

Finding the Path to Biobank Sustainability Through Sound Business Planning

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BIOBANKING HAS FINALLY ATTAINED recognition as a key infrastructure for biomedical research by the different stakeholders of the global scientific community. The biobank community is also becoming increasingly more professionalized. However, many biobankers still lack knowledge about basic business management skills that must be incorporated into their operations. An infrastructure like a biobank is a long-term investment that requires a sound business plan with its financial sustainability as a top priority. More often than not, planning for financial sustainability has not been part of the initial business modeling of a biobank, even if it may be stated as one of the long-term attainable goals. Far too often the major focus of the biobank's plan is on spending out the initial funding to meet the initial collection goals of numbers of biospecimens and data of acceptable quality. Large and well-documented biospecimen collections are of immense value for their utility in scientific research; however creation and maintenance of the resource is very expensive. Many biobanks have been initiated across the world based on a public or private grant or "one-shot" institutional funding. This funding is spent creating the biobank infrastructure, on needed equipment and possibly in support of the staffing for the first several years. Unfortunately, very few biobanking efforts have fully developed a robust plan to support their costs once the initial funding has been exhausted. Most often, new support grants are sought but are not guaranteed to be awarded. The leadership of some biobanks seek longer term institutional support that may provide for part, but not usually all, of the operational costs for the biobank. Other sources of funding may come from cost recovery activities or contracts with academic or industry partners for materials and services. Without careful planning, none of these methods will provide long-term financial sustainability. Across the sectors, it is clear that biobanks must incorporate business approaches to their planning from the start to be able to attain and maintain financial sustainability. Just as we plan a biospecimen collection with the "end in mind," we need to plan for financially sustainable biobanking from the beginning of the planning process to create a biobank. Ultimately, creating a biobank through sound business planning is about creating and achieving value, for the institution, to the clinical and research customers, and to society.

In two previous issues of *Biopreservation and Biobanking* (Volume 12, numbers 5 and 6), we introduced the global challenge of financial sustainability in biobanking in an editorial that accompanied articles from several biobanks from around the world.¹ Those articles described their varied biobank's "state" of financial sustainability and any challenges to achieving/maintaining a sustained position. As an extension of this earlier work, the current issue focuses on the imperative to make and follow true business principles when planning, implementing, and maintaining a biobank.

To capture the information and thoughts from the symposium focused on business planning for biobank financial sustainability and other discussions at the ISBER 2015 Annual Meeting & Exhibits held in Phoenix, Arizona, we encouraged authors of each of the presentations and selected posters to write articles for inclusion in this special issue on sustainability in *Biopreservation and Biobanking*. Several authors accepted the invitation to write individual articles and experts speak contributions. We are joined in this issue by an expert speaks contribution, based on a lively panel discussion at the CHI Leaders in Biobanking meeting held in Toronto in July 2015 that focused on utilization of specimen resources to contribute to biobank sustainability, both financially as well as socially. Gee et al. contributed a socio-economic study in the United Kingdom where they looked at issues surrounding the lack of an availability of samples for research and whether the lack of financial sustainability was contributing to this status. To support a stronger infrastructure for biobanking, they proposed a central solution with core support emanating from central public funds to reach a sustainable financial position.

There is not a one-size-fits-all concept of sustainability in biobanking in any sector. It is therefore even more important to have a sound business plan unique to the biobank that takes into account the downstream goals of the resource. A quality infrastructure with valuable, quality biospecimens must be planned, implemented and maintained to fit the intended purpose(s). However, this end purpose should be documented *in writing* in a business plan and must be revised periodically to ensure continued relevance. This holds true for any size of a biobank and in every sector. Quality specimens from trusted biobanks create a key component

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and basis for reproducibility of published molecular research. The size and the cost of irreproducibility is enormous: up to 80–90% of pre-clinical research cannot be reproduced irrespective of the impact factor of the journal in which these articles have been published.^{2,3} A recent article estimates the annual cost of this type of irreproducibility in the United States alone as high as \$28 billion.⁴

There are some key messages throughout the articles in this issue that are worth highlighting. A biobank is a research infrastructure that is paramount for biomedical and enviro-bio research. Whether a biobank is a fledgling or mature operation, in a small or large setting, the maintenance of long-term viability should be planned from initiation. Biobanking is very complex and diverse. There is a need for coordination, harmonization and standardization on a regional, national and international level. The central aim of all these activities is to strengthen the quality of biospecimens and data and biobanking in general. By doing so, the challenge of irreproducibility will, if not solved, be at least addressed. It will also be the basis for mid- and long-term sustainability of biobanking.

We hope you enjoy the different articles in this special issue. What comes next? As the financial sustainability of biobanks is of paramount importance to public, private, and commercial research and clinical care, we are already planning the next session on sustainability to be held at the 2016 ISBER Annual Meeting & Exhibits in Berlin, Germany. The title of the session is *Sustainability in Bio-*

banking: Targeting your Biobank Utilization Through Planning, Marketing, and Access. In the meantime, we encourage you to share your experiences regarding sustainability whether successful or—equally important—a failure that may provide valuable lessons. The Journal specifically welcomes such submissions.

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