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1.0 INTRODUCTION AND OVERVIEW OF THE SWAN REPOSITORY

1.1 OVERVIEW OF THE SWAN STUDY AND THE SWAN COHORT

The Study of Women’s Health Across the Nation (SWAN) is the parent study of the SWAN Repository. SWAN was initiated in 1994, with funding from the National Institute on Aging (NIA) and support from the National Institute of Nursing Research (NINR) and the Office of Research on Women's Health (ORWH), at a time when scientific inquiry about the menopause was in its infancy. SWAN addresses the fundamental question: “What is menopause and how does it affect women’s health during and after the menopausal transition?” This national, longitudinal, cohort study of 3302 African-American, Chinese, Hispanic, Japanese, and White women has made major contributions to the scientific understanding of reproductive aging and the changing health profile during midlife as women transition through menopause and into post-menopause. These 3302 women are the sole contributors of all SWAN Repository biospecimens.

The SWAN initiative is comprised of a Coordinating Center (CC), a central laboratory (CLASS), a Repository, and seven clinical sites – Boston, Chicago, Davis (California), Detroit, Los Angeles, New Jersey, and Pittsburgh. In 1996 the SWAN clinics launched baseline examinations of SWAN participants. The 3302 women making up the SWAN longitudinal cohort were initially premenopausal, with at least one ovary intact, and between the ages of 42-52. Over the 14 subsequent follow up visits, SWAN Clinics have gathered vast amounts of information about age-related chronic diseases, such as diabetes, cardiovascular disease, depression, bone loss and osteoporosis, as well as descriptions of the participants’ physical and cognitive functioning. The clinics also collected from participants samples of blood (serum and plasma) and urine on an annual basis, plus an additional onetime DNA sample.

SWAN is now in its fifth and final funding cycle, and is seeing the participants for a final follow up visit (Visit 15). SWAN V will complete characterization of the menopausal transition through the late post-menopause and bridge scientific knowledge of women’s health from the midlife through the seventh decade (as of 2015, the start of SWAN V, the mean age of SWAN participants is 65 years). Until SWAN, no comprehensive study of sufficient duration had been undertaken among diverse populations to define normal and abnormal hormonal alterations during midlife with links to change in important health outcomes.

1.2 THE SWAN REPOSITORY

1.2.1. The Initialization and Aims of the Repository

Under the leadership of the original Michigan SWAN site PI, MaryFran Sowers, the SWAN Repository was officially established in 2000. The Repository received separate funding from NIA as the biologic specimen arm of the SWAN Study. This funding provided for a dedicated team of administrators, managers, programmers and a housing facility, allowing SWAN investigators and scientific investigators worldwide the opportunity to utilize the extensive collection of biological specimens to address ongoing questions related to the health of women. Aims of the newly-established SWAN Repository were:

- To establish a research resource of serum, plasma, and urine, with accompanying data, for SWAN investigators and other members of the scientific community
- To establish a Repository of DNA
- To establish mechanisms to store and provide access to samples
- To establish logistic arrangements to link data collected in SWAN to Repository specimens
- To develop the mechanisms for timely processing, review and approval (or disapproval) of requests to access Repository materials
- To develop infrastructure and maintenance mechanisms for the Repository that will remain viable for the scientific community upon the completion of the parent SWAN study.

The Repository team has successfully established a valuable and accessible research resource in the SWAN biospecimen collections, along with the mechanisms necessary for opening and marketing the collections to the appropriate scientific communities and for careful consideration of approval and release. The team has also created: helpful online tools to organize and search the vast SWAN phenotypic data which accompanies the samples; online application and review systems; protocols to return Repository-generated data; and cost-recovery mechanisms.

The Repository continues to provide for the maintenance and utilization of the biological specimen collections, and continues to maintain and develop all supportive tools and mechanisms.

1.2.2. Overview of Available Resources

The SWAN Repository resources available to the scientific community are comprised of three SWAN Study collections: a.) SWAN Core samples, including serum, plasma and urine (see section 3.1); b.) Daily Hormone Study (DHS) samples, including serum and daily urine samples (section 3.2); and c.) Genetic Study samples, including extracted DNA and EBV-transformed cell lines (see section 3.3) – as summarized below:

a. SWAN Core samples available:

Material Type	Vial Volumes (Average)	Number of Women with this resource available (at baseline)
Serum	0.5 mL	3269
Plasma, EDTA	1.0 mL	3159
Plasma, Citrate	0.5 mL	3167
Urine	0.5 mL	2375

b. SWAN Daily Hormone Study (DHS) samples available:

Material Type	Vial Volumes (Average)	Number of Women with this resource available (at baseline)
Urine	5 mL/0.5 mL	884
Serum	0.5 mL	884

c. SWAN Genetic samples available:

Material Type	Vial Volumes (Average)	Number of Women with this resource available
Extracted DNA	5 µg total volume	1538
EBV-Transformed Cell lines	10 mL of cells	1538