Virtual Tissue Repository Overview

- Definitions
  - Residual Tissue Repository (RTR) Program – tissue samples are stored by the cancer registry
    - The retention requirements for all tissues are lifted after 10 years. Pathology labs usually discard the samples at that time. With a RTR, the samples are transferred to and preserved by the cancer registry instead of being destroyed.
    - Samples are 10+ years old and are cheaper than more recent samples.
  - Virtual Tissue Repository (VTR) – tissue samples are stored by pathology facilities across a cancer registry’s catchment area
    - Samples are fresher, but can be more expensive

- NCI SEER Residual Tissue Repository Program
  - Established in 2003 with three participating registries: HI, IA and Los Angeles. These registries also have VTRs.
  - Most samples are formalin-fixed paraffin-embedded tissue block, although some use pancreatic tissue microarrays.
  - All three registries require IRB approval to access RTR and VTR samples.
  - At least two of the three programs charge for using samples. For example, IA charges a minimum of $50 per case, but cost can vary depending on project.

- NCI SEER Virtual Tissue Repository Initiative
  - SEER is in the process of establishing a VTR Program, which will enable researchers to search de-identified SEER abstracts and pathology reports to select tumors for which SEER registries can provide the sample and additional clinical data if needed.
  - Pilot study was done with seven SEER registries to determine feasibility.

- SEER-VTR Pilot Workflow
  - SEER is researching better de-identification tools and digital imaging software for the VTR Program.
  - Task Area 8 of NCI SEER Request for Proposal Document addresses VTR.
    - Definition: a SEER VTR, with its population representativeness and large sampling frame is a unique resource for assembling robust collections of biospecimens, even for rare tumors and outcomes.
- SEER annotation includes demographic and clinical characteristics such as tumor histology, biomarker status, treatment and outcome.
- Annotation can be augmented with custom data, including detailed chemotherapy, time to recurrence, and body mass index.
- Activities that Contractor is required to participate in include:
  - Determining biospecimen availability
  - Identifying and retrieving biospecimens
  - Performing custom annotation
  - Performing pathology review of biospecimens
  - Assisting with study IRB clearance

Additional Reading