuring patient's complexity. Five of them were designed for the assessment of adult people of all ages (INTERMED, INTERMED – Self Assessment (IMSA), Health Perception Assessment (HPA) Instrument, Homeless Screening Risk of Re-Presentation, Predicted Insurance Expenditures (PIE)), but only 3 of them were intended for the general population (INTERMED, IMSA, HPA).

As many as 9 tools were designed for people over 65 years of age: INTERMED for the Elderly (IM-E), INTERMED for the Elderly Self Assessment (IM-E-SA), Probability of Repeated Admission (PRA), Initial assessment interview question, Analysis of risk element/origin/ resources/action (ARORA), Annual screening questionnaire, Community Assessment Risk Screen (CARS), tool developed by Reuben et al. [45], Triage Risk Screening Tool (TRST) [13]. The most important tools are described in Table 1. The INTERMED – Self Assessment questionnaire, which is intended for various groups of patients and can be used by specialists in various fields of medicine, is presented in Attachment 1.

Table 1. **The most important tools to assess the clinical complexity of patients**

Tool name	Authors of the first publication, year	Application	Structure	Result	Comlpletion time	Advantages	Disadvantages
INTERMED (IM) [5]	Huyse FJ, Lyons JS, Stiefel FC, Slaets JP, de Jonge P, Fink P, Gans RO, Guex P, Herzog T, Lobo A, Smith GC, van Schijndel RS, 1999	Assessment of the complex healthcare needs. No age restrictions.	A structured interview. 4 domains: biological, psychological, social, and healthcare system-related,divided by time – past, present state and future of the patient. 20 questions.	The higher the score, the greater the complex healthcare needs of the patient.	At least 20–30 min.	One of the most-validated tools for measuring complexity.	Required presence of trained staff, quite time-consuming form.
INTERMED for the elderly (IM-E) [26]	Söllner W, Wild B, Lechner S, Holzapfel N, Slaets J, Stiefel F, Huyse FJ, 2008	Assessment of the complex healthcare needs. For patients over 65 years of age.	A structured interview. 4 domains: biological, psychological, social, and healthcare system-related, divided by time – past, present state and future of the patient. 20 questions.	The higher the score, the greater the complex healthcare needs of the patient.	At least 30 min.	It takes into account professional and social changes related to aging.	Required presence of trained staff, quite time-consuming form.

dalszy ciąg tabeli na następnej stronie

INTERMED Self-Assessment (IMSA) [38] (English version in attachment 1)	Slaets J, Stiefel F, Ferrari S, Huyse F, Latour C, Boenink A, Söllner W, Wild B, 2008	Assessment of the complex healthcare needs. No age restrictions.	A self-report survey tool developed on the basis of IM. 4 domains: biological, psychological, social, and healthcare system-related, divided into elements rated on a scale of 0 to 3, regarding the patient's past, present state and future. 26 questions.	The higher the score, the greater the complex healthcare needs of the patient.	10–15 min.	Compared to IM, it is a time-saving form, no requirement for trained staff.	For some patients it may be too difficult to perform on one's own.
INTERMED for the elderly Self-Assessment (IM-E-SA) [25]	Peters LL, Boter H, Slaets JPJ, Buskens E, 2013	Assessment of the complex healthcare needs. For patients over 65 years of age.	A self-report survey tool developed on the basis of IM-E. 4 domains: biological, psychological, social, and healthcare system-related, divided into elements regarding the patient's past, present state and future.	The higher the score, the greater the complex healthcare needs of the patient.	Approx. 15 min.	Time-saving form, no requirement for trained staff.	It may be too difficult to fill by severely ill patients, for example, with severe cognitive impairment.
Probability of Repeated Admission (Pra) [39]	Boult C, Dowd B, McCaffrey D, Boult L, Hernandez R, Krulewitch H, 1993	Assessment of the likelihood of re-hospitalization in 4 years. For patients over 65 years of age.	A self-report survey tool, it can be conducted in a form of an interview, consisting of 8 questions.	Possible score from 0 to 1, where 0.5 means 50% probability of 2 or more hospitalizations in 4 years.	Approx. 5 min.	A simple form that saves time. One of the most frequently validated tools for complexity.	Age limit.

Other tools

Health Perception Assessment (HPA) instrument is used to identify people (aged 18 to 65) with a high probability of more intensive use of healthcare in the next 6 months. The tool appears in the form of a self-report questionnaire sent by e-mail [40].

Homeless Screening Risk of Re-Presentation is a tool in the form of a questionnaire used to control the risk of re-presenting to the emergency department within 28 days of discharge from the ward, used to examine homeless people presenting to emergency department [41].

Predicted Insurance Expenditures (PIE) is a tool developed to examine new employees (aged 21 to 64), aimed at identifying people at increased risk associated with generating health insurance expenditure in the following year. It appears in the form of a short self-report electronic survey [42].

Initial assessment interview question is a tool for examining seniors, in the form of an interview which can also be conducted by phone. It is applied to identify people who could benefit from multidimensional and interdisciplinary assistance [13].

Analysis of risk element/origin/resources/action (ARORA) is a tool for examining seniors, aimed at identifying people at increased risk of hospitalization. It consists of two stages – the first is a sheet filled out by medical staff, the second is an algorithm that allows intervention in people who require it [43].

Annual screening questionnaire is a tool in the form of a questionnaire used to examine patients over 80 years of age, aimed at assessing the risk of hospitalization and identifying patients requiring complex assistance [44].

Community Assessment Risk Screen (CARS) is a tool designed to examine people over 65 years of age in the form of a questionnaire – an interview completed by medical staff or sent by post, used to identify patients at increased risk of hospitalization or visit to the emergency department within the next 12 months [45].

Reuben et al. developed a tool for examining people over 70 years of age, aimed at identifying frequent users of healthcare services. The procedure consists of two stages – the first is a self-report survey that can be carried out by phone, by mail or online, the second one is laboratory tests [46].

Triage Risk Screening Tool (TRST) is a tool used in emergency departments to examine people over 65 years of age. It is aimed at assessing the risk of reapeted admissions to ED, hospitalization or placing in a long-term care center. The survey is conducted by a nurse [47].

Interventions

Case Management (CM) and Individualized Care Plan

CM was developed to improve individual care of patients who need complex care. Case manager takes comprehensive and interdisciplinary care of a patient, provides a plan of treatment, access to healthcare providers and coordinates the process

of treatment. CM is dedicated to people, who have severe illness, social problems, higher overall mortality rates, psychiatric illness, and incur higher healthcare costs [31]. Several studies showed that CM is a good intervention and can be beneficial not only to patients but also to the healthcare system because of cost reduction [8, 9, 31]. It is a very promising program for ED frequent users, which reduces the frequency of visits and costs [7, 8]. Both clinical and social outcomes such as: reduction of ED use, costs reduction, reduction of homelessness and substance abuse can be achieved using CM. CM also seems to be a good solution for mentally ill patients, especially those with psychotic disorders, for whom it is very difficult to coordinate their treatment and to continue it [48]. *Intensive Case Management* (ICM), which evolved from CM and *Assertive Community Treatment* (ACT), is intended especially for mentally ill people. It is more intensive, focused on smaller caseload and provides long-term support [49, 50].

An alternative solution for *Case Management* is an *Individualized Care Plan*. It consists in creating a care plan containing the most important medical and social information about the patient, treatment tips and contact details of people involved in patient care [51]. It ensures access to healthcare providers and multidisciplinary meetings. It differs from CM in the lack of a case manager. The efficiency of Care Plans was assessed as less comprehensive and limited in comparison to CM [9].

Information Sharing (IS)

Information Sharing is not a typical intervention for complex patients but rather a direct way to prevent frequent visits in health centers and hospitalizations as well as to provide well-organized healthcare. Sharing information between healthcare providers seems to be obvious and easy to achieve, unfortunately in day-to-day practice it is not like this. Due to different registrations, getting information about patients may be surprisingly problematic.

Studies about the efficiency of IS are inconsistent [9]. One of the studies showed that IS led to a better identification of frequent ED users, better management and finally reduction of the number of their visits in the emergency department as well as costs associated with frequent visits [52]. On the other hand, other studies presented that there was no significant decrease in the use of ED, although the intervention was beneficial for the quality of care and organization of work [14]. Kariotis et al. [53] showed that in Australia IS between health, mental health and social care services is very important and that any interruptions such as mistrust or misunderstanding among clinicians can have enormous impact on the patients.

Self-Management (SM)

SM is a new type of intervention which teaches patients how to take care of their own health. According to the model proposed by Lorig and Holman, patients need to

develop six skills – decision making, action planning, development of a patient-provider partnership, self-tailoring, resource utilization, and problem solving – to be able to properly coordinate their treatment [54]. However, SM has a lot of disadvantages, which must be taken into consideration. First of all, patients with complex healthcare needs must choose priority ailments, which can be frustrating and difficult for them. Patients with multimorbidity have lower motivation and greater risk of depression, so sometimes it may be impossible for them to make important decisions or to take action. Usually, there is also a problem with self-efficacy which can also lead to decreased motivation. Finally, they can have difficulties with understanding and interpretation of clinicians due to lack of medical knowledge [15].

Recapitulation

Solving individual patient's health problems in a selective and isolated way from the whole context of his/her life and health seems to be insufficient. Usually, patients require a holistic view, taking into account not only medical but also psychological, social or healthcare-related issues. Many studies showed that there are more and more elderly people, people with psychiatric disorders and multimorbidity, which demands a reaction from the medical healthcare system and some deep modifications of medical approach. Despite the fact that the biopsychosocial model is not a new concept (1977), its use in practice is still difficult and sometimes impossible for professionals [55]. The issues described in this article are intended to indicate the tools (from diagnosis to how to manage patients' treatment) that can be used to implement a model known in theory into everyday clinical practice. Estimating the clinical complexity of the patient and individualized planning of interdisciplinary medical, psychological and social care may be a promising solution in the face of the observed demographic, cultural and lifestyle changes.

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Attachment 1

Self-Assessment

Dear Sir/Madam,

This questionnaire will help your health caregiver (the health professional in charge of your care) to get a better idea of the consequences that your illness has on you.

This is important information that we need in order to adjust our care to your needs.

Please fill in the questionnaire by ticking the answers that apply most to you.

If you have difficulty in answering, you can ask a family member, a nurse or someone close to you to assist in completion of the questionnaire.

Thank you.

Please, provide answers to the following questions.

Tick the answer that applies most to you. You may tick more than one if "multiple answers allowed" is printed.

PRE – 1 What is your level of understanding of the language of the country you live in?

☐|a| Native speaker
☐|b| Good knowledge of language
☐|c| Moderate knowledge of language
☐|d| Poor knowledge of language

PRE – 2 Who fills in the questionnaire?

☐|a| I will fill in the questionnaire myself
☐|b| I will fill in the questionnaire myself though aided by someone else
  ☐|a| Partner/Family member/Friend
  ☐|b| Nurse
  ☐|c| Researcher
  ☐|d| Other (please specify) _____
☐|c| Someone else will fill in the questionnaire after consulting me
  ☐|a| Partner/Family member/Friend
  ☐|b| Nurse
  ☐|c| Researcher

☐|d| Other (please specify) _____

Add 1 – Are you taking medications almost every day?

☐|a| I don't take any regular medication
☐|b| I do take one regular medication
☐|c| I do take several medications

If so, how many different medications each day you take? _____

HISTORICAL – BIOLOGICAL CHRONICITY

1a. **Did you experience any physical problem in the past 5 years?**

☐|a|[0] No, I did not
☐|b|[0] Yes, I experienced physical problems but for a period shorter than 3 months
☐|c|[1] Yes, I did experience physical problems for a period longer than 3 months
☐|d|[1] Yes, in the past 5 years I have experienced several short periods with physical problems

1b. **Do you suffer from one or more long-lasting or chronic diseases (such as diabetes, high blood pressure, rheumatoid arthritis, lung disease or cancer)**

☐|a|[0] I don't have a long-lasting or chronic disease
☐|b|[2] I suffer one long-lasting or chronic disease
☐|c|[3] I suffer several long-lasting or chronic diseases

To be filled in by your health professional
If 1a) a or 1a) b and 1b) a, score on historical biological chronicity = **0**
If 1a) c or 1a) d, score on historical biological chronicity = **1**
If 1b) b, score on historical biological chronicity = **2**
If 1b) c, score on historical biological chronicity = **3**

HISTORICAL – DIAGNOSTIC DILEMMA

2. **How difficult has it been in the past 5 years to diagnose the physical problems you experienced?**

☐|a|[0] I did not suffer of any physical problem in the past 5 years
☐|b|[0] The reason for my problems was immediately clear
☐|c|[1] After some routine investigations the reason for my problems was identified
☐|d|[2] After a lot of investigations the reason for my problems was identified

☐|e|3 Even though a series of investigations have been taken into effect, the origins of my problems were never diagnosed

CURRENT – SYMPTOM SEVERITY

3. **How much were your daily activities (such as job, house-keeping, hobbies, going out…) restricted by physical problems during the last week?**

☐|a|0 I have no, or insignificant, physical problems
☐|b|1 My daily activities are not or are only mildly influenced by the physical problems that I experience
☐|c|2 My daily activities are moderately influenced by physical problems
☐|d|3 My daily activities are severely influenced by physical problems

CURRENT – DIAGNOSTIC/THERAPEUTIC CHALLENGE

4a. **Do you think your doctors understand the origin of your current physical problem/s?**

☐|a|0 I do not have physical problems at present
☐|b|1 My doctors do understand the origin of my current physical problem/s
☐|c|2 My doctors understand the origin of my current physical problem/s but they have some doubts
☐|d|3 My doctors have many doubts about the origin of my current physical problem/s
☐|e|3 My doctors still have to find the origin of my current physical problem/s

4b. **Do you think you are receiving the appropriate treatment for your current physical problem/s?**

☐|a|0 I do not have physical problems at present
☐|b|1 I am receiving the appropriate treatment for my current physical problem/s
☐|c|2 I have some doubts about the appropriateness of the treatment for my current physical problem/s
☐|d|3 I have many doubts about the appropriateness of the treatment for my current physical problem/s
☐|e|3 The appropriate treatment for my current physical problem/s is still to be found

To be filled in by your health professional
If 4a) and 4b) are both scored a, score on current diagnostic/therapeutic challenge = **0**
If 4a) or 4b) is scored b, score on current diagnostic/therapeutic challenge = **1**
If 4a) or 4b) is scored c, score on current diagnostic/therapeutic challenge = **2**
If 4a) or 4b) is scored d or e, score on current diagnostic/therapeutic challenge = **3**

HISTORICAL – COPING

5. **In the past 5 years, how did you cope with stressful, difficult situations?**
   - ☐|a|[0] Generally speaking, I have always been able to cope with stressful, difficult situations
   - ☐|b|[1] Sometimes I had difficulties in coping with stressful, difficult situations, which sometimes resulted in tensions and problems with my partner, family or other people.
   - ☐|c|[2] I often experienced difficulties with stressful, difficult situations, which often led to tensions and problems with my partner, family or other people
   - ☐|d|[3] I always experience difficulties with stressful, difficult situations. They upset me and make me tense

HISTORICAL – MENTAL HEALTH

6. **In your past, have you ever had psychological problems, such as being tense, anxious, down/blue or confused?**
   - ☐|a|[0] No, almost never
   - ☐|b|[1] Yes, however without clear influence on my daily life
   - ☐|c|[2] Yes and it influenced my daily life
   - ☐|d|[3] Yes and these problems have had or still have a long-lasting effect on my daily life

CURRENT – RESISTANCE TO TREATMENT

7. **Do you think it is difficult to follow your health caregivers' recommendations?**
   - ☐|a|[0] No, I don't think this is difficult
   - ☐|b|[1] Yes, I think this is difficult, but I manage
   - ☐|c|[2] Yes, I think this is difficult, sometimes I manage, sometimes I don't
   - ☐|d|[3] Yes, I think this is too difficult, most of the times I don't manage

CURRENT – MENTAL HEALTH SYMPTOMS

8. **At present, are you experiencing psychological problems, such as being tense, anxious, down/blue or confused?**
   - ☐|a|[0] No, no problems
   - ☐|b|[1] Yes, mild problems that do not affect my ability to do daily activities
   - ☐|c|[2] Yes, moderate problems that affect my ability to do daily activities a little
   - ☐|d|[3] Yes, severe problems that affect my ability to do daily activities a lot

HISTORICAL – JOB AND LEISURE

9a. **Do you have a job?**

☐|a| Yes
☐|b| No

9b. **If you said No, please specify:**

☐|a| I am a student
☐|b| I am retired
☐|c| I am a housewife taking care for the household and others
☐|d| I am disabled
☐|e| I am more than 6-months on sick leave

9c. **Have you got activities in your spare time such as volunteering, courses, sports, clubs…?**

☐|a| Yes
☐|b| No

To be filled in by your health professional
If 9a) a and 9c) a, score on current job and leisure = **0**
If 9a) a and 9c) b, score on current job and leisure = **1**
If 9a) b and 9c) a, score on current job and leisure = **2**
If 9a) b and 9c) b, score on current job and leisure = **3**

HISTORICAL – SOCIAL RELATIONSHIPS

10. **How do you generally relate to other people?**

☐|a|[0] I have a sufficient amount of contacts with others and socialize well
☐|b|[1] I have contacts with others, though every now and then it might become tense
☐|c|[2] It is difficult for me to initiate or maintain contacts or friendships with others
☐|d|[3] Contacts or friendships often deteriorate into quarrels and conflicts

CURRENT – RESIDENTIAL STABILITY

11. **Is your home living situation satisfactory? Or are adjustments needed, such as home modifications, receiving home care, or going to live somewhere else?**

☐|a|[0] No adjustments needed, I can manage my home situation
☐|b|[1] No adjustments needed, as there is enough support and care by others
☐|c|[2] Adjustments are needed, however not immediately
☐|d|[3] Immediate adjustments are needed

CURRENT – SOCIAL SUPPORT

12. **Is assistance from your partner, family, colleagues or friends available for you at any time?**

☐|a|0 I am not in need of assistance
☐|b|0 Yes, assistance is available at all time
☐|c|1 Yes, assistance is available but not at all times
☐|d|2 The assistance I get is very limited
☐|e|3 No assistance is available

13. **Do you experience problems in getting the care you need due to living too far away, or not having any insurance, or not speaking the language very well, or differences in culture?**

☐|a|0 No, these are not problems for me
☐|b|1 Yes, I experience some of these problems every now and then
☐|c|2 Yes, I often experience some of these problems
☐|d|3 Yes, some of these are big problems for me

HISTORICAL – TREATMENT EXPERIENCE

14. **How did you experience your contacts with doctors and healthcare providers *in the last 5 years*?**

☐|a|0 I never had problems with doctors and healthcare providers
☐|b|1 I or someone close to me had negative experience(s) with doctors and healthcare providers
☐|c|2 I have changed doctors and healthcare providers as a result of a negative experience
☐|d|3 I frequently have changed doctors and healthcare providers because of negative experiences or lack of trust

CURRENT – ORGANIZATION OF CARE

15. **Who are the healthcare providers who take care for you at the moment?** [multiple answers allowed]

☐|a| I don't receive any care
☐|b| Primary care physician/general practitioner
☐|c| One medical specialist (such as: respiratory physician, cardiologist, surgeon, general physician) for physical problems
☐|d| Several medical specialists for physical problems
☐|e| One or more specialists for mental problems (such as: psychiatrist, psychologist, specialist for substance abuse…)
☐|f| Social worker
☐|g| Home nurse

☐|h| I'm currently admitted to a hospital
☐|i| I'm currently admitted to a psychiatric hospital
☐|j| Other (please specify) _____

To be filled in by your health professional
If 15) a or b or f or g, score on current organization of care = **0**
If 15) c or d or e, score on current organization of care = **1**
If 15) c or d and e, score on current organization of care = **2**
If 15) c or d and e plus h or i, score on current organization of care = **3**

CURRENT – COORDINATION OF CARE

16. **To what extent do your doctors and healthcare providers work together?**
☐|a|0 I do not receive care or my care is provided by just one doctor
☐|b|0 My doctors and healthcare providers work together well
☐|c|1 My doctors and healthcare providers work together, however sometimes more communication is needed
☐|d|2 My doctors and healthcare providers do not work together quite well, leading to problems every now and then
☐|e|3 My doctors and healthcare providers do not work together

PROGNOSIS – COMPLICATIONS AND THREAT

17. **In the next 6 months, do you expect your physical health to change?** [Try to make the best estimate]
☐|a|0 In the next 6 months I expect my physical health to remain the same or get better
☐|b|1 In the next 6 months I expect only a slight worsening of my physical health
☐|c|2 In the next 6 months I expect a worsening of my physical health
☐|d|3 In the next 6 months I expect a considerable worsening of my physical health

PROGNOSIS – MENTAL HEALTH THREAT

18. **In the next 6 months, do you expect your psychological well being to change?** [Try to make the best estimate]
☐|a|0 In the next 6 months I expect my psychological well-being to remain the same or get better
☐|b|1 In the next 6 months I expect only a slight worsening of my psychological well-being

☐|c|[2] In the next 6 months I expect a worsening of my psychological well-being
☐|d|[3] In the next 6 months I expect a considerable worsening of my psychological well-being

PROGNOSIS – SOCIAL VULNERABILITY

19. **In the next 6 months do you expect that a change will be needed in the way you are currently living?** [Try to make the best estimate]
☐|a|[0] In the next 6 months there is no need to change the way I am currently living
☐|b|[1] In the next 6 months I am able to stay or return to my current living situation. However homecare is required
☐|c|[2] In the next 6 months a change to another living situation will be needed
☐|d|[3] A change to another living situation is needed immediately

PROGNOSIS – HEALTH SYSTEM IMPEDIMENTS

20. **In the next 6 months, do you expect that you will be in need of more help and support?** [Try to make the best estimate]
☐|a|[0] I expect in the next 6 months that my need of care will remain the same or become less
☐|b|[1] I expect in the next 6 months that my need of care will increase
☐|c|[2] I expect in the next 6 months that my need of care will increase very much
☐|d|[3] I expect in the next 6 months that my need of care will increase very much and additional services will be necessary

Thank you for your collaboration