When Bad Things Happen: Lessons Learned from Effective and not so Effective Disaster and Recovery Planning for Biobanks

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IT IS WELL KNOWN WITHIN the clinical and research communities that the complexity and cost of creating biobank infrastructures are increasing as the need for high-quality specimens and practices becomes more important for precision medicine and public health. Every year and all over the world, biobanks are being created and new advanced technologies are being introduced into their operations. In planning for biobank infrastructures and processes, there should be a specific focus on risk management and risk mitigation in the case of disasters and unexpected occurrences. Concurrently, this will enable the biobanker to critically evaluate the overall value of the biobank as a scientific asset and not merely as a cost center. In our June editorial, "Disaster and Recovery: The Importance of Risk Assessment and Contingency Planning for Biobanks," we focused on a few of the key considerations that should be part of a strong disaster and recovery plan. Our focus is to create awareness that planning for "when bad things happen" must be a core competency for every type of repository. This awareness has created new business opportunities as companies are being created to support disaster recovery for laboratories and repositories.

The increase in the number of new complex biobanks is coming at a time when there is also an increase in the frequency of natural and human disasters across the globe. We requested that a special section of *Biopreservation and Biobanking* be dedicated to specific examples of how biobank disaster and recovery planning can work effectively, but may occasionally fail. In either case, a detailed analysis of the event must be completed. Capturing lessons learned from the experience and understanding whether the current plan is adequate to address the challenges, can lead to updated strategies to mitigate risk and speed recovery. Sharing lessons learned will allow others in the community to potentially avoid the same costly errors.

The special section is the culmination of observations of the increased frequency and results of natural disasters, such as the series of New Zealand earthquakes, tsunamis, Atlantic hurricanes, and fires that have occurred in major centers of biobanking infrastructure. Advances in technologies in the biobank infrastructure and during downstream use of biospecimens create a potential risk if the new equipment does not perform as planned. The 2012 ISBER Annual Meeting & Exhibits included a

plenary session, "Ensuring Sustainability in the Face of Global Crises," which provided a forum to discuss a few of the disasters and outcomes. Stemming from one of the presentations, Helen Morrin et al. details her experiences and lessons learned in "Sustaining a Biobank Through a Series of Earthquake Swarms: Lessons Learned from our New Zealand Experience."

In "Learning by Erring: Fire," Roger Bjugn et al., describe how a fire in their Norwegian Biobank exposed flaws in their disaster and recovery plan resulted in some necessary changes. Nina Roswell and her team discuss flooding as the biggest risk from natural disaster and present a recovery framework for biobank restoration in "Measures Taken to Restore the Danish Diet, Cancer and Health Biobank after Flooding." In 2012, Hurricane Sandy devastated many scientific and academic centers across the mid-Atlantic seaboard. Coriell's disaster and recovery plans were put to the test and lessons learned are discussed in "Preparedness for a Natural Disaster: How Coriell Planned for Hurricane Sandy" by Joseph Mintzer et al.

We also invited several expert leaders to provide insights into their varied experiences with natural and human-made disasters and recovery in biobanks. The vignettes focus on the lessons learned and future management of the crises, and reflect on specific incidents around the world, in "How Is Your Biobank Handling Disaster Recovery Efforts?"

We hope that you will learn from this series of articles and expert insights to support and inform your own disaster and risk mitigation planning. When bad things happen to your facility, and they inevitably will, we encourage you to share your positive AND negative experiences with the community through publications such as *Biopreservation and Biobanking*, and via community forums hosted by the International Society for Biologic and Environmental Repositories (www.ISBER.org)

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