

The Health Sciences Tissue Bank: Structure, Function and Your Project

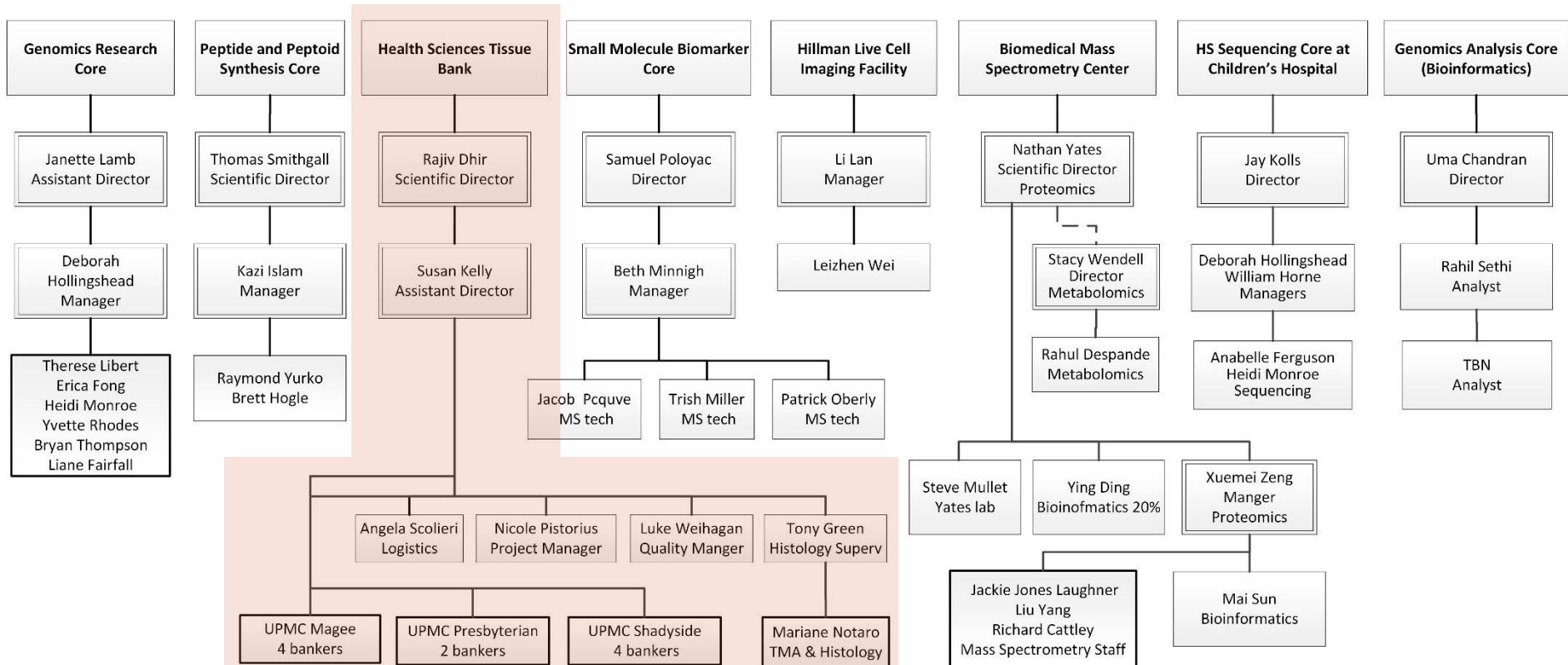
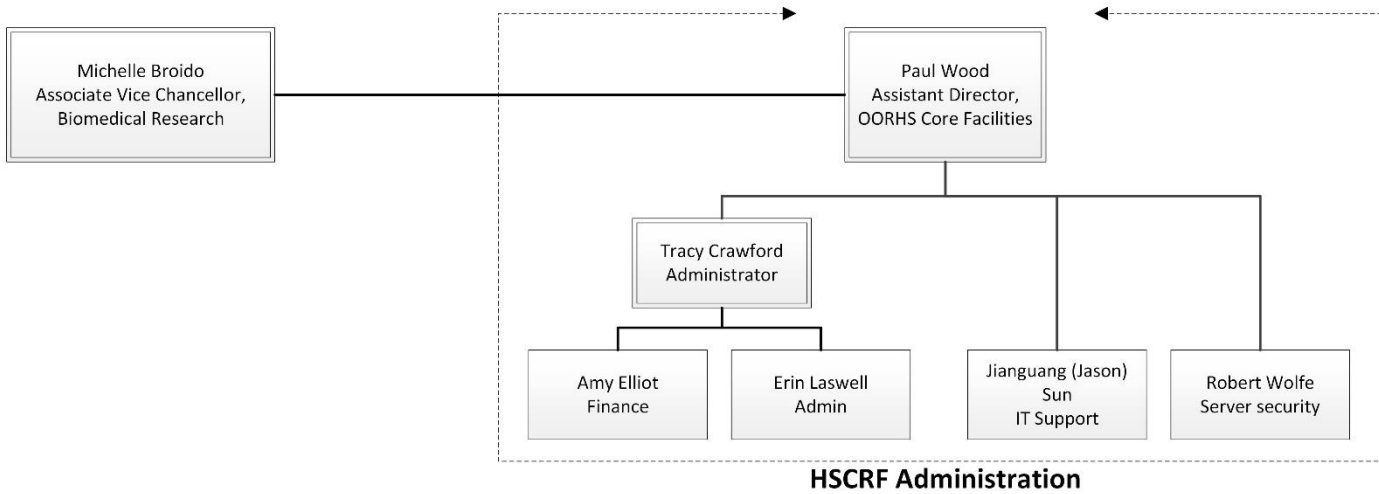
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Office of Research, Health Sciences



Health Science Core Research Facilities – Organizational Chart



Topics and Goals for Today

- Update on structure, quality, and cost
- Explanation of fiscal structure: Income and expenses
- Next steps for the tissue banking community to keep abreast of changing needs.

I want you to walk away with an understanding of how the HSTB operates and how it has changed in the last few years. This will include how the costs are shared based on the role the HSTB plays in each project.

Current HSTB Function and Purpose

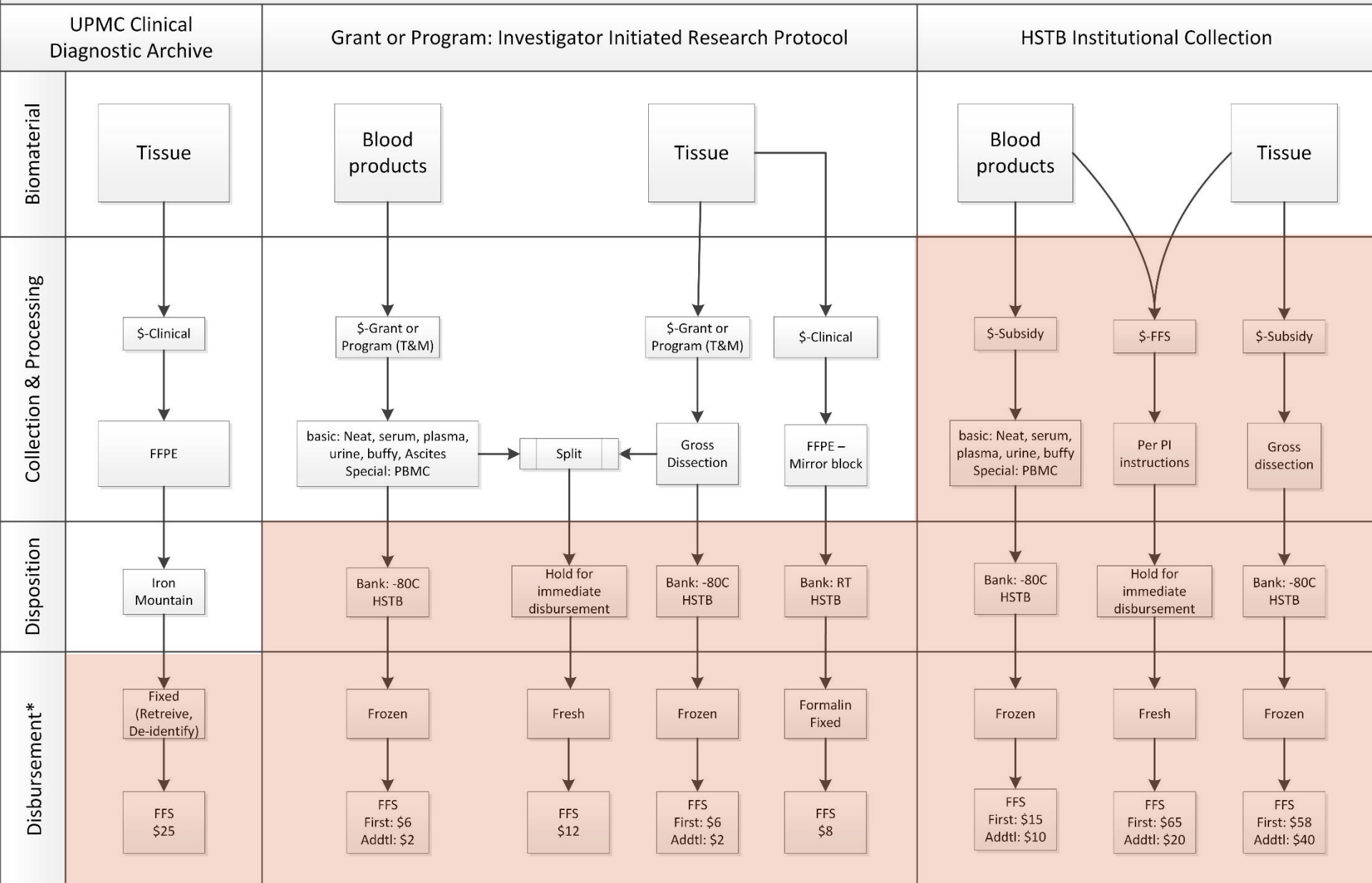
- Procure, bank and disburse human biological specimens
- Honest broker and case annotation
- IRB protocol submission assistance
- Research histology
- Clinical trials
- Additional functions based on PI need & HSTB capabilities

Our purpose is to simplify and streamline the process of research tissue procurement from humans and disbursement of those tissues and to provide efficient research pathology support service for University of Pittsburgh faculty research projects.

Areas of Recent Change

- Personnel: Operations Director; Project Manager; Quality Manager; Database (BIOS) Manager
- Services: Communication; Turnaround time; Price; Quality
 - Price: Structure; Transparency
 - Quality: Integrated program; CAP certification; Training
- Infrastructure: BIOS; Project Management Tool; Web site; Dedicated administrative unit (HSCRF)

HSTB Process Diagram



*Add – on services include QC, gross dissection, Annotation

What is the HSTB

- 5,600 sqft of total space at UPMC and Pitt
- 4 collection sites: Magee, Presbyterian, Shadyside, Passavant
- 5 freezer rooms at 3 sites
 - 46 mechanical -80C freezers (+3 empty backup)
 - 7 LN₂ Dewars
- Nearly 800,000 biological samples from ~60,000 patient encounters (~75% Cancer related)
- UPMC server space
 - Biospecimen Inventory and Operating System (BIOS)
 - Project Management Request Tool

Who is the HSTB

- 15 HSTB staff members
- Scientific Director and dedicated operations director
- IT and imaging support from Pathology informatics
- Operational and Scientific oversight from Health Sciences
- Administrative assistance from Health Sciences Core Research Facilities administration
- IT support from UPMC ISD
- Tissue Utilization Committees

*In cooperation with dozens of surgeons, pathologists, assistants and study coordinators

HEALTH SCIENCES TISSUE BANK – ORGANIZATION CHART

SCIENCE

Scientific Leadership

Adrian Lee, PhD
Director, Precision
Medicine Institute

Rajiv Dhir, MD
Scientific Director, HSTB
Pathology Liaison

OPERATIONS

Operations and Fiscal

Paul Wood
Asst Director, Health Sciences
Core Research Facilities (HSCRF)

Susan M. Kelly
Assistant Director

Tracy Crawford
Administrator, HSCRF

Erin Lasswell
Amy Elliot
Administration, HSCRF

BIOREPOSITORY

Collection, Banking, Disbursement

PASSAVANT

MAGEE
WOMENS

PRESBYTERIAN

SHADYSIDE

Christina Kline
Supervisor

Erika Benson
Nicole Roehrig
Tissue Bankers

Evie Demertzis
Merida Serrano
Tissue Bankers

Tina Tomko,
Lead Banker

Katie Porreca
Amy Simcik
Phil Schumacher
Tissue Bankers

Staffed by rotation
schedule of Tissue
Bankers: Benson,
Roehrig and Serrano

RESEARCH
HISTOLOGY

Coordination, Compliance, Quality

Tony Green
Histology
Supervisor

Marianne Notaro
TMA
Specialist

Nicole Pistorius
Project Manager

TBN
Project Coordinator

Luke Wiehagen
QA Manager

Angela Scolieri
Logistics
Coordinator

Student Workers

Research Histology

INFORMATION TECHNOLOGY

Liron Pantanowitz, MD
Director, Pathology
Informatics

Krishna Dhir
EHR/Project Data,
Pathology

Avinash Vemulapalli
Programmer, UPMC ISD
(BIOS Support)

Robert Wolfe
Jason Sun
Website & IT, HSCRF

Phil Schumacher
Database Manager
(BIOS Support)

Information Technology

CAP Accreditation

LEGEND

- Oversight (dashed line)
- Direct Report (solid line)
- Directors and Managers (white box)
- Faculty (grey box)
- Team (dashed line with arrow)

Unless otherwise noted, personnel are employees of the HSTB

Value - Cost - Price

- The HSTB infrastructure brings value to projects.
 - Quality – CAP certification
 - Presence at multiple sites - Relationships
 - Expertise – IRB, sample processing
- Cost – how much it actually costs
 - Fixed cost infrastructure – 5 or 50 projects
 - Scalable elements – collection, processing, banking
- Price – how much you pay
 - Economies of scale reduce costs \therefore price (efficiency)
 - Subsidy offsets costs

“Everything costs too much and the price should be lower but I buy things because there is value.” lw

Cost recovery: Based on Process, Not Funding Source

- Time and materials – Investigator defined process
 - Grant budget estimate
 - Collection with banking
 - Study defined sample processing
- Recharge – Defined, routine, predictable (relatively)
 - Quotation from price list – Defined by a “Cost Model”
 - Disbursement
 - Collection with immediate disbursement
 - Storage
 - Research Histology
 - Clinical Trials

Cost Recovery Schema

Collection	Paid by	<i>UPMC</i>	Departmental 02, 04	Extramural 05	Subsidy
	Type	<i>Clinical</i>	Excess Or Research Consent		
	Purpose	<i>Clinical</i>	Research		
	Material	<i>Solid Tissue</i>		Blood, Urine, Cells, Other	
	Source	<i>Human: Surgery, Biopsy</i>		Human: Phlebotomy, Procedure	
Processing	Processed by	<i>UPMC</i>	HSTB		HSTB
	Processing	Fixed	Fresh Frozen	Study Specific	Routine
Banking	Stored by	<i>UPMC</i>	HSTB		
	Location	<i>Iron Mtn</i>	HSTB Freezers		
Disbursement	Material	<i>FFPE tissue</i>	Frozen Tissue,	Vials: Blood Products, Urine, Other	
	Honest Broker	HSTB			
	Provided to	University of Pittsburgh Faculty			
Res Histology	Service	Cut, Stain, IHC, Other		N/A	

Cost Recovery Model

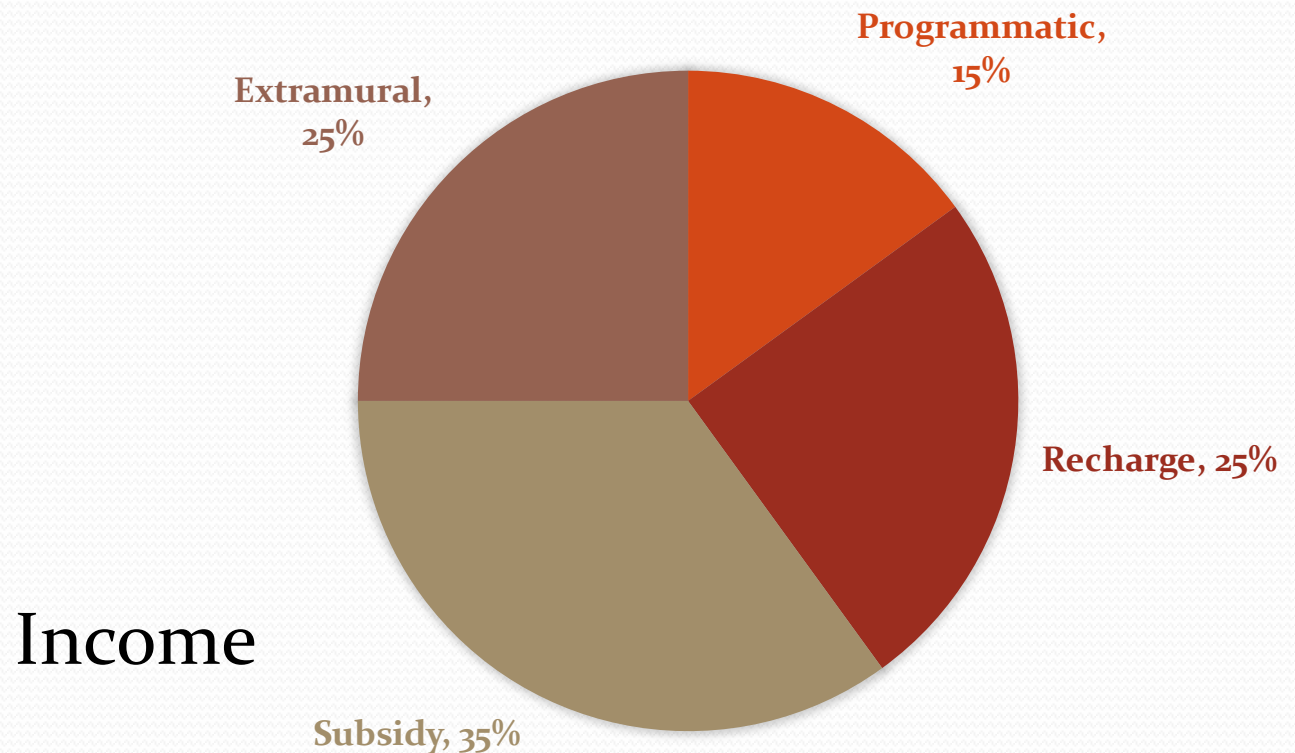
Fee-For-Service

Time and Materials

Hospital Business

Operating Budget for HSTB

- Income and expense for Recharge services
- Grant and contract budgets
- Program and Departmental project budgets
- Subsidy



Scenario #1 – Investigator Collection

- Collect 100 cases/year
 - Tissue
 - Plasma
 - Urine
- Bank materials
- Time and materials budget ~\$14,000
 - .25 FTE
 - Supplies

Scenario #2 – Investigator Collection

- Collect 100 cases/year
 - Tissue
 - Plasma
 - Urine
- Bank materials
- Time and materials budget ~\$14,000
 - .25 FTE
 - Supplies

-
- Receive Pick list - prepare
 - Disburse 25 samples
 - QC (Cut, stain, Path review)

Recharge budget \$1,135

\$35

25 X \$4 = \$100

25 X \$40 = \$1000

Storage

\$450/shelf year

Scenario #3 – Disbursement Request for HSTB Collection

- Collection – 1000's of samples from priority organ systems and diseases
-

Unrecovered costs paid through institutional subsidy.

- Criteria Search - qualify
- Disburse 25 samples
- QC (Cut, stain, review)

Recharge budget = \$2,355

\$105

25 X \$50 = \$1250

25 X \$40 = \$1000

I already paid for my collection.

Why do I have to pay to get my samples?

- Short answer: It requires effort and material, which has a cost associated.
- Longer answer: Most projects involve collection of more samples than are eventually disbursed. The rate of sample disbursement is extremely variable (1 - 100%). The charge structure is arranged à la carte so that you only pay for what you receive. You pay only for collection when you collect samples; you pay for disbursement when you receive them back.

Are these costs transparent?

- Recharge prices are found on the HSTB web site at www.tissuebank.pitt.edu
- Time and materials costs are estimated by the project manager based on a scope of work provided by you.

What should I do to: find out how much I will pay and get services?

- Service, pricing, contact information & more at Web site
- Need help to define your project and receive cost info?
 - Histology only - Contact Histology Supervisor: Tony Green
 - All other - Contact the Project Manager: Nicole Pistorius
- Electronic communication
 - Email: Provide project details and receive a quotation
 - Log into the Project Management Tool from the website link

Once we have a scope of work defined, you will receive a quotation for recharge services and a cost estimate for Time and Materials. A single project may include both types of processes and so you may get a quote and a cost estimate.



Health Sciences Core Research Facilities

HEALTH SCIENCES TISSUE BANK

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Improved information

Welcome to the Health Sciences Tissue Bank

The Health Sciences Tissue Bank (HSTB) is funded and operated through a partnership between the Department of Pathology within the School of Medicine, the Office of the Senior Vice Chancellor for Health Sciences and the Clinical and Translational Science Institute (CTSI).

The Health Sciences Tissue Bank (HSTB) provides central support for [University of Pittsburgh](#) research programs needing tissue materials for research from patients seen at the University of Pittsburgh Medical Center (UPMC). The main objectives of HSTB are: (1) to provide a mechanism to simplify and streamline the process of research tissue accrual and disbursement, and (2) to provide efficient research pathology support services.

The tissue accrual and disbursement function of the HSTB has been in existence since 1991, when the service focused on genitourinary cancers. The resource has substantially expanded and now procures and disburses tissue materials, as well as other biological specimens from patients with diverse pathology. The HSTB provides support to major research projects such as the Lung Specialized Program Of Research Excellence (SPORE), Early Disease Research Network (EDRN), the National Mesothelioma Virtual Bank (NMVB), the Lung Tissue Research



HSTB Project Management Request Tool

[Link](#)

Additional Resources

Real time aggregate sample type information (coming soon)

Contact information

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(412) 623-5890; pistoriusnd@upmc.edu

Tony Green; Histology Supervisor, HSTB
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