

## **Initial Considerations Regarding Coronavirus COVID-19 Impacts on JHU SOM Research Efforts**

There is potential for a COVID-19 pandemic to affect research efforts here at the SOM, whether significant infection with the virus occurs in our local area or not, and various proactive actions should be considered to minimize potential disruption. Interruption or loss of supply chains, difficulties with completing ongoing research due to problems with attendance, or vulnerability of critical reagents (including animal models or reagents stored in liquid N<sub>2</sub>) could have short or longer-term effects on research programs. In a meeting earlier this week, the SOM Research Council addressed some of the potential threats, and there was a strong consensus that there are certain actions that could be taken now as a first step to minimize any disruption to research programs. While the situation is still evolving, and we realize that these suggestions will be clarified and modified over the coming weeks and months, we believe that a little planning now could go far to minimize effects of any disruption.

### **1. Consider in detail the supply chains for your line of work.**

Regardless of whether COVID-19 directly affects the Baltimore area, there is reason to be concerned that reagents and supplies that originate outside of the US may become limited (for example materials from China or Europe). Labs should consider whether there are any supplies (e.g. sterile plasticware, pipets, tips etc) and reagents with long shelf lives that they are running low on and should order a stock of now. There may also be pressure placed on supply chains that originate in the US. Therefore, it is important to determine if supplies essential for research protocols and also for preserving reagents are likely to be affected. This could include supplies that are manufactured in their entirety outside of the US, or components of “kits” that are made outside of the US for a US company who distributes the product. Further, availability of supplies may lag behind the resolution of a health crisis. So, researchers should consider maintaining in their groups supplies of those reagents that can be safely stored in order to assure their availability for the duration of a period of disruption that could last several months.

### **2. Cull unnecessary items from your -80, -20 and lqN<sub>2</sub> storage locations NOW—this is critical in order to ensure that there is space for transfer/storage of reagents and samples if an emergency were to arise.**

In a crisis, it may be necessary to move perishable materials owing to lack of regular liquid N<sub>2</sub> deliveries, or power issues that affect -20 and -80 freezers. Most laboratories have material in cold storage that is no longer necessary. Investigators currently have the luxury of time to understand where critical reagents are stored, and where space is available should this become needed. In the event a closure were to occur, having a plan in place prior to closure to split critical cell lines and reagents currently stored in liquid nitrogen between lqN<sub>2</sub> and -80degree freezers will be very helpful. We have confirmed with our major liquid N<sub>2</sub> suppliers that they will make every effort to deliver supplies of liquid N<sub>2</sub> if buildings are accessible, and as permitted by authorities.

### **3. Establish a robust communication network for your research group.**

All laboratory directories must be up to date, with current cell phone numbers and email addresses. Groups should develop a communications plan involving email and phone/text messaging in order for rapid and comprehensive information dissemination. Essential Personnel must have the ability to contact members of the group so they can obtain instruction regarding all laboratory issues that may arise and that may be outside of their own individual experiments. A list of PIs and essential lab personnel in their groups (and their email information) should be sent to the Division and Department Administrators, who will

collate the departmental information and send copies to Courtney Pierce at [cbenne31@jhmi.edu](mailto:cbenne31@jhmi.edu) so that information about plans, procedures can be effectively communicated if the need arises.

#### **4. Develop a clear and well-outlined plan for acute shutdown of laboratory functions.'**

If the institution is shut down for any period of time it is critical to consider the acute effects this will have and the specific tasks that must be completed. These include efforts to: preserve research projects and critical reagents (see RAR special Memo which summarizes animal issues), protect sensitive equipment, ensure safety of the unattended laboratory, preserve data integrity, among others. This plan will be different for each laboratory, but it should be developed and scrutinized by all members of the group to ensure covers all essential equipment and laboratory research activities. It is also important for all lab members to prepare in case disruption of work is prolonged where there is not easy access to the laboratory that they have the necessary digital infrastructure in place at home to be able to remain productive (good internet connection, collect your data files, prepare your lab computers/servers for remote access, etc).

#### **5. Develop a plan for non-murine model organisms, both for ongoing experiments and for the longer term**

Those working on other model organisms should similarly plan for the effects of an extended SOM closure. As an example, Drosophila workers can arrange for extra culture media to be prepared for off site storage of critical strains. It is important for each individual research entity to consider the requirements for maintaining their non-murine, non-primate models if daily care and maintenance were not possible. As appropriate, please communicate with Research Animal Resources (RAR) regarding support for your non-murine model organisms; town halls and additional communications from RAR are being planned.

#### **6. Designate 1 to 2 essential personnel within each research group.**

In the event of a university shut down, it will be important that individuals from each research group be designated as essential personnel so that if limited access to the University is mandated, you have in place the personnel to minimize damage and disruption to the overall research program. These individuals should be prepared to perform for the group: laboratory functions relating to reagent preservation, continuation of long-term experiments, monitoring of essential reagent storage equipment, monitoring of sensitive equipment, human subjects issues, and other relevant tasks. This person should have access to all facets of the research group's work (i.e. animal access if needed, key card access to all laboratory rooms, etc.). The essential personnel designation must be formalized by Human Resources in accordance with their policies for essential personnel and in consultation with the lab head and Department, and additional information about how to accomplish this will be forthcoming. A list of PIs and essential research personnel in their groups (and their email information) should be sent to Courtney Pierce at [cbenne31@jhmi.edu](mailto:cbenne31@jhmi.edu) so that information about plans, procedures can be effectively communicated if the need arises.

#### **7. Consider Impact on Studies Involving Human Participants**

In the event of a complete or partial university shutdown, disruptions could occur in planned visits with research participants enrolled in research studies. It is imperative that we ensure the safety of our research participants and carefully consider whether any interruption in study visits and access to study drug supply could pose a risk to human participant safety. Please work carefully with the Investigational Drug Service,

IRB and any external partners to develop contingencies plans as applicable. Teams should also make plans to utilize telephone and electronic communication with research participants as much as possible to keep research protocols on track.