Bimetra Biobank:
Evaluation of sustainability at 5th year anniversary

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AHCs need to increase the yields of research, accelerating the translation of results into practice...in doing so requires establishing an effective ‘discovery-to-care continuum’, by the creation of centers of clinical research...

...those centers can catalyze interdisciplinary collaborations and assemble resources into shared core services and facilities that offer natural economies of scale.

Intrinsic assets of Academic Health Centers (AHCs), such as access to biological samples and clinical data, should be better leveraged.

In the big data era, AHCs should strive to become ‘learning health systems’ by making clinical data research grade.

Dzau et al. (2013) NEJM 369, Transforming Academic Health Centers (AHCs) for an uncertain future

Translational Biomedical research: Quadruple helix

- insufficient evidence generation,
- data sharing and infrastructure challenges
- uptake of genomic information into clinical care and research
- economics of precision medicine
- greater patient and clinician engagement and trust
Information and facilitation of aspects of research & valorisation: funding, IPR, licensing and industrial collaborations; liaising towards central units (TTO, research policy, Legal, Financial, HR); inventorizing translational local expertise

Facilitation of ethico-legal aspects of investigator-initiated (academic) and industry-initiated (commercial) clinical trials; monitoring of clinical trials; liaising to central units (IRB/EC, Legal, Financial, HR)

Central biorepository; service facility in sample access, (cryogenic) storage, preparation, QA/QC, ethico-legal aspects

Facilitation of translational data management, incl. biobank information management, eCFR, reuse of clinical and research data

Identifying and engaging in networks of different stakeholders with strategic added value for translational biomedical research @Ghent University Hospital
Information and facilitation of aspects of research & valorisation: funding, IPR, licensing, and industrial collaborations; liaising towards central units (TTO, research policy, Legal, Financial, HR); inventorizing translational local expertise = liaison

Facilitation of ethico-legal aspects of investigator-initiated (academic) and industry-initiated (commercial) clinical trials; monitoring of clinical trials; liaising to central units (IRB/EC, Legal, Financial, HR) = > 3500 submissions and > 900 contracts/year

Central biorepository; service facility in sample access, (cryogenic) storage, preparation, QA/QC, ethico-legal aspects = High quality facility, prospective collections, focus academic research

Facilitation of translational data management, incl. biobank information management, eCFR, reuse of clinical and research data = standardisation, harmonisation

Identifying and engaging in networks of different stakeholders with strategic added value for translational biomedical research @Ghent University Hospital = multistakeholder dialogue
Bimutra Biobank: novel Biobanking facility @ Ghent

- Central high quality biobank facility
  - 25,000 L Cryogenic capacity
  - BIMS with audit trail
  - Linked to international directories
  - Harmonized quality management system:
    - ISO 9001, OECD and ISBER based QMS guideline

- Keywords:
  - Transparency + autonomy researchers
  - Research collaboration
  - Access flows and service-cost models

- Focus: academic research with translational finality
  - Prospective collections (1st)
  - Historical collections (2nd)

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Bimeta Biobank: operational plan and cost models quest for sustainability

Cost models:
- Academic: minimal fee
- Academic collaborations with industry: partial cost model
- Industry: full cost model

=Quest for sustainability
Impact local and regional set up: catalyst and leverage for research

Before nov 2014: only sample storage
Since nov 2014: + sample processing, project advice and sample release

Biological back end of data driven collaborative biomedical research

<table>
<thead>
<tr>
<th>Biobank@Bimeta</th>
<th>Biobank Network@Flanders</th>
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<tbody>
<tr>
<td>Sample processing</td>
<td>Sample release</td>
</tr>
<tr>
<td>Sample storage</td>
<td>Sample providers</td>
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<tr>
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**Impact local and regional set up: catalyst and leverage for research**

**Biobank@Bimeta**

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**Biobank Network@Flanders**

- Biological back end of data driven collaborative biomedical research

<table>
<thead>
<tr>
<th>Focus</th>
<th>Biobanks</th>
<th># projects with industry</th>
<th># projects with Flemish industry</th>
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<tbody>
<tr>
<td>Sudden cardiac death (SCD)</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Diabetes</td>
<td>4</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Hepatotrop disorders</td>
<td>6</td>
<td>2</td>
<td></td>
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<tr>
<td>IBD</td>
<td>15</td>
<td>21</td>
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</tr>
<tr>
<td>Reumatoid arthritis (RA)</td>
<td>3</td>
<td>1</td>
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</tr>
<tr>
<td>TOTAL</td>
<td>30</td>
<td>7</td>
<td></td>
</tr>
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</table>

- Average usage ratio ~16%

<table>
<thead>
<tr>
<th>Focus biobanks</th>
<th># cases in biobank</th>
<th># used cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCD</td>
<td>9.786</td>
<td>2724</td>
</tr>
<tr>
<td>Diabetes</td>
<td>107.640</td>
<td>11.395</td>
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<tr>
<td>Hepato</td>
<td>18.245</td>
<td>6.964</td>
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<tr>
<td>IBD</td>
<td>70.347</td>
<td>9.757</td>
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<tr>
<td>RA</td>
<td>11.004</td>
<td>3.867</td>
</tr>
<tr>
<td>TOTAL</td>
<td>217</td>
<td>34.607</td>
</tr>
</tbody>
</table>

➢ Biobank survey for collaborating researchers:
  • General satisfaction regarding biobank services provided
  • Satisfaction cost models
  • Suggestions, needs assembled and being tackled

➢ NET promotor score: “likelihood to recommend”

➢ Overall satisfaction service vs. needs: 85%

➢ Likelihood to be a collaborator on new service projects: 90%

= 70%

➢ Biobank survey for collaborating researchers:
  • Most valued for:
    • Backup devices, monitoring and quality management
    • Honest broker service: unique labelling
    • Dry ice/LN2 service/transport preparation service
    • Sorting historical collections and proper datamanagement
    • Freezing procedures
  • Value added of processing procedures: 50-50 (yes, need/no need)
    • Dependent on research groups and amount of staff/research group

• Satisfaction cost models:
  • Service level price setting = positive
• Suggestions, needs....:
  • Sample pickup service hospital-wide
  • Labeling up-front service
  • Backup service for local freezers
  • On call service (24h) for samples
Biobank sustainability: what’s next?

➢ Customer satisfaction rate: overall high
  ○ Re-evaluation offered services in 2018:
    • What can be achieved/implemented with our funding?
    • Which processes are less required?
    • Which suggestions/needs can be fulfilled?

➢ Price adaptation needed due to lower funding
  • Price is deemed correct in academic setting
  • Biobank costs should be mentioned and foreseen in research project applications
  • Education regarding biobank cost models
  • Need for sustainable P-P-P

➢ Social acceptance of biobanks: creating awareness
  • Reverse science café
  • Multistakeholder dialogue
  • WG BBMRI.be stakeholder involvement
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Research Infrastructure Belgium

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Center for Medical Innovation

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