



NHS  
CYMRU  
WALES



# Wales Cancer Bank

Annual Report  
2006/2007

Funded By:



Llywodraeth Cynulliad Cymru  
Welsh Assembly Government





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# ABBREVIATIONS

ABN	Australasian Biospecimen Network
BODMA	British Oncology Data Manager's Association
CanISC	Cancer Information Service Cymru
CCB	Confederation of Cancer Biobanks
COREC	Central Office for Research Ethics Committees
CRCCymru	Clinical Research Collaboration Cymru
CRW	Cancer Research Wales
DNA	Deoxyribonucleic acid
EDTA	Ethylenediamine tetraacetic acid
EGFR	Epidermal Growth Factor
GCP	Good Clinical Practice
GI	Gastrointestinal
HTA	Human Tissue Authority
ICCN	International Conference on Cancer Nursing
ISBER	International Society for Biological and Environmental Repositories
IT	Information Technology
LHB	Local Health Board
MRC	Medical Research Council
MREC	Multi-centre Research Ethics Committee
NCRI	National Cancer Research Institute
NCRN	National Cancer Research Network
NHS	National Health Service
NWW	North West Wales
QA	Quality Assurance
QC	Quality Control
RFID	Radio Frequency Identification
RIN	Integrity Number
RNA	Ribonucleic acid
RT-PCR	Reverse transcriptase Polymerase Chain Reaction
SOP	Standard Operating Procedure
TMA	Tissue MicroArray
WCB	Wales Cancer Bank
WCTN	Wales Cancer Trials Network

# FIGURES

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“TO PROVIDE A POPULATION  
BASED RESOURCE OF TISSUE  
AND BLOOD SAMPLES FROM  
ALL PATIENTS IN WALES,  
WHO ARE UNDERGOING AN  
OPERATION TO REMOVE TISSUE  
WHERE CANCER IS A POSSIBLE  
DIAGNOSIS, FOR FUTURE  
RESEARCH INTO CANCER”

# DIRECTOR'S REPORT

The past year has seen further development of the Wales Cancer Bank (WCB), to the extent that we can, for objective reasons, justifiably claim to be at the forefront of the UK effort in the field. Our recruitment exceeded 1300 patients, yielding over 12,000 samples. While some other tissue banks can claim to have comparable numbers, none have the link to clinical data, the associated blood sample from a spouse/partner, or the emphasis on Quality Control to the extent that we, at WCB have. We have the goodwill and the desire on the part of patients and healthcare staff to expand this project across Wales. Our reputation outside of Wales has never been higher. We have been invited to present to colleagues in the UK and abroad. The WCB was selected by the Human Tissue Authority for their 'mock inspection', a 'dry run' prior to undertaking this important role in the UK. Most importantly, this year has seen the start of WCB issuing samples to researchers. I am extremely grateful to our distinguished international External Review Panel, for their timely review of all requests to issue samples. They undertake this important role at no cost to us, despite being busy researchers themselves, and we could not manage without their support.

Another milestone during the past year was the successful application to Cancer Research Wales for funding as part of their '40th anniversary' call for projects. We are proud to display their logo alongside that of the Wales Assembly Government. A third funding body, Velindre NHS Trust, has supported Professor Gerry Thomas, and we are, likewise, proud to be able to display their logo as a co-funder of WCB.

We have a unique place in UK cancer bio-banking, and at the moment we are poised to become the UK's leading organisation in this field. It is, now more than ever, essential that we continue to develop, to allow us to be able to supply the demand for high quality tissue, which we now know researchers want. As we have said before, we are establishing this resource as an investment for our children and our grandchildren. We owe it to them to ensure that it flourishes, for they will not forgive our generation for the opportunities missed.



A handwritten signature in black ink that reads "Malcolm Mason". The signature is written in a cursive, flowing style.

**Professor Malcolm Mason**  
Director, Wales Cancer Bank

## 2006/2007 TARGETS

TARGETS FOR 2006/07	ACHIEVED
Accrue 1500 patients	1330 consented*
Attract additional funding	July 2006
Convene Scientific Review Panel	June 2006
Supply first external project with samples	March 2007
Obtain HTA licence (deemed licence)	October 2006
Expand to two new recruiting centres	October 2006
Continue to raise awareness of WCB in academia and industry	Ongoing
Accrue clinical data for patients consented from February 2005	Ongoing

\* 1500 consented by end June 07

## STAFF & LOCAL REPORTS

During the year the Wales Cancer Bank has welcomed three new members of staff and said farewell to two. Laura Hicks replaced Helen Lewis in the lab in Wthybush, Emma Squires joined the scientific team in Swansea to process tissue samples and Lisa Gilby started consenting patients in the Royal Gwent hospital, ably assisted by Amanada Poynton. Andrea Jones also moved on from her part time post consenting patients in Wthybush.

### CENTRAL STAFF

The project is administered through Cardiff University and the central office is currently located in Cardiff Medicentre on Heath Park. Alternative accommodation is being sought as the lease with the Medicentre expires in early 2008. Professor Gerry Thomas was appointed as the Director of Scientific Services for the Wales Cancer Bank through an appointment with Velindre NHS Trust. Her move to Velindre highlights the all Wales remit of the bank and will ensure the sample quality assurance is of the highest standard prior to release to researchers.

Director	Professor Malcolm Mason
Director of Scientific Services	Professor Gerry Thomas
Manager	Dr Alison Parry-Jones
IT Manager	Mr Daniel Naeh
Clerical Officer	Miss Sarah Phillips



## BANGOR SITE

95 patients were consented during the last twelve month period. Steady, consistent progress has been made by the small team in Bangor with breast and cervical samples added to the ongoing collection of colorectal, prostate, renal, bladder, ovarian and endometrial samples.

Claire Smith (pictured right) graduated with a Masters degree in Biomedical Sciences in July and Kim Davies is working on a small research project involving prostate cancer patients in her efforts to gain a Masters degree. Regular meetings with pathology staff have been initiated to ensure integration and dissemination of information.



**Claire Smith**

Staff as at 31st March 2007

Nurse	Kim Davies
Laboratory Staff	Claire Smith Judith Hughes

## CARDIFF SITE

105 patients were consented during the last twelve month period. Three disease areas are targeted in Cardiff and patients are consented by research nurses and/or ward staff based in the relevant clinics. Three nurses in the urology clinic in the University Hospital of Wales are involved with WCB and continue to consent prostate, kidney and bladder patients. Three research nurses based on the colorectal ward in Llandough hospital also consent patients and two nurses on the gynaecology ward in Llandough also became involved during the last year.

Vikki Humphreys, based in Medical Genetics, receives all the EDTA blood samples from around Wales for DNA extraction. The extraction is automated using a Gentra Autopure-0196 instrument and the extracts are stored at -80°C. Bloods have been moved from the Cardiff site to Medical Genetics and routine shipment will commence early in year five once the shipping audits have been finalised.

Staff as at 31st March 2007

Nurses	Urology	Sam Holliday, Claire Jones, Loveness Chikopela
	Colorectal	Yvette Perston, Catherine Powell, Karen Edwards
	Gynae	Kim Stokes, Non Phillips
Laboratory Staff	Claire Gammon Vikki Humphreys	

## ROYAL GWENT SITE

46 patients were consented in the first six months of collection. Started recruiting retrospectively in October 2006 and has received an excellent response from patients. Staff in the pathology labs and theatre have shown their support for the project and have ensured that correct paper work accompanies samples to the lab and that data sheets are filled in promptly for recording on the WCB database. The nurses have recently started recruiting patients prospectively from the pre-assessment clinic and retrospectively in the outpatient clinics.

Staff as at 31st March 2007

Nurses	Lisa Gilby Amanda Poynton
--------	------------------------------

## SWANSEA SITE

377 patients were consented in the last twelve months of collection. Five new specialities were included during the year; lymphoma, upper GI, gynae, melanoma and testes. The Swansea site took part in the mock HTA inspection in June 2006 and all staff were involved in either the interviews or the sample tracking exercise. The first bespoke collection for a research project was carried out in Swansea and resulted in a timely shipment of samples collected to the researcher's protocol.

Staff as at 31st March 2007

Nurses	Suzanne Williams Catherine Lloyd-Bennett Janette Gwillim
Laboratory Staff	Emma Squires Colleen Lloyd

## WITHYBUSH SITE

104 patients were consented during the last twelve months as the dedicated team in Withybush hospital continue to fully embrace the Wales Cancer Bank project. Laura Hicks joined the team in September 2006 in the role of lab technician and has diligently worked on the increasing biosample collection. Alison Jones, WCB nurse, has been involved in raising awareness about WCB both locally and internationally when she gave an oral presentation at an international nursing conference in Canada in September 2006.



Laura Hicks

In December Withybush hosted the annual Wales Cancer Bank training event and Christmas meal. The occasion provided the opportunity to meet new faces from some of the other sites. On the twelfth of March Withybush was due to hold a Cancer Bank road show but unfortunately snow intervened and the event was rescheduled for May.

Dr Sally Williams continues to be the local lead for the project and is currently assisted in tissue collection by Dr Gareth Melville Jones and Professor Mahomed Dada, a locum pathologist from South Africa.

Staff as at 31st March 2007

Nurse	Alison Jones
Laboratory Staff	Laura Hicks

## SAMPLE COLLECTION UPDATE

Patients in Wales continued to support the project with their generous donations of tissue and blood. During the year the project gained approval from the Wales Multicentre Research Ethics committee to approach patients after their surgery and consent them retrospectively. Of the 200 patients that have been approached retrospectively only 3 have refused to consent and overall, from all prospective and retrospective approaches, 99.1% of patients consented to participate in the project. The small number of refusals could not be attributed to any one reason and the experiences of the nurses involved with retrospective consenting suggested that the timing of approach for consent is important.

727 patients were consented between April 2006 and March 2007 giving a total of 1330 patients consented since the project started. This was less than the forecasted total due to the loss of a part time nurse in one site and a change over of personnel in another. The Swansea centre expanded to collect new tumours and a second hospital, Morriston, became involved. A urology collection was initiated and quickly became established in the Royal Gwent hospital in Newport.

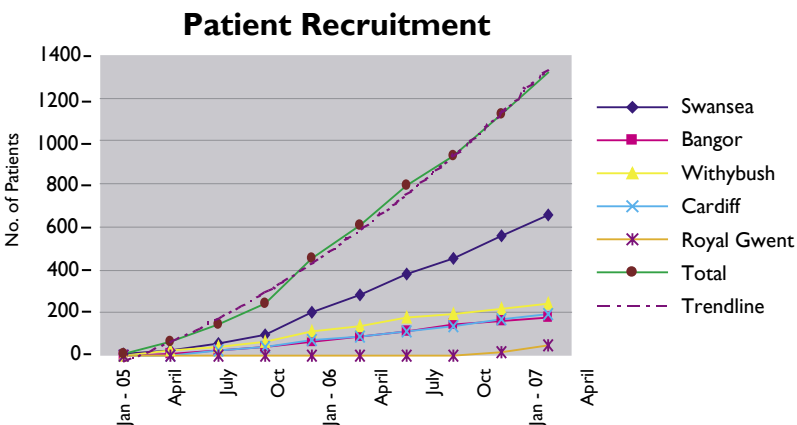


FIGURE 1 - Graph showing total patient recruitment

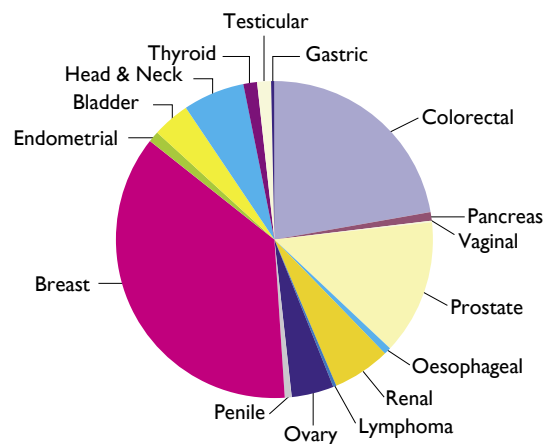


FIGURE 2 - Pie chart showing collection by tumour type

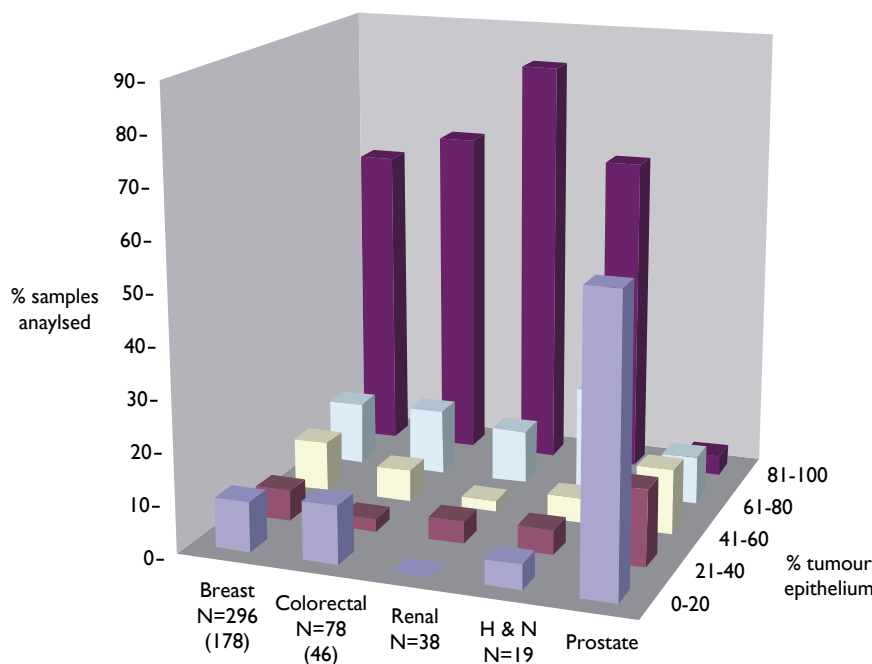
By the end of March 2007, sixteen different tumour types were being collected with four hospitals sourcing both frozen and paraffin embedded tissue samples and the other three hospitals collecting paraffin embedded tissue only. Breast remained the largest proportion of tissue samples in the bank at 33% followed by colorectal and prostate at 26% and 24% respectively. Some of the rarer tumours, such as penile and thyroid, will always be in the minority and may require collaboration with other tissue banks should researchers require substantial numbers of samples.

## QUALITY ASSURANCE

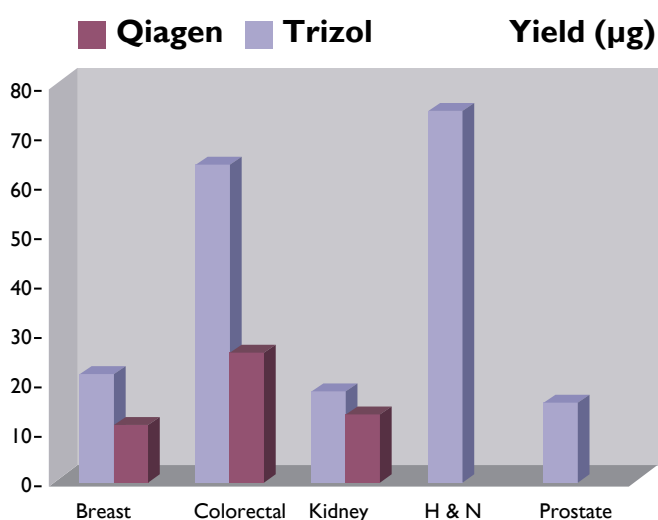
The Wales Cancer Bank is committed to ensuring that the biospecimens it supplies to researchers are of the highest quality possible and suitable for use in downstream modern molecular biological techniques. It is important to ensure that the material stored in WCB is fit for purpose. Cancer samples are composed of a mixture of different cell types and in many cases the genes that are being studied by researchers are present in only one cell type (the epithelial cell). The sensitivity of molecular biological techniques vary and it is therefore important that researchers know what proportion of the material from which nucleic acids have been extracted was present in the sample supplied to them. Also, the presence of necrotic cells can have a deleterious effect on some assays. A frozen section from each tissue block is reviewed prior to extraction of nucleic acids and it has been found that the proportion of different cell types can vary considerably between blocks from the same operative specimen and different types of cancer. The graph below illustrates that for many cancers, the vast majority of the tissue blocks examined are composed mainly of epithelial cells. However, the situation is reversed for prostate cancer.

The figures in brackets indicate the number of patients from whom blocks were examined and the N= the number of different blocks examined

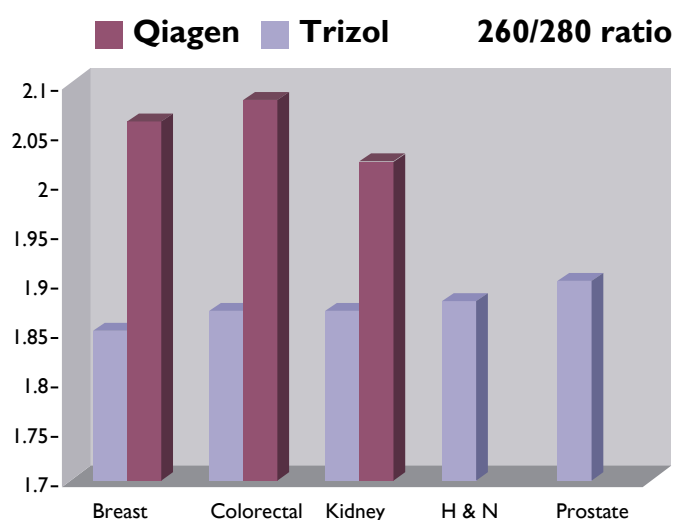
**FIGURE 3 - Frozen block quality assurance results**



In addition to assuring the pathological quality of tissues stored in the Wales Cancer Bank, it is also necessary to ensure that this material yields nucleic acids that are of a suitable quality for molecular biological applications. WCB has tested two different methods for the extraction of nucleic acid. One uses a commercially available kit, the second a standard method using Trizol extraction. WCB wishes to provide quality RNA to research projects, but also seeks to maximise the number of researchers able to use material from the same piece of tissue. Therefore both quality and yield are important. The amount of RNA extracted can be calculated using a nanodrop spectrophotometer. This uses a very small amount of RNA and determines its concentration. The quality of the RNA extracted is assessed using two different instruments. In addition to measuring yield, the nanodrop spectrophotometer also measures the absorbance at two different wavelengths (260 and 280 nanometers). This gives an assessment of how pure the extracted RNA is. The optimal reading for pure RNA is a ratio of 2.0 260/280. The figures below compare the two different techniques used in terms of yield and purity. The Qiagen kit technology provides high quality RNA, but at the expense of a lower yield of RNA.



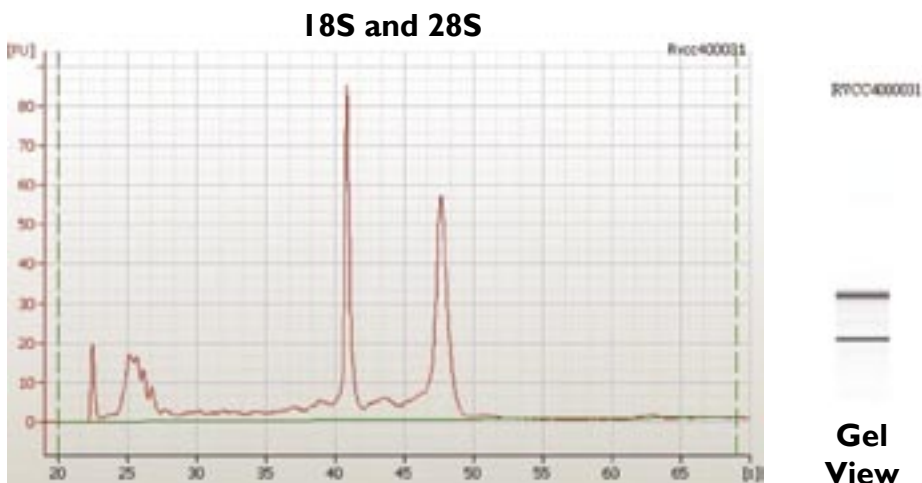
**FIGURE 4** - RNA yield comparison between Trizol and Qiagen methods



**FIGURE 5** - RNA purity comparison between Trizol and Qiagen methods

In addition an Agilent Bioanalyser is also used to assess the integrity of the RNA. The Agilent Bioanalyser is a microfluidics based platform, which allows the assessment of RNA quality from 1 µl of RNA of concentrations between 25ng/µl and 500ng/µl (Nano) and 200pg/µl and 5000 pg/µl (Pico). The Agilent bioanalyser runs the RNA through a gel matrix to separate the RNA by size and the RNA is detected by a laser. The RNA is then scored using and RNA Integrity Number (RIN) developed by Agilent. Both a graphical display and a Gel based display are given for each sample. To be useful for technologies such as Affymetrix array, long strands of intact RNA are required. This requires a high (>6) RNA Integrity Number. Samples that fail this test can still be used for other techniques, which require RNA that is less intact.

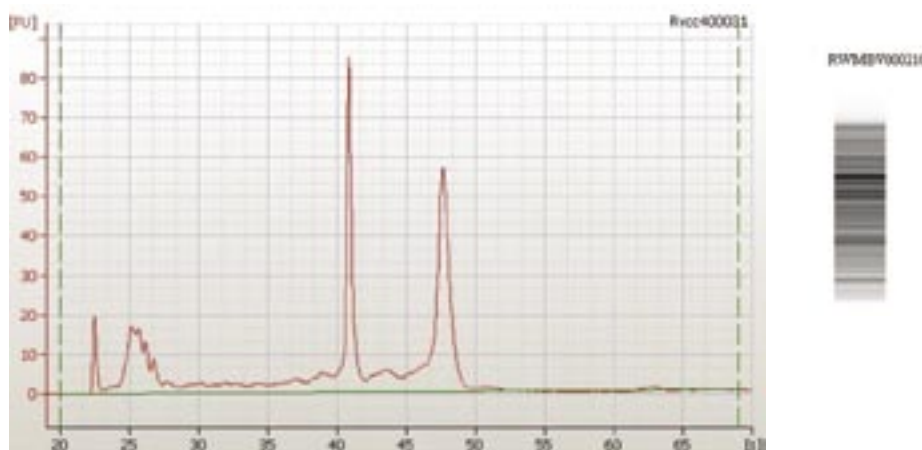
Shown below is an example of a sample that gives a high (>8) RIN score – a perfect sample is one in which the area under the 28S peak is double that for the 18S peak and there is no evidence of smaller degraded fragments of RNA. The Panel on the right shows a computer simulation of what a conventional RNA gel would look like for this sample.



**FIGURE 6** - Example of RNA with a RIN value of 8

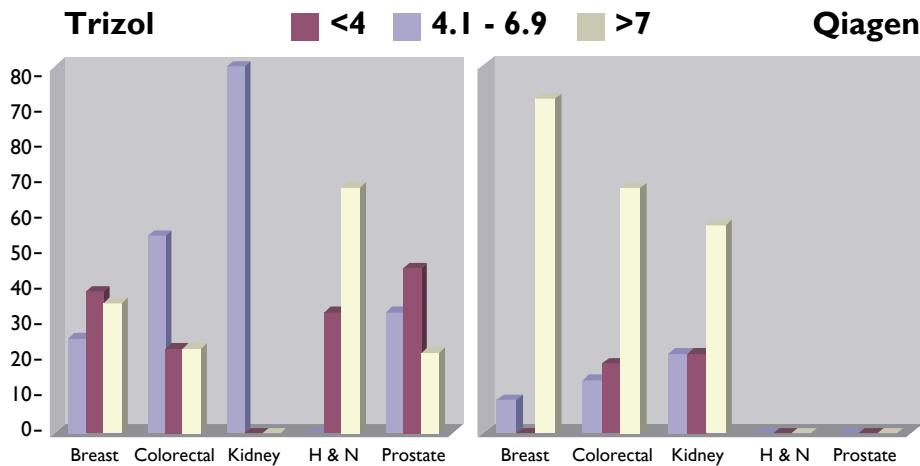
### Degraded RNA

The following print out shows an example of a sample that gives a RIN score of 5. Here both the 28S and 18S peaks representing ribosomal RNA have disappeared and although some higher molecular weight RNA is present, the majority of the RNA species are degraded. This is shown more clearly on the gel view, where instead of two clear bands, indicating the ribosomal peaks (see above) there is a smear of multiple bands, indicating degradation. This sample would not be suitable for Affymetrix array technology, but would still be useful in RT-PCR applications.



**FIGURE 7** - Example of RNA with a RIN value of 5

The figure below shows the results of a survey of RNA quality. As before, the Qiagen kit technology produces higher quality samples in terms of the integrity of the RNA. The quality of RNA derived from samples from different tissues is variable. This suggests that factors such as the type of operation undergone by the patient and the processing of the operative specimen that is necessary for correct diagnosis may affect the quality of the RNA extracted.



**FIGURE 8 - RNA quality comparison**

## SUPPLY OF BIOMATERIALS & ACCESS POLICY

The Wales Cancer Bank started to issue samples to researchers at the beginning of 2007. An application form was drafted that mirrored the form used to source samples from the Cooperative Human Tissue Network resources in the USA. The form is available online and consists of all the information needed for review by the External Review panel. The form includes a Material Transfer Agreement that requires signature by the principal investigator to take responsibility for the samples once released by WCB.

Researchers from around the world can apply to WCB for biomaterials. No distinction is made between sector (academia, industry or public body) as the goal is to support good science that will further cancer research regardless of the employing sector. However, WCB made a policy decision not to support organisations merely acting as brokers to source biomaterials to bolster their own tissue resource for onward supply. WCB will only issue samples to researchers or companies directly involved in the intended research.

Samples will not be issued immediately following consent to allow for withdrawal of consent and to allow for clinical trials to source material from WCB, should the patient be enrolled in a trial. WCB is committed to supporting clinical trials and, wherever possible, will make samples and/or processed material available to trials. Every attempt will be made to conserve a portion of each sample for long term research linking to clinical outcome.

## EXTERNAL REVIEW PANEL

The aim of the Wales Cancer Bank is to supply good quality biomaterials to researchers involved in cancer research. All applications are subject to review and approval to supply samples will depend upon an external panel being satisfied of the scientific merit of the proposal. The panel was constituted in June 2006 and is an international panel consisting of a surgeon, a pathologist, an oncologist and a tissue bank director. One panel member will have ethics experience to highlight any potential issues related to ethics. Terms of reference detail the working practices of this panel and a larger pool of experts is being compiled to expand upon the specialists currently involved.

## APPLICATIONS FOR BIOMATERIALS

Eight applications for biomaterials were received during the year and two projects were supplied with samples before the end of March. A batch of samples being extracted for one project is expected to be ready in May 2007 and the remaining five projects are awaiting a decision from the External Review Panel. In the eight applications the requests were for:

- Paraffin blocks
- A bespoke blood collection
- RNA from breast, colorectal and renal samples
- DNA and a TMA from colorectal samples
- RNA from prostate samples
- A bespoke fresh prostate collection
- A bespoke fresh breast collection for culture
- A bespoke frozen basal cell carcinoma collection



## REGULATIONS

### MREC

A new application was submitted to the Wales MREC in June 2006 to pilot the new COREC application form specifically designed for tissue banks. Approval was gained which now allows the WCB to supply biomaterials to researchers without the need for individual ethics approval provided that the research falls within the approval remit, cancer research, and samples are anonymised and supplied with only the minimum data set. Researchers sourcing samples from a bank such as WCB with this new COREC approval will be deemed to have ethics approval and will not, therefore, require a licence from the HTA to store the samples once a signed Material Transfer Agreement is in place. WCB was the first bank in the UK to pilot the application form which came into use at the end of 2006.

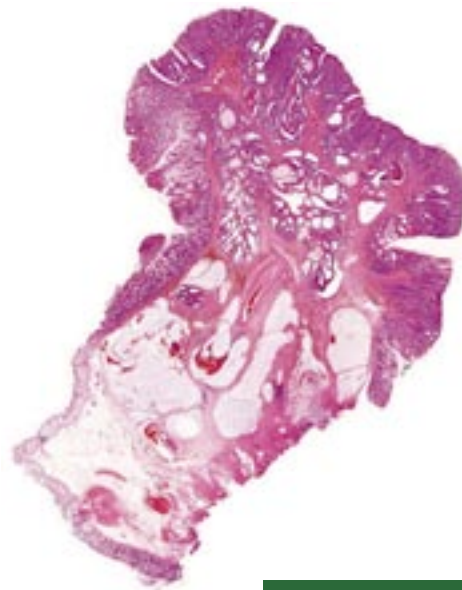


Two substantial amendments were submitted to MREC following the new approval. Both were approved and WCB has now clarified some statements in the patient information sheet, is now able to take 2-3 additional biopsies for research and, where required, not freeze fresh tissue as a matter of course but place in cell culture medium for projects requiring viable cells.

## HTA

As a consequence of being involved in the joint HTA/COREC working groups, set up at the beginning of 2006 to consult the research sector about the process of HTA review, WCB was asked to participate in a mock licensing inspection. The inspection took place at the end of June 2006 in the Swansea centre and consisted of submission of the draft HTA compliance report, interviews and documentation review. The HTA inspections manager, a regulatory officer and an independent expert from the research sector spent the day with WCB staff going through the inspection process. The proposed Designated Individual, the Quality manager, IT manager, a consenting nurse and biomedical staff involved in sample processing were all interviewed and a sample tracking exercise was carried out. SOPs and regulatory approvals were reviewed and informal feedback was received. The HTA appeared satisfied with WCB procedures and the day helped inform them about the inspection process.

The 'real' application was submitted to the HTA in August 2006 to meet the 30th August deadline. The WCB applied for a main licence with seven satellite sites as all sites work to the same governance arrangements, have the same SOPs and sample logging/tracking database. A deemed licence (number 12107) has been granted with Professor Malcolm Mason as licence holder and Dr Alison Parry-Jones as Designated Individual. Each satellite site has a named Person Designated and the people named on the licence meet quarterly, by videoconference, to review the status of the project and ensure processes are in place.



**FIGURE 9** - Digital image of an adenoma of the colon

# INFORMATION TECHNOLOGY (IT)

## DEVELOPMENT

The WCB system functionality has been extended to cover the project's continuously growing requirements. The new application, WCB hosting +, was released on 10 December 2006.

The system has been extended to store digital images, recording images for RNA and DNA quality assurance (QA). To support the extraction of DNA from blood samples a new matrix was developed that corresponds to the automated Gentra robot extraction workflow. The worksheet allows the transformation of EDTA blood samples into DNA samples and collects all the relevant storage and QA data.

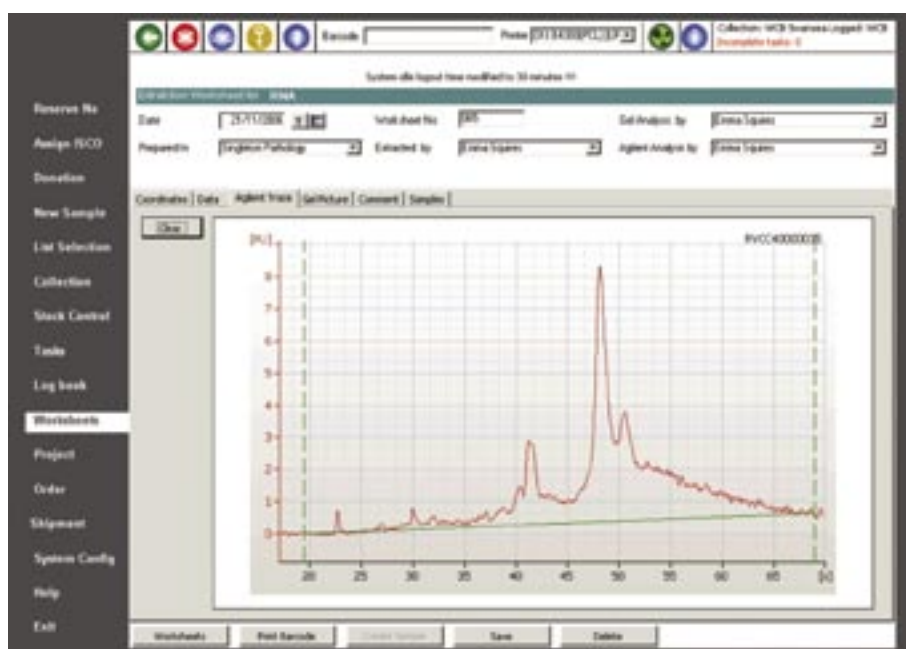


FIGURE 10 - Screenshot of WCB database QA module

The decision to start releasing samples to researchers in 2007 and the positive response of the research community, required reprioritising of the WCB work plan, and the IT section had to respond swiftly. Development has commenced on the newly designed project and order management modules.

The sample collection and shipment modules were tested and released and are now in regular use. The module allows users to define sample packages and ship them both internally across WCB sites and to external projects.

An email module was also developed to allow the system to generate automatic email notification in html format, for instance to inform of a shipment arrival. The project module required the development of a generic document storage capability for both PDF and Microsoft file formats. The module for recording contacts and organisations has also been added as part of the WCB hosting + application. To facilitate working with database-extracted data, the reporting module was extended so that all data viewed can be output into Microsoft XL worksheet for further processing.

The increased complexity of managing the project and samples required the development of a management reporting tool. This allows managers to monitor project indicator information, such as patient recruitment and sample distribution.

The WCB intends to collect patient treatment and outcome data for the samples collected. Although initially CanISC was identified as the source for this dataset, the sporadic nature of data entry into CanISC meant that the WCB needed an interim solution until the CanISC system matures. The WCB has developed an access database dedicated to collect treatment and outcome data, based on the work of Dr Mariko Morishita. Nurses in Swansea piloted the dataset and collected data for 100 patients.

## CHANGE MANAGEMENT

In the last 12 months, the WCB IT section recorded 142 requests for application enhancement and error corrections. The change management of such a large system requires continuous resources. Examples of change management requests implemented last year include:

- the redesign of the donation page to include information on clinical trial participation
- a window for recording EGFR test results, and
- enhancements to filtering criterions.

## TRAINING

In the last year eight new users have been trained to use the WCB system. A test database was created to allow users to practice new functionality in a safe environment. An animated wizard character was added to aid in using complex windows and also to convey important reminders to users. As the WCB is a decentralised organisation the training strategy relies also on web-based training. In an effort to improve the multimedia web-based training package, new software (Adobe captivate 2) was successfully evaluated and purchased. The new software will allow the development of a more interactive type of multimedia training whereby simulation of application screens will be created and a more interactive training package will be developed to replace the existing one.

## IT GOVERNANCE

Recognising the strategic importance of IT to the success of the project, the WCB has undergone management changes and the IT manager is now a member of the Executive Group. The IT project planning has been substantially improved and an information strategy for future WCB IT services is being considered.

An annual IT budget of £8,000 was set aside from the overall project budget and it is supplemented by a grant received from Cancer Research Wales with the aim of improving IT services. To increase project resilience two additional members of staff will be recruited for three years, using the CRW grant. The recruitment process is underway, with the database manager expected to start in June 2007.

The IT section has also participated in establishing the risk registry for the WCB project. To increase the WCB system interoperability, the WCB IT Manager has joined a number of discussion forums this year including the CanISC user reference group, the Marble Arch Consortium and the UK Confederation of Cancer Biobanks.

Two option appraisal exercises were conducted this year. The first examined, with IBM, the feasibility of porting the WCB application to the IBM super computer in Swansea. The second examined two different web development platforms, Microsoft .net and open source php – and mySql. The conclusion of both option appraisal exercises will allow the WCB to make an informed choice on its future hosting platform using realistic estimates and planning according to available resources.

## AUDIT

The Annual WCB audit was carried out between September and November 2006. Professor Mason, Professor Thomas, Dr Parry-Jones and Mr Naeh visited each site to do a random sample and data search, inspect documentation and facilities and receive feedback and ideas from staff. A list of incomplete data was determined prior to visits and the process highlighted some minor issues to be addressed. The resulting audit report can be found in Appendix A.

## MANAGEMENT REVIEW

As part of the ongoing monitoring of WCB progress and strategy, the Welsh Assembly Government commissioned a management review of the bank. The review reinforced the view held that a reorganisation of the governance structure was necessary to reflect the evolving and expanding bank. Committee membership and structures were explored and, amongst others, a new Advisory Board will be constituted during the first half of the next funding year (Apr 2007-March 2008). Membership will be expanded to consist of specialists external to Wales who can advise on specific areas of the bank's intended development. Recommendations arising from the review form the milestones set by the Welsh Assembly Government for the bank in the coming year.



**Mr Neil Formstone**  
WCB Advisory Board and patient  
representative

# CANCER RESEARCH WALES

A successful application was made to Cancer Research Wales, under their funding call as part of their 40th Anniversary celebrations. Cancer Research Wales is a charity, based in Velindre Hospital in Whitchurch, Cardiff ([www.crw.org.uk](http://www.crw.org.uk)) that spends all the money it raises from the people of Wales on cancer research based in Wales. It is a major funder of cancer research in Wales and WCB are delighted to have CRW as a co-funder of the project. The funding started in September 2006 and is for a five year duration. Specific areas, needed to consolidate the main collection function of the bank, will benefit from the new funding.



IT development is paramount to the continued success of the project and the funding will allow new areas of the database to be expanded and two new IT based posts to be created. These posts will create resilience and help increase the completeness of the CanISC system by collating data collected from patients' notes by the nurses, and once the data is in the WCB system, uploading to the all Wales system. This will benefit clinicians and patients around Wales, not just the WCB.

In order to maximise the use of the samples collected, further processing is required to produce DNA, RNA or Tissue Microarrays (TMAs). A biomedical scientist post was created in Swansea that will be funded for the five years of the award and the costs associated with processing samples were also included in the grant.

The cheque was officially presented to Professor Malcolm Mason in July 2006 by Dr Patrizia Hodge, Chairman of CRW, in the presence of Rhodri Morgan, First Minister for Wales.



**L to R:**  
Dr Patrizia Hodge  
First Minister Rt Hon Rhodri Morgan  
Professor Malcolm Mason  
Mrs Shelagh Lawrence  
*at the cheque presentation in July 2006*

# CLINICAL TRIALS

The Wales Cancer Bank continued to host the paraffin block collection for COIN, a UK wide MRC trial in metastatic colorectal cancer. Multiple blocks from 767 patients were received to the end March 2007.

Four other UK multicentre NCRN-badged clinical trials have applied to WCB to host their collections (contingent on successful funding applications) and one major UK tissue collection has also applied to WCB for centralisation.

# TRAINING

Staff from all centres have undertaken a variety of training courses, attended workshops and conferences and presented their work through different media throughout the year. A full list of all courses attended can be found in Appendix B. Five staff are currently doing higher education courses, two in nursing and three in biomedical sciences. These courses are important in continuing the educational development of staff and encourage wider perspectives and have been shown to have a positive impact, not only on morale but by promoting engagement in the planning of processes and future direction. The project modules of the higher education courses also give opportunity to address specific areas of the bank's day to day activities, such as the effect of different types of fixative.

New staff undergo a WCB specific induction programme as well as local induction programmes within their host institution. This includes mandatory Health and Safety, fire and laboratory safety training. Everyone receives training from Velindre on the CanISC database system and the IT manager provides WCB database training. Updates on matters such as Good Clinical Practice (GCP) and disease specific topics are attended by the nursing staff regularly.



**Lisa Gilby, Amanda Poynton and Colleen Lloyd**  
*at a 'Dangerous goods handling' course*

The annual WCB training day was held in Wthybush hospital on 13th December 2006. A presentation was received about Genetics and genetic counselling from Professor Julian Sampson, Head of Medical Genetics in Cardiff University, giving staff an insight into the genetics of cancer. An update on the Human Tissue Act and how it affects day to day practices was given by Dr Alison Parry-Jones and new features on the WCB database were demonstrated by Daniel Naeh.

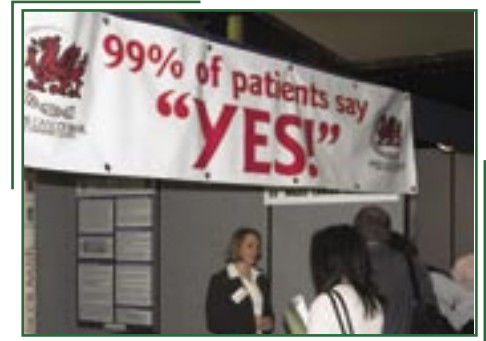
# CONFERENCES & PRESENTATIONS

Personnel from the WCB attended a number of conferences during the year and made a variety of presentations. A complete list of events attended can be found in Appendix B, but some of the larger events are detailed below.

## NATIONAL CANCER RESEARCH INSTITUTE ANNUAL CONFERENCE 2006

For the second year running, the WCB exhibited at the NCRI annual conference. The stand was busy throughout the three days that the exhibition was open and a number of valuable contacts were established.

The conference is becoming established as the premier UK cancer conference and the 2006 programme was extremely full and varied. All areas of cancer research were involved and eminent speakers from around the world presented their research. For the first time a public lecture was held to open the conference. 'Mission possible: how we can beat cancer' was presented by Fran Balkwill from Barts and The London School of Medicine and Dentistry and attracted a lot of interest from the general public. A full report on the conference can be found on the NCRI's website (<http://www.ncri.org.uk/ncriconference>).



**WCB exhibition stand at the NCRI conference 2006**



**Suzanne Williams with her poster**

The Wales Cancer bank also submitted two abstracts to the meeting. Both were accepted and Professor Gerry Thomas gave an oral presentation at the specialist tissue banking session and Mrs Suzanne Williams presented a poster at one of the two scheduled poster sessions. The poster detailed the patients' attitudes towards the WCB and gave information showing that very few patients refuse to consent and some questioned the necessity for consent, as tissue would be surplus to diagnostic requirement. This has sparked an idea for a collaborative project, led by nursing staff to further gauge the public's attitude to consent procedures.

The tissue banking session, hosted by Dr Brian Clark, on Core UK, was held on Wednesday morning and comprised of talks from around Europe. The Spanish model of tissue banking was presented by Dr Manuel Morente and Dr Peter Riegman spoke about TuBaFrost, the European initiative designed to integrate frozen sample collections by means of a virtual network and single access portal. Professor Gerry Thomas spoke about quality assurance in the only proffered paper in the session and presented preliminary pathology QA data on the first batch of WCB samples to be tested. She highlighted the importance of knowing the quality of the samples used in research and reiterated the WCB aim to provide only the best quality samples.

2007's meeting is scheduled for 30 Sep — 3 October in the International Convention Centre in Birmingham and WCB will be exhibiting again and will be involved in organising the tissue banking parallel session.

## AUSTRALIAN HEALTH AND MEDICAL RESEARCH CONGRESS

Professor Gerry Thomas was invited to attend the 3rd meeting of the Australian Health and Medical Research Congress, held in Melbourne, Australia in November 2006. This annual congress is a large event bringing together 31 individual organisations in Australia involved in delivery of medicine and medical research. The Australasian Biospecimen Network, (<http://www.abrn.net/>) is one of the participating organisations. The title of Professor Thomas's talk was "The Issue of Tissue - Banking for Biomedical Cancer Research in the 21st Century" and was given in the ABN section of the meeting. Tissue Banking is well established in Australia, with material from their banks being used in important research in, for example, familial breast cancer. Close links have been established between a number of members of the ABN, including the Peter MacCallum Cancer Centre in Melbourne, kConFab, also in Melbourne and the Western Australian Research Tissue Network.



**L to R:**  
**Professor Gerry Thomas**  
**Professor Malcolm Mason**  
**with Dr Parry-Jones**

## 14TH INTERNATIONAL CONFERENCE ON CANCER NURSING 2006

Alison Jones, WCB nurse in Withybush hospital, successfully submitted an abstract to give an oral presentation at the 14th International Conference on Cancer Nursing (ICCN) held in Toronto, Canada in September 2006. This was the 28th ICCN and around 2,500 cancer nursing professionals and researchers from around the world gathered in Toronto to exchange information and research, hear the latest updates in treatment and to debate the current challenges being faced in cancer care today. The pre meeting workshops and events gave a wonderful opportunity to see a small part of Canada and included interesting visits to two Toronto hospitals to learn about the extensive nursing research being carried out in Canada and the USA.

The conference provided an opportunity to promote the Wales Cancer Bank to a wide audience and the title of Alison's talk was 'Research, Tissue Banks, Ethics and Informed Consent'. Although the subject



remit was quite broad, it addressed many of the relevant issues associated with the functions of a tissue bank and the presentation explained briefly that a tissue bank is a library in which biospecimens are stored either for clinical or research purposes, usually collected from consenting patients during surgical procedures.

Human biospecimens can provide a bridge between emerging molecular information and clinical information, by enabling researchers to study the molecular characteristics of actual human disease, and then correlating those patterns with what is known about the clinical progression of the disease. Therefore there is a need for more research based on human tissue. The talk focused on the significant role that is played by the Wales Cancer Bank Nurses, ensuring the dignity, rights, safety and well-being of participants are protected at all times. The controversial suggestion that informed consent may not be required was also discussed.



**Alison Jones presenting at the ICCN**

The conclusion of the talk recommended that the best way to enhance the bank of available tissues is through education and encouraging patients to donate their redundant tissues for research. Many people at the conference were excited about the project and the potential benefits for humanity, demonstrated by the immediate response and conversations with other delegates following the talk.

Suzanne Williams, WCB nurse in Swansea and Kim Davies, WCB nurse in Bangor also attended the conference.

## **MARBLE ARCH INTERNATIONAL WORKING GROUP ON BIOBANKING FOR BIOMEDICAL RESEARCH**

The Marble Arch group was created in 2005 to investigate the issues around harmonising approaches in regional, national and international biobanks. This forum has proved to be an invaluable platform for the exchange of information, ideas and expertise.

Following the inaugural meeting in London in December 2005 where 20 participants from twelve countries from five continents attended, the Marble Arch Working Group gained significant visibility in the scientific community at large and with the recognition the group has received to date, it is anticipated the group will be a relevant scientific voice on biobanking human specimens for research. The group also aims to develop a public website to provide information about its activities.

The 2nd meeting of the Marble Arch Working Group, hosted by the Centro Nacional de Investigaciones Oncológicas in Madrid in June 2006, was attended by 19 expert participants representing ten countries from three continents. The meeting was chaired by Peter Geary, Director of the Canadian Tumour Repository Network and a number of key tasks were identified and working parties established.

A third meeting was held in February 2007 in Sao Paulo which WCB were unable to attend due to commitment to the ISBER meeting in Singapore later in the year.



**Inaugural Marble Arch group meeting in London**

## **UK TRADE AND INVESTMENT**

The Wales Cancer Bank was invited to attend a UK Trade and Investment event held in Düsseldorf on 27th February 2007 to promote the UK's potential as one of the world's leading locations for commercial R&D. The conference was held in one of Düsseldorf's most prestigious venues and HRH the Duke of York attended and spoke in his role as Ambassador for UK Trade & Investment.

The conference was targeted at German R&D intensive companies of which some are already active in the UK and some are potential investors. The aim was to highlight the R&D capabilities of the UK and to assist in identifying opportunities for collaboration between German industry and UK research institutions. The morning featured high calibre speakers on key issues such as Intellectual Property Protection, R&D Assistance Schemes and Venture Capital Opportunities. The afternoon was devoted to individual workshops focused on selected sub-sectors with proven British R&D strengths (Oncology, Wave & Tidal, Nanotechnology, Semiconductors and RFID technology) and a partnering event. At the partnering event decision makers of participating German companies had the opportunity to have one-to-one discussions with British research institutes and universities.

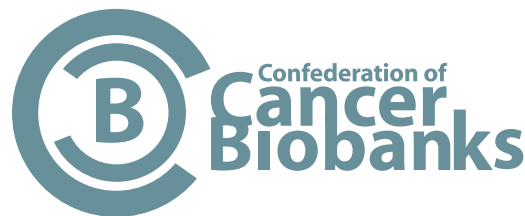
Professor Gerry Thomas and Dr Alison Parry-Jones represented the Wales Cancer Bank and made some worthwhile contacts, both from German companies and from other UK attendees, both academic and commercial.

## **INTERNATIONAL SOCIETY FOR BIOLOGICAL AND ENVIRONMENTAL REPOSITORIES**

Submissions to the International Society for Biological and Environmental Repositories (ISBER) 2007 international conference have been accepted. The meeting is being held in Singapore at the end of May 2007 and Professor Gerry Thomas and Dr Alison Parry-Jones will give three oral presentations, two in the 'Legal and Ethical Issues/Repository management' session and one in the 'QA/QC and Biospecimen Methodology and Research' session.

# CONFEDERATION OF CANCER BIOBANKS

The Confederation of Cancer Biobanks (CCB) was officially launched at the NCRI conference in Birmingham in October 2006. The Confederation is a consortium of institutions and organisations based in the UK that are involved in the development, management and use of Biobank resources for cancer research. The Confederation plans to take a collective approach towards tackling some of the problems that are currently associated with cancer research involving human samples. It aims to promote and disseminate a collective view on best practices for biobanks and to promote transfer of knowledge and experiences between banks whilst retaining their full autonomy. Membership will be open to any institution managing a cancer tissue bank that is willing to work to the agreed principles and practices of the Confederation.



The CCB is an NCRI initiative that will work towards the adoption of common policies and standard methods, which will accelerate research into the causes and treatment of cancer. The founding members are the Glasgow Tissue Bank, onCore UK, the Tayside Tissue Bank and the Wales Cancer Bank.

Derek Stewart, Chairman of the CCB working group and a cancer patient, said: "It's a case of the whole being greater than the sum of the parts. By working together the precious donations of many individual patients to these banks will be able to make a greater difference to the fight against cancer."

The third meeting of the Confederation was due to be hosted by the Wales Cancer Bank in Cardiff in January 2007 but bad weather prevented travel and the meeting was rescheduled for June.



**Derek Stewart leading discussions at a CCB meeting**

# MARKETING & PUBLICITY



The September 2006 WCB newsletter was included as an insert in the conference pack for the NCRI annual conference and generated a lot of interest, with researchers approaching the exhibition stand for information. A fourth edition of the newsletter was published in March 2007. The newsletters are distributed to patient groups and stakeholders and are made available to patients in the clinics where WCB nurses consent. The biannual publication highlights articles of interest to patients as well as the biobanking community and also features reports from sites around Wales involved in WCB.

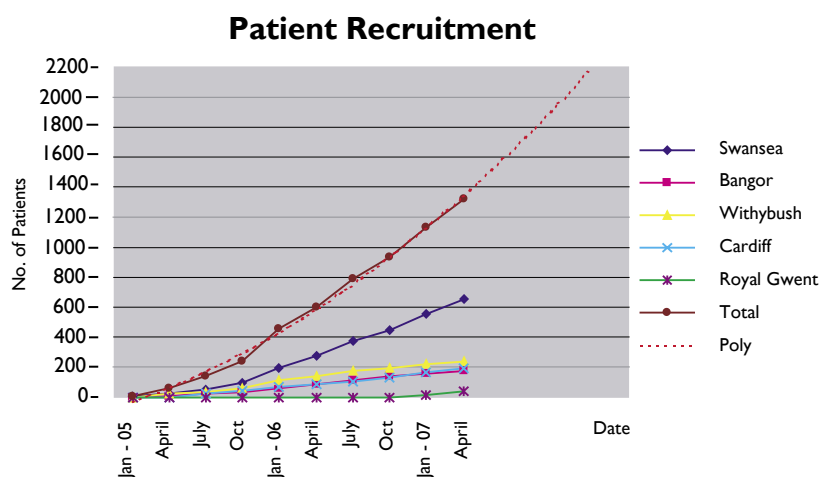
WCB is a founder member of the Confederation of Cancer Biobanks that was publicly launched in October 2006. Mr Neil Formstone, Chair of the WCB Advisory Board and patient representative, was interviewed by radio to comment on the confederation and its aims.

FIGURE 11 - WCB Newsletter

# LOOKING AHEAD

The graph below shows predicted patient recruitment over the next twelve months. However, some sites have reached saturation and have no additional tumour types available for collection. There will also be a delay in recruiting a new nurse in one site so the predicted number of consents for that site will be reduced from the figures shown on the graph. Therefore, the target total number of consents for the next twelve months will be set at 2000.

**FIGURE 12** – Forecast of potential future patient recruitment



## WCB ROADSHOWS

In order to publicise the work of the Wales Cancer Bank in the hospitals currently involved in collection, the Executive Group have planned ‘roadshow’ events in each location. A presentation by Professor Mason detailing the background and rationale behind setting up the bank will be followed by Professor Gerry Thomas explaining the science that can be done using human tissue in its various formats and the questions that could be answered. The presentations are intended for a mixed audience and it is hoped that specialists from all areas, e.g. surgeons, pathologists, nurses etc., will attend to discover more about the Wales Cancer Bank and the possibilities it makes feasible.

Events are also being planned to speak to patient cancer support groups around Wales to engage the interest and support of the patients and carers to ensure the bank receives feedback and input from its most important stakeholders.

## BIOMATERIAL SUPPLY

The six projects still under review by the External Review Panel will, on approval, be supplied with samples as soon as practicable. It is envisaged that sample requests will continue to be received from researchers and further exposure at the NCRI meeting in October 2007 will generate additional interest.

Quality will remain a top priority for WCB and samples will be quality assured before use to guarantee they are fit for purpose. Continuous investigations are underway by staff to ensure new techniques and methodologies are explored that might aid the collection pathway and/or the researchers requesting samples.

## STAFF RECRUITMENT

Interviews have been held in Wwithybush for the 0.5wte nurse position made vacant with the departure of Andrea Jones in December 2006. The successful candidate, Catherine McPhee will take up post in April 2007 and will help consolidate the collection in Wwithybush.

Interviews for two IT jobs, Database Manager and Information Assistant, are scheduled for April and May 2007. Employment will be through Velindre NHS Trust and the posts will strengthen support in IT and allow rapid development of modules necessary for the database to evolve with the growth of the bank.

A full time nurse coordinator post will be created in Cardiff and is expected to go to advert during the summer. The laboratory post in Cardiff will also be reorganised to ensure the post is fully integrated into the NHS department.

Professor Gerry Thomas has been approached by Imperial College, London and is in discussions regarding a part time appointment as Professor of Molecular Pathology.

Due to the increased workload in the central office, a Project Officer post will be advertised during the summer 2007. This postholder will give valuable support to Dr Parry-Jones and will be responsible for, amongst other duties, management of sample requests and site coordination.

## ADDITIONAL FUNDING

In order to progress and expand the project additional funding will need to be sought. Several avenues will be explored, including additional government support, charity funding, commercial support and maximising the resources currently available.

## 2007/2008 TARGETS

- Accrue 2000 patients in total
- Supply three projects with biosamples
- Reconstitute governance arrangements
- Ensure Service Level Agreements in place with all NHS Trusts
- Develop IT infrastructure
- Collate clinical data for patients consented to end 2006
- Continue to raise awareness and promote WCB

# FINANCIAL STATEMENT

A breakdown of the 2006/07 expenditure and income is shown.

	Assembly Funding	CRW Funding	General Account	
	<i>Expenditure</i>	<i>Expenditure</i>	<i>Expenditure</i>	<i>Income</i>
<b>STAFF COSTS</b>				
Central Staff	£129,199			
Swansea Site	£115,897	£12,722		
Cardiff Site	£50,443			
Haverfordwest Site	£50,788			
Bangor Site	£35,683			
Royal Gwent Site	£10,339			
<i>Sub-total</i>	<i>£392,339</i>	<i>£12,722</i>		
<b>NON STAFF COSTS</b>				
Office Accomodation	£17,519			
Equipment/Consumables	£33,604	£8,801		
Travel/Conference/Training	£22,062			
Office Expenses/Legal	£18,290			
Database	£7,900	£235		
<i>Sub-total</i>	<i>£106,710</i>	<i>£9,063</i>		
Cost Recovery			£1,604	£-10,645
Trial Related			£2,656	£-7,768
<b>TOTAL</b>	<b>£499,049</b>	<b>£21,758<sup>+</sup></b>	<b>£4,296</b>	<b>£-18,413</b>
<b>Available Grant</b>	<b>£499,020*</b>	<b>£100,000</b>		

\* The Wales Cancer Bank received £465,520 from the Wales Assembly Government and carried forward £33,500.

+ £21,758 was spent from the Cancer Research Wales grant in the first seven months of the grant.

## WALES CANCER BANK AUDIT 2006

The annual audit schedule in 2006 took place between 26th September and 7th November. The Cardiff, Withybush, Swansea and Bangor sites were visited by the WCB Director, Principal Scientist, Manager and IT Manager. A small random selection of donations was inspected at each site and a list of incomplete data generated to show donations with no samples, no diagnosis or no pathology report after two months.

All four sites have been collecting for at least eighteen months and the 2006 audit was the second such internal inspection during this time. The workflows and role responsibilities of staff at each site have local variation in order to fit in with routine clinical practice. Role responsibilities at each site will be documented for inclusion in the Service Level Agreements, currently being drafted, with each NHS Trust.

Each site is covered by a HTA licence to store tissue for research purposes. No major issues were highlighted that could potentially jeopardise the licence at any site. All sites are working within local and WCB guidelines on Health and Safety and adhere to WCB Standard Operating Procedures.

### GENERAL

It is accepted that there can be a variety of reasons for a delay in receiving and/or recording complete data on each donation. Each site was given a list of donations with incomplete data after two months of recorded consent. In some cases the lack of pathology reports merely required chasing up. The data record will show as 'incomplete' on the database if there is no diagnosis recorded or if no time received in pathology is recorded. This latter piece of information is only required when tissue is frozen.

There are data fields present on the database to record reasons for a lack of tissue or blood. These need to be completed and some new options need to be included to ensure a full picture is obtained for each donation.

Internal sample tracking is vital. Samples should be logged in and out when taken for extraction, digitisation or QA so that at any given point in time the location of every sample is documented. Sample (EDTA) movement to the Gene Park for extraction must be fully documented and only samples with documented consent should be moved. Each site should be aware of outstanding information. Sample movement SOP to be reviewed to ensure transport between sites and the Gene Park is properly documented.

It is WCB policy not to issue samples to research projects within six months of consent date. This needs to be written in to the database to ensure such samples cannot be logged out for issue.

SOPs have recently been revised and it is important that each site (office and laboratory) have a FULL set of SOPs. SOPs are available on the intranet portion of the WCB website ([www.walescancerbank.com](http://www.walescancerbank.com)) and notification of newly revised documents will be communicated by email to all staff. It is their responsibility to ensure the site files contain the currently SOPs.



It is recognised that there are often unavoidable reasons for changes to protocols but deviations to SOPs MUST be documented. For example, the time taken for blood samples to reach the laboratory for processing for serum should be accurately recorded. The samples require 30 minutes to clot and should be spun down immediately following the 30 minutes. If the time taken from patient to laboratory is in excess of 30 minutes the 'real' time must be recorded as the clotting time. Similarly, if the samples then remain in the centrifuge for a protracted length of time (over ten minutes) prior to separation, this too should be noted. An investigation into the range of this particular issue should be implemented.

## ACTIONS

### IMPLEMENTED CENTRALLY:

- When only paraffin blocks are taken for a donation, the 'time received in pathology' field needs to be 'uncritical' to the report
- In the case where there is a lack of tissue after the operation a new value should be added to the database to indicate if the pathologist agrees for a core to be taken
- A new value to be added to the database to record if staff are unable to source blood samples because of frailty or needle fatigue
- Sample removal SOP detailing the logging in/out procedure to be reviewed and the importance of adhering to SOP communicated to all staff
- Daniel Naeh (IT Manager) to write a failsafe into database to flag (and block) when attempts are made to log out a sample for issue if the consent data is less than 6 months old
- Sample movement SOP to be reviewed to include suitable paperwork for tracking samples in transit
- Audit of database information to review 'clotting time' field

### IMPLEMENTED AT SITES:

- Sites need to regularly review (once every six months) donations with missing samples and/or information and remedy the situation
- Users should be able to periodically review all samples from which cores can be obtained if blocks are not available
- Sites to ensure current SOPs are printed out and in their site file
- Accurate times recorded for 'clotting time', ie. Actual time from patient to centrifuge
- Deviations to protocols MUST be recorded

## CONCLUSIONS

All sites are operating well and the audit gave a good opportunity for the exchange of views and discussions about local practice and the project in general. The action points identified involve both central and local activity. It is hoped that all points can be actioned by the end of 2006.

The audit highlighted a number of issues to be addressed to ensure completeness of data and which encourage regular reviews of missing information. A scheme to back fill clinical data is being piloted in Swansea and this should aid in drawing attention to missing data.

Sample tracking procedures should be reinforced to ensure the exact location of every sample is known. As the WCB grows and becomes more complex, with samples issued to researchers etc., it will become increasingly vital to have confidence in the recording system and its use. External audits will become progressively more common as the Human Tissue Authority can inspect, unannounced, at any time and the anticipated scientific review on behalf of the Welsh Assembly Government during 2007 could also inspect any site. Therefore, it is vital that samples are logged in and out of storage in a timely and accurate manner.

The audit will be an annual event and will encompass the Royal Gwent and Llandough in 2007 in addition to the four sites visited this autumn.

The management teams wish to express its thanks to all staff, not only for their hospitality during the audit visits, but for their continued enthusiastic support for the project.

## NOTES BY CENTRE

### CARDIFF:

- All data records inspected were complete, although an alteration had been made to the serum clotting time for one sample on the blood form. No explanation and unknown who made change
- A number of samples do not have pathology reports attached – mostly from colorectal patients from Llandough. These are under investigation
- Scanning of camlab boxes successfully showed that samples were all in the correct place and all were what the database said they should be
- All samples are barcoded
- Both labs must have complete set of SOP files
- 3 racks of EDTA samples been transferred to WGP. Paper record is only trail – should have sample transfer SOP adhered to. Unable to log out one rack on database and incomplete information on 2 samples. These 2 samples should NOT have been moved out until full documentation in place

- 5 patient records do not have samples against them:
  - 002 - One operation was postponed, but no check has been made to see if it has happened since
  - 006 - Notes on one say 'no tumour', path report should be chased up to see if any paraffin available
  - 074 – Need path report and could go back to Llandough to see if able to take cores from diagnostic block for TMA
  - 111 – Renal retrospective – waiting for block and EDTA, got path report
  - 134 – Got samples but not yet entered on database
- Dry ice procedures need reviewing – location of dry ice storage and aliquoting into smaller bags on arrival
- One of the internal freezer doors is not closing properly

#### WITHYBUSH:

- All data records inspected were complete
- List of donations with either no tissue samples associated, no pathology report or no diagnosis after two months highlighted are under investigation
- Office site file complete and up to date
- All samples inspected were found in the correct location indicated by the database coordinates
- The Lab SOP folder should be extended to include all WCB SOPs

#### SWANSEA:

- Data records investigated were mostly complete – not all theatre forms are being completed
- Clotting time is, in some cases, being recorded as 30 minutes regardless of the actual time taken from patient to centrifuge. 30 minutes is the minimum time necessary for clotting to occur and samples should be spun down immediately after the 30 minutes. If the time lag between taking blood and spinning down is greater than 30 minutes, the actual time MUST be recorded as the clotting time
- Office site file needs updating with the new MREC application form
- Donations with either no pathology report or a missing diagnosis after two months are under investigation
- All samples were found in the coordinates indicated by the database. Two samples were missing:
  - Frozen tissue RVCC40000067FTI A
  - H&E slide from frozen RVCC40000067FTI AH I
- One sample had lost its label while being taken out of the camlab box.
- The database logbook was not signed to indicate that the samples had been removed nor was there a known paper trace. It is assumed that the missing tissue sample had been taken for DNA extraction and that the slide was being scanned. Further investigation is needed to clarify the whereabouts of the two samples.

- The –80 freezer was heavily frosted and would benefit from being de-iced. The EDTA racks were covered with ice in a way that impeded their identification. (At first rack A was taken out and examined instead of rack H)

#### BANGOR:

- Office site file very well organised but does need updating with new MREC application form and current SOPs need printing out
- Blood forms, theatre forms and pathology reports are kept in the laboratory file so were not inspected
- Of the three random donations inspected, one had no blood samples and the other two both had clotting times recorded in excess of 30 minutes
- Not all samples yet barcoded – but this will be remedied now the new printer has arrived. May require additional printer in lab
- All samples inspected were in the correct location in the lab and storage was exceptionally well organised

## APPENDIX B

# TRAINING COURSES, WORKSHOPS & EVENTS

### APRIL 2006

12th	Dealing with Violence and Aggression	Swansea NHS Trust
27th – 28th	British Association of Tissue Banking Annual meeting	Nottingham
28th	Infection Control	Swansea NHS Trust

### MAY 2006

11th	Advanced Good Clinical Practice	WCTN
13th	Endoscopy Update	
16th	Gynaecology Tumours	WCTN

Professor Mason lectured at Kings College, London on a 'Training for Research Ethics Committees' course

### JUNE 2006

6th – 7th	Finance for Non-financial Managers	Cardiff University
14th	The Human Tissue Act <i>Introduction to the act and the implications in healthcare from a legal aspect</i>	Morgan Cole Solicitors
16th	Management of Prostate cancer - Collaborative approach	
20th – 21st	International Biobank leaders' forum (Marble Arch)	Madrid, Spain
27th	GCP training	North Wales WCTN

### JULY 2006

5th	Designated Individual training day	Human Tissue Authority
6th	CRC Cymru launch	Cardiff

### AUGUST 2006

24th	Continuing Care	Swansea LHB
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### SEPTEMBER 2006

7th – 8th	Introduction to cancer care	Birmingham University
8th	British Prostate group annual meeting	Cardiff
13th – 15th	2nd REMP BioRepository Meeting	Bern, Switzerland
22nd	Developments in Prostate Diagnosis/treatment	

### October 2006

8th – 11th	NCRI Annual meeting	Birmingham
17th	NWW Trust Modernisation Event (Poster presentation) 'Seeing the future and planning to do things differently'	Bangor
17th	Gastroenterological Cancers	WCTN
18th	Advances in Haematology	WCTN

## NOVEMBER 2006

3rd	National Prostate Cancer Conference <i>'Pioneers in Practice: from Innovation to Reality?' A conference for patients and professionals - to find out what new things are happening with this particular patient group and how the patients themselves feel about the different aspects of treatment and research</i>	London
8th	Bladder tumour site workshop	London
14th	Wales Cancer Trials Network Symposium	City Hall Cardiff

Professor Mason lectured at Kings College, London on a 'Training for Research Ethics Committees' course

## DECEMBER 2006

1st	Australian Health and Medical Research Congress	Melbourne, Australia
6th – 7th	Introduction to research	CRC Cymru
13th	Genetic Counselling	WCB

## JANUARY 2007

13th	CRW Open day	Velindre
17th	Human Tissue Act study day	Village Hotel, Cardiff
30th	Good Practice in Consent <i>Excellent day on nurse-led consent and innovative practice</i>	Healthcare Events

## FEBRUARY 2007

5th	Wales Against Cancer Conference	Cardiff
14th	Electronic Patient Document Tracking	Swansea NHS Trust
21st	Inpatient Management System	Swansea NHS Trust
27th	UK Trade and Investment fair	Dusseldorf

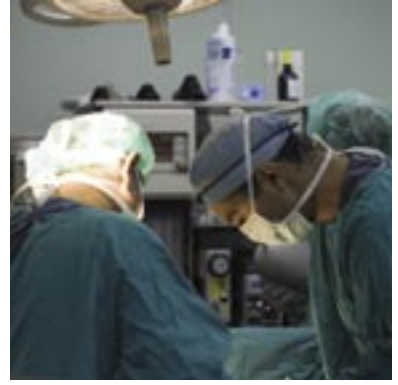
## MARCH 2007

19th	NCRI Colorectal Trials	London
13th	Communication and Ethical Decision-making in Palliative Care	Swansea NHS Trust
27th	Integrated care pathway - Last days of life	

## THROUGHOUT YEAR

European Computer Driving Licence course  
Association of Accounting Technicians – Foundation course





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