Verification of healthcare needs by the use of National Health Fund Data - mental and behavioural disorders

**Abstract**

Background: The ways of gaining the information on healthcare should be verified as the discrepancies between different sources may lead to serious mistakes. Unfortunately, there are few reports on the methodology on healthcare needs assessment especially when mental and behavioural disorders are considered.

Methods: The whole-nation statistical data from the Central Statistical Office (CSO) were compared to the whole-nation information on the reimbursed psychotropic medicines from the National Health Fund. The most important mental health problems, and the spatial (regional) distribution of mental disorders in Poland were analysed.

Results: In 2011 the total number of outpatients registered in psychiatric facilities was 1 404 148 (CSO), and NHF reimbursed psychotropic drugs registered in psychiatric facilities was 1 404 148 from the Central Statistical Office (CSO) were verified and updated every year by the Ministry of Health. The results are presented every year in CSO Statistical Yearbook and in Statistical Bulletins published by the Centre for Information Management of National Health Fund Data - mental and behavioral disorders. The attempts were made to compare the data on mental health diseases from the National Health Fund (NHF) information. If the numbers of patients in patients registered in psychiatric facilities are different from those data, it can be assumed that the outpatients who are suffering from mental and behavioural disorders (F00-F99 according to ICD-10) are referred to psychiatric facilities, but there are also the outpatients who use medicines prescribed by general practitioners and specialists other than psychiatrists. The number of people who were not included in such databases, and other psychotropic medications seems to be a dark figure, and a big one.

The aim of the study was to compare the data from different sources to determine whether the actual health needs may be verified by the use of data from National Health Fund.

**Keywords:**
- mental health disorders
- healthcare needs assessment
- pharmaceutical use
- psychotropic drugs
- verification of healthcare needs
- National Health Fund

**Introduction**

Healthcare needs assessment is the crucial point in preparation and evaluation of almost each kind of healthcare strategies, policies, and planning. However, the methodology of gaining the information on health and healthcare should be verified as the discrepancies between different sources may lead to serious misunderstandings resulting in serious mistakes. Unfortunately, there are few reports on the methodology on healthcare needs assessment especially when mental and behavioural disorders are considered. The most important data indispensable for correct analyses are usually taken from epidemiological investigations and statistical reports. However, the role of epidemiology is sometimes underestimated as there are important limitations of epidemiological based needs assessments. It is also generally accepted that the healthcare needs should be assessed by the staff and the patients as well. On the other hand, the problem arises that staff and patients moderately agree about met needs, but agree less often on unmet needs. That is especially true in a case of mental disease and psychiatric problem, so special tools had been developed for assessment of such needs, e.g. Camberwell Assessment of Needs instrument, Client Sociodemographic and Service Receipt Inventory (CSSI-EU) or even EQ-5D. Also the general practitioners are sometimes involved in assessment of healthcare needs of population. Unfortunately, there are no fully objective, diagnoses-based methods for precise assessing health care needs.

Moreover, the accuracy and timelines of information strongly depend on the different sources of information. The most complete data can be found in the medical records, irrespectively from their forms (paper or electronic ones), but retrieving the information from such dispersed and disseminated sources is very difficult or even impossible. The registers of patients suffering from e.g. psychiatric disorders are another type of sources. The completeness of registers strongly depends on the type of institution (healthcare centers, hospitals, outpatients clinics etc.), and usually covers only the patients from such an institution. The epidemiological data come from different reports and studies, but their accuracy and timeliness may be vague. It can be assumed that only patients who actually are in need, will take the medicines, and if the medicines are not taken – patients will actually are in need, will take the medicines, and if the medicines are not taken – patients will not recognized the therapy as a need. The patients in their forms non-compliance in pharmacotherapy may range from 15% to even 70% of registered patients suffering from different diseases. So it seems reasonable to verify whether the medicines consumption may be used as a measure for quantification of healthcare needs, at least in selected kinds of diseases. Mental health is an appropriate example for such analysis. It can be assumed that the overestimation of the number of patients suffering from mental and behavioural disorders (F00-F99 according to ICD-10) is caused by the fact that these patients are not the patients in the official healthcare statistics, and they have not recognized the therapy as a need. The success of the therapy is considered as an indicator of the success of the treatment, but the patient may not use the prescribed medicines. Moreover, NHF may identify each patient, his/her diagnoses, and each prescription for re-
The lists of 10 most frequent mental disorders / diseases was constructed on the basis of CSO and NHF data. Additional information was retrieved about diseases and conditions which are usually recognized as the most important mental health problems in Poland. The spatial (geographic) distribution of patients registered by CSO and patient who use psychotropic medicines reimbursed by NHF was analysed using the following data:

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>CSO Number of Patients</th>
<th>NHF Number of Patients</th>
<th>CSO-NHF Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Neurotic disorders</td>
<td>347,263</td>
<td>129,247</td>
<td>218,016</td>
</tr>
<tr>
<td>2. Affective disorders</td>
<td>269,408</td>
<td>156,561</td>
<td>112,847</td>
</tr>
<tr>
<td>3. Symptomatic mental disorders</td>
<td>199,665</td>
<td>103,372</td>
<td>96,293</td>
</tr>
<tr>
<td>4. Mental disorders due to use of alcohol</td>
<td>170,011</td>
<td>101,390</td>
<td>68,621</td>
</tr>
<tr>
<td>5. Dependence syndrome</td>
<td>144,894</td>
<td>99,786</td>
<td>45,108</td>
</tr>
<tr>
<td>6. Schizophrenia</td>
<td>143,511</td>
<td>95,857</td>
<td>47,654</td>
</tr>
<tr>
<td>7. Specific developmental disorders</td>
<td>72,644</td>
<td>92,598</td>
<td>20,094</td>
</tr>
<tr>
<td>8. Mental retardiation</td>
<td>72,578</td>
<td>96,204</td>
<td>23,626</td>
</tr>
<tr>
<td>9. Other psychotic disorders (non-schizophrenia)</td>
<td>44,180</td>
<td>85,438</td>
<td>-41,258</td>
</tr>
<tr>
<td>10. Adult personality and behaviour disorders</td>
<td>34,194</td>
<td>59,438</td>
<td>25,244</td>
</tr>
<tr>
<td>TOTAL NUMBER</td>
<td>1,485,266</td>
<td>971,311</td>
<td>513,955</td>
</tr>
</tbody>
</table>


It should be mentioned here that the number of patients registered and treated because of 10 most frequent conditions (1,485,266) was higher than total number of patients registered by CSO (1,404,148). That indicates that the remarkable number of psychiatric patients (approx. 80,000) were double registered (in different facilities).

The spatial distribution of patients in all Polish voivodeships according to CSO (persons registered in out-patient clinics for patients with mental disorders, addicted to alcohol and drug in 2011) and to NHF (persons who used reimbursed medicines in 2011 – diseases codes F00-F99) is presented in Tab. 3.

Table 1. The number of patients with 10 most often diagnosed groups of diseases (according to the Central Statistical Office and diseases (according to National Health Fund)

Table 2. The difference between CSO and NHF data referring to selected mental disorders (absolute numbers of patients in Poland)

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>CSO Number of Patients</th>
<th>NHF Number of Patients</th>
<th>CSO-NHF Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difference CSO-NHF</td>
<td>312,071</td>
<td>208,471</td>
<td>103,597</td>
</tr>
<tr>
<td>F10.2 Dependence syndrome</td>
<td>144,894</td>
<td>129,247</td>
<td>15,647</td>
</tr>
<tr>
<td>F40-F48 Neurotic, stress-related and somatoform disorders</td>
<td>147,263</td>
<td>147,263</td>
<td>0</td>
</tr>
<tr>
<td>F20 Schizophrenia</td>
<td>143,511</td>
<td>148,360</td>
<td>4,849</td>
</tr>
</tbody>
</table>

al disorders was found in Łódź voivodship (4867 per 100,000) and the lowest – in Warmian-Masurian voivodship (4.03). In all provinces the number of patients according to NHF data is about 36% lower than the number of patients whose prescriptions has been reimbursed. Such underestimation has ranged since 4 to over 13 times depending on the voivodship. It can be used as a measure of health inequalities.

Moreover, the important differences in diagnoses were found. According to CSO the neurotic disorders, affective disorders and somatization of mental disorders were the most often mental disorders in Poland in 2011.

In contrast to somatic disorders (e.g. pneumonia, hypertension, diabetes) mental diseases and behavioural disorders are rather difficult to diagnose and hard to be monitored. On the other hand, the majority of psychotropic drugs are prescribed by GPs. The percentage of people with mental disorders has been estimated by the use of questionnaires, as high as 36% in a general population. Polish CSO stated that approx. 3.64% of Polish population are treated in psychiatric outpatients facilities. The NHF data indicated that over 20% used psychotropic medicines. The difference was 16.78% and it can be the indicator of underestimation of healthcare needs and/or of overconsumption of medicines. According to Jackson et al. the use of psychotropic medicines was a need in approx. 30% of patients in primary healthcare. So it can be stated that the mental and behavioural disorders in Poland are rather underdiagnosed or underreported in statistical forms.

The most striking feature of presented results is the discrepancies between almost all data obtained from CSO and NHF. For example, the number of patients treated in facilities (according to CSO) may differ from the actual number of people with mental health problems, as one person may be treated in several institutions because of several mental problems at the same year. That is the probable the cause of difference between number of patients registered and treated because of 10 most frequent conditions (1 485 266 patients) and total number of patients registered by CSO (1 404 148 patients).

Comparison of data from CSO and NHF revealed the significant differences between both sources. First of all, the number of patients with mental problems in Poland as registered by CSO is 5,61 times lower than the number of patients whose prescriptions has been reimbursed. Such underestimation has ranged since 4 to over 13 times depending on the voivodship. It can be used as a measure of health inequalities.

Verification of healthcare needs by the use of National Health Fund Data - mental and behavioural disorders
CSO data and NHF data present quite different pictures of health needs of patients with mental and behavioural disorders in Poland. It is important, because the statistical data are the bases for preparation of strategic and regional health policies. It seems that the mental health needs assumed in such programs are underestimated. The corrects use of psychotropic medicines by the general populations may be a valuable tool to predict the health outcomes, e.g. in case of suicide rates. That is and emerging problem as the estimates of QALY losses showed that mood disorders ranked second behind pain-related chronic medical conditions. Psychotropic drugs were prescribed by 64% of GP in sleep, anxiety and depressive disorders. Also the use of antidepressants among 65+ year-olds increases with age and proximity to death. The analysis of spatial distribution of NHF and CSO data on mental and behavioural disorders revealed important health inequalities in different voivodeships. Similar phenomena might be seen in other countries but these variations should be further investigated.

CONCLUSION

The comparison of data from CSO and NHF revealed the important spatial differences in healthcare inequalities, scale of double-registration of patients and overconsumption of medicines together with underestimation of healthcare needs. Also other information e.g. on patients’ non-compliance in alcohol dependence syndrome can be obtained in this way.

Acknowledgements

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Conflicts of interests: None declared

Key points

Central Statistical Office data and National Health Fund data present quite different pictures of health needs of patients with mental and behavioural disorders in Poland as the statistical data refer to the outpatients from psychiatric facilities but NHF – to general population.

Comparison of both sources may be a method for assessing actual mental health needs, to study health inequalities, and non-compliance as well. Strategic and regional health programs should take into account both types of sources.

The correct use of data on psychotropic medicines consumption by the general populations may be a valuable tool to evaluate and predict the health outcomes, QALY and patients’ non-compliance.

REFERENCES: