Chain of **Trust**

The Prostate SPORE National Biospecimen Network Pilot

Tissue Banks and Pathology Tools: Applications and Applicability

caBIG Annual Meeting

February 12, 2005

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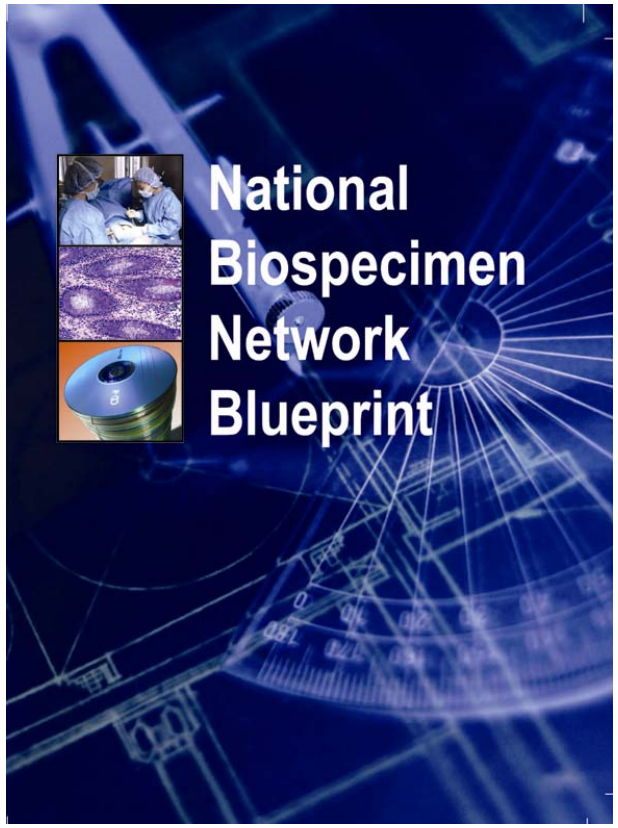
Prostate SPORE NBN Pilot Overview

Julie Schneider, NCI

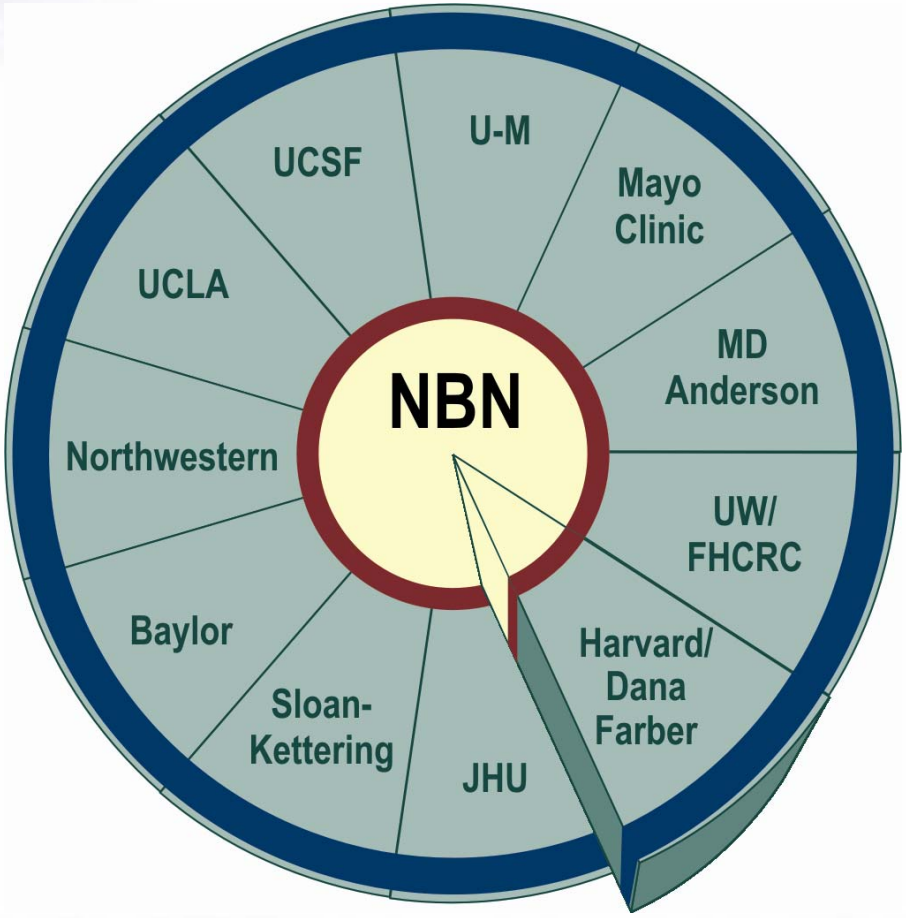
NBN Concept Developed with Extensive Input from the Cancer Community

- National Biospecimen Network Blueprint

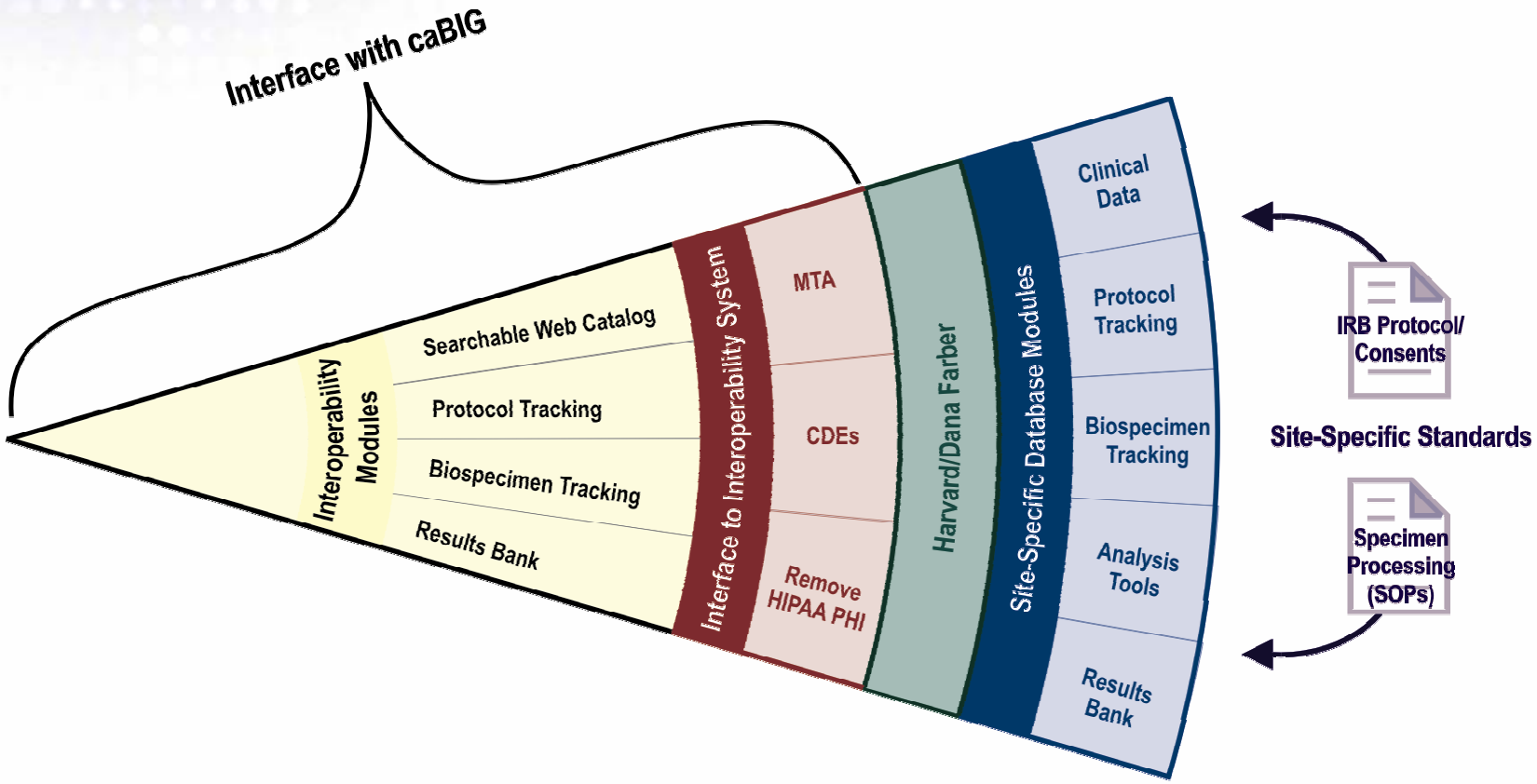
  (http://www.ndoc.org/about_ndc/reports)



Prostate SPORE NBN Pilot Overview



Prostate SPORE NBN Pilot Overview, continued



Prostate SPORE NBN Pilot / caBIG Timeline

January 2004	Prostate SPORE Principal Investigators (PIs) agree to pilot NBN concept and establish a Task Force
July 2004	First meeting of NBN pilot Task Force
August 2004	Informatics site visits begin
January 2005	First meeting of the NBN pilot Informatics Group
February 2005	Meeting of NBN pilot Informatics Group and CaBIG representatives; regular teleconferences initiated
March 2005	Prostate SPOREs apply for Year 2 caBIG Funding
March 2005	Prostate SPORE NBN pilot RFP released
April 2005	NBN pilot Informatics Group and caBIG representatives discuss Workflow and Use Cases

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Inter-SPORE Prostate Biomarkers Study: Addressing Prognosis and Pilot for NBN

Bruce J. Trock, Ph.D.

Johns Hopkins School of Medicine

Tim Thompson / Baylor
Mark Rubin, Max Loda / Dana Farber
Angelo DeMarzo / Johns Hopkins
Robert Jenkins / Mayo Clinic
Arul Chinnaiyan / University of Michigan
Hans Lilja, Paul Fearn / MSKCC
Chung Lee / Northwestern
Beatrice Knudson / FHCRC
Robert Reiter / UCLA

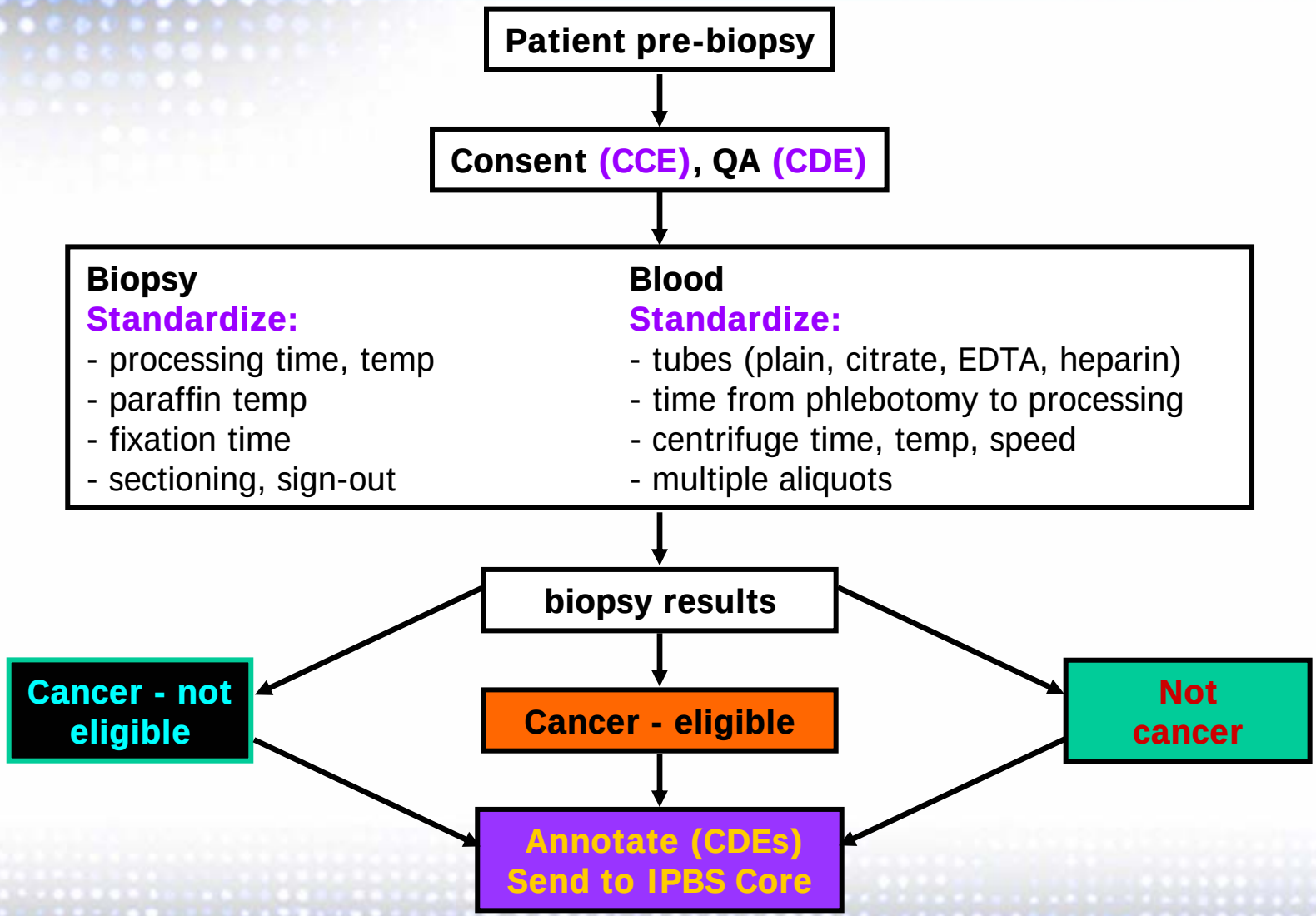
SPOREs
Specialized Programs of Research Excellence

IPBS Research Question

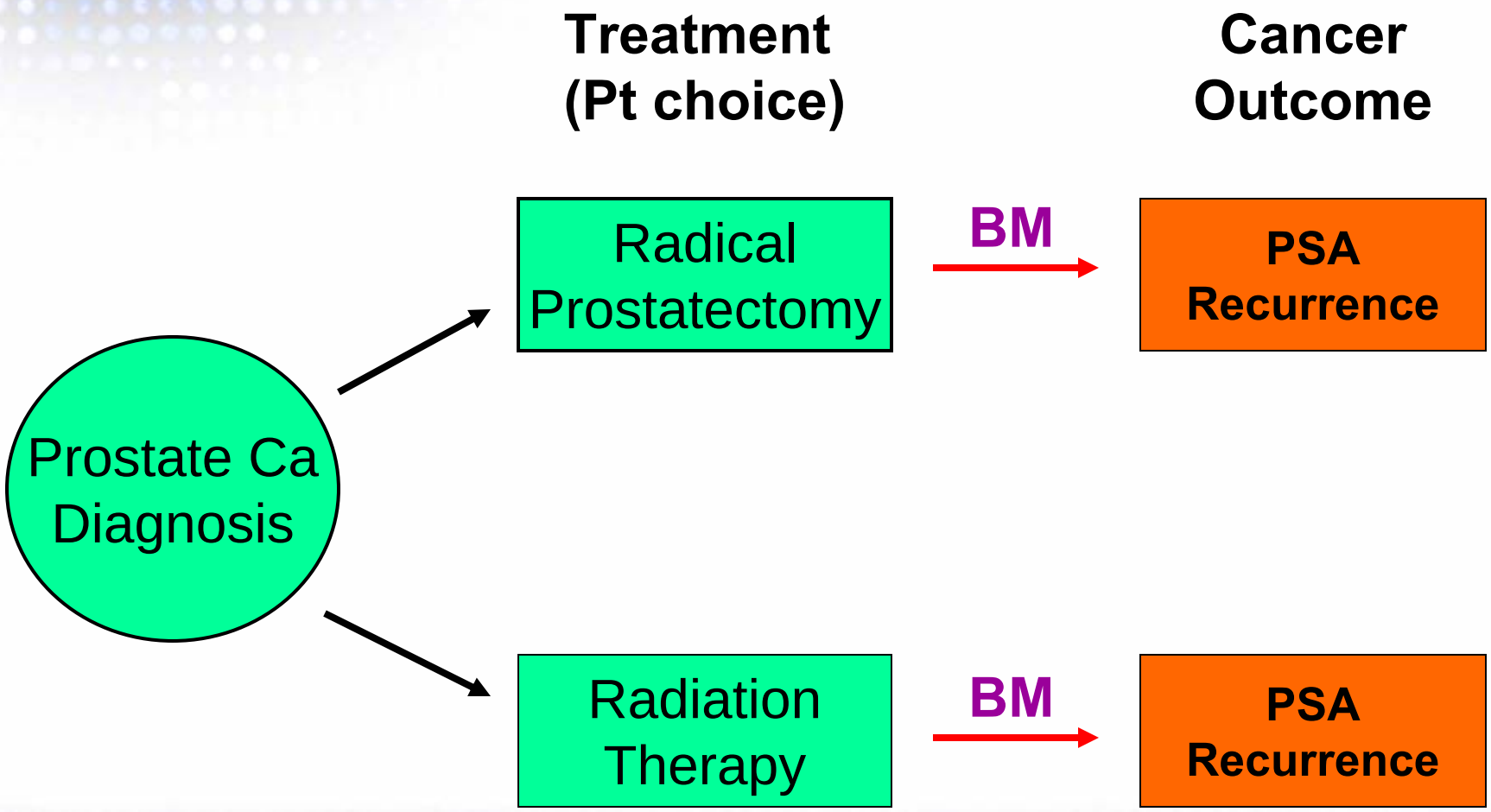
- Do promising biomarkers improve upon existing models to predict aggressive cancers that will progress following surgery or radiotherapy?

Common Underlying Needs of IPBS and NBN

- dispersed network of contributors & users
- use of standardized/optimized methods:
  - **annotation, common or exchangeable data structures**
  - **“best practices” tissue processing, storage, disbursement, quality control**
  - **Identify tolerances if standardization is not possible**
- tissue linked to clinical, pathology & outcome data
- sustainable and scalable infrastructure
- control of pre-analytical error


Patient pre-biopsy
Consent (CCE), QA (CDE)
Biopsy
Standardize:
- processing time, temp
- paraffin temp
- fixation time
- sectioning, sign-out
Blood
Standardize:
- tubes (plain, citrate, EDTA, heparin)
- time from phlebotomy to processing
- centrifuge time, temp, speed
- multiple aliquots
biopsy results
Cancer - not eligible
Cancer - eligible
Not cancer
Annotate (CDEs)
Send to IPBS Core

Prospective Study Schema (5 Years)



700 PC Patients from 11 SPOREs

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- 15 paraffin slides
- 3 serum & 3 plasma tubes
- (2 frozen core biopsies)

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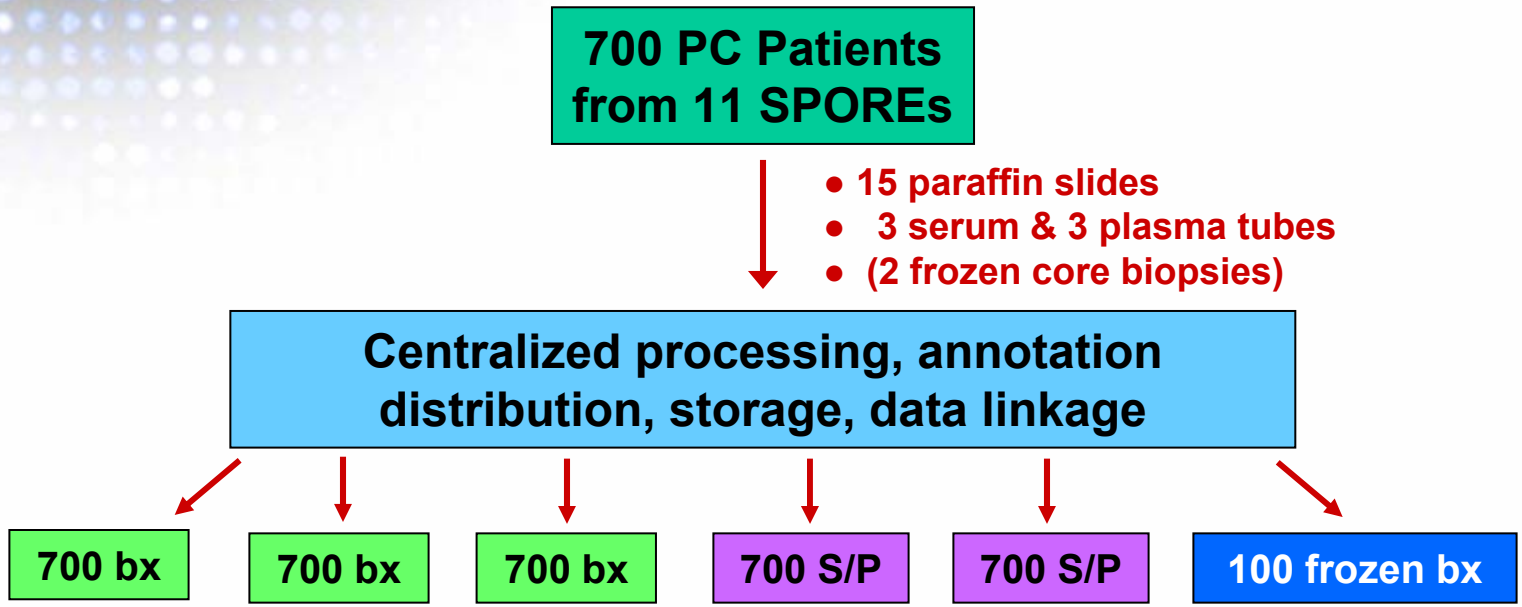
Centralized processing, annotation distribution, storage, data linkage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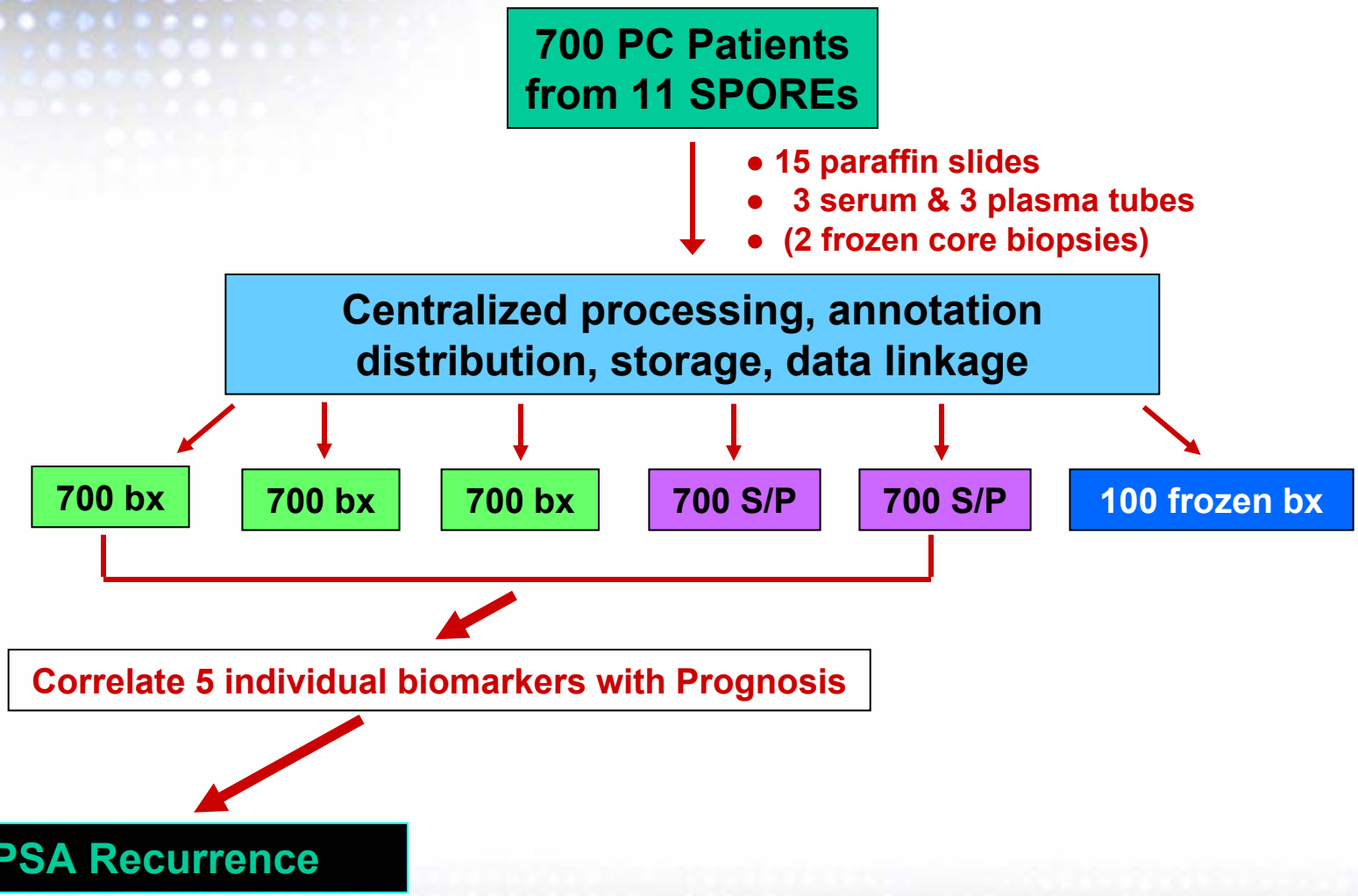
Centralized processing, annotation distribution, storage, data linkage
700 bx
700 bx
700 bx
700 S/P
700 S/P
100 frozen bx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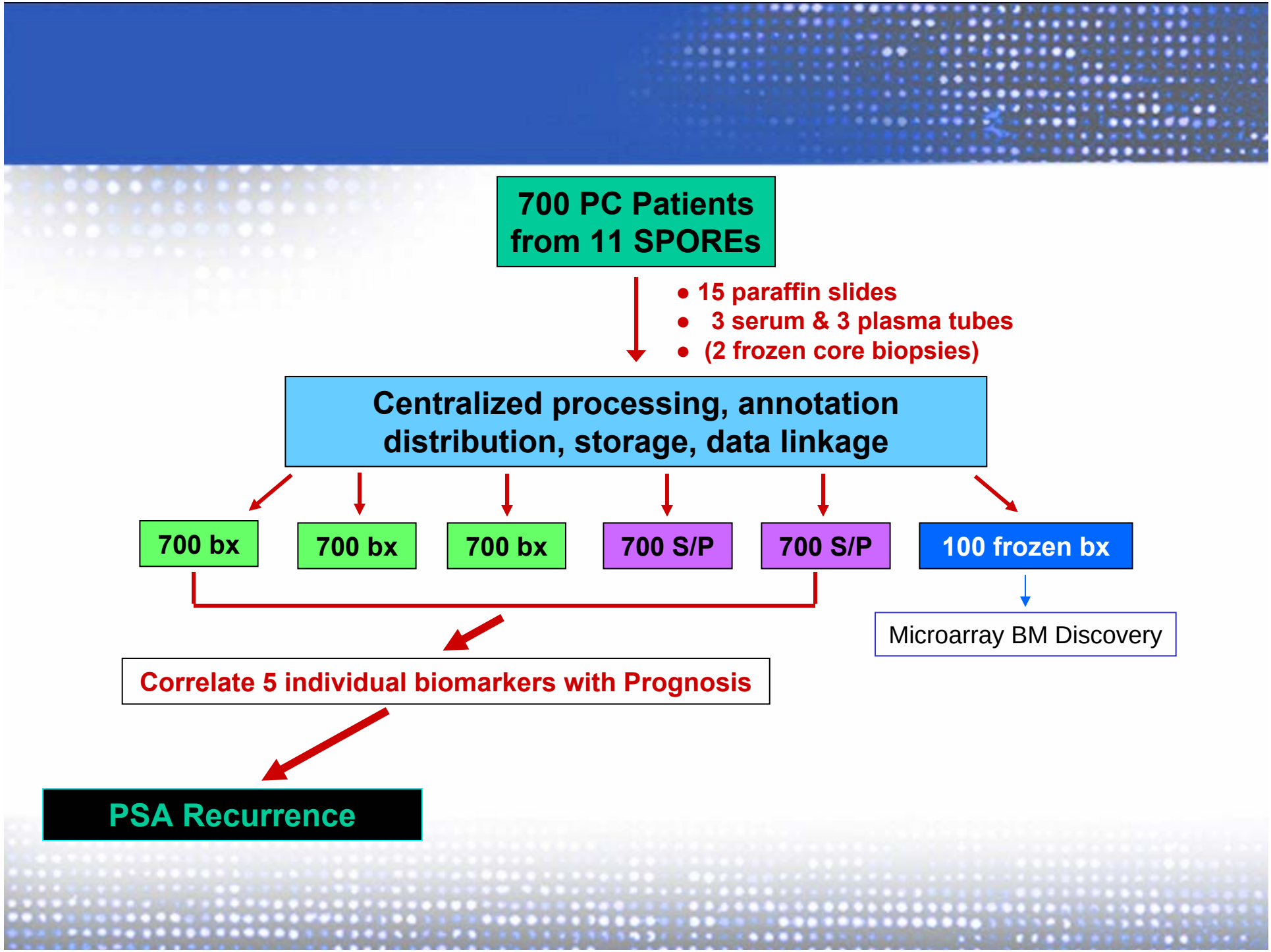
700 S/P
700 S/P
100 frozen bx
Correlate 5 individual biomarkers with Prognosis
PSA Recurrence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700 bx
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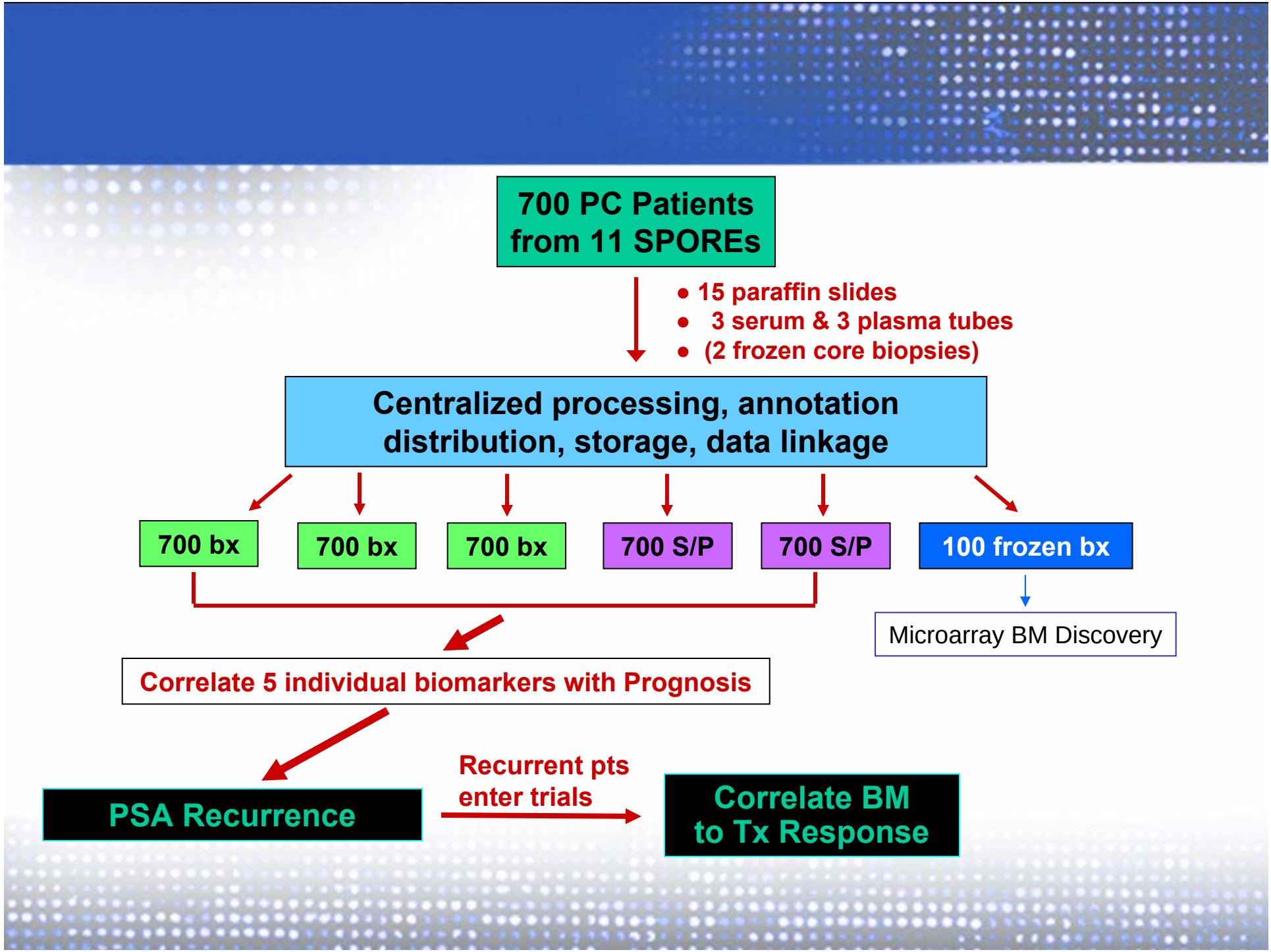
100 frozen bx
Microarray BM Discovery
Correlate 5 individual biomarkers with Prognosis
PSA Recurrence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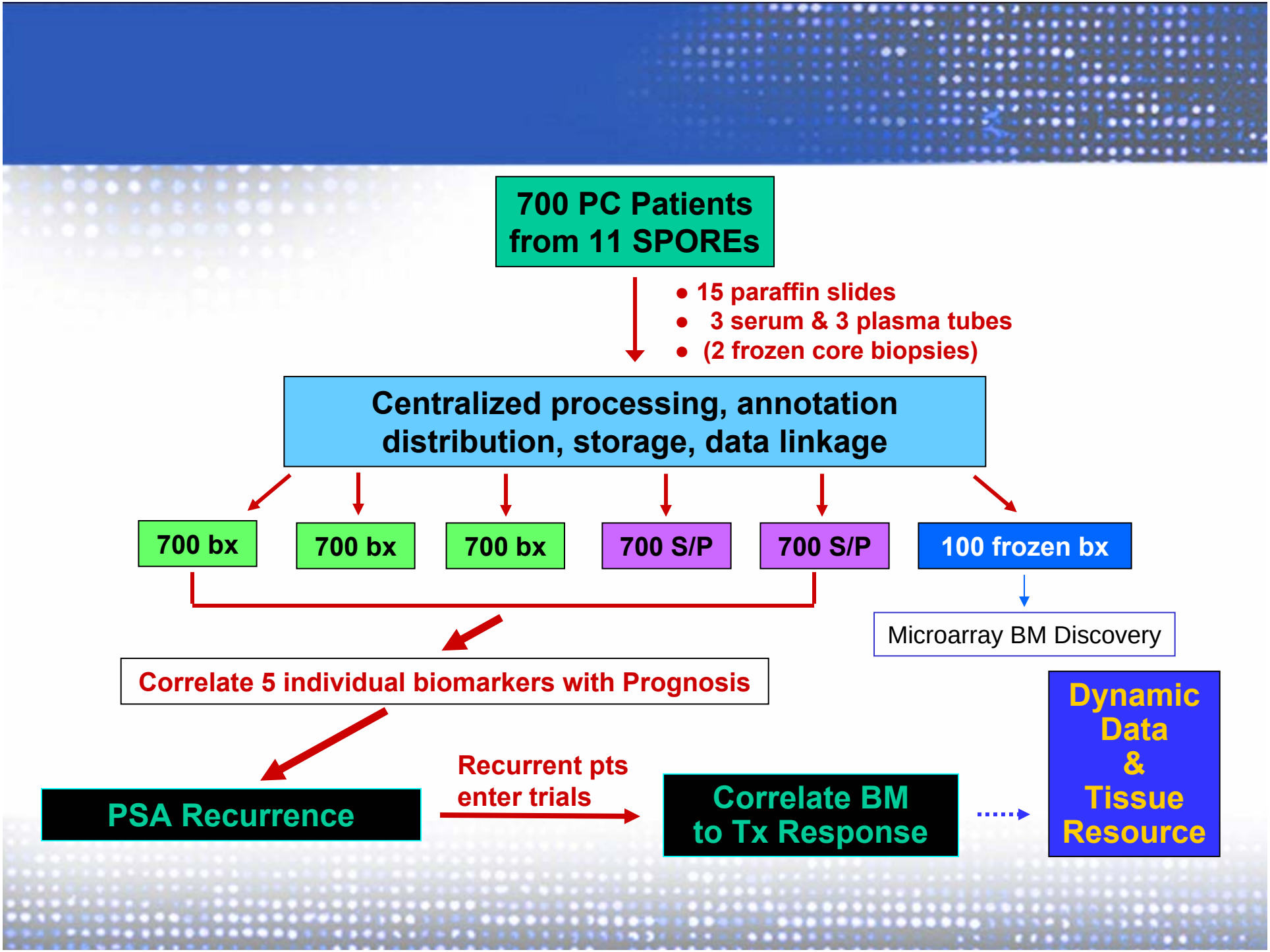
Microarray BM Discovery
Correlate 5 individual biomarkers with Prognosis
PSA Recurrence
Recurrent pts enter trials
Correlate BM to Tx Response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Microarray BM Discovery
Correlate 5 individual biomarkers with Prognosis
PSA Recurrence
Recurrent pts enter trials
Correlate BM to Tx Response
Dynamic Data & Tissue Resource

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The Prostate SPORE NBN Pilot and caBIG Tools, Principles and Infrastructure

Warren Kibbe, Northwestern

NBN: Contributing to Prostate Pathology CDEs

- Each pilot site will contribute existing data elements
- The data elements and definitions will be harmonized and agreed upon by the pilot sites
- Those harmonized definitions will be contributed to the VCDE workspace for harmonization and acceptance to the caDSR

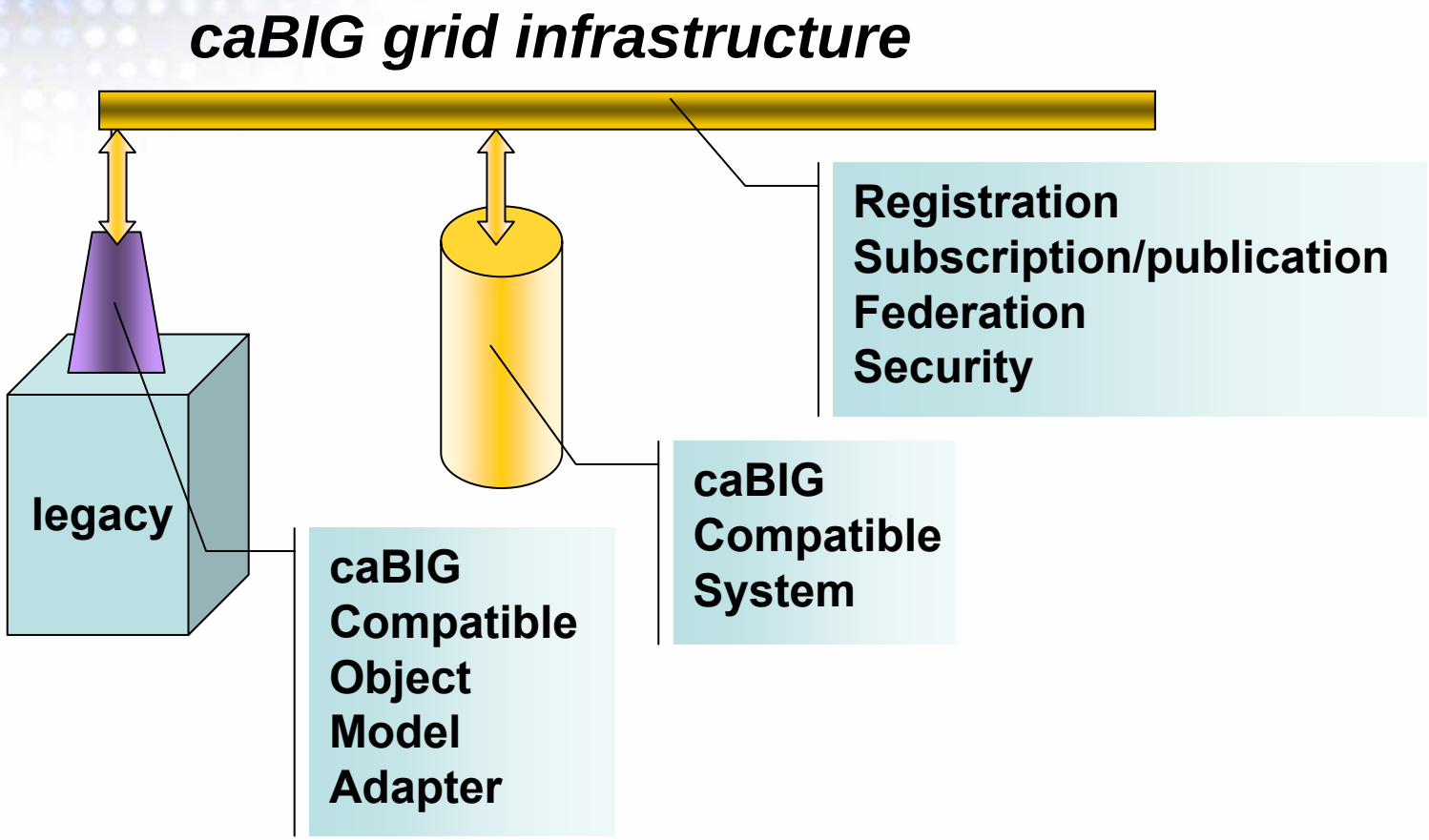
NBN: Making Use of the caTISSUE Object Model

- The caTISSUE OM will be used to connect the NBN pilot sites repositories to a caBIG grid-compliant communications layer
- The caTISSUE OM will either be connected to existing biospecimen systems at the local system or caTISSUE-Core will be used to house the specimen data locally

NBN : Making Use of the caTISSUE Object Model

- The communications layer will provide the basis for a general biospecimen ‘virtual broker’ module
- The very defined nature of the NBN Pilot is an ideal ‘real world’ application for the caTISSUE and caGRID

NBN: Making Use of caGRID



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