# The Northern Plains Consortium: A Partnership from Laboratory to Leadership

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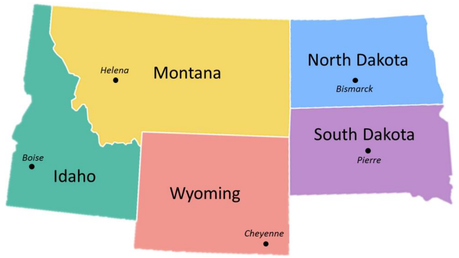
## NORTHERN PLAINS CONSORTIUM




## ABSTRACT

The state public health laboratories (SPHLs) in Idaho, Montana, North Dakota, South Dakota and Wyoming share demographic characteristics that lead to common public health service challenges. The Northern Plains Consortium (NPC) was created to foster collaborations and coordinate system improvement activities between these SPHLs. Here we highlight key activities of the NPC including development of a Memorandum of Understanding, shared testing services, electronic test orders and results , biosafety official program, workshops, and succession planning via a regional Emerging Leaders Program.

## BACKGROUND

In 2006, via a 3 year CDC grant initiative to "integrate clinical laboratories into public health testing," the SPHLs in Montana, North Dakota, South Dakota and Wyoming formed the NPC; Idaho joined in 2013. In addition to sharing borders, the SPHLs in these states share demographic characteristics, including large geographic area with low population, high American Indian population, low gross state product, and low average annual pay. These demographics contribute to the common challenges facing our laboratories, such as inadequate staff numbers, high turnover of staff looking for salary increases, isolation of rural laboratory workers, restricted ability to contribute public health data, limited test menus, and limited budgets.

Initially, the primary focus of the NPC was to increase the abilities of the laboratories to conduct public health testing and to participate in a state public health laboratory improvement system. Specific projects were undertaken to increase the knowledge of laboratory professionals while improving their ability to conduct public health related testing and reporting in these frontier states. The NPC has expanded in scope and continues to collaborate and exchange best practices for a laboratory system improvement.

Most activities are done informally (handshake agreement), but all states have the ability to invoice others for services provided, if needed. The NPC continues to work collaboratively on various lab system improvement projects.

## ACTIVITIES

In the past year the NPC has focused on finalizing a Memorandum of Understanding (MOU) between the SPHLs, increasing shared testing services, establishing an electronic test orders and results (ETOR) between SPHLs, continuing collaboration between the SPHL biosafety officials, providing workshops/peer-to-peer trainings, and implementing the second regional Emerging Leaders Program (ELP).

### MEMORANDUM OF UNDERSTANDING

The purpose of establishing a NPC MOU is to formally acknowledge the cooperation, efficiency, and resource sharing between the five NPC SPHLs. Objectives include:

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| Exchange best practices for overall laboratory system improvement | Devise workforce development and succession planning strategies |
| Provide testing during surge and outbreak situations | Establish a need for shared proficiency surveys |
| Improve ETOR and ability of SPHLs to utilize HL7 compliant messages | Provide regional training and peer-to-peer focus groups within the NPC |

### SHARED TESTING SERVICES

Several testing services have been shared among the NPC states, including most recently venous blood lead testing via graphite furnace atomic absorption. SD offered to perform this blood lead analysis for MT while the latter establishes an alternate testing method from its standard LeadCare testing system. Other shared tests have included:

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| HIV Geenius Supplemental Testing | Hepatitis C RNA, genotyping |
| 16S Ribosomal bacterial ID | Lyme Disease Western Blot |
| Hantavirus (SNV) Serology | TB NAAT Testing |

### ELECTRONIC TEST ORDERS AND RESULTS

The NPC investigated using the APHL Informatics Messaging Services (AIMS) platform as a hub for standardizing the messaging language of ETORs between the SPHLs. After several discussions between AIMS subject matter experts and NPC leadership, it was decided to postpone utilizing this ETOR method until an increase in testing volume between the five SPHLs would justify the time and resources for implementation.

A bi-directional ETOR was successfully completed between MT and ND, allowing MT to send electronic orders and receive electronic results from ND. An additional interface for MT to receive orders and send results to ND will be based upon further discussions and availability of staff and funding. The biggest challenge encountered during this ETOR project, and most likely for future projects, was dedicated staffing.

Other ETOR projects between NPC states are being considered as funding and staffing allows.

### BIOSAFETY OFFICIALS PROGRAM

Begun in January 2016, the NPC Biosafety Officials (BSO) have had monthly conference calls and several in-person meetings to share resources and experience in safety outreach to sentinel laboratories. Highlights of the program include:

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| Monthly conference calls:<br>• Agenda items and minutes provided | In-person meetings:<br>• At ABSA and APHL annual meetings<br>• At APHL Regional BSO meeting |
| Sharing resources:<br>• SharePoint access site<br>• Risk assessment templates<br>• PPE signage | • Bloodborne pathogens training<br>• Sentinel lab outreach agenda<br>• Training calendars<br>• Biosafety and Chemical Safety Plans |

### WORKSHOPS

In 2016-2017 the following training opportunities and workshops were held in Idaho, Montana, South Dakota, and Wyoming:

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| Eagleson Institute Biosafety Workshop (MT, SD):<br>• Risk assessment<br>• Transporting infectious samples<br>• PPE donning/doffing | Whole Genome Sequencing Workshop and Webinar Series (WY):<br>• Sequencing and Phylogenetics<br>• Wet lab, data assembly, molecular subtyping |
| HIV Sequence Analysis Using Bionumerics Workshop (ID) | Clinical Biological Preservation Workshop (ID) |

### REGIONAL EMERGING LEADERS PROGRAM

In 2014, succession planning and workforce development became a major focus due to a variety of factors, including long-time laboratory directors retiring in MT, WY and SD. As a result, in 2015 the NPC implemented its first regional ELP, which included a total of eight participants from all five states. The NPC ELP was modeled after APHL's national ELP and the ASCLS leadership program, and the first NPC ELP cohort graduated in March 2016.

In April 2017, after incorporating lessons learned from the first cohort, the second regional ELP began. This nine-month program has been more virtual than the first ELP, including use of webcams, and faculty consists of APHL staff, professional facilitators and NPC SPHL lab directors. The current ELP includes the following activities:

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| Team Management Profile to identify professional character strengths | Virtual facilitation webinar to identify ways to increase cohort efficiency during monthly conference calls |
| Book study group on "Fierce Conversations" by Susan Scott | Attend 2017 APHL Annual Meeting and work in-person on group project |
| Group project on establishing a comprehensive NPC interstate proficiency survey program | Webinars on Grant Writing, Laboratorians and Legislators, and Public Health Laboratory Competencies |

## DISCUSSION

The Northern Plains Consortium has successfully demonstrated that shared resources among states with common demographics can affect positive change. The partnership is much more than just sharing of tests and services; it has introduced a relation-building dynamic that would not have been possible without the funding provided to develop a sustainable relationship between Consortium laboratory management and PHL partners.

### BENEFITS

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| Collective brainstorming; draw on the ability and knowledge of a broad group of SMEs. |
| Capitalize on each other's strengths and successes; adopt other laboratories' approaches to specific problems. |
| Maintain capacity for certain low volume tests. |
| Identify opportunities for sharing protocols, expertise, and trainings. |
| Develop priorities and improve the public health laboratory system. |

### CHALLENGES FACED

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| Each laboratory has limited staff; hard to devote time to NPC activities. |
| Travel logistics due to large geographic area. |
| Costs and lab coverage prohibit bringing more lab staff/epidemiologists to NPC meetings. |
| Some activities (e.g., ETOR) require additional funding. |

### LESSONS LEARNED

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| One state needs to take a lead role to administer the NPC. |
| Find activities that have relevance in each state; costs of many activities have been minimal or absorbed into existing budgets. |
| There is value in including Communicable Disease/Epidemiologists in activities and discussions. |
| Face-to-face meetings foster the relationships – a key to success. |

## CONCLUSIONS

The NPC represents a regional effort to improve public health laboratory systems and increase efficiencies. Recent activities have included: development of a shared services MOU, sharing of biosafety official knowledge and resources to meet Ebola supplemental grant deliverables, and continuation of a regional Emerging Leaders Program based on APHL's national curriculum. The continuation of the NPC ELP aims to improve leadership skills for PHL staff that might not otherwise have access to leadership training. The NPC serves as a successful model for regional networks to expand access to leadership training, and to increase efficiency and capability.

## ACKNOWLEDGEMENTS

The NPC has been supported by the CDC through the Epidemiology and Laboratory Capacity grant, APHL, and by state funds.