DEVELOPMENT AND VALIDATION OF QUALITY INDICATORS FOR BENZODIAZEPINE USE IN GENERAL AND MENTAL HEALTH HOSPITALS: SHORTCOMINGS OF AVAILABLE REIMBURSEMENT DATA (abstract 5PSQ-083 – ATC: N05)

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BACKGROUND AND OBJECTIVE

Background
Quality of care monitoring is an important aspect in healthcare and depends on the availability of valid quality indicators (QI), easily obtainable from available data sources. In particular for benzodiazepines and Z-drugs (BZD), given their important side-effects, good QIs are needed.

Objective
To develop QIs for BZD use in general and mental health hospitals, preferentially based on readily available reimbursement data (RD).

METHODS

1. Literature review
2. Field observation

QI selection

1) Literature review
2) Field observation

Face validity

Approval by multidisciplinary expert meetings within regional network for healthcare institutions (Zorgnet-ICURO).
- Psychiatrist
- Pharmacists
- Data analysts
- Policy makers

Data integrity & content validity

QIs assessed through comparison between two separate datasets.
1) National RD (year 2016; collected from all Belgian health care insurers).
2) Local invoicing data (ID) from one general hospital psychiatry ward (GHP) and one mental health hospital (MHH).

Critical appraisal

1) Current data sources accurate/detailed enough?
2) Other approach needed?

RESULTS

1. Selected quality indicators

A set of 4 QIs was approved by the expert panel. Full description is available in Table 1.

<table>
<thead>
<tr>
<th>Selected quality indicator</th>
<th>Numerator</th>
<th>Denominator</th>
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<tbody>
<tr>
<td>QI1: admissions with BZD (%)</td>
<td>Count of admissions with ≥1 BZD given on day of admission</td>
<td>Count of unique admissions</td>
</tr>
<tr>
<td>QI2: discharged with BZD (%)</td>
<td>Count of admissions with ≥1 BZD given on day of discharge</td>
<td>Count of unique admissions</td>
</tr>
<tr>
<td>QI3: continuous BZD use (%)</td>
<td>Count of admissions with ≥1 BZD given on each day of hospital stay</td>
<td>Count of unique admissions</td>
</tr>
<tr>
<td>QI4: use of BZD (DDD)/patient day</td>
<td>Sum of DDD of all BZD given on day of admission</td>
<td>Sum of all patient days in given year</td>
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Table 1: Description of selected QIs

2. Assessment data integrity

- Integrity of RD and ID were assessed according predefined inclusion criteria. For the MHH, data sets corresponded well (719 vs. 710 patients with ≥1 BZD use) with a maximum relative difference between data sets ≤ 5%. (Table 2)
- For the GHP however, local and reimbursement data showed major differences, especially after applying 'BZD use' (161 vs. 206 patients), resulting in a high relative difference (22%).

Table 2: Comparison data sets according different inclusion criteria

3. Assessment content validity

- Upon comparison between RD and ID, 3 out of 4 QIs could not be calculated as RD does not provide for a valid denominator at different moments during hospitalisation.

Table 3: Comparison data sets according different quality indicators

4. Reasons for data loss

- A subsequent short survey amongst mental health hospitals showed high variability how drug invoices (and thus RD) are generated, aggregated and sent to insurers. (Figure 1)

CONCLUSION

Current reimbursement data are not sufficiently detailed to evaluate BZD use within/between hospitals, at least partially due to differences between hospitals how invoice data are aggregated and sent to insurers. However, the high implementation of electronic prescribing (CPOE) in Belgian hospitals potentially allows to use actual prescription and administration data for this purpose. This approach will require additional efforts from hospitals to extract and provide the data in a suitable format.

FUTURE PROSPECTS

Based on these findings, a uniformized data structure has been developed, allowing standardized data extraction from different electronic medical record systems and subsequent comparison. Recently (March 2019), a call has been launched to all regional mental health hospitals and general hospitals with a psychiatry ward to participate in a pilot trial using this new approach.