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NICL PLANNING: CORE NEEDS ASSESSMENT

This report summarizes feedback from the community of NCRR funded core directors with respect to establishing a continuing community of core research resources in IDEA states. The organizing committee for NICL (Network of IDEA-funded Core Laboratories) organized a facilitated group planning session with representatives of core facilities, self selected from the attendees at the third biannual NISBRE meeting in Bethesda, MD, on 17 June 2010. Many participants from many IDEA states attended and discussion was free and lively. After an introduction to NICL by Tim Hunter (UVM) and an overview of the role of core labs in NCRR funded projects by Greg Farber (NCRR), James A. Foster (UI) facilitated a group discussion of needs and opportunities, risks and barriers, organizational planning, and community building. Group discussions were overseen by Kate McInnemy (MSU), Stephen Bobin (Dartmouth), Steve Jennings (UALR), and Timothy Hunter (UVM), respectively. This report summarizes the feedback from the NICL community, and makes some recommendations for next steps.

A. Needs and Barriers

A.1. Institutional policies and procedures and “politics” were identified as pervasive, major barriers to meeting IDEA objectives. It is difficult to persuade institutions to make and keep commitments regarding F&A funds that support core facilities. In particular, institutions often fail to commit enough F&A or line budget items to core operations to sustain operations. This is particularly true for core services, such as education and outreach.

A.2. Lack of business expertise is a common and pervasive barrier. There is insufficient expertise in business planning and management. Participants recognized the need to operate cores as customer services under OMB A21 restrictions, essentially as non-for profit businesses. But core operations personnel, including directors, usually have little business experience, and usually have other academic duties that create conflicting priorities and expectations.

A.3. There is a critical need for clear billing and payment mechanisms and infrastructure. Ideally, this should allow preferential support for users that commit funds to core support. These should account for all actual expenses, including student and staff support, training, equipment replacement costs, as well as consumables and operating expenses. Bioinformatics services are particularly difficult to budget and fund with existing mechanisms and infrastructure.

A.4. It is unclear who comprise NICL users and providers, and it is unclear what services are actually available. NICL, with NCRR help, needs to identify existing resources and users, including IDEA funded and non-IDEA funded institutions in both IDEA and non-IDEA states. This effort should also identify corporate users both foreign and domestic, patients, and non-academic institutions.

A.5. NICL community building efforts need to be expanded and sustained (see item D). Currently, the NICL website (www.niclweb.org) is provided as an unfunded service by the Vermont Genetics Network (VGN).

A.6. Timely, accurate, and reliable services need to be available throughout the NICL network. In particular, adequate bioinformatics expertise and facilities are often unavailable locally.

A.7. Related but distinct cores are hard to integrate. For example, it is difficult bundling bioinformatics core services (and fees) with instrumentations cores services (and fees). Centralizing all core services may not be an appropriate solution, since expertise is often spread over large administrative or geographic areas, or even across multiple institutions.

A.8. Post-IDEA core sustainability is a major challenge and has not been adequately addressed. **Licensing and service contract** expenses are serious burdens to ongoing operations (but see B.1)

A.9. Distances within and between IDEA states are major barriers, especially in the West and Mid-west.

A.10. IT infrastructure within and between states is often inadequate. Communications bandwidth and connectivity impede effective communications and collaboration both within and between institutions. IT support for core units within institutions can be inadequate, including both hardware and expertise.

A.11. Competition between cores in the NICL network is a potential problem. Variation in pricing for similar core services makes planning difficult.

B. Opportunities and resources

B.1. Collective bargaining, especially for NICL group discounts on licenses and service contracts, is a major potential opportunity.

B.2. Exchange of expertise. Participants enthusiastically recognized that expertise and personnel are major assets within NICL. These assets need to be identified, and mechanisms for sharing them need to be implemented. Possible items include best practices for core operations and management, protocols, CLIA certification expertise, knowledgeable graduate and undergraduate students, technicians, and education and training programs. It would be beneficial to support cross-institutional training in the form of sabbaticals, short courses, and workshops.

B.3. Existing registries, such as VGN, provide clearinghouses for NICL discussion, resource sharing, and information dissemination. Participants were encouraged to register their facilities on the VGN system, and stations to do so were available at this meeting.

B.4. Many services are already available from NICL participants. These include flow cytometry, imaging, bioinformatics, sequencing, and more. See below (D.1) for more information.

B.5. There are many potential non-academic funding sources. These include, for example, corporate users, government agencies, NGOs, educational units (K-12 as well as university-level), and foreign businesses or agencies.

B.6. Exchange of replaced equipment. There should be a steady stream of replaced instruments resulting from normal depreciation or strategic changes in direction. This instrumentation could be made available to other NICL participants.

B.7. There are opportunities for collaborative proposals. This could include inter-institutional awards for joint pilot projects, instrumentation, operations, or collaborations, perhaps with funding matched or provided by NCRR.

C. Organizing NICL

C.1. NICL should be an independent organization with close affiliations to NCRR. NICL should pursue affiliation with ABRF. NICL should collaborate closely with NAIPI.

C.2. Financial support for NICL administration and operations needs to be established, including funding for liability insurance, travel support, and support for administrative costs. Possible funding mechanisms include: NCRR appropriations, membership and affiliate membership fees, conference proceedings, and support from national organizations (such as ABRF).

C.3. NICL membership should allow for participation by non-IDEA funded groups in both IDEA and non-IDEA states, potentially including institutional (as well as individual) membership, non-academic affiliates with relevant connections to IDEA core facilities. The initial membership needs to be determined.

C.4. NICL constitution and bylaws need to be developed and approved by the Nov NCRR meeting or the next ABRF meeting at the latest. The bylaws should be modeled after similar, existing bylaws, such as those from MCBIOS. The constitution and bylaws need to define membership, establish standing committees, establish officer election procedures.

C.5. NICL meetings. NICL leadership and members should meet at ABRF or at future NISBRE conferences (or both). Regional, satellite, and online meetings should be encouraged.

D. Community building

D.1. NICL members will list their available services on a searchable database, namely VGN system, with input from broader national services such as eagle-I, once they become available.

D.2. NICL members were encouraged to **help their local communities** by holding open houses, providing user education workshops and seminar series, providing statistics and facilities statements to local PIs, and other appropriate means.

D.3. The NICL website will **share best practices and policies**, provided by members.

D.4. The NICL website will **provide a mechanism to share information and continue conversations** in an archival format. This may include information about scientific meetings, administrative meetings, non-NICL resources, NCRR communications, and a regular NICL newsletter in NCRR Reporter format, as well as *ad hoc* discussions on user forums.

E. Key Recommendations to NCRR

1. *Fund*: support and expand the NICL organization through NICL leadership with external funding.
2. *Authorize*: Identify NICL as an NCRR supported entity with the mandate of coordinating core facilities in IDEA states.
3. *Authorize*: NICL be authorized by NCRR to test and certify the usability and effectiveness of prototype databases, ontologies, and similar resources.
4. *Fund*: Provide matching funds for cooperative projects between NICL members.
5. *Clarify*: Mediate disputes with local institutions; clarify budgeting and operations requirements and guidelines.
6. *Bargain*: Mediate collective bargaining with service and commodity providers, for example to acquire group discounts on licenses and service contracts.
7. *Train*: provide administrative training to core leadership and to key institutional personnel (such as SRO personnel).

Colophon: this report was prepared by James A. Foster in conjunction with the NICL organizing committee (Steve Bobin, Steve Jennings, Tim Hunter, Fay Schilkey and Katia Sol-Church), with assistance from Kate McInnerney, and submitted to Greg Farber and other NCRR representatives at the 2010 NIH NISBRE meeting in Bethesda, MD.