

Collaborating to Discover the Genetic Basis of Stroke: Biological Sample Collection and Storage

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Collaborating to discover the genetic underpinnings of stroke: The International Stroke Genetics Consortium, Part II: Collection and storage of biological samples

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Objectives

- Identify key components of sample collection establishment and maintenance
- Provide interested investigators a reference for starting a new collection
- Provide a framework for new collaborators to participate in existing collections

Types of Collections

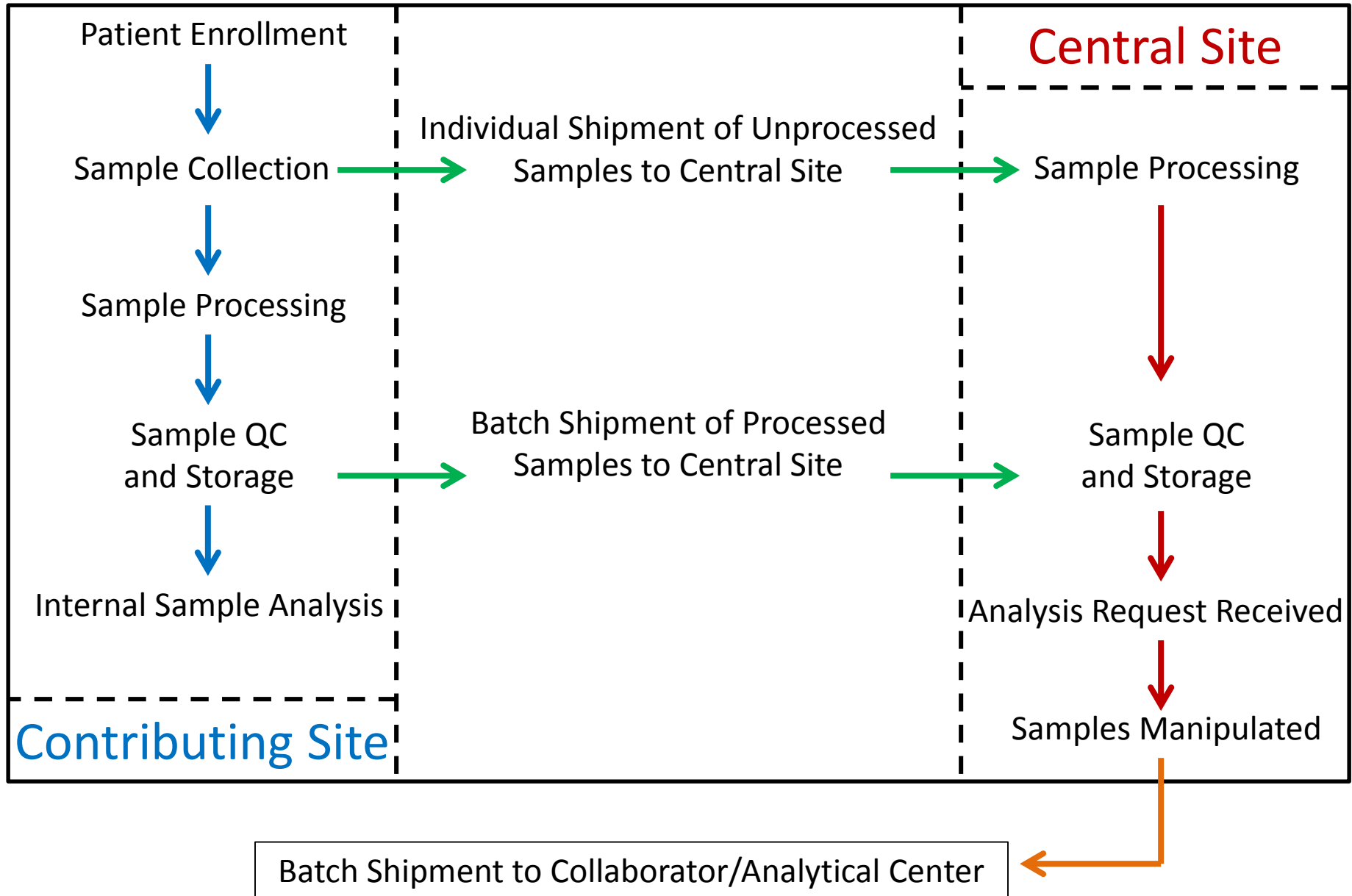
- EMR data plus sample collections
 - BioVU, eMERGE
- Assembly from existing research collections
 - ISGC-WTCCC2 GWAS, ISGC ICH GWAS, NINDS-SiGN
- Central storage of data without samples
 - ISGC MetaStroke, CHARGE, PGC
- Centrally coordinated prospective study
 - UK BioBank

Five Biorepository Essentials

1. Study Protocol and Regulatory Approvals
 - Include sharing language and local requirements as early as possible
2. Phenotype Data Collection
 - Minimum dataset collected in a standardized manner
3. Standardized Sample Collection/Processing
 - Whole blood vs. DNA, central vs. satellite processing
4. Sample Tracking
 - Record-keeping and quality control
5. Physical Resources
 - Collection tubes, database infrastructure, freezer space, shipment materials

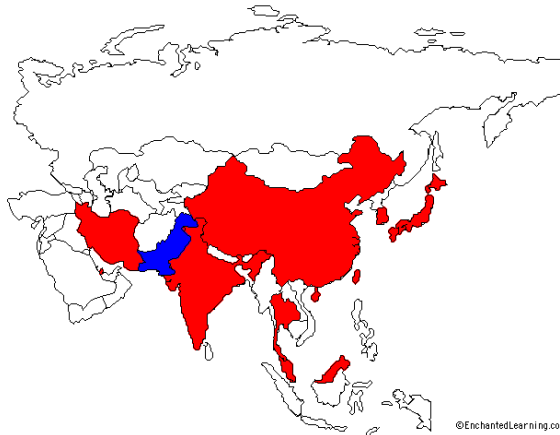
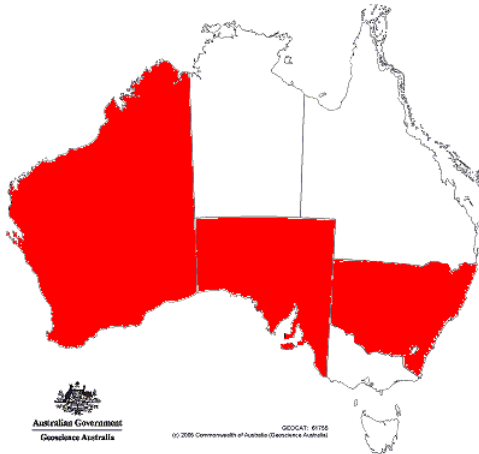
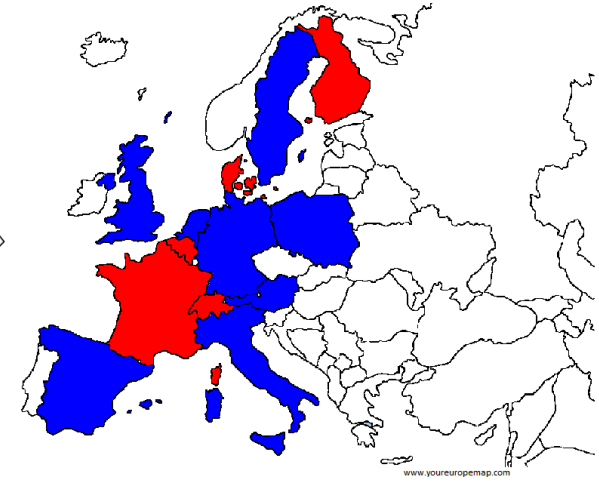
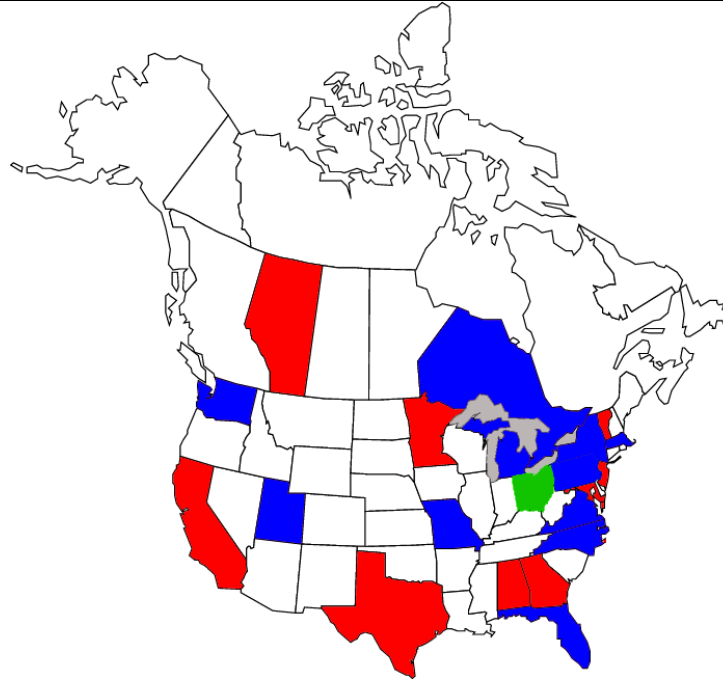
Region	Country	Institution	Able to share samples	Requirements		
				Approval by IRB or review committee	Sharing statement in protocol	MTA or Transfer certificate
North America	USA-NC	Duke University	Yes	X	X	X
North America	USA-UT	University of Utah	Yes	X	X	X
Europe	Belgium	University Hospitals Leuven	Yes	X		
Europe	Finland	Helsinki University Central Hospital	Yes	X	X	
Europe	Spain	Hospital del Mar, Barcelona	Yes	X	X	X
Europe	Sweden	Lund University	Yes	X	X	X
Africa	Malawi	University of Malawi	Yes	X	X	X
Asia	Korea	Centers for Disease Control & Prevention	Yes	X	X	X
Asia	Singapore	National Neuroscience Institute	Yes	X		
Asia	Republic of China	Chang Gung University	No	X		X
Australia	Australia	University of Newcastle	Yes	X	X	

Biorepository Sample Collection Scheme





International Stroke Genetics Consortium



Summary

- Multiple methods for sample collection
- Local requirements vary
- Essential components for sample collection
- Trusting, collegial relationship with collaborators is paramount