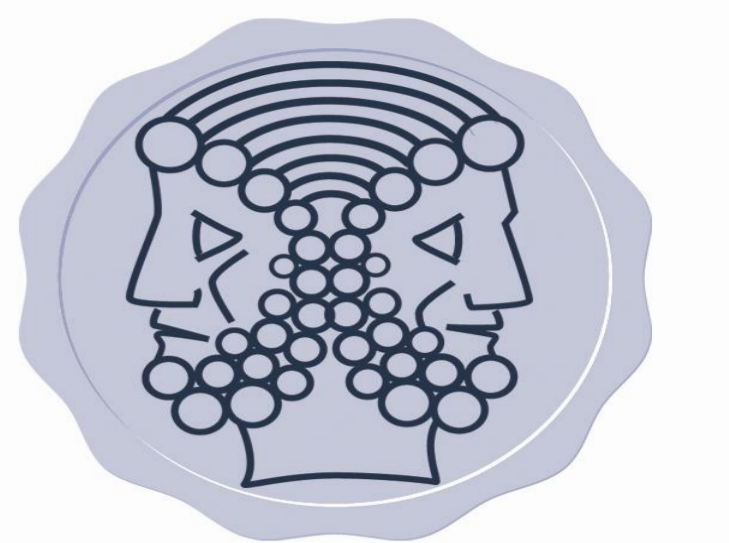


# Standard Operation Procedures for biobank science in the Janus Serum Bank of Norway – Experiences from a prospective cancer biobank

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JANUS serumbank

## Background and visions

The Janus Serum Bank was established in the early 1970ies as a prospective cancer biobank for future use in cancer research. A major objective is to identify and evaluate biomarkers of exposure, exposure effects and susceptibility of cancer. Today it holds samples from 317 000 individuals of whom 52 464 have developed cancer. In male donors the number of incident cancer cases is 28 894 and in females 23 570 (figure 1). Since 2004 the biobank has been fully integrated within the Cancer Registry of Norway. The aim of the present work is to describe Standard operation procedures (SOPs) in studies linking historical repositories to cancer registry data to ensure high quality, reliability and scientific usefulness of the biospecimens.

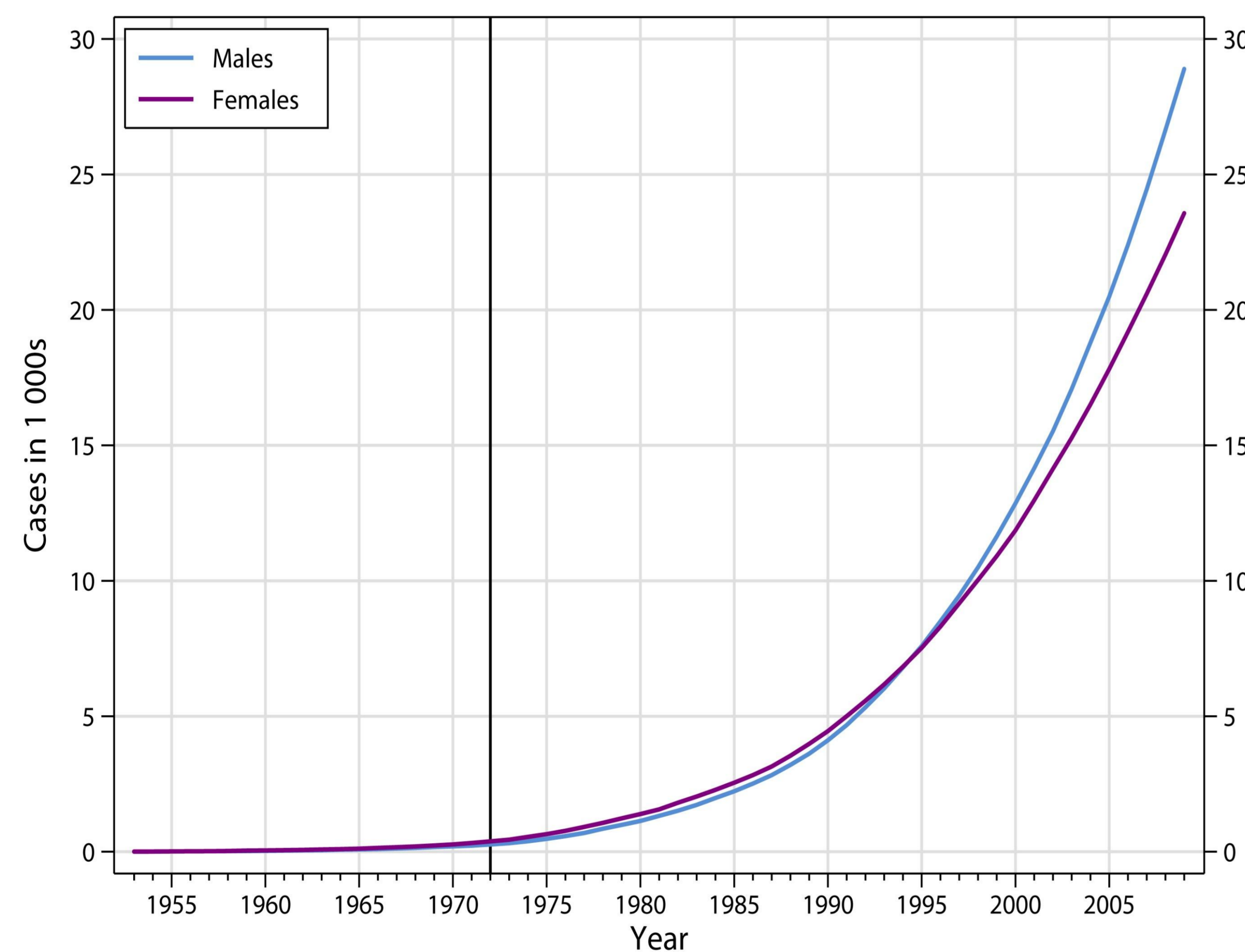
## Development of SOPs

The Janus Serum Bank has, through 30 years of operation, developed and implemented a number of SOPs. The nested case-control design is commonly used in Janus projects and we have compiled standard procedures for the selection of cases and controls, matching, data handling and long-term storage of research files. Data sources and linkage procedures are illustrated in figure 2. Laboratory analyses are always done blinded, and a code-keeping system is mandatory to ensure a high degree of confidentiality. The code with data on case-control status and quality assured accessory data is only released after a copy of the laboratory measurements has been filed within the Janus Serum Bank. Standard procedures are incorporated for documentation of quality control of cancer registration and confounder data from external institutions.

## Remarks and future perspectives

The growing scale and complexity of research projects requires large amounts of samples and high quality for a variety of laboratory analysis. In the long run, results from laboratory analysis will be conserved as data for future cancer research in electronic biobanks. The Janus repository offers the use of thousands of biological samples together with associated clinical data from cancer patients. In modern biobanking there is a trend towards participating in large cohort consortiums for data harmonization, thus the implementation of SOPs are essential. An important future goal for Janus is to optimise the use, and reuse, of the biospecimens by keeping the data in an electronic biobank.

**Figure 1** Number of cancer cases among Janus donors in the period 1953-2009, by sex and year of diagnosis



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**Figure 2.** SOPs in Janus research projects

