

Dutch biobanking standard: towards harmonized, evidence-based collection, processing, and storage of human biomaterials

Hilde Brouwers, Jörg Hamann, and Dorine Swinkels – BBMRL.nl / Health-RI, Utrecht, The Netherlands

INTRODUCTION

Harmonizing the collection and storage of biomaterials is of crucial importance for the **optimal use of biomaterials** for health research (e.g., Freedman et al, PLoS Biology 2015). It facilitates collaboration between research groups, increases research quality, and is part of a solid basis for building and maintaining a national health data infrastructure. There is a Dutch **biobanking protocol** available describing nationally agreed minimal requirements for biomaterial collection and storage. This protocol has been developed within Parelsnoer (est. 2007), an initiative, which was pioneer in centralizing and harmonizing multicenter clinical biomaterial and data collection on a national level. However, with the arrival of ‘omics-techniques’, new diagnostic techniques, such as the measurement of circulating tumor DNA (ctDNA), and the advancements made in cellular analysis techniques, the standards needs to be updated.

As part of a larger, nationwide initiative to establish an integrated health data infrastructure (see poster #65), the Health-RI Biobanks & Collections project ‘Harmonization of biomaterial collection’ will focus on updating the national biobanking protocol, resulting in **fit-for-purpose, evidence-based standards**, which focus on harmonizing the collection, pre-analysis, and storage of biomaterials and FAIR registration of (meta)data for biobanking purposes. The project will start with the creation of standards for **ctDNA and genomic DNA**.

The project has two aims:

1. Develop and implement an evidence-based, fit-for-purpose biobanking standard for health care research in the Netherlands,
2. Create awareness for the importance of pre-analytic standardization and create a collective responsibility within the work field for the implementation of the national standards.

CREATION OF STANDARD(S)

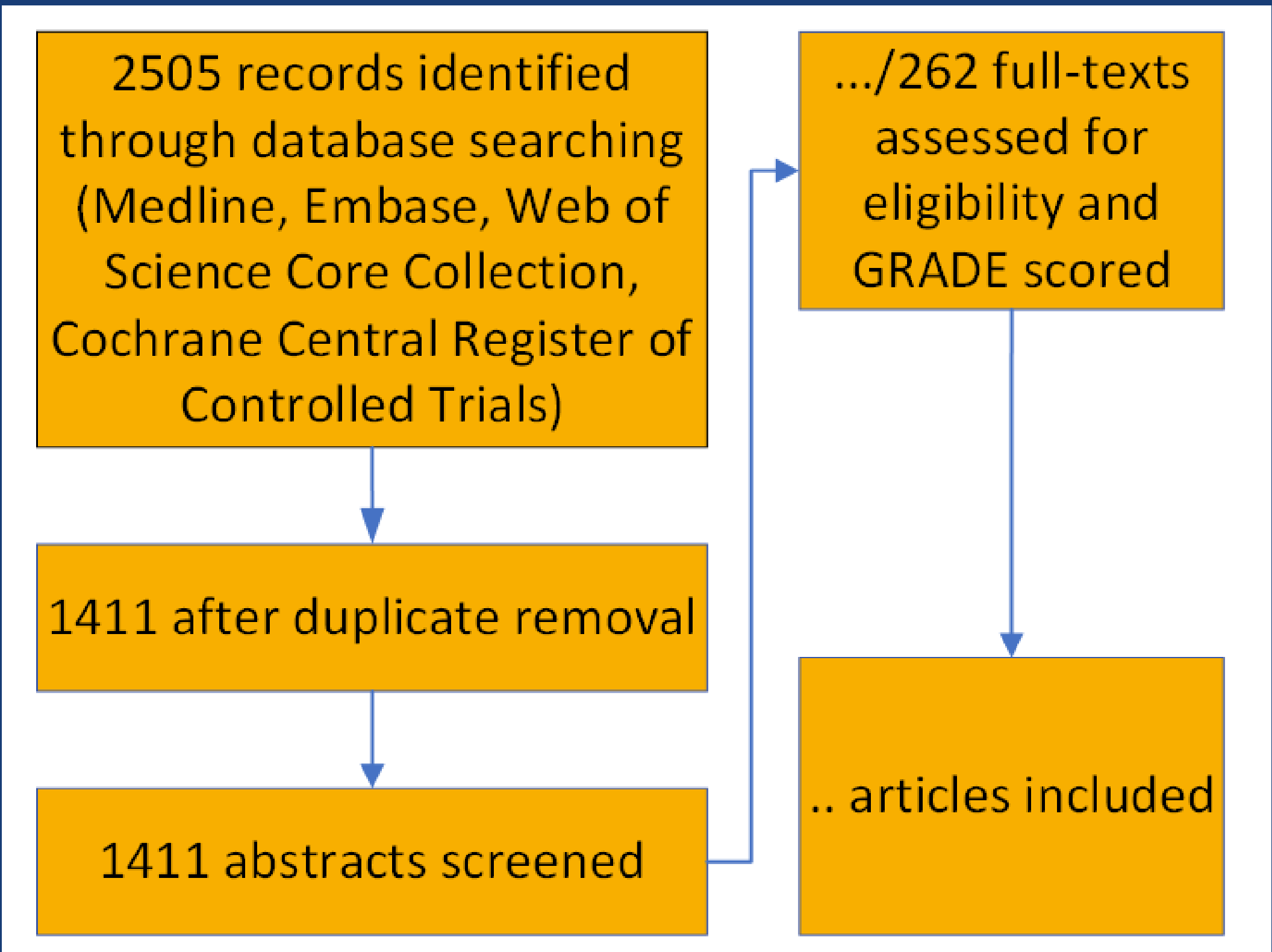
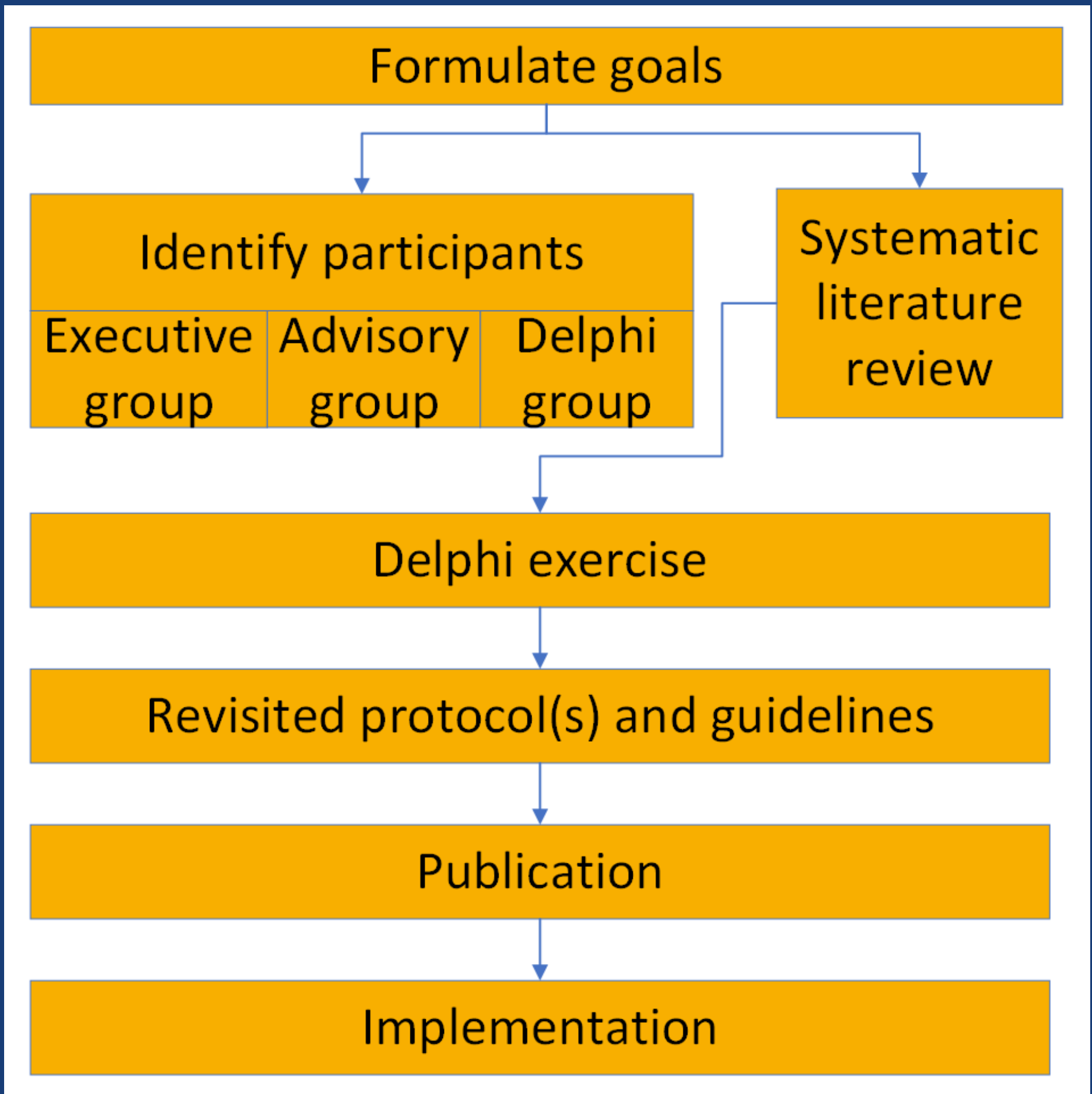


Figure 3. Project flow (phase 2-5 is repeated for every material type)



DIVISION OF TASKS

Central hub BBMRL-NL / Health-RI

- Leading, coordination, and execution of **development / kick-start** of novel approach
- After implementation: knowledge desk that supports Dutch biobank community in general
- **Impartial and leading positioning** essential for kick-start project

Regional nodes BBMRL-NL / Health-RI

- Support and input as advisors and experts for the different materials in the various project phases
- **Implementation** of the standard in the per-analytic workflow for biobanks
- Responsibility, mandate, and broad support are of key importance

Further information and contact:

<https://www.health-ri.nl>
h.brouwers.1@erasmusmc.nl



health RI
enabling data driven health & life sciences