Trends in Biobanking Business Planning: Initial Results of a Survey of Biobankers

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Introduction

BIOBANKING HAS BEEN practiced for many years, but has only recently been considered a central infrastructure for personalized clinical care and research. In addition, only in recent years have a few articles been published that focus on business models for biobanks.^{1–7} A successful biobanking model(s) depends on a variety of factors, including well-defined goals, a solid business plan, and specimen collections that are developed according to strict quality and operational controls. Most experts recommend that biobanks be set up and run in a similar manner to small- and medium-sized business enterprises.^{8,9} However, taking into account the incredible diversity in biobanking, running a biobank like such businesses may make sense to a medium–large biobank (oligo-/poly-user¹⁰), but may be less applicable in a number of aspects for a small, mono-user-type collection.

The depth and extent of the business plan should also be related to the size of the biobank. Although most articles touch on the topic of biobank business planning, only a few recent articles have included detailed descriptions of a recommended business plan for biobanks.^{11,12} While it is clear that there is an increased recognition of the need for business planning, specific data about how many biobanks already have or are preparing to implement a business plan for their biobanks, are not available. To gauge the awareness of biobank business planning, we conducted a survey among the participants of the symposium on sustainability at the 2016 Annual Meeting of the International Society of Biological and Environmental Repositories (ISBER) held in Berlin, Germany.

Methods

All attendees of the 2016 Annual ISBER Meeting in Berlin were asked to download the mobile app QuickMobile (www.quickmobile.com) to their smart phones and participate in the sustainability survey during the relevant symposium. It was the first time this tool was used at an ISBER meeting. At the beginning of the symposium the co-chairs asked all attendees to download the app and participate in the survey. No additional instruction was given. The survey included 16 defined questions grouped into five categories: (A) information about the biobanks they represent, (B)

business planning, (C) utilization, (D) users/customers, and (E) marketing/advertising (Supplementary Data; Supplementary Data are available online at www.liebertpub.com/bio). “Business plan in progress” was defined as aiming to have one within the next 12 months. In some questions, “other” could be answered if alternatives were not appropriate. We present a descriptive analysis of survey responses in this short report.

Results

Information about the participants

Approximately one-quarter ($n=32$) of the attendees of the symposium participated in the survey. There were 22 academic biobanks, 4 from pharma, 3 commercial, and 3 responded “other.” Out of the 22 academic biobanks, 16 allow broad use of samples and 4 allow broad use, but not for commercial purposes. In all four pharma biobanks, samples were for internal use only, whereas the commercial biobanks used their samples broadly. Seventeen out of the 32 biobanks have a business plan (11/22 from academia, all 4 pharma, 2/3 commercial biobanks, and none from others), 10/32 have a business plan in progress (8/22 from academia, 1/3 commercial, and 1/3 others), and 5/32 have no business plan (3/22 academia, 2/3 others) (Table 1).

Business planning

Eight out of the 17 biobanks that have a business plan would not/could not share their business plan, 6/17 would share it internally, 2/17 on demand, and one broadly. One out of the 10 biobanks with business plans in progress would not share it, 5/10 could share internally, 1/10 could share either on demand or broadly, and 2/10 biobanks answered N/A. Thirteen out of the 17 biobanks that have a business plan, update it periodically (7/11 from academia, 4/4 from pharma, 2/2 commercial). Six out of 10 business plans in progress intend to update it periodically (Table 1).

Utilization

Twenty-eight out of 32 responders answered the questions about targeted and estimated actual utilization rate of

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TABLE 1. NUMBER OF SURVEY PARTICIPANTS WHO REPORTED HAVING A BP, HAVING A BP IN PROGRESS AND HAVING NO BP

<i>Business plan</i>	<i>Participants</i>	<i>Academia</i>	<i>Pharma</i>	<i>Commercial</i>	<i>Others</i>
Yes	17	11/22	4/4	2/3	0/3
In progress	10	8/22	0/4	1/3	1/3
No	5	3/22	0/4	0/3	2/3

BP, business plan.

their biospecimen collections (Table 2). Twenty-three out of 28 had a utilization target of 40% or higher and 22/28 had estimated that their actual utilization rate was up to 40%. Among the responders with a business plan, 11/16 (68.8%) had a utilization target of 40% or higher and 13/16 (81.3%) estimated their actual utilization rate up to 40%, whereas in the group without a business plan, high utilization target was more frequent (11/12; 91.7%) and estimated their actual utilization rate to be comparable (10/12; 83.3%).

User/customers

Most of the biobanks were supported with a user/customer base that utilizes the resources repeatedly (28/32). Over the past few years, 18/32 of the biobanks provided samples/data for more than 51 projects annually (10/17 with a business plan, 4/10 with a business plan in progress, and 4/5 with no business plan).

Marketing/advertising

The vast majority of biobanks (30/32) perform some kind of marketing or advertising. Most either actively market the samples and data in their biobank or regularly communicate with user/customer base (e.g., newsletter, email, etc.), both internally and broadly. About two-thirds (22/32) have a strategy on how to approach potential customers to create new business for the biobank and the vast majority of biobanks have a web site (25/32). While a relatively new way to advertise, only a few of the respondents have taken advantage of social media to market their collections (10/32).

Discussion

The sustainability survey introduced in this short report was available as an element of a smartphone application available to all participants of ISBER 2016 in Berlin, Germany. Ap-

proximately 120 participants were in the audience of the sustainability symposium. Therefore, about one-quarter of the ISBER 2016 sustainability symposium attendees participated in this survey. Since data from all attendees are not available, it is not clear whether the responder group is representative of the biobanking community in general.

Almost no public data about the existence of business plans in biobanks are available, thus the results presented in this short survey are a clue to the status and the results must be interpreted with care. When the results are compared with other surveys of the greater biobank community that have limited data on this particular topic, it is clear that there is some selection bias in the participant group due to the high percentage of biobanks with existing business plans or business plans in preparation. Interestingly, those biobanks with a business plan were not willing/able to share their plans compared to those that were still in the preparatory phase. For industry biobankers, this may reflect the fact that, for commercial reasons, they may not have the authorization to share their business plans in full, however, that does not preclude a willingness to share information and experience on the principle of business planning.

Follow-up questions focused on the reason for the lack of sharing were not included in this survey. The trend toward creating a biobank business plan speaks to a level of professionalism of the organization and the value of its use in strategic and operational planning. The value of the documentation is realized when the biobank can predict and work toward long-term sustainability versus being reactive to business events or crises. Those biobanks that had a business plan in place were very cognizant of the idea that the business plan is “living” and must be updated on a periodic basis for its continued value.

It is of utmost importance that the information included in a business plan be based on realistic assumptions and market research. Wild guessing and wishful thinking are not helpful

TABLE 2. UTILIZATION RATE OF SAMPLES IN FIVE GROUPS OF 20%: NUMBER OF SURVEY PARTICIPANTS WITH TARGETED (HORIZONTAL) AND ESTIMATED (VERTICAL) PERCENTAGE OF UTILIZATION

	<i>Targeted</i>					<i>Total</i>
	<i>0%–20%</i>	<i>20%–40%</i>	<i>40%–60%</i>	<i>60%–80%</i>	<i>80%–100%</i>	
Estimated						
0%–20%	2	1	6	2		11
20%–40%		2	6	2	1	11
40%–60%				1		1
60%–80%				2	1	3
80%–100%					2	2
Total	2	3	12	7	4	28

in creating the elements of the plan. It takes clear documentation of purpose, market analysis, stakeholder identification, marketing strategies, organizational and governance models, costs, revenues, and funding sources.¹³ All the elements of financial transaction, operational activities, and social engagement should be able to map to the sections of the document to be complete in its inclusions for sustainability.

However, in our survey, three-quarters of the biobanks had utilization targets that did not correspond to their estimated actual utilization rate. All target values were overestimated, and none were underestimates of utilization. This result seems to point to a need for reanalysis of the biobank's business plan to be more realistic in projecting use, as well as including more marketing activities.

The vast majority of biobanks had repeated users/customers. Also, the majority had more than 50 users/customers. Although this result is based on a small number (4/5) of biobanks without business plans, these banks clearly had repeat users (50+ users). Thus, having a business plan will not solve all issues, but is part of professionalism and sustainability planning of mature biobanking.

Based on the trends within the results of the survey, it is imperative that further information be gathered before a definite interpretation can be advanced to the wider biobanking community. As mentioned before, the result of our survey must be interpreted with caution, with knowledge that no definition of terms like "Utilization" and others have been given. However, to our knowledge, this is the best data available as of today. A longer and more in-depth survey and analysis are needed and are planned by the coauthors.

Author Disclosure Statement

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References

- McDonald SA, Sommerkamp K, Egan-Palmer M, Kharasch K, Holtschlag V. Fee-for-service as a business model of growing importance: The academic biobank experience. *Biopreserv Biobank* 2012;10:421–425.
- Vaught J, Rogers J, Carolin T, Compton C. Biobankonomics: Developing a sustainable business model approach for the formation of a human tissue biobank. *J Natl Cancer Inst Monogr* 2011;42:24–31.
- Vaught J, Kelly A, Hewitt R. A review of international biobanks and networks: success factors and key benchmarks. *Biopreserv Biobank* 2009;7:143–150.
- Simeon-Dubach D, Watson P. Biobanking 3.0: Evidence based and customer-focused biobanking. *Clin Biochem* 2014;47:300–308.
- Parry-Jones A. Assessing the financial, operational, and social sustainability of a biobank: The Wales Cancer Bank case study. *Biopreserv Biobank* 2014;12:381–388.
- Uzarski D, Burke J, Turner B, Vroom J, Short N. A plan for academic biobank solvency-leveraging resources and applying business processes to improve sustainability. *Clin Transl Sci* 2015;8:553–557.
- Seiler CY, Eschbacher J, Bowser R, LaBaer J. Sustainability in a hospital-based biobank and university-based DNA biorepository: Strategic roadmaps. *Biopreserv Biobank* 2015;13:401–409.
- Simeon-Dubach D, Henderson MK. Sustainability in biobanking. *Biopreserv Biobank* 2014;12:287–291.
- Henderson MK, Simeon-Dubach D, Albert M. Finding the path to biobank sustainability through sound business planning. *Biopreserv Biobank* 2015;13:385–386.
- Watson PH, Barnes RO. A proposed schema for classifying human research biobanks. *Biopreserv Biobank* 2011;9:327–333.
- Matharoo-Ball B, Thomson BJ. Nottingham Health Science Biobank: A sustainable bioresource. *Biopreserv Biobank* 2014;12:312–316.
- Sargsyan K, Macheiner T, Story P, Strahlhofer-Augsten M, Plattner K, Riegler S, et al. Sustainability in biobanking: Model of biobank graz. *Biopreserv Biobank* 2015;13:410–420.
- Sahlman WA. How to write a great business plan. *Harv Bus Rev* 1997;75:98–108.

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