

Ingham Institute
Applied Medical Research

**THE SOUTH WEST SYDNEY
COMPREHENSIVE CANCER TISSUE BANK**

YEARLY REPORT

MAY 2014



Health
South Western Sydney
Local Health District



SUMMARY

DEFINITIONS

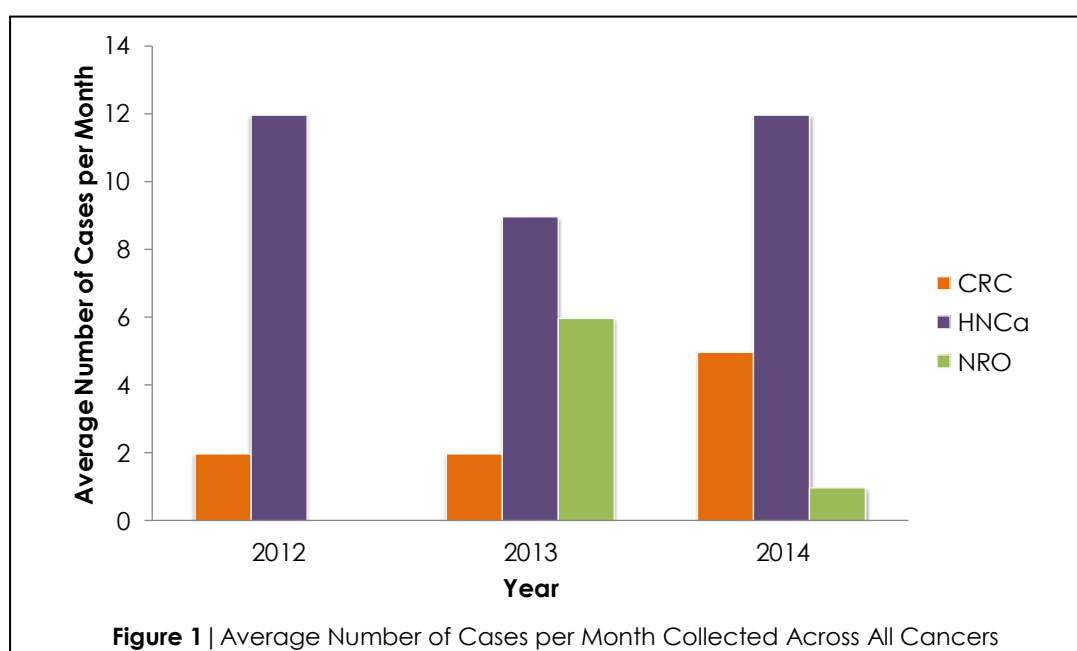
Case – A case is an individual who has donated cancer biospecimens.

Biospecimen – A specimen of biological material from a case, which includes tumour/normal adjacent tissue, blood and blood products. For example, 1 case may have 20 associated biospecimens.

COLLECTIONS

Total Since Operation (November 2012 to April 2014):

- Two hundred and one (201) cases donated tissue and blood to the Cancer Tissue Bank (CTB).
- Of these, 145 cases were Head and Neck Cancers (HNCA) and 35 were Colorectal Cancer (CRC) and 21 were Neurological (NRO) cancers.
- One participant (HNCA) chose to withdraw their consent and their specimens were subsequently destroyed.
- Average number of cases per month collected across all cancers is illustrated in Figure 1.

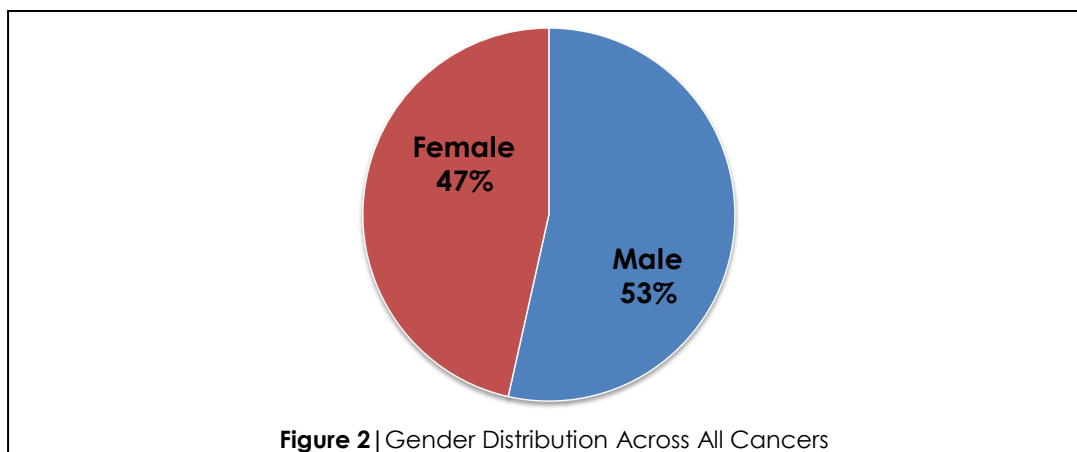


Year to Date (2014):

- Fifty-seven (57) cases donated tissue and blood to the CTB.
- Of these, 37 cases were HNCA, 16 were CRC and 4 were NRO.

DEMOGRAPHICS

- There is a fairly even distribution of Males to Females across all cancers with a ratio of 1:0.87 (Figure 2).
- The majority of cancer cases (17%) fall within the age bracket of 60-64 yrs (Figure 3).



BIOSPECIMENS

- The CTB inventory exceeds 3,200 biospecimens across all cancers (Table 1 and 2).
- Of these 470 are fresh frozen tumour and normal adjacent tissue (Table 1), 2,379 are blood and blood products, 9 are Cavitation Ultrasonic Surgical Aspirator (CUSA), 10 are cerebrospinal fluid (CSF), 132 are paraffin embedded tissue (FFPE), with 270 haematoxylin and eosin (H&E) slides (Table 1).
- Blood specimen types can further be divided into whole blood, plasma, serum and buffy coat (Table 2).

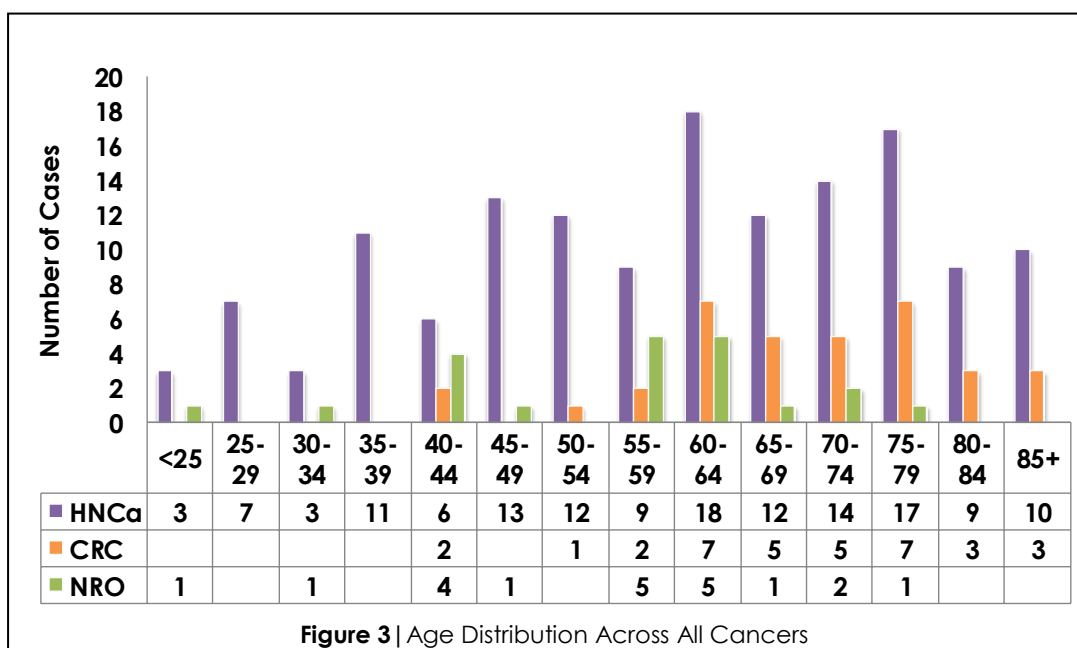


Table 1 | Total Number of Specimens Across All Cancers

Table 2 | Total Number of Blood Products Across All Cancers



SPECIMEN TYPE	TOTALS (n)
Tumour Tissue	346
Normal Tissue	124
Blood	2379
CUSA	9
CSF	10
FFPE	132
H&E	270

BLOOD PRODUCT	TOTALS (n)
Whole Blood	398
Plasma	798
Serum	780
Buffy Coat	403

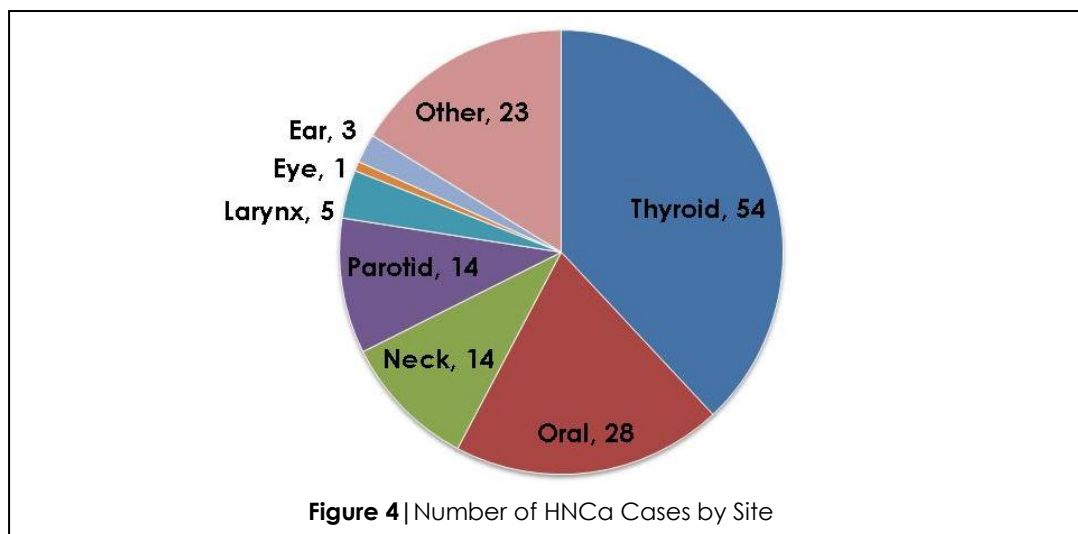
Cancer Specific Biospecimens

HNCa

- Classification of HNCa by site reveals the largest proportion were thyroid followed by cancers of the mouth, neck and parotid (Figure 4).
- Classification of HNCa by histological type reveals the largest proportion were squamous cell carcinoma followed by papillary carcinoma (Figure 5).
- From 145 HNCa cases, 97 have associated tumour tissue and 36 of those also have associated normal adjacent tissue (Table 3).
- Of the 97 cases which have tumour tissue, 180 aliquots have been produced. Similarly, of the 36 cases which have normal adjacent tissue, 69 aliquots have been produced and so forth for the remaining specimens (Table 3).

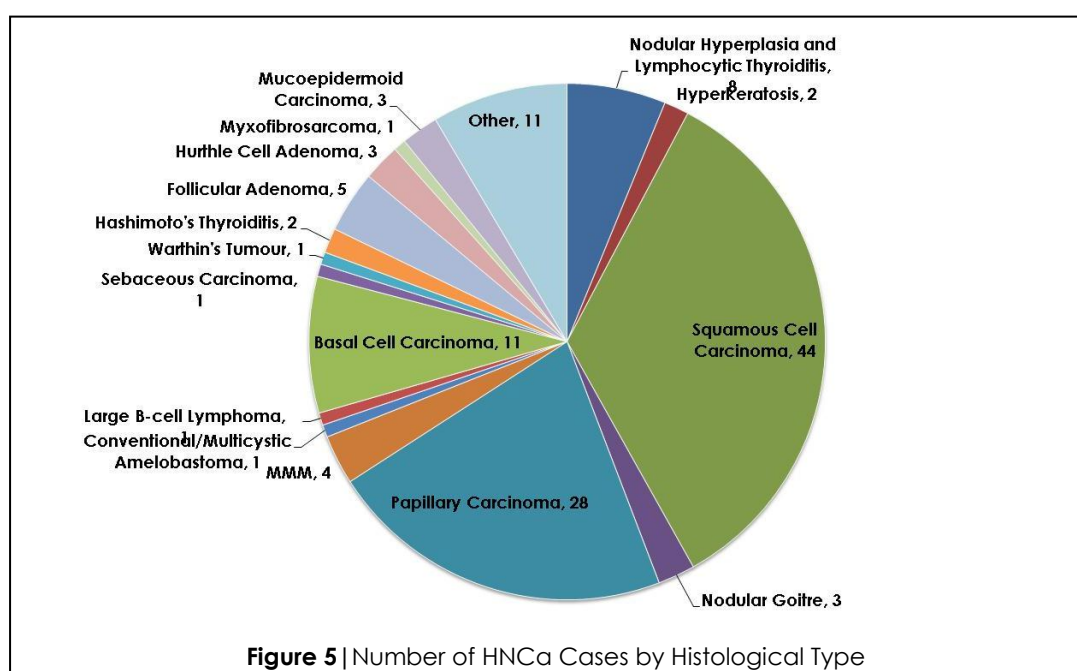
Table 3 | Number of HNCa Specimens by Case Number and Biospecimen Number

SPECIMEN TYPE	NO. OF CASES	NO. OF BIOSPECIMENS
Tumour Tissue	97	180
Normal Tissue	36	69
Blood	144	1113
FFPE	40	74
H&E	122	213



CRC

- Classification of CRC by site reveals the largest proportion were located in the ascending colon followed by sigmoid colon and rectum (Figure 6).
- Classification of CRC by histological type reveals the largest proportion were adenocarcinoma (Figure 7).
- From 35 CRC cases, 25 have associated tumour tissue and 55 of those also have associated normal adjacent tissue (Table 4).
- Of the 35 cases which have tumour tissue, 100 aliquots have been produced. Similarly, of the 25 cases which have normal adjacent tissue, 55 aliquots have been produced and so forth for the remaining specimens (Table 4)



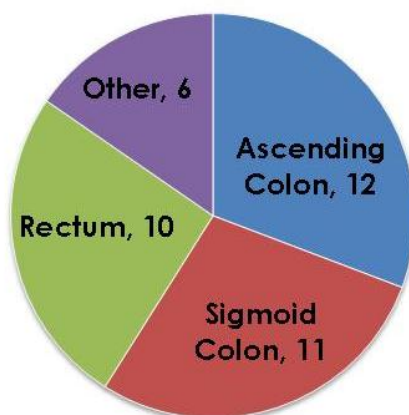


Figure 6 | Number of CRC Cases by Site

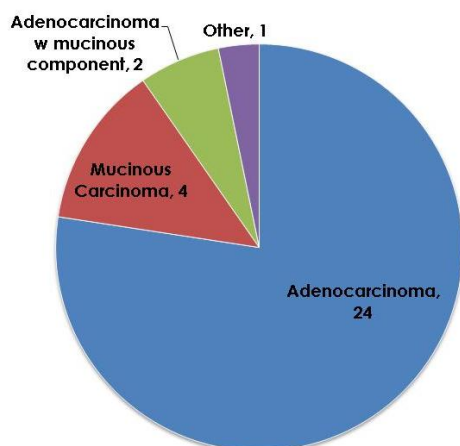


Figure 7 | Number of CRC Cases by Histological Type

Table 4 | Number of CRC Specimens by Case Number and Biospecimen Number

SPECIMEN TYPE	NO. OF CASES	NO. OF BIOSPECIMENS
Tumour Tissue	25	100
Normal Tissue	25	55
Blood	35	421
FFPE	23	62
H&E	29	72



NRO

- Classification of NRO by site reveals the largest proportion were located in the Frontal lobe followed by Temporal lobe (Figure 8).
- Classification of NRO by histological type reveals the largest proportion were adenocarcinoma (Figure 9).
- From 21 NRO cases, 19 have associated tumour tissue (Table 5).
- Of the 21 cases which have tumour tissue, 66 aliquots have been produced (Table 5).

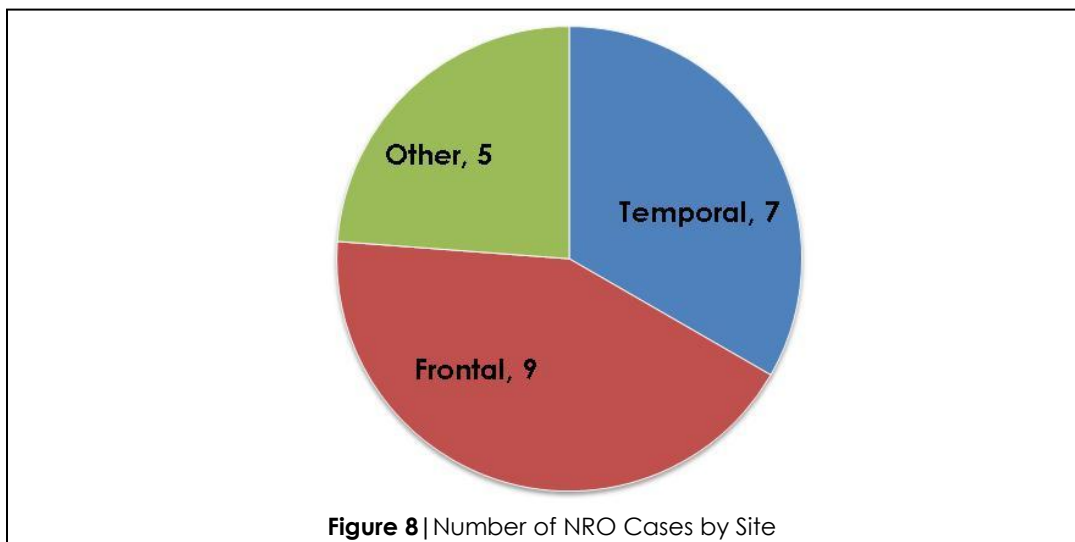


Figure 8 | Number of NRO Cases by Site

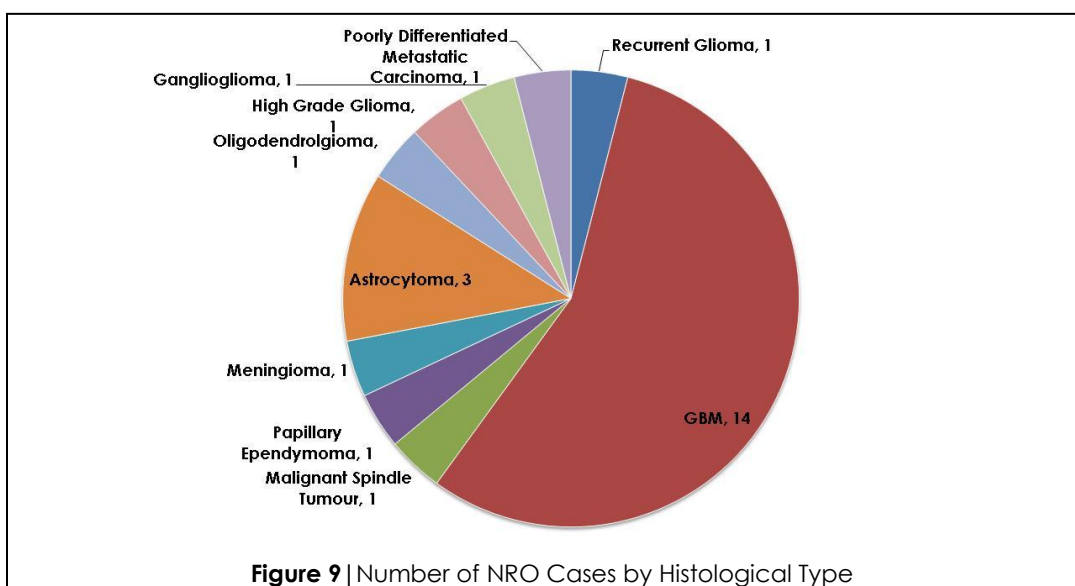


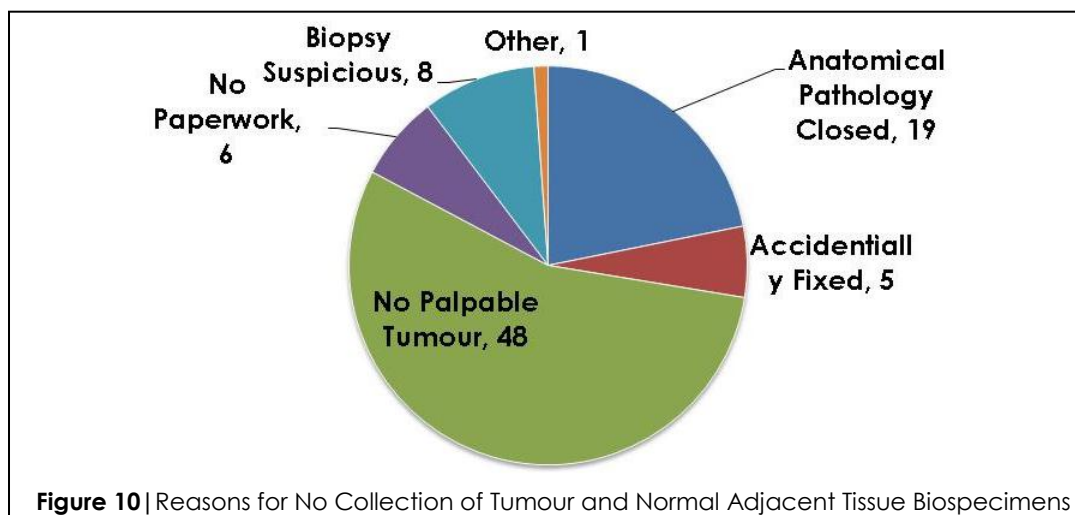
Figure 9 | Number of NRO Cases by Histological Type

Table 5 | Number of NRO Specimens by Case Number and Biospecimen Number

SPECIMEN TYPE	NO. OF CASES	NO. OF BIOSPECIMENS
Tumour Tissue	19	66
Blood	19	287
CUSA	3	9
CSF	2	10

GENERAL COMMENTS

- Instances where tissue specimens have not been collected have been largely due to no palpable tumour (55%), Anatomical Pathology closed (22%), or a suspicious biopsy (9%; Figure 10).



RECOMMENDATIONS

- Current strategies are in place to increase collection capacity of CRC.

CURRENT PROJECTS

- Medical Professionals Opinions Towards Supporting a Cancer Biobank launched May 2014.
- Questionnaire available in hard copy and electronically.
- Currently 60 health professionals approached and 15 surveys completed.

ACKNOWLEDGEMENTS

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Please visit our website: <http://www.inghaminstitute.org.au/content/cancer-tissue-bank>