

UNIVERSITY OF PITTSBURGH
NMVB
National Mesothelioma Virtual Bank



Facilitating Translational Research Since 2006

National Mesothelioma Virtual Bank

2018-Annual Face to Face Meeting

(<http://www.mesotissue.org>)

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NMVB- Accomplishments :

- *Continue to serve the translational research needs of the mesothelioma cancer research community.*
 - Collecting pleural and peritoneal malignant mesothelioma tissue samples (fresh frozen, fresh frozen paraffin embedded) and blood products from prospectively consented and retrospectively identified cases.
 - NMVB is now providing five distinct tissue microarrays (TMA) for biomarker testing from each of the collaborating institutes.
 - To date, 44 requests have been received and 42 request have fulfilled, representing 35 different Universities and Research Institutes. Thousands of biospecimens are shared to mesothelioma research community to facilitate novel biomarkers and therapeutic technique discoveries.

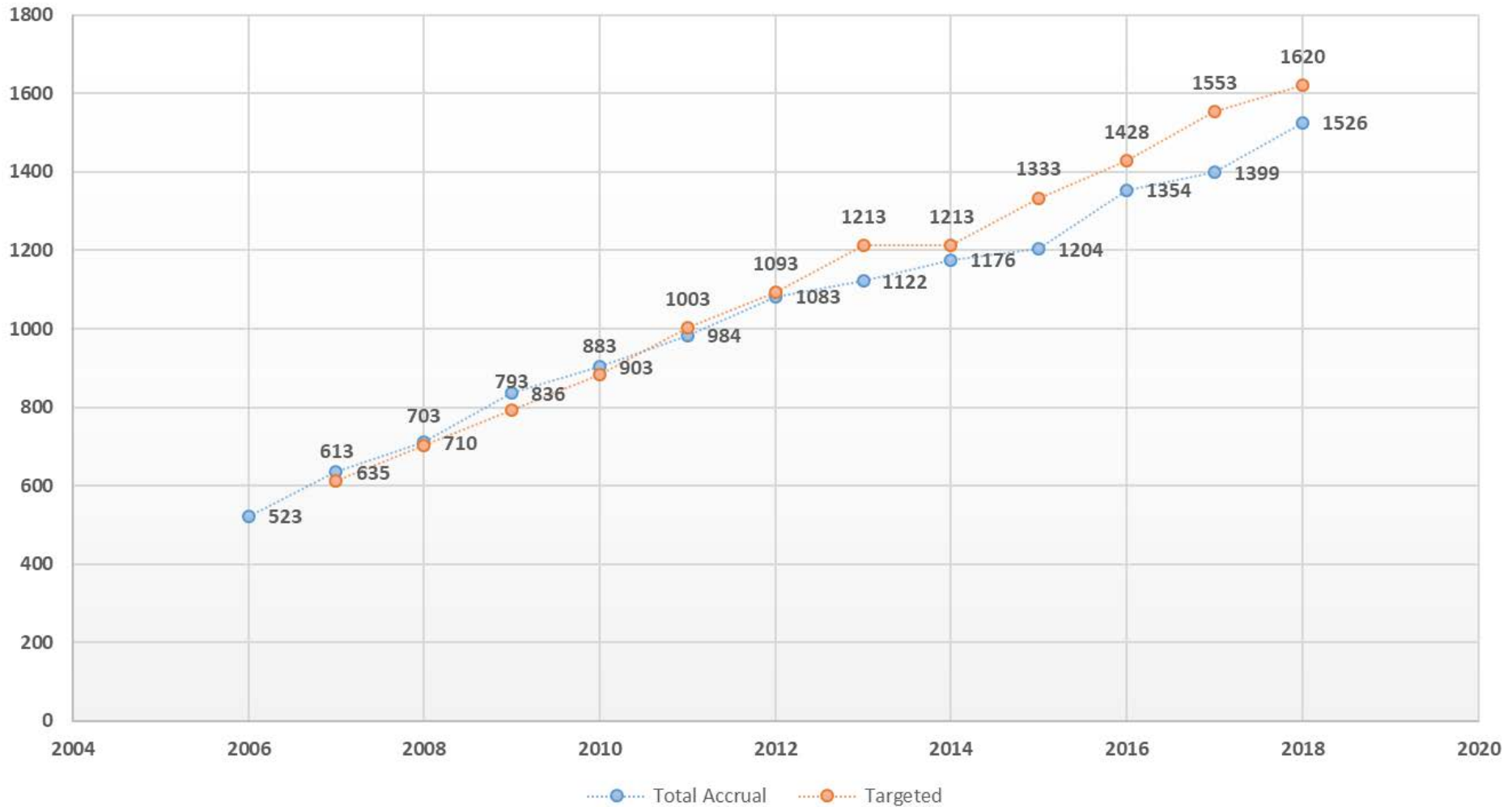
NMVB- Accomplishments (Cont'd..)

- *Expansion of NMVB resource to include new collections and sites:*
 - University of Maryland (UMD) has joined as a full collaboration partner in September 2016. UMD has a robust tumor banking infrastructure under the supervision of Drs. Joseph Friedberg, and Allen Burke.
 - UMD has started to enroll prospectively consented patients since May 2017. UMD has enrolled 21 prospectively consented pleural and peritoneal mesothelioma cases and 91 retrospective peritoneal mesothelioma cases.
 - UMD has developed 5th tissue microarray (TMA) and also contributed to fulfil the specimen request from mesothelioma research community.
 - RPCI (Roswell Park Cancer Institute) has implemented prospective malignant mesothelioma specimen collection workflow and is providing fresh frozen and blood products since September 2016 for research.

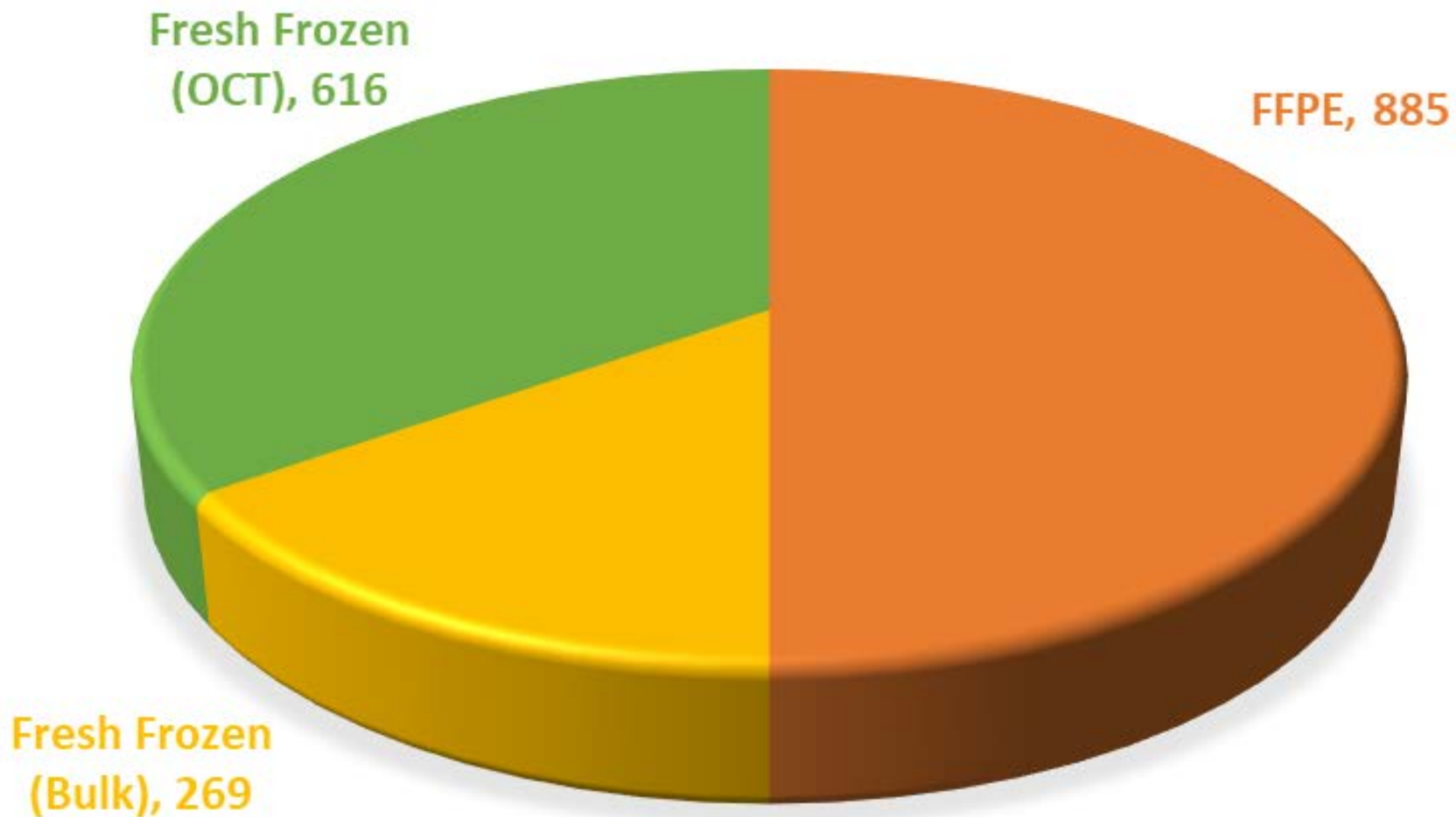
NMVB- Accomplishments (Cont'd..)

- *NMVB database, for annotation and querying malignant mesothelioma biospecimens:*
 - NMVB database provides data entry interface to annotate biospecimen at demographics, clinical, pathology and follow-up (including staging, treatment and recurrence) dataset level.
 - Public access statistical database for public query provides summary information on all the mesothelioma cases and their associated biospecimens stored into biorepository.
 - Password protected database, provides user authentication level access and provides data entry interface to annotated biospecimens.
(<https://www.data.mesotissue.org/mvb/home.seam>)
 - ***Developing REDCap (Research Electronic Data Capture) instance to annotate and query mesothelioma specimens.***

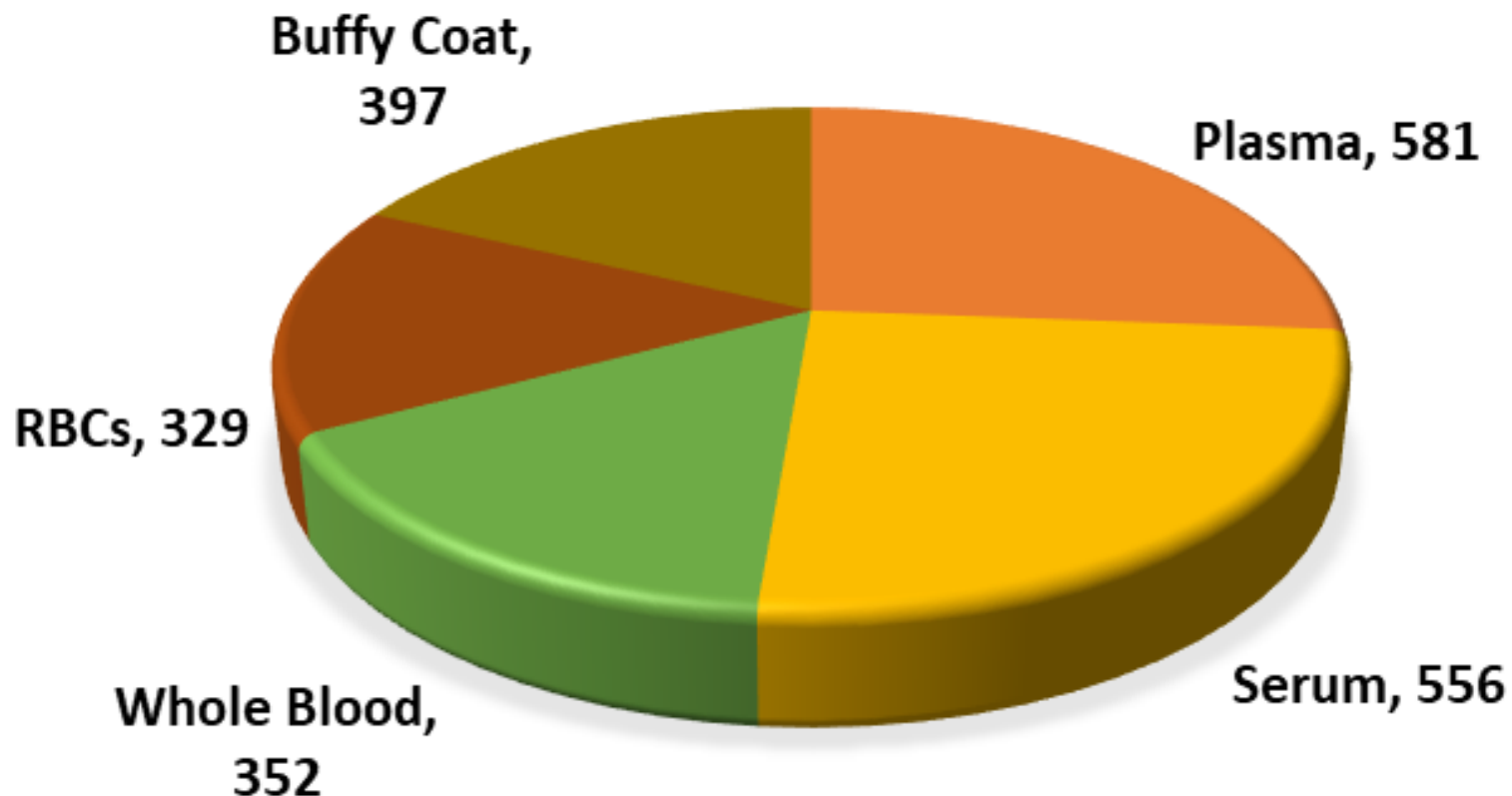
NMVB Total Accrual Trend / Year



AVAILABILITY OF TUMOR TISSUE SPECIMEN (NMVB NETWORK OVERALL COLLECTION)



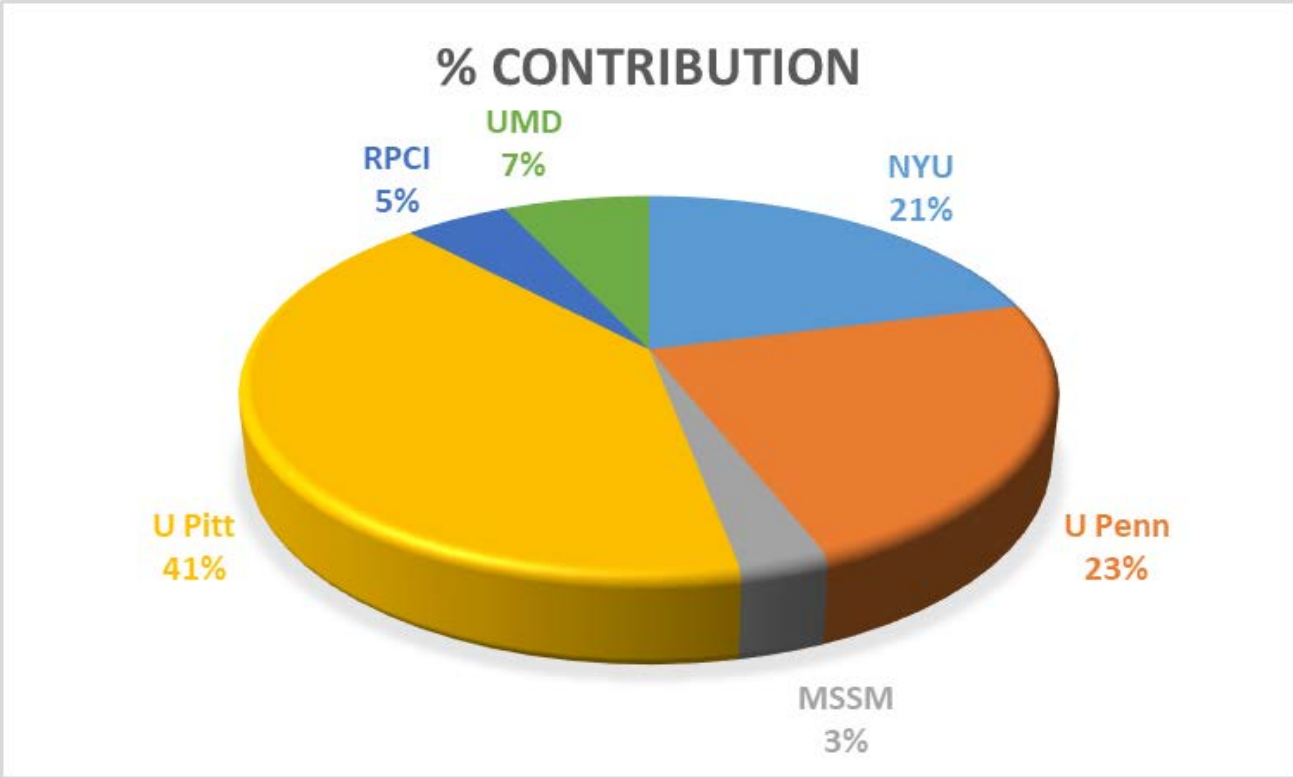
**AVAILABILITY OF BLOOD PRODUCTS TYPE/# OF CASES
(NMVB NETWORK OVERALL COLLECTION)**

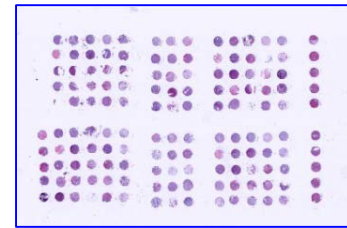


NMVB Collaborative Site Contribution:

Institutions	Retrospective Cases	Prospective Cases	Total
NYU	185	129	314
U Penn	155	189	344
*MSSM	7	40	47
U Pitt	424	209	633
RPCI	76	0	76
**UMD	91	21	112
Total	938	588	1526

*MSSM was joined NMVB from 2010 -2012. **UMD Joined in 2016



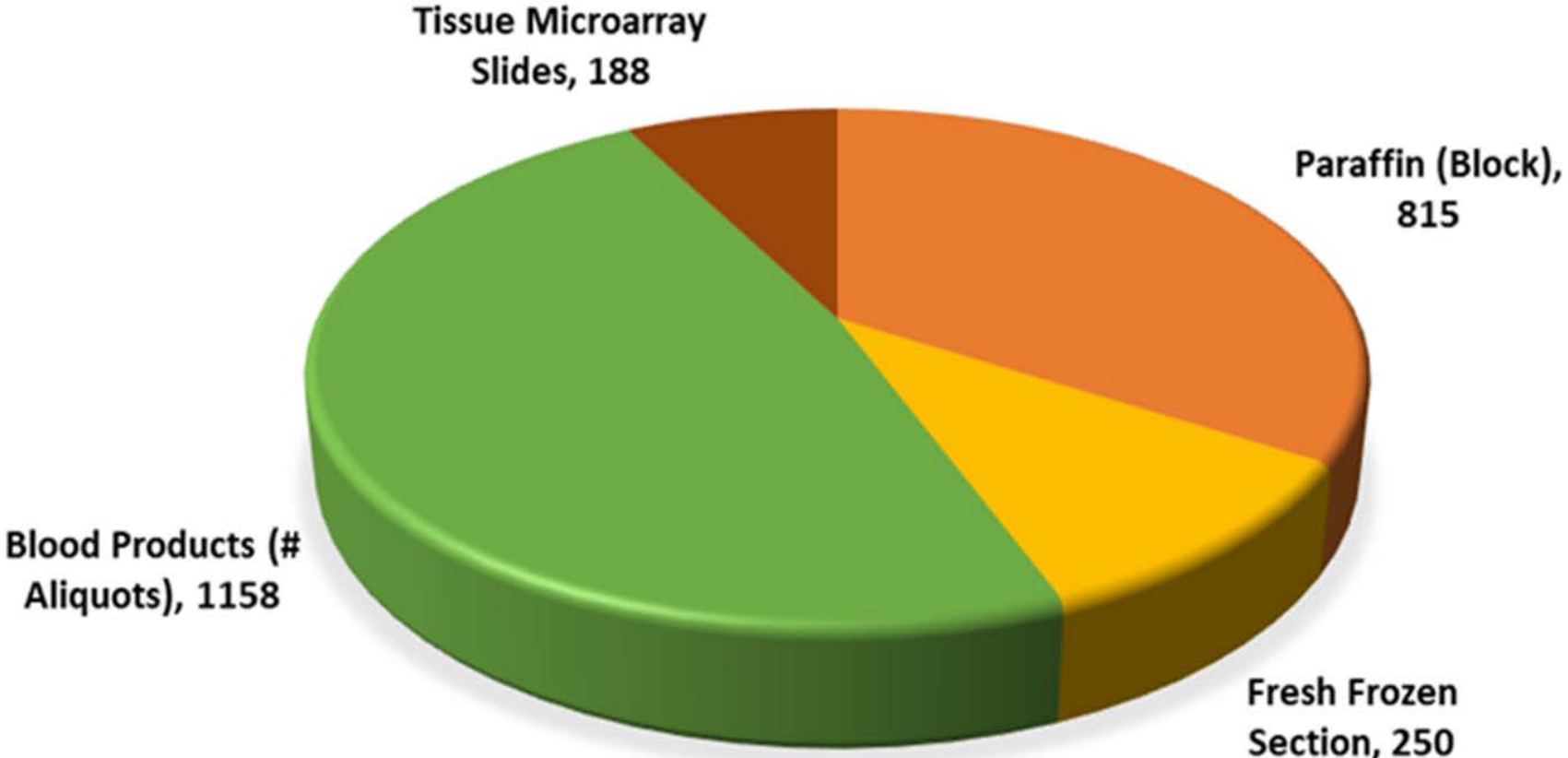


NMVB Tissue Microarrays (TMAs):

- Tissue Microarrays (TMA) are used to test simultaneous analysis of molecular targets at the DNA, mRNA, and protein levels under identical, standardized conditions on a single glass slide.
- Five distinct TMA are available – one from each NMVB site. In addition, we are planning to develop a collaborative TMA with contribution of specimens from all sites to address a broader range of research questions.
- These Five TMAs represents tumor tissue cores from 299 patients. Each tumor core annotated with tumor type, histological type, grade, stage and all clinical data
- TMA data excel, XML and maps files are available on the web site (<https://mesotissue.org/tmas>).

NMVB Biospecimens Request Status Report:

SUMMARY OF SPECIMENS DISTRIBUTED (2007-2018)



Average turnaround from initial request to getting specimens is about 6 -8 weeks.

NMVB Marketing Efforts:

- NMVB Web site (www.mesotissue.org)
- NMVB News Letter
- NMVB presence on social media, Facebook, LinkedIn, Twitter.
 - Facebook - @nmvb.org <https://www.facebook.com/nmvb.org>
 - Twitter - @nmvbtw <https://twitter.com/nmvbtw>
 - LinkedIn - @nmvb (<https://www.linkedin.com/in/mesothelioma-virtual-bank-302b11131/>)
- Presenting NMVB at national conferences (AMIA, USCAP, Meso-Foundation, iMiG, Heat and Frost Insulator Union).

<http://www.mesotissue.org/>

National Mesothelioma Virtual Bank

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The National Mesothelioma Virtual Bank (NMVB) collects and distributes tumor tissue and blood samples to the research community from consented patients. The specimens are stored with de-identified clinical data and that is made available for research. Investigators can search the study database to identify and request these materials via the NMVB website. NMVB is the largest and most accessible resource for biospecimens donated by mesothelioma patients.

NMVB currently has 1380 annotated cases and 1702 biospecimens including Paraffin Embedded Tissue, Fresh Frozen Tissue and Blood

Services

Consultation and interpretive services are available: trained pathologists can provide assistance in staining, interpretation, scoring, and basic statistical analysis. In

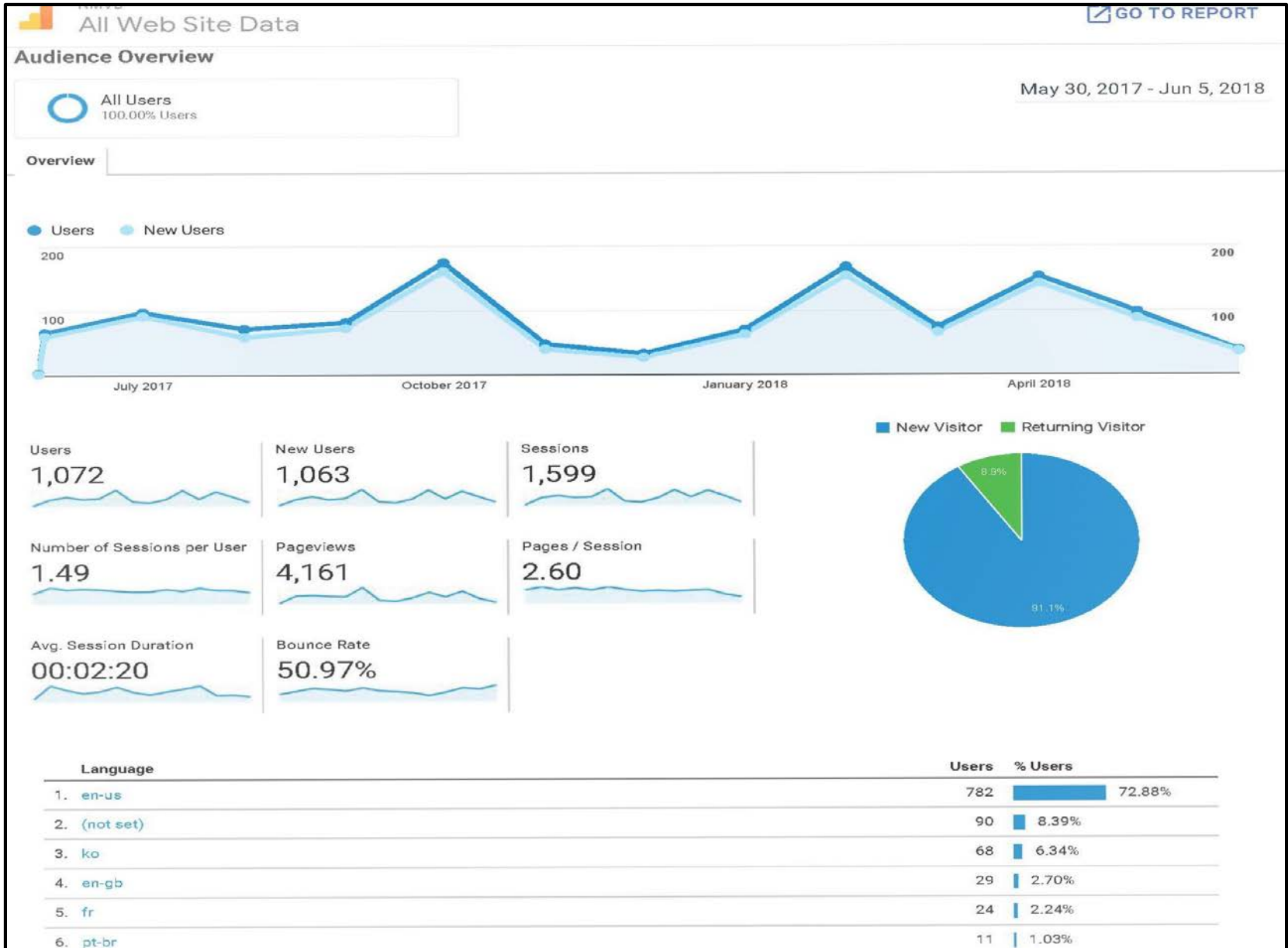
NMVB Database

Allows researchers to search clinically annotated mesothelioma biospecimens and standardized clinical annotation structure to incorporate data from

Specimens (Availability)

- Fresh Frozen

NMVB Website-Audience:



Goals to Accomplish During 2018:

- Constructing the mesothelioma protein interactome, a project to discover/predict novel Protein-Protein Interactions (PPIs) of genes implicated in mesothelioma genes.
- Continue to enhance marketing efforts to publicize the resource to larger community of investigator to increase the utilization of resource.
- Continue to improve the consenting and collection workflow to increase the accrual of prospective mesothelioma cases.
- Developing collaborative Tissue Microarray slides.
- Replacing the existing specimen annotation and query application with REDCap instance.
- Continue to engage investigators who has obtained specimens from NMVB resource. To collect information about the publications and grant awards that are originated from the use NMVB resource via online feedback forms (<https://www.mesotissue.org/node/88>).

Acknowledgements

Collaborators:

- Center for Disease Control and Prevention (CDC)
- National Institute of Occupational Safety & Health (NIOSH)
- Mesothelioma Foundation (Meso Fndn)
- Mount Sinai School of Medicine (MSSM)
- New York University (NYU), New York City, NY
- University of Pennsylvania (U Penn), Philadelphia, PA
- University of Pittsburgh (U Pitt), Pittsburgh, PA
- Roswell Park Cancer Institutes (RPCI), Buffalo, NY
- University of Maryland, Baltimore, MD

Leadership:

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Mary Hesdorffer (Meso Fndn)

H. Richard Alexander, MD (UMD)

Allen Burke, MD (UMD)

Thank you