An IT-supported Evaluation Tool for Biobanks based on International Guidelines to improve Biosample Quality

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Background

- high quality samples are a quality indicator for (bio-) medical research outcomes
- sample quality relies on specimen collection, transportation, pre-analytical processes, (long-term) storage conditions
- Standard Operating Procedures (SOPs) provide a strong standardization
- CEN Technical Specifications for pre-examination processes
  - tissue (snap frozen, FFPE)
  - fluids (venous whole blood, serum, plasma, urine)

**AIM:**
IT-tool to assess the compliance of SOPs with CEN Technical Specifications
Material and Methods

1. analysis of the CEN technical specification
2. extraction of recommendations for each material sub-type
3. development and discussion of extracted recommendations
4. implementation of evaluation/survey based on REDCap
5. testing and pilot evaluation (BBMRI.at partners)
6. improvement of the pilot version according to feedback
### Results

![Screenshot of a form with data entry fields](image)

**Affiliation**
- Medical University of Innsbruck

**Department / Institute**
- Testdata

**Material type**
- Tissue
- Fluid

**Fluid type**
- Venous whole blood
- Serum
- Plasma
- Urine

**Venous whole blood is collected**
- Yes
- No

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### OUTSIDE THE LABORATORY

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**1 PRIMARY SPECIMEN COLLECTION MANUAL**

**1.1 Information about the primary sample donor documented**

<table>
<thead>
<tr>
<th>Field</th>
<th>fulfilled</th>
<th>partly fulfilled</th>
<th>not fulfilled</th>
<th>not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1.1 Primary donor / patient ID</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1.2 Health status of sample donor</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>1.1.3 Medical treatment prior to sample collection</td>
<td></td>
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</tr>
<tr>
<td>1.1.4 Type and purpose of proposed analytical test</td>
<td></td>
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</tr>
<tr>
<td>1.1.5 Instructions for the preparation of the patient for the blood draw procedure (e.g. fasting status)</td>
<td></td>
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<td></td>
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</tr>
</tbody>
</table>

*Information completely available.*
Discussion

- user-friendly tool
- web-based
- allows to assess the compliance of SOPs with international guidelines
- extension for biomolecules and cells needed
- meanwhile: tool was used for national survey amongst BBMRI.at partners
- report on results will be available soon
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