

Enabling Efficient Discovery and Exchange of Specimens to Support and Accelerate Research Across the Pacific Northwest

Rachel Galbraith, MPH; Anna Berry, MD; Jane Buckner; Charles Drescher, MD; Danielle Galipeau; Brenda Kostecky, PhD, PhD; Gina Marchesini, MPA; Traci Rieckmann, PhD; Carmen Rusinaru, MD, PhD; Kelly Smith, MD, PhD; Aline Talhouk, PhD; Eric Holland, MD, PhD

Problem Statement

Among many challenges faced by the translational research community, the ability to find and access human-derived specimens is common and can lead to research bottlenecks and delays. Most investigators and research teams procure through a single source or a limited number of settings/biobanks. Each potential source has a limited volume of patients/participants from which specimens may be procured, and availability at a single source in a hospital setting is limited to the demographics of their patient population. Seemingly paradoxically, groups with large numbers of banked specimens often struggle to increase awareness and use of their collected specimens, which can lead to limited return on investment for high infrastructure costs.

Proposed Solution: The Specimen Acquisition Network

To address the above-mentioned challenges faced by investigators and research teams, we formed the **Specimen Acquisition Network (SAN)**.

Our primary goal is to provide reliable and cost-effective access to high-quality human tissue, blood, other body fluid samples, and associated clinical and specimen annotation data for innovative diagnostic, therapeutic, and public health sciences cancer research.

The **SAN** model addresses the following key pressure points experienced in traditional specimen acquisition models:

- Simplifies customer service and relationships
- Streamlines specimen request processes and communication between customers (investigators and research teams) and specimen-providing partners
- Improves reporting capabilities for CCSG impact statements included in progress reports and grant renewals
- Increases access to specimens from a greater diversity of patients (e.g. treatment naïve patients)



Figure 1. Organizational structure of the Specimen Acquisition Network.

Network Partners & Governance

Our network brings together seven key partners (Fred Hutch, BC Cancer, Benaroya Research Institute, Legacy Health Systems, University of Washington, Oregon Health Sciences University and Swedish Cancer Institute) in support of our mission.

The **SAN** Coordinating Center, based at Fred Hutch, provides quality customer service and a streamlined, efficient method for identifying and requesting specimens from network partners.

Our governance committee consists of leadership from across our network partner institutions. These members were pivotal in establishing the **SAN** and continue to provide guidance and feedback toward strategic growth and operation.

Work to Date

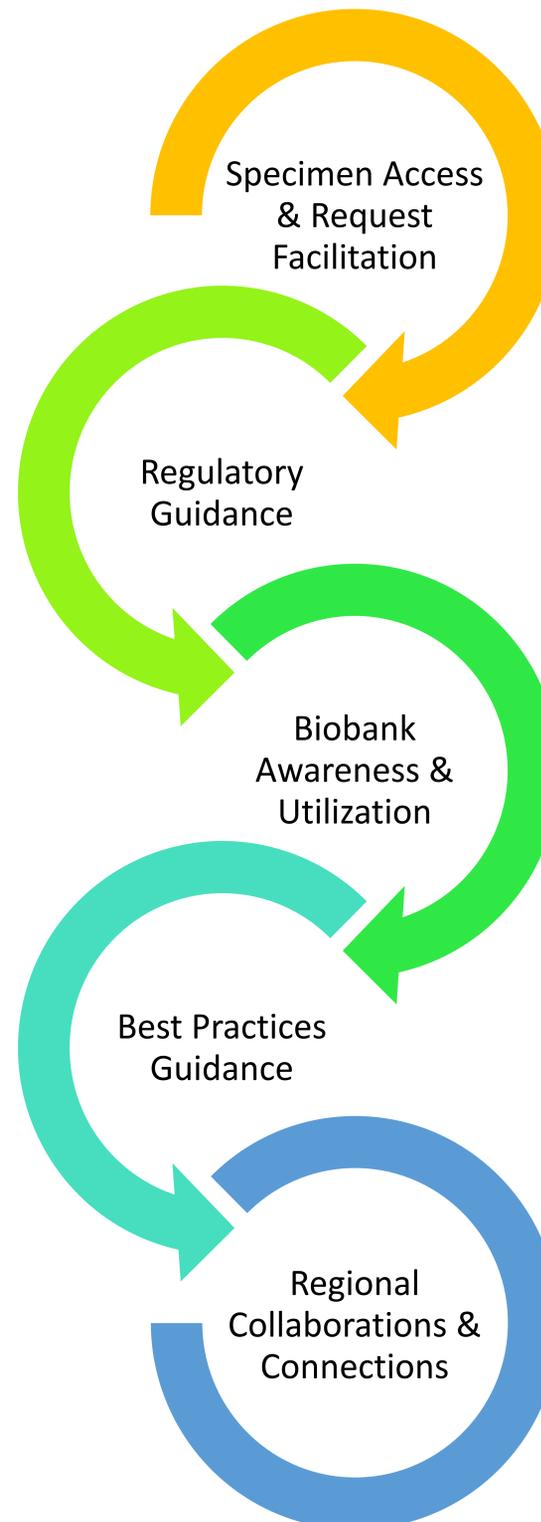
Representatives from each **SAN** organization have been meeting since early 2019 to develop the vision and implementation strategy for this network.

This work included development of the **SAN** operating framework and a clear scope of work for the coordinating center. The strategy for the network is to ease the burden on researchers by creating clear processes and systems for procurement across each partner site.

Key Accomplishments

- In January 2020, the **SAN** partners officially launched its Coordinating Center based out of Fred Hutch and begin to facilitate the exchange of specimens to drive research forward.
- The **SAN** is working closely with the Cascadia Data Discovery Initiative (CDDI) to create a master data materials transfer agreement across participating institutions in the region to facilitate cross-institutional collaborations and speed research. We expect this to be adopted by May 2020.
- The **SAN** coordinating center has spearheaded the development of a website to share about the network and provide information and direction to researchers looking for support. This is expected to launch by June 2020.

Specimen Acquisition Network Core Services



Specimen Access and Request Facilitation

We help search across the region and connect investigators with the institution(s) who can provide the specimens needed for their research project. The Coordinating Center facilitates a streamlined request and transfer using pre-approved material and data transfer agreements. They also help answer questions about process or think through what modifications need to be requested to ensure the research question can be addressed.

Regulatory Guidance

We direct investigators toward the appropriate regulatory bodies (ethics, clinical research guidelines, grants offices, etc.) relevant to the project and provide guidance on applicable legal and regulatory resources and documentation. This includes providing verbiage on research-specific consents, IRB documentation, and material/data transfer agreements, alongside other common project templates.

Biobank Awareness and Regional Utilization

Our contributing organizations have specimen infrastructures and programs that researchers outside of immediate affiliation may not be aware of. The **SAN** helps shine a light on the tremendous biobanking efforts already underway within our region.

Best Practice Guidance

We provide recommendations for researchers seeking advice related to specimen acquisition, associated data management, and downstream research uses. We directly provide or point investigators toward standard operating procedures, best practices, and vetted process workflows. The **SAN** works with investigators to set up data management strategies in alignment with research goals and commonly used data schemas to support data sharing and interoperability.

Regional Collaborations & Connections

The **SAN** Coordinating Center connects investigators to potential collaborators, identified by areas of interest, expertise, or current research working with the same tissue or on the same problem.

Conclusions & Future Directions

To date, the **SAN** has facilitated specimen access and best practices sharing across institutions. We will officially launch the network in the coming year, by taking our website live and anticipate an increase in requests for support to the coordinating center. As a network, our next goal is to develop a specimen locator tool that will allow investigators to search available specimens across the region. This will speed the discovery process, and further the network goal of increasing awareness of valuable research resources across the Pacific Northwest.