Computing Healthcare Quality Indicators Automatically
Dentler, K.

2014

document version
Publisher's PDF, also known as Version of record

Link to publication in VU Research Portal

citation for published version (APA)

General rights
Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

• Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
• You may not further distribute the material or use it for any profit-making activity or commercial gain
• You may freely distribute the URL identifying the publication in the public portal

Take down policy
If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

E-mail address:
vuresearchportal.ub@vu.nl
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.3.6</td>
<td>45</td>
</tr>
<tr>
<td>4.4</td>
<td>46</td>
</tr>
<tr>
<td>4.4.1</td>
<td>48</td>
</tr>
<tr>
<td>4.5</td>
<td>51</td>
</tr>
<tr>
<td>4.5.1</td>
<td>51</td>
</tr>
<tr>
<td>4.5.2</td>
<td>53</td>
</tr>
<tr>
<td>4.5.3</td>
<td>53</td>
</tr>
<tr>
<td>4.5.4</td>
<td>54</td>
</tr>
<tr>
<td>4.6</td>
<td>54</td>
</tr>
</tbody>
</table>

**II** SECONDARY USE OF PATIENT DATA

5 BARRIERS TO THE REUSE OF ROUTINELY RECORDED CLINICAL DATA: A FIELD REPORT

5.1 Introduction | 65
5.2 Methods     | 66
5.3 Results     | 69
5.3.1 Required data | 69
5.3.2 Barriers to the reuse of routinely recorded clinical data | 69
5.4 Discussion  | 73
5.4.1 Main Findings | 73
5.4.2 Related Work | 73
5.4.3 Strengths and limitations | 74
5.4.4 Recommendations | 74
5.4.5 Conclusion | 75

6 INFLUENCE OF DATA QUALITY ON CLINICAL QUALITY INDICATORS

6.1 Background | 78
6.2 Methods    | 79
6.2.1 Patient data | 79
6.2.2 Quality indicators and their computation. | 80
6.2.3 Outcome measures | 80
6.3 Results    | 82
6.3.1 Patient matching | 82
6.3.2 Computation of quality indicators | 82
6.3.3 Outcome measures | 84
6.3.4 Catalogue of encountered problems | 85
6.4 Discussion | 87
6.4.1 Comparison with other studies | 87
6.4.2 Limitations of this study | 87
6.4.3 Recommendations / Future Work | 88
6.5 Conclusions | 89
6.6 Appendix   | 90

7 SEMANTIC INTEGRATION OF PATIENT DATA AND QUALITY INDICATORS | 93
9.1 Introduction ........................................ 143
9.2 Background ........................................ 144
  9.2.1 SNOMED CT concept definitions and rolegroups .. 144
  9.2.2 Trivial and non-trivial primitive concepts .............. 145
  9.2.3 Redundant elements in SNOMED CT concept definitions ........................................ 145
9.3 Materials and methods ............................... 145
  9.3.1 Method to detect redundant elements in SNOMED CT concept definitions ................................. 146
  9.3.2 Evaluation of our method .......................... 147
9.4 Results: Redundant elements in concept definitions ....... 149
9.5 Evaluation ........................................... 152
  9.5.1 Completeness .................................... 152
  9.5.2 Soundness ...................................... 152
9.6 Related and future work .............................. 152
9.7 Discussion and conclusions ........................... 153
10 CONCLUSIONS ......................................... 155
  10.1 Results and Answers to Research Questions ............ 155
  10.2 Answer to Main Research Question .................... 159
    10.2.1 Generalisability of our Results .................. 160
  10.3 Limitations ........................................ 161
  10.4 Strengths ......................................... 163
  10.5 Future Work ....................................... 164
  10.6 Outlook ........................................... 165

BIBLIOGRAPHY ........................................... 167
A SUMMARY ............................................. 179
B SAMENVATTING ...................................... 181