Biobank in China: focusing on and utilizing effectively clinical resources

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Brussels, Mach 6th, 2013
Background

- Vast resources: clinical specimen on a large scale with clinical information
- One of the basic platforms for Translational Medical Research & New Drug Development
- Promote the investigation in disease mechanisms & biomarker identification

*National Clinical Specimen Biobank Project supported by MOST and MOH
One of 16 National “Mega-Project” Projects: New Drug Discovery and Development*
Biobanks are Pivotal to Translational Medicine

Biobank

Biospecimen Collection → Pre-analytical processing, storage & Banking → Biospecimen bio-molecular analysis → Translational Research outcomes: biomarkers → Personalized clinical decision making → Diagnosis and Therapy

Standardized quality of biospecimens is crucial → professional and certified biobanks

Adapted from Source: Time Magazine: March 23rd 2009 10 ideas changing the world right now: Biobanks
The National Biobanks for Clinical Specimen in China

- Step 1: National Biobank in Beijing and Shanghai
- Step 2: Spread to other regions when matured

National Clinical Specimen Biobank Project
**Purpose of National Clinical Specimen Biobank Project (2011-2015)**

- Platform-based integration of government and local resources
- Establishment of Chinese clinical biobank and database
- System innovation, sustainable model of development
- Specimen resources sharing mechanism

**Malignant tumor**

**Cardio-cerebro-vascular diseases**

**Neuropsychiatric diseases**

**Metabolic diseases**

- New drug discovery
- Major disease mechanism research
- Standardization
- Reflect the epidemic characteristics
Contents of National Clinical Specimen Biobank Project (2011-2015)

1. To establish a biobank network of the clinical biological resource with unified standard

2. To form the nationwide instant information sharing system for the clinical resource database

3. To construct the technology standard and management model for the clinical resources

4. To accomplish the mechanism for benefit sharing, multisite connection and automatic operation

5. To achieve a highly sharing, sustainable developing platform for scientific research
## The National Biobanks for Clinical Specimen in China

### Beijing:
- Peking Union Medical College Hospital
- Xuanwu Hospital, CMSU
- Cancer Institute, Tianjin University
- Cancer Institute, Beijing University
- Fuwai Hosp. of Cardiovascular Diseases, CAMS
- 1st Hospital, Beijing University
- General Hospital of PLA (301 Hosp.)
- Beijing Anzhen Hospital, CMSU

### Shanghai:
- Shanghai Clinical Research Center
- Shanghai Cancer Center
- Zhongshan Hospital
- Huashan Hospital
- Obstetrics and Gynecology Hospital
- Reijin Hospital
- Renji Hospital
- Shanghai 6th people’s Hospital
- Shanghai 9th people’s Hospital
- Xinhua Hospital
- Shanghai Chest Hospital
- Shanghai Children’s Medical Center
- Shanghai Mental Health Center
- Chang Zheng Hospital
- Shanghai Pulmonary Hospital
- Longhua Hospital

### Other regions:
- Guangzhou: China national genebank
- Taizhou: large-scale cohort study
- Yunnan: Immortalized Cell Line Bank
- Etc.
SCRC Overview

- Founded in 2008, supported by the government
- Operating independently as a 3rd-party full service, assessment and resources platform
- Vision: To be one of the outstanding global clinical research centers by providing full services with international standard in China
Research & Service

The hospitals’ network & six modules

- Bio-bank
- Central Lab
- Clinical Research Management
- R & D
- Technology Support
- Resource Management
- Translational Medicine
- Data Management & Statistics
- Training

Professional team  State-of-the-art facilities  Premium quality & high efficiency
Main Tasks:

- Coordination
- Standardization
- Central IEC
- Information and data management and sharing
- Backup repository and third party storage
- QA/QC
- Training
- Technical service

- Founded in 2010, supported by Shanghai Commission of Science and Technology
- Run independently as a 3rd-party management and service platform

International standards  Total solution for biobank  Hospital networking
Professionalized Biobanks:
- High standards
- Certification
- Accreditation

→ Validation of processing methods
→ Biospecimens fit-for-purpose

Biobanks are a strategic tool for Translational Medicine
- Well characterized biospecimen
- Accurate annotation
- Precise validation tools
- Advanced technology
- Security and Ethics
How we can make contribution?

An international and interdisciplinary collaborative scientific effort
Thanks!

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