



Notes from the CNSP virtual meetings: COVID-19 and scientific platforms operations – 12, 13, 14 May 2020

Objectives

As central hubs where many scientists engage to do their work each and every day, scientific platforms have unique challenges to overcome to operate in times of physical distancing.

The CNSP organized a series of **three online workshops** to brainstorm on these associated challenges and collectively find solutions to safely reopen and operate scientific platforms during the continuing COVID-19 situation.

Day 1 – Tuesday May 12

Social Distancing – Public transit, Personal Protective Equipment, social distancing in the scientific platform

Day 2 – Wednesday May 13

Training Solutions – Remote training, online resources, new/unique solutions

Day 3 – Thursday May 14

Financial Impact and Potential Solutions

Executive Summary

Each virtual meeting was organized as follows. The Main session was to articulate the three questions of the day and explain the principles of the breakout rooms – Each breakout room allowed for more in depth discussion with a smaller number of people. Notes and chat summary were collated and are presented below, they represent the discussion topic and **are not** official recommendations from CNSP.

- **5 Min** Introduction to zoom
- **10 Min** presentation – current day's topic
- **25 min** in small groups to discuss 3 questions
 - Moderator/Note taker/Someone to report to the larger group
- **20 min** feedback - each group reports ONE point of discussion
- **5 min** Poll Questions

These notes do not necessarily reflect CNSP views, but reflect an open discussion around the points that were raised

Day 1 – Tuesday May 12, 2020

Social Distancing – Public transit, Personal Protective Equipment, social distancing in the scientific platform

Attendance : 112 people

Q1: How to enable instrument access while respecting physical distancing?

Re-opening strategies - general

- Reopen by phases. Not too many people at once. Gradually increase over time if things go well. For example, gradual return to full capacity: limit to 20-30% occupancy for now, then 50% during the summer, then 100% capacity (if distancing possible) in the fall. The issue is to regulate/control the number of people in each room
- Give priority to groups with a small number of users.
- Issue of booking management: some software allows to book only one instrument per room (ilab software does this)
- Facility will reopen by phase, starting with a full service only phase. There will be a predetermined point and time of collection. Data will be accessible remotely. Phase 2 will be for experienced users only with no new training opportunities and phase 3 will be reopening including training
- No training for the moment
- Institution has implemented guidelines/protocols to address safety, but we still need to be aware that we need to proceed with own risk.
- Depends on scientific platform working with – scheduling varies with instrument and manager. Initially, manager is in charge and as volume increases, add one user at a time (staggering) while ensuring measures are in place to ensure as safe as possible. Ventilation can be a problem. Limiting capacity to 50% to try to respect physical distancing. Might need different procedures for employees and users.
- Policy about reduced hours or experiments that can respect timeframes to avoid unnecessary contact.

Users

- Limit number of people in the room/ One user in the room at a time: will depend on the size of the room
- Have booking system adapted so that only a certain number of people in the room at any given time
- If people stay for a long time in the room, Instrument isolation strategies (Plexiglas ...) may not be efficient. Then, masks should be used instead.
- Gap in time - between each of the booking - 15-30 minutes between users
- Switch to operator assisted mode only (full service): to keep it affordable, charge the same fees as for instrument usage alone. Problem: staff capacity is very limited
- Stagger start times of instrument usage
- Limit access to facility, hours of operation limited to working hours of core staff
- Users to take shifts – 8am-2pm, 3pm-9pm
- Timeline: respect safety but understand that students have deadlines for their projects.

Room(s) organization

- Three instruments in each in their own room. Moving instruments if possible.
- Putting markings on the floor.

- Putting up curtain or plexiglass (can be wiped down) but it will be important to make sure room ventilation or temperature control is not compromised.
- Ventilation is important to assess how quickly aerosols remain airborne under barriered or congested spaces. Find out what your ventilation system is like and how it performs under your particular space and occupancy. Keep yourself within the limits of your system to ensure better safety.
- Setting up isolated teams (like bubbles) which work together without contact between them. This helps making sure that not everybody would need to be confined at the same time in case of an outbreak in the facility.
- Mark floor with tapes: indicate 2m distance, indicate direction of traffic in common rooms, etc
- Concerned about common areas more than instruments.
- Some cores do not have a big problem with physical distancing. A member from a NMR facility pointed out that the rooms in his facility are very spacious and machines are big. Users only have to put a sample in and can leave again.
- Discussion on moving instruments to other available rooms, but this could be costly as it will likely require calibrations
- Blocking certain instruments if physical distancing is not available to allow use of one at a time

Samples

- Control the types of samples handled by the facility

Security measures

- What precautions need to be in place for possible accidents if people are in rooms alone? What to do if there is a non-COVID related accident in which a user needs help. Are our 1st aid people ready to respond? Will they be hesitant to help?
- There can be virus in droplets in the air

Q2: Would you feel more comfortable if masks and/or gloves were required at all times?

General Comment

- Getting supplies can be difficult. Who is paying for the PPE? Who should provide PPE?
- Central procurement to purchase disposable PPE
- There can be a lot of waste.
- Hair should be put up.
- Measures to be implemented gradually: 1 person per room in the beginning, get several people at the same time (if 2 meter apart is not possible, provide masks and gloves)
- Combination of appropriate and correct PPE: Gloves when handling samples or common spaces, hand washing at exit/entry, alcohol sanitizers available at entry.
- Multiple and redundant use of PPE gear (gloves, masks, wiping) can have a synergistic/cumulative reduction in potential for contamination
- Must treat samples which come in as “dirty”
- See Department of National Defense statement, workspace organized in 4 levels (based on different criteria which would include proximity, ventilation etc.) which all have specific requirements. (see reference end of the document)
- Availability of PPE is a problem – not sure it can be ordered yet
- Everyone agreed that washing hands and thorough cleaning of surfaces is paramount
- PPE : Users bring their own mainly, but core keeps on hand for those who forget – homemade masks, lab coats, gloves
- Rules and guidelines may vary by institution, not really up to user. Regulations also depend on context – e.g. human studies in small confined space.

Masks

- Require masks at all times.
- Only if 2 m rule is not possible, no mask if in the room alone.
- Masks protect others since it will be surgical masks
- Face masks may be made mandatory in certain facilities
- Required at all times (flow facility which stayed opened). It makes changes in the schedule simple, do not have to worry about number of people in each time slot, someone may come last minute.
- Can you impose masks if not provided by the institution?
- The majority of the discussion group did not favor the idea of wearing a mask at all times. Most thought that it is enough to follow the general Canadian guidelines that require masks only if the 2m distance is not possible
- Mandatory masks if not alone in room, go around or less than 2 m distance from others. Also need to have good hygiene and cleaning practices.
- Not as necessary if alone in office.

Gloves

- Gloves often not allowed before this time.
- Some facilities require gloves because of safety.
- Importance of hand washing.
- False sense of security, maybe okay during cleaning
- Gloves might help because it feels different and people would be less likely to touch their face.
- Suggestion that gloves be mandatory for sample submission
- There was no consensus. Some opted for gloves at all times, others thought this hurting more than helping (people going around with gloves and touching everything thinking it is safe).
- Cannot be sure what has been touched by the gloves
- Hand sanitizer stations instead of gloves?
- Wear gloves when working at the bench and for surfaces that are hard to clean. Different pair of gloves (different color) for other work like personal?

Face shield

- Face shields for one-on-one training or consultations

Q3: How do you ensure a clean working environment in your SP?

General Strategies

- Have checklists of what to do.
- Users or staff cleaning? Depends on number of staffs.
- What to clean with?
- A possibility would be to extend the hours of operation to allow time for cleaning.
- Redundancy in cleaning steps should ensure a clean work environment.
- return in shifts to minimize traffic
- share information using video platforms
- Need to keep cleaning solutions at each station, discourage sharing between stations

Strategies for Instrument/computers

- Plastic wrap for keyboards but there are also silicone covers for keyboards available
- Consider washable keyboards, plastic keyboard covers, mouse covers, etc.
- Saran wrap to cover surfaces.

- Computer keyboards – protective covering and provide cleaning solutions

User Responsibility

- Cleaning is up to user at this point.
- After instrument use, the user must wipe down all keyboards, plexiglass and hard bench surfaces, controls, etc.
- Users clean before and after.
- Cleaning should be the user's responsibility, SPs don't have not enough staff to do this (sometime, SP's staff is not even on site because they work from home).
- Ask user to fill a honor's declaration that they are following the cleaning procedure
- each user cleans all surfaces after use with wipes made available by core
- Think of it like a gym in which the person before you should but may or may not have cleaned the equipment.
- Every user must clean before and after use. + staff = redundant
- Users need cleaning protocols to tell them how to clean.
- Rules near instruments that user needs to follow and sign off– procedure. Cleaning at the start and end of each person's shift.

Staff responsibility

- Facility staff will clean between users.
- Have staff clean each day
- Limit on when staff can be there. Not necessarily every day.
- Additional cleaning from staff end of the day or next day
- between shifts staff (or cleaning staff) does thorough cleaning
- Cleaning schedule for staff (3xperday) + users have to clean = redundant
- Staff has to clean – problem of staff capacities
- Unsustainable for the core facility to be in-charge of all cleaning, many facilities don't have many staff
- If core facility has to be responsible for cleaning, this means the hours for access will be restricted

Specific measures

- Any items brought into the facility should be disinfected
- Make sure samples are cleaned before being dropped off at the facility.

Consensus

- A lot of procedures have been shared between groups, certain consensus around the use of ethanol and saran wrap as useful ways to clean and prevent instrument deterioration.
- Consensus was that ultimately the core is responsible for the cleanliness of the working space – either by doing it themselves or by ensuring that users do their part

Final discussion wrap up

- Multiple instruments/stations per room require workflow that strengthens distancing, in addition to markings on the floor as visual cues. Use platform like Zoom for regular user/staff meetings to reinforce protocols
- User booking system for instruments to manage/adapt to gradual increase of activity. Particularly important if there are exclusions from booking instruments in the same room if using multiple instruments in the space doesn't conform to requirements.
- Position and isolation of instruments – plexiglass shields used to advantage, no single piece of ppe guarantees safety, redundancy is the closest to guaranteeing protection

- 3 phases of re-opening: data online/experienced user access/training access. Facilities/staff need to revisit accident or incident handling protocols and update these in recognition of current health guidelines.
- Efficacy of masks and gloves were debated, and opinions mixed (concerns about false sense of security, especially with gloves). Consensus on usefulness of 2 m spacing being important.
- Basic cleaning: some debate over balance of responsibility between users and facility staff. Where staff are concerned there are manpower/resource issues – institutional guidelines will need to take account of these.
- One approach to reopening is to be selective in which users/studies gain access in order to stagger/build up usage and operations. Acknowledgment that prioritization of this nature may not be available to facility management.
- University guidelines will likely govern ppe (especially mask usage). Checklists for users at each instrument will be essential.

Community Questions extracted from the chat (etc)

- Strategies to deal with conflicts (e.g. disputes regarding prioritization)
- What special contingencies if clients/staff test positive for COVID19 after using the facility such as follow up testing for those who may be exposed as well as decontamination of facility ?
- Can we create a general guideline package coming from these discussions to use as reference for our respective facility? / Having a general guideline package coming from these discussions would be very useful
 - RESPONSE CNSP - it is difficult to come up with common guidelines since institutional/provincial guidelines differ so much across the country. Providing this meeting notes should give the community the information they need to consider their own guidelines.
- Could we have a list of products and wipes people would favour?/ Are any specific kind of cleaning agents recommended for equipment specifically dealing with COVID samples?
 - RESPONSE CNSP - the BioImaging North America (BINA) and BioImaging UK groups had a community discussion on May 13th. The meeting notes are posted and have a lot of links to different resources including cleaning products. View Discussion Notes from the first Virtual Light Microscopy Facility Meeting on May 13.
- Many microscope companies made some recommendations on their websites for cleaning protocols
- Nikon suggests to only use 70% ethanol for disinfection on their instruments. Just be careful of some acrylic parts that may be damaged and cracked by repeated cleaning with ethanol.

General Comments:

- Everyone has a similar outlook: a gradual return
- The majority of institutions have universal guidelines
- Need to organize for physical distancing between equipment (relocation if required).
- UdeM personnel must complete online training and they must have a certificate with them
- A suggested checklist for instrument decontamination would be useful
- In Toronto, they had to give all their PPE to hospitals - so there is a supply problem elsewhere
- General consensus that if possible cleaning should be a joint effort by staff and users.

Examples of specific situations:

MUHC Hospital Core – operation protocols reflect hospital protocols, therefore has been operating continuously. Adapting to cleaning/ppe protocols has been straightforward as mandated across organization and reinforced pre-existing practice. Mask usage required if more than one person in room (optional if alone). Limited users per lab, no floor markings to delineate distancing yet.

UCalgary – Limit on number of people per room. Gloves available to support additional cleaning. Eyepieces of microscopes covered by plastic wrap, goggles an acceptable alternative.

UoT NMR facility – 3 people per room as separate instrument stations. Workflow has been organized to minimize proximity. Has been taking samples continuously to support COVID-19 researchers.

Laval (facility supporting Arctic research) – have had to propose operating protocols to institution but in recent days more direction coming from central. Acknowledgement (concern) that people will make mistakes, the correct mindset is required for consistent application of all protocols, reinforce through personal conversations using Zoom etc to ensure that people are thinking in the right frame of mind.

Memorial (Mass Spec) – Most protocols/decisions derived from central Admin.

U Manitoba (MIM) – Building access heavily controlled, ppe will be mandated campus wide as well as strict distancing. Combined with instrument bookings will ensure numbers control in the facility. Considering floor markings and use of remote monitors in an effort to move forward to training (the biggest challenge) which, in turn, broadens usage. Institutional requirement for controls/surfaces to be cleaned by staff in between users.

Poll questions

	YES	NO
All facility users and staff should wear GLOVES	55% (41)	45% (33)
All facility users and staff should wear MASKS at all times even if they are in the room alone	33% (25)	67% (50)
It is the responsibility of facility USERS to clean the workspace/equipment high contact surfaces before and after each use	84% (61)	16% (12)
It is the responsibility of facility STAFF to clean the workspace/equipment high contact areas after each use	52% (37)	48% (34)

Day 2 – Wednesday May 13

Training Solutions – Remote training, online resources, new/unique solutions

Q1 - How to facilitate in person one-on-one interactions?

Service restrictions/access rules

- Most will prefer to have full service only – see Q3
- Most participants currently are closed or at stage 1 of opening, no 1-1 interactions permitted by institutions.
- Hospital-connected facilities (Mt Sinai, UBC, UHN) – some activity servicing COVID research ongoing, highly limited numbers in facility (1 per room or less).
- Some locations will only permit trained users or will arrange to do work for untrained users during stage 1.
- Bottom line: for most SP, in person training and support will be minimized or cancelled in the first few weeks after relaunch
- (Side question triggered by things overheard from colleagues in the US: Is any institution planning to do mandatory testing of researchers/students/staff? – nobody in group was aware of such plans, and people note that even where qPCR equipment is available, it is not allowed to use it for COVID testing)

Access monitoring/room constraints

- Scheduling being used to ensure room occupancies in compliance.
- Some new facilities have multiple instruments in one room which makes the distancing protocols challenging.
- McGill instituting 15 minutes between users so that aerosol droplets can settle.
- Mandatory clean-down: users clean before and after, staff cannot clean if they remain remote.
- Physical constraints, i.e. if rooms are too small, it won't be possible
- PPE required - Not a problem in some SP (e.g. animal facilities or similar) where PPE is already required

General Comment

- Some will offer full service but for extra fee
- Question too general. This might be depending on the type of equipment, etc.
- No 1 on 1 if possible. Reduced 1 on 1 when required. Use of protective equipment, surgical mask. Use of laser pointers and pointing rods and keeping 6 feet distance.

Laser pointer/other type of distance pointer

- Be careful of reflective surfaces so that the user (or yourself) doesn't get the laser reflection in the eyes. Some laser pointers are too powerful (Laser security committee at Laval University banned some laser pointers type)
- laser pointers don't work well when you have a dark display
- Safety is important, low power lasers to point to instrument parts not the computer screen
- Use a fishing rod to show things on the instrument

COVID-19 specific training

- OLD users will do a small training for reusing the instruments and access the facilities, how to handle the situation : Includes health status, presence etc

(Side note on PPE: Someone creatively suggested to use face shields from nitrogen filling stations as PPE for user interaction)

Q2 - How to facilitate virtual one-on-one interactions? Pros/cons?

User Training

- re training new users: we will through web tutorials in the early days

Specific approaches

- Some SP have remote technical possibilities : Autosampler Labmates collaboration : within a lab someone covering for someone else
- Webcams, technical support, trouble shooting. UBC is trying to determine some of the issues that might come up ahead of time and working with the users to try to mitigate them ahead of time.
- Tech staff conversing remotely with users via a variety of platforms (including WhatsApp, facetime, hangouts) to assist them while they are using instruments.
- Provide training videos but knowing they are not sufficient. Rely on user phones. Install webcam, mic and speaker on computer controlling equipment.
- Some test experiences with using Zoom plus free-standing webcam to allow for simultaneous screen sharing and image of person on instrument
- Discussion on feasibility of utilizing user's smart phone for support interaction; considered difficult because user only has one hand free
- Consensus that virtual training will be easy to implement for theory components, much harder for hands-on instrument training
- Plans to generate training videos, or some kind of virtual reality setup

Software suggestions

- Software for virtual interactions (no particular order):
 - AnyDesk
 - Bamgar
 - Zoom
 - NoMachine
 - WebEx
 - Teams – Microsoft - because we can also do chat. It is a quite complete solution
 - VNC Server/Viewer
 - Remote Utilities
 - X2Go
 - VNC to troubleshoot issues remotely
 - WhatsApp
 - Facetime
 - Hangouts
 - Teamviewer

Q3- Do you expect to do full service work?

- Facilities are different, so some will be full and some not
- Anything requiring an operator/tech should be at a premium including cost of tech.
- Only with PPE, and only when necessary
- May be needed sometimes. But with Masks, physical distancing. Otherwise, No
- When applicable full service will be provided by roughly 50% participants.
- Almost everyone will do more full service, in some cases only for complex systems
- Set remote sessions to help users instead of going full service
- Issue that many instruments will not allow remote desktop
- For Full service: only for those that can't have access - will do for people or if advanced instruments is there

- If no other choice will be done by staff, some accessible to users, others only for full service so
- If no distancing possible. Can Complicated One room for instruments
- STAFF limitations
- FINANCIAL : How do we make them pay ?
- One mass spec facility is already fully geared up to do that, some other SP are offering to current essential projects
- Many are planning, but might have staffing issues

Q4 - How can CNSP Help?

- Making available meeting summary notes for reference.
- By creating an active forum for networking like this to keep this discussion ongoing and continuing follow up with fellow share platforms. Could be mailing list
- Share what's working for you in your facility
- This type of event might be useful even post covid
- Desire for CNSP to help with information-sharing.
- Protocols for cleaning of microscope Website : post the links FAQ Question : Can we have access for
- Special funds for them. Re-opening pressure
- Combine ideas into guidelines or a reference document

Example of Process/example of facilities

Process

- Virtual meeting for pre-training
- 1 on 1 training reduced in time with distancing and protective equipment. Training dedicated to equipment and cleaning the equipment.
- Computer part can be done via screen sharing if audio communication available. Invest in webcam, mic and speakers to do screen sharing with discussion.

Flow core: no new training. Only people who are already trained can work for now. For sorting, user staff can show the setting via sharing their screen or using video. To protect operator, on top of PPE, will enforce face shield

Microscopy at Udm: no 1 on 1 training for now. They are building video training to provide to users. Plans to use video to check is training is correct. Not implemented at this stage.

LC-MS, NMR: no 1o1 training for now. In a second phase, will use desktop sharing (easy to use with their type of instrument)

MUHC-RI Imaging: try to work with Zoom, but total novice will not be trained

UBC – microscopy: postpone new training. Will make video clips and set desktop sharing.): reopen in phases. Limit to staff only, then experienced users. Many users can't use the instrument by themselves and need staff to be very close. Video is not an option for these users. In addition, video is not an option for dangerous instrument (like microtome where the users risk to get cut!)

Plant phenotyping platform (McGill) – almost no training for now. training online for some things and some 1o1 training. The platform has a tractor, greenhouses, CT scanner, might have to run this by staff

Social psychology/physiology: one person working per room. Only online studies for now.

Ste-Justine Montreal: use wireless mouse. Security issues with online systems because facilities are located in hospital; No student allow to work during this summer, so not a lot of 1o1 training

Animal facilities (UoO) needs to do one on one. Everyone wears mask; people stay 2 m apart. However, it may be difficult to properly oversee trainees

Poll questions

	YES	NO
Do you plan to offer full service (The core facility does all the job from sample to results)	70% (48)	30% (20)
Do you plan to train new users	19% (13)	81%...(54)
Do you plan to offer one on one in person interactions (training, consulting)	34% (24)	66% (46)
Do you plan to offer one on one remote interactions (training, consulting)	96% (66)	4% (3)

Final discussion wrap up

1 – Use of tools such as Google Hangouts to support remote communication. SPs (and Universities generally) have a mandate for teaching/training that needs to be fulfilled.

2 – Full service not typically offered for some SPs, maybe those need to consider developing/offering/promoting a form of full service in order to assist researchers until training can be resumed.

3 – If institutions mandate cleaning between users/trainees by staff then there is a resource issue that will need to be raised/addressed/discussed. Training will be challenging, the summary of this (these) conversation(s) is desirable to guide SPs in their institutional discussions and planning.

4 – Try to maintain distancing where possible. Video training is not enough to develop self-sufficient users. Capability for full-service work is heavily dependent on technique/instrument.

5 – We need to mandate training for how to ‘handle’ operations in the new situation. Full service is very difficult for some techniques – as there are limited numbers of staff and \$\$.

6 – costs... Good simulation tools for some techniques that can be used to develop protocols for researchers/users.

7 – Big differences between/wide diversity of SPs. PPE is standard in some fields. Training is easy for theory components but is hard for instrumental competence.

Day 3 – Thursday May 14

Financial Impact and Potential Solutions

Q1: How can we provide support/service with limited equipment access and/or limited staffing?

Full service:

- PIs will be worried about grant money but there is also money now because of lack of travel and lack of use of reagents right now. I know I spend about \$10-15k per year on reagents per trainee. So they might be willing to pay for full service to get the data quickly and get their trainees doing analysis from home.
- Service will be limited. Only a few trainings will happen. Instrument will mostly be operated by SP staff = SP will promote full service as much as possible (and provide remote support to users to maintain physical distancing)

Users management/Super Users

- Ask each lab to have a super user to limit people coming into the SP.
- part-time access when there is no option for staff rotation
- Could extend hours to keep number of people there low.

Remote work/support

- Remote control. Gradual opening of core facilities.
- Use of Microsoft teams to give remote support. Can be used for training. Could also use webcams to record the equipment.
- Training: webinar can help, but in some cases, it's almost impossible to do remote training

Staff organization

- Rotation of staff
- Have staff to rotate but services will be slower, External contracts with Health agencies. Task force assembled
- First stage will only have one staff member on site. Second stage would be one person per day. Stage three could have more people on site.
- In some cases, only 1 person per facility, so there's no redundancy possible, unfortunately

Financial challenge/solutions

- Financial is a big concern: lost two months of user fees.
- One suggestion is working with companies to extend service contracts
- Fee revisions, especially externally.
- most difficulties will arise when transitioning to 'normal' because less users will be trained = loss of revenue
- Increasing rate will be difficult –
- Private sectors partners looked for other solution - long term loss

Current status/process – Admin support/implication

- All facilities offline now, except for one-off COVID experiments. Cell sorting: will not offer full service
- No discussions with upper management but task force formed to examine shared facilities. Most facilities supported by a faculty.
- SPs have to set temporary measures (install detailed protocols on instruments, have video or remote sessions to help users)
- undergraduates concerned (income) Concern with safety
- Some can operate relatively easily - quick in and out.
- No anticipated reach out from the institution –

Q2: How do we deal with reduced staffing?

Staff rotation/limiting exposure/limiting stress

- Try to keep staff numbers down or pair off in teams to make sure the whole team is not out sick at the same time.
- Trying to get other research assistants who work on same floor to assist, keep an eye on things.
- Lots of paperwork to catch up on. Webinars, remote training (at least theory) by person home.
- Focus on the importance of having a focus on the staff and making sure their health and safety takes priority.
- Challenge is to making use of staff time: SPs will have to demonstrate their staff is still productive.
- So far no one had to lay off people. However, since SPs will move to more full-service operation (i.e. staff operates the equipment, as opposed to user-operation), it should not be that hard to show that staff is working hard.
- US layoff people Part time employees have been laid off Calgary
- No real plan in case manager and staff has to leave, some backups are already in place but not done specifically for the situation. Home office solutions.
- Reduced staffing and how much research you can do? some restrictions to external users
- Shifts can help - morning, and afternoon so that extended hours.
- In most cases, salaries of staff members are NOT directly dependent on usage fees, but still depend to a large extent on soft money
- Detailed SOPs so all staff know what to do.

Staff at risk/family constraint/family at risk

- One of our staff lives with her mother, so she can't come in. Remote working.
- Only staff person. Rely heavily on remote access because she has children
- 2 small children. Daycare still not open. Planning with co-manager for reopening, working alternate days. Distancing not possible
- What to do if people do not have access to childcare or are at risk or live with people at risk.
- Many are reporting having children, people to take care of, so this will for sure will be challenging. Some partial solutions will include to do as much as possible remotely.

Leveraging local facility/Institution networks

- Need flexibility between cores.
- Cross-training opportunities necessary, but don't happen quickly.
- Are people coordinating with other parts of the building/institution? Focus on moving forward and do not worry about the fact that progress will not be at the same rate as it was before all of these constraints were in place.
- Difficult of coordinating with other groups on the floor in the space because so many people are coming from different areas.
- Network of image facility - redundancy
- Partner institution: networking with the community: Access issues
- Load from other institutions might not be possible
- The possibility of cross-training is certainly very interesting. Having people in different labs being trained on equipment and thus offer some redundancy possibility is clearly one way to go
- Training 'super-users' on some specialized equipment, so those 'super-users' could definitely help running some of the equipment, and thus offer some degree of redundancy

General comment

- Financial: lost a lot of money. McGill has an emergency fund and task force
- Facility kind on open but research is stopped, this is changing

- Many SPs are already reporting a significant % decrease (up to 75%) of their income, essentially from user fees. In some cases, 95% of users are students, who don't have access to the facilities yet.
- In some cases, outsourcing some of the analysis to companies or partners could be an interesting avenue

Q3: How to maintain sufficient cash flow to support staff/facilities while also limiting access and reducing throughput?

Modified service offer/Full service

- Service will be limited. Could promote full service when possible to get good data but limit number of people in the facility.
- Would not do training.
- Would propose to charge extra for full service. Will researchers be open to paying extra for full service?
- Some new tasks for the staff will not generate revenue (e.g. cleaning between users) and will divert them from their 'revenue generating tasks like training or full service providing
- In terms of type of services provided, some SPs will be offering sort of a 'mixed or hybrid' solutions, some will offer more complete services

Demonstrate productivity

- Need to demonstrate that staff are productive even if they are working from home. Reexamine fee structures. What will new costs be?

Revenue loss/financial help

- Just because facility is closed doesn't mean costs stop.
- Task force at UBC for emergency funding.
- What about cost of service contracts? Will the manufacturers offer an extension on the end date? Maybe CNSP could work with companies on this aspect?
- This crisis shows how important it is to have hard money staff salaries from the institution.
- Track losses during this time. Institutions might be able to claim some of this money from insurance or government.
- Cash flow will be a problem: expenses are not expected to change drastically (salaries will have to be paid; some additional consumable – note that in some hospital RI, masks and PPE are provided by the hospital!); but revenues will certainly be lower maybe by 50% (although decrease of revenue generated by training may be slightly attenuated by increase of revenue generated by full service)
- How to cover the loss of revenue:
 - Increase the fees (users will not like that since research \$ have not increased, may lead to loss of customers)
- Track the loss of revenue and make a case to institutions/granting agencies/governments. Institutions should lobby for shortfalls of research institutes. Expectations that the institutions
 - will help cover the deficit
- Procurement Service contracts: extension nothing has been done for the past few months - this is an important point!
- It will likely be difficult to increase the fees to try to compensate for the reduced cash flow, since no one would accept such an increase
- For grants applications/government aid: some institutions require to document the loss of revenues incurred. Will this info be used to go back to governmental agencies, or what will happen exactly is still unknown. It would be a good idea if the CNSP could recommend SPs to keep track of those numbers and send them to the CNSP.
- In some cases (ABRF as an example) administrators are contacting companies in order to extend service contracts, and/or decrease the fees of the existing/future service contracts for equipment. Insurance

companies are offering similar rebates nowadays. Maybe the CNSP (or SPs individually?) could try a similar approach?

PPE Management/costs

- PPE is controlled by the institution. Have to order each week. Would like to provide PPE but then were told users have to bring their own PPE. Will still provide gloves to make sure they are clean, but this will add an expense. Providing cleaning products and PPE can help prevent an outbreak and avoid need to close down the facility but then it adds a new cost to the facility when revenue is really limited.
- Some of the PPE fees could possibly be passed on the users, still being reasonable (doesn't represent a large amount of money for each individual user)
- In some cases, Universities will provide or pay for the different PPE

General Comment

- Canadian PIs, a lot they got funding and is priority and essential research - that research is still ongoing
- Funding : CFI extended timeline for purchasing instruments

Suggestions for CNSP Role

Collect information about the situation

- Should collect information on facilities that have stayed open for COVID research to show stakeholders how important SPs are to the research enterprise.
- Should the CNSP collect information on lost revenue from SPs Canada wide?

Guidelines suggestions

- CNSP could post guidelines from WHO on how to make hand sanitizer.

Group influence

- Letter to lobby for more support?
- Negotiation for service contracts – reduce costs because of inactivity for several months

Poll questions

	YES	NO
If the institution asked you to open your lab tomorrow, could you do so without any additional supports?	83% (44)	17% (9)
Do you require childcare/dependent care to fully return to work?	52% (30)	48%...(28)
Do you have redundant staffing in your SP that would permit the SP to stay open in the event that you are unable to work?	50% (28)	50% (27)
Has your institution provided any financial support to offset staff or instrument upkeep costs due to the pandemic?	20% (11)	80% (42)

Final discussion wrap up

1. Extend service contracts.
2. Take care of staff and advocate for them. Productivity will not be the same. Reasonable expectations. McGill – track lost revenues based on previous years.
3. limit rooms to staff only if possible. Pairing off into teams if there are more staff to minimize exposure of everyone. SOPs in case someone else has to come in outside of your facility.

4. Service will be limited. People are promoting full service where the staff is operating the equipment as much as possible. Remote support only. Key challenge of reduced access is showing that they are still productive. No layoffs yet. More revenues from full service, less from training. Track costs, for researchers as well due to raised fees (less travel costs offsets)
5. Network of related facilities to spread the load, but difficult to support external users? Extended hours?
6. Use this opportunity to show how essential facilities are, esp. when COVID-19 research has taken place there. Maybe not feasible to have extended hours, so perhaps have superusers take on some responsibilities?
7. Outsourcing possible for other facilities? Some administrators are trying to negotiate service contracts with companies.

OTHER RESSOURCES

Discussion about flow cytometry: Summary from - A Virtual FlowcytometryUK Facility Meeting to establish safe working practices in the COVID-19 era May 15 – June 12

<https://www.rms.org.uk/discover-engage/online-microscopy-talks/summary-virtual-flowcytometryuk-meeting-covid.html>

Summary from - A Virtual Light Microscopy Facility Meeting to establish safe working practices in the COVID-19 era - May 13 – June 10 - BINA

<https://www.rms.org.uk/discover-engage/online-microscopy-talks/summary-virtual-lm-meeting-covid.html>

Summary from - A Virtual Electron Microscopy Facility Meeting to establish safe working practices in the COVID-19 era – May 14 – June 11

<https://www.rms.org.uk/discover-engage/online-microscopy-talks/summary-virtual-em-meeting-covid.html>

DM/CDS joint directive - DND/CAF COVID-19 public health measures and personal protection

<https://www.canada.ca/en/department-national-defence/corporate/policies-standards/dm-cds-joint-directive.html>