



Cancer Council NSW Biobank

A rich resource for researchers

Kate Christian, Verity Hodgkinson, Freddy Sitas

Cancer Research Division, Cancer Council NSW



Cancer Council NSW Biobank currently holds 222,633 aliquots of blood fractions from a number of epidemiological studies. These samples, collected from 22,549 people with and without cancer, are linked to extensive epidemiological data. These samples have been collected to provide an open resource for cancer researchers and will be made available on the basis of scientific merit.

Table 1: Number of aliquots held by each study participating in the Cancer Council NSW Biobank

CLEAR Study	Skin Health Study	45 and Up	Cervical Health Study (CHS)	Jo'burg Case-control Study	TOTAL	CHS Pap Smears
108,234	33,459	59,033	9,477	10,000	222,633	439

CLEAR participants are people over 18 recently diagnosed with cancer and their partners. SHS participants are aged 45-84, recruited through the 45 and Up Study. CHS participants are women aged 30-64 presenting for routine Pap testing. 45 and Up Study participants are aged over 45.

Blood samples are processed at the Cancer Council laboratory and stored in the Biobank at -80°C. Samples include aliquots of red blood cells, plasma, serum, buffycoat and some cervical cytology smears.

Quality assurance testing for a range of biomarkers, common in the general population, is planned for late 2011.

It is expected that CLEAR samples will be available to researchers on a cost-recovery basis from 2012. Governance of this collection is managed by the CLEAR Expert Advisory Committee which will assess the merit of applications for data and biospecimens.

The 45 and Up pilot study was conducted in 2009 preliminary to costing blood collection for the whole cohort (267,000 participants).

Sax Institute and Cancer Council NSW are considering the merits of proceeding with this project, which would result in a biobank housing bloods of approximately 150,000 people, one of the 5 biggest in the world.



Table 2: Cancer cases, by cancer type, from The CLEAR Study

Cancer Type	Female	Male	Total
Malignant neoplasm of breast	1260	5	1265
Digestive organs	379	520	899
Male genital organs	0	767	767
Lymphoid, haematopoietic and related tissues	200	222	422
Female genital organs	290	0	290
Respiratory and intrathoracic organs	140	129	269
Melanoma and other skin	97	96	193
Lip, oral cavity and pharynx	33	99	132
Urinary tract	54	78	132
Thyroid and other endocrine glands	97	21	118
Eye, brain and other parts of the central nervous system	25	39	64
Mesothelial and soft tissue	24	25	49
Bone and articular cartilage	12	19	31
Ill-defined, secondary and unspecified sites	15	14	29
Independent (primary) multiple sites	1	8	9
In situ neoplasms	1	2	3
TOTAL	2628	2044	4672

The CLEAR Study also includes 1418 Controls.

CLEAR STUDY
What really causes cancer?



WHAT REALLY CAUSES CANCER?
Your story will help us find the answers.

www.clearstudy.org.au
Hotline: 1800 500 894

The CLEAR Study (www.clearstudy.org.au) was launched in 2006 as the flagship study of Cancer Council NSW (CCNSW). A case control study, the initial goal was the collection of over five years of questionnaire data and an (optional) blood sample for 10,000 participants: 5,000 cancer patients and 5,000 non-cancer partners. The purpose of this collection was to build significant infrastructure for research into causes of cancer.

The value provided by this study includes:

- Provision of data with an Australian perspective to questions of scientific and public interest
- Opportunity for collaboration, locally and internationally
- Opportunity for publication on many questions relating to cancer and cancer causes
- Possible insights into cancer risk factors which could ultimately lead to prevention and decreased cancer incidence and mortality



At November 1, 2011 CLEAR had:

Participants Questionnaires

Case or Control		
Case	F	2628
	M	2046
	Total	4674
Control	F	738
	M	681
	Total	1419
Total Participants		6093

Recruitment has reached over 6,000 but will continue. CCNSW is interested to receive expressions of interest from potential collaborators who may be interested to recruit for the study or establish a sub-study outside NSW.

Questionnaire data and biological samples will be made available from 2012 for cancer research on the basis of merit. Expressions of interest are invited.

CLEAR Blood Products

	Female Cases	Female Controls	Male Cases	Male Controls
# Blood sample	1 953	538	1 558	482
# Plasma aliquots	29 295	8 070	23 370	964
# Serum aliquots	9 765	2 690	7 790	2 410
# Buffycoat aliquots	3 906	1 076	3 116	7 230

Note: Aliquot numbers are estimates