**Freedom of Information Request: Our Reference CTHB_08_17**

**You asked:**

We are developing an online resource for cancer patients which aims to help people differentiate between the hospitals in their area and decide on the right location for their care.

We have gathered lots of data regarding hospitals in English trusts, and as we are now expanding the site's reach into other areas of the UK I thought it would be useful to get in touch to see if you'd be able to help me pull together some information about the hospitals in the Cwm Taf University Health Board area.

I am hoping to find out which hospitals in your area offer diagnosis and/or treatment for the following types of cancers: Breast cancer, Lung cancer, Prostate cancer and Bowel cancer.

Another part of the website will show patients which diagnostic tests are available at each hospital. I have attached a list of the available tests, but it would be incredibly helpful if you could let me know which are available at which hospital throughout the Cwm Taf University Health Board area.

I hope you're able to help me with the above – we hope that the site will be a useful resource for patients. If you would like to see the beta version of the site (currently covering England only) you can find it here: https://www.informed-patients.com/#/search

**Our response:**

I can confirm that both the Royal Glamorgan Hospital and Prince Charles Hospital offer diagnosis and/or treatment for the following types of cancers: Breast cancer, Lung cancer, Prostate cancer and Bowel cancer in the Cwm Taf area.

With regards to diagnostic tests, please see completed spreadsheet attached as requested.

| Diagnostic test | Suggested website label | Description | Hospitals available |
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| Abbott Molecular Inc, PATHVYSION HER-2 DNA Probe Kit (FISH) | PathVysion™ kit | A diagnostic tool used to determine whether a particular cancer (breast or gastric being the most common) has increased expression of the *HER2* gene. The HER2 receptor is involved with cancer cell survival and growth. Using this test, health professionals are able to decide whether HER2-targeted therapies would be beneficial for treating specific patients. | Not in Cwm Taf. Performed in the Univeristy Hospital Wales (UHW) for Cwm Taf patients |
| Abbott Molecular Inc, VYSIS ALK Break Apart FISH Probe Kit | Vysis LSI ALK break apart rearrangement probe kit | A diagnostic tool used to determine whether a change in the anaplastic lymphoma kinase (*ALK*) gene has occurred. Changes in the *ALK* gene in non-small cell lung cancer can lead to abnormal cell growth. Healthcare professionals can use this test to determine whether therapies that target ALK would be beneficial for patients. | Not in Cwm Taf. Performed in UHW for Cwm Taf patients |
| Adjuvant! Online | Adjuvant! Online | An online decision-making tool that allows healthcare professionals (HCPs) and patients to discuss the risks and benefits of additional therapy after breast cancer surgery. Based on information (e.g. tumour size, patient age, spreading of cancer to the lymph nodes) submitted by the HCP, an estimate of the risk of negative outcomes if adjuvant therapy (treatment after surgery) is not received is provided to inform HCP–patient consultations. | Available in Cwm Taf - used in breast cancer MDT |
| AmoyDx KRAS Seven Mutations Detection Kit | AmoyDx® *KRAS* seven mutations detection kit | A diagnostic test that detects the most common mutations in the *KRAS* gene. *KRAS* gene mutations are linked to drug resistance to targeted medicines, such as tyrosine kinase inhibitors. The test enables healthcare professionals to determine the *KRAS* gene mutation status of colorectal cancer, which can predict whether the tumour is likely to respond to certain targeted therapies. | Not in Cwm Taf. Performed in UHW for Cwm Taf patients |
| Biogenex Laboratories Inc, INSITE HER-2/NEU KIT (Mouse McAb for IHC) | InSite™ HER2/neu kit | A diagnostic tool used to determine whether a particular breast or gastric cancer has an increase in the number of HER2 receptors. The HER2 receptor is involved with cancer cell survival and growth. Using this test, healthcare professionals are able to identify patients who may potentially benefit from receiving therapies that target the HER2 receptor. | Not in Cwm Taf. Performed in UHW for Cwm Taf patients |
| bioMerieux Inc. THxID BRAF | THxID®-BRAF kit | A diagnostic tool used to determine whether a cancer (metastatic melanoma in particular) has key mutations in the *BRAF* gene. Test results inform healthcare professionals on which patients have tumours carrying *BRAF* gene mutations and which patients are eligible for targeted therapies. | Not in Cwm Taf. Performed in UHW for Cwm Taf patients |
| Cobas EGFR Mutation Test | Cobas® EGFR mutation test | A diagnostic tool used to determine whether a non-small cell lung cancer has mutations in key regions of the epidermal growth factor receptor (*EGFR*) gene. Changes within the *EGFR* gene are linked to cancer cell survival and uncontrolled growth. Using this test, health professionals are able to identify patients who could benefit from anti-EGFR therapies. | Not in Cwm Taf. Performed in UHW for Cwm Taf patients |
| Cobas KRAS Mutation Test | Cobas® KRAS mutation test | A diagnostic test that detects the most common mutations in the *KRAS* gene in colorectal cancer. *KRAS* gene mutations are linked to drug resistance to targeted medicines, such as tyrosine kinase inhibitors. The test enables healthcare professionals to make treatment decisions based on *KRAS* status to ensure that patients who may benefit from certain targeted therapies are identified. | Not in Cwm Taf. Performed in UHW for Cwm Taf patients |
| ColoPrint | ColoPrint® 18-gene colon cancer recurrence assay | A diagnostic test that analyses the expression of 18 specific genes that can predict the risk of recurrence in colon cancer. The test results can help healthcare professionals make treatment decisions (e.g. identification of patients who may be safely managed without chemotherapy) based on the cancer's risk of coming back (recurrence). | Not in Cwm Taf |
| DAKO EGFR PharmaDx kit (IHC) | EGFR PharmDx™ kit | A diagnostic tool used to determine whether a particular cancer has an increased number of epidermal growth factor receptors (EGFR). The EGFR receptor is involved in cancer cell survival and growth. Using this test, healthcare professionals are able to identify patients who may benefit from and are eligible to receive therapies that target the EGFR receptor. | Not in Cwm Taf. Performed in UHW for Cwm Taf patients |
| Hologic, ProgensaPCA3 | Progensa® PCA3 assay | A diagnostic tool used to determine the levels of key gene markers (prostate cancer antigen 3 [PCA3] and prostate-specific antigen [PSA]) commonly pverproduced in prostate cancer. Test results help healthcare professionals make informed decisions around the need for repeat prostate biopsies in patients who have had a previous negative biopsy. | Not in Cwm Taf |
| Ventana, Gen-Probe IP for measuring ERG protein | Ventana Gen-Probe ERG assay | A diagnostic tool used to determine whether the ERG protein is overproduced in prostate cancers. Healthcare professionals use the test results to identify patients who have androgen hormone-positive prostate cancer, which can inform treatment decisions. | Not in Cwm Taf |

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| MammaPrint | MammaPrint® | A diagnostic test that analyses the activity of 70 genes involved in early-stage breast cancer. The test provides a score (low risk or high risk) based on the cancer's risk of coming back (recurrence) within 10 years after diagnosis and can help healthcare professionals make informed treatment decisions. | Not in Cwm Taf |
| Myriad, Cell Cycle Proliferation Assay (CCP) | CPP assay | A diagnostic tool that measures the expression level of certain genes involved in prostate cancer progression. Results are used, alongside other diagnostic tests, to determine the aggressiveness of prostate cancers. | Not in Cwm Taf |
| Nottingham Prognostic Indicator (NPI) | Nottingham Prognostic Index | The Nottingham Prognostic Index (NPI) is a mathematic formula used to determine prognosis following surgery for breast cancer. The NPI value is calculated using three pathological criteria: the size of the tumour, the number of lymph nodes affected and the severity/grade of the tumour. NPI scores are converted to provide an estimate of 5-year survival. | Available in Cwm Taf but not used, alternative prognosticators used |
| Oncotype DX (breast cancer) | Oncotype DX® breast cancer test | A diagnostic test used to analyse the activity of a group of genes that can affect how likely a patient's cancer is to behave and respond to treatment. It is used by healthcare professionals to determine the risk of early-stage breast cancer recurring and whether the patient would benefit from chemotherapy and/or radiotherapy treatment after surgery. | Not in Cwm Taf |
| Oncotype Dx Colon Cancer Test | Oncotype DX® colon cancer test | A diagnostic test that analyses the activity of 12 genes commonly involved in the progression of colon cancer. Test results allow healthcare professionals to determine the likelihood that the cancer cells will spread (metastasise) within three years of diagnosis and enable them to decide whether to pursue additional treatment after surgery. | Not in Cwm Taf. In development on All Wales basis |
| OPKO Lab, 4Kscore Test | 4Kscore™ test | A test that calculates an individual patient's risk of aggressive prostate cancer (the probability of cancer spreading to other parts of the body within 20 years). Healthcare professionals can use results from this test to inform the best treatment strategy for the patient. | Not in Cwm Taf |
| PREDICT Tool | PREDICT | An NHS tool that predicts survival for patients with breast cancer. The PREDICT tool uses various factors, including tumour size, receptor status and the number of lymph nodes affected at the time of diagnosis to provide an estimate of 5- and 10-year survival. | Available in Cwm Taf - used in breast cancer MDT |
| PyroMark Q24 KRAS Assay-Kit | PyroMark Q24 KRAS assay | A diagnostic test that detects common mutations in the *KRAS* gene in colon cancer samples. Test results allow healthcare professionals to determine whether patients could benefit from epidermal growth factor receptor (EGFR)-targeted therapies. | Not in Cwm Taf |
| Qiagen therascreen KRAS RGQ PCR kit | therascreen® KRAS kit | A diagnostic test that detects seven mutations in the *KRAS* gene in colon and non-small cell lung cancers. Test results allow healthcare professionals to identify patients who may benefit most from receiving epidermal growth factor receptor (EGFR)-targeted therapies. | Not in Cwm Taf |
| Qiagen, therascreen EGFR RGQ PCR kit (PCR) | therascreen® EGFR kit | A diagnostic tool used to detect specific changes in the epidermal growth factor receptor (*EGFR* ) gene in non-small cell lung cancer samples. EGFR is involved with cancer cell survival and growth. Using this test, healthcare professionals are able to identify patients who may benefit from treatment with EGFR-targeted therapies. | Not in Cwm Taf |
| Roche Molecular Systems, Cobas 4800 BRAF V600 Mutation Test | Cobas® 4800 BRAF V600 mutation test | A companion diagnostic tool used to determine whether a melanoma tumour has the V600E mutation in the *BRAF* gene. It can be used by healthcare professionals to identify patients whose cancers carry this mutation, thus making them eligible for treatment with certain targeted therapies. | Not in Cwm Taf |
| SURVEYOR Scan K-RAS Mutation Detection Kit | SURVEYOR® scan, K-RAS kit | A diagnostic test that detects mutations in the *KRAS* gene in tumour samples (most commonly colorectal cancers). *KRAS* mutations are linked to lack of response to epidermal growth factor receptor (EGFR)-targeted therapies. Test results allow healthcare professionals to identify patients who may or may not benefit from EGFR-targeted therapies. | Not in Cwm Taf |
| Ventana Medical Systems, INFORM HER-2/NEU (FISH) | INFORM HER2 dual ISH DNA probe cocktail assay | A diagnostic tool used to determine whether a particular cancer, particularly breast or gastric, has an increased expression of the *HER2* gene. HER2 is involved in cancer cell survival and growth. Using this test, healthcare professionals are able to identify patients who may benefit from receiving therapies that target the HER2 receptor. | Not in Cwm Taf |

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| Beta tubulin | Beta-tubulin | Tubulin is a protein that plays an essential part in the creation of new cells through cell division. Studies have shown that beta-tubulin may be involved in the development and progression of colorectal cancer and therefore could be used as a biomarker for diagnosis. | Not in Cwm Taf |
| BRAF | BRAF | *BRAF* is a gene that makes the protein B-Raf, which is involved in regulating cell growth. In certain cancers, e.g. melanoma, the *BRAF* gene can be mutated leading to uncontrolled cell growth. | Not in Cwm Taf. Performed in UHW for Cwm Taf patients |
| CDKN2A | Cyclin-dependent kinase inhibitor 2A (CDKN2A) | Cyclin-dependent kinase inhibitor 2A (*CDKN2A*) is a gene that makes several proteins, including p16 and p14arf. These two proteins suppress tumours, so mutations in the *CDKN2A* gene can lead to the development of cancers (e.g. melanoma and pancreatic cancer). | Not in Cwm Taf |
| Cyclin D1 | Cyclin D1 | Cyclin D1 is a protein that regulates some steps in the cell cycle. The overproduction of cyclin D1 has been shown to correlate with early cancer onset and cancer progression, as well as being linked to increased resistance to chemotherapy. | Not in Cwm Taf. Performed in UHW for Cwm Taf patients as part of the All Wales Lymphoma Panel |
| Cyclin E | Cyclin E | Cyclin E is a protein that regulates steps involved in the cell cycle. The overproduction of cyclin E has been shown to correlate with the occurrence of various types of cancer and has been shown to be a biomarker in lung cancer. | Not in Cwm Taf |
| Cytochrome P450 2D6 (CYP2D6) | Cytochrome P450 2D6 (CYP2D6) | Cytochrome P450 2D6 (CYP2D6) is an enzyme found in the liver and is responsible for the metabolism and elimination of ~25% of prescription medication. There is considerable variation in the efficiency and amount of CYP2D6 enzyme produced between individuals and levels can predict how an individual may respond to different drugs. | Not in Cwm Taf |
| DDR | DNA damage response | In a cancer cell, the normal proteins that control the cell's response to DNA damage may be mutated or non-functional, meaning that a cell can continue to grow and multiply even if it is damaged. By testing for mutations in DNA damage response proteins, healthcare professionals may be able to better identify patients who could benefit from certain targeted therapies, such as PARP inhibitors. | Not in Cwm Taf |
| DPYD | Dihydropyrimidine dehydrogenase (DPYD) | The dihydropyrimidine dehydrogenase (*DPYD*) gene makes the enzyme DPYD, which breaks down certain unwanted substances in the body. Mutations in the *DPYD* gene can lead to reduced levels of DPYD being produced, which in turn means the body is unable to break down some cancer drugs and can lead to severe reactions or side effects. | Not in Cwm Taf |
| ERB | ERBB2/human epidermal growth factor receptor 2 (HER2) | HER2 is a protein produced by the *ERBB2* gene. Increased copies of the *HER2* gene and/or increased expression of the HER2 protein can affect the development and progression of certain types of cancer, including breast cancer. HER2-targeted therapies are available to treat patients with tumours that have increased numbers of the *HER2* gene or increased HER2 protein levels. | Not in Cwm Taf |
| FGFR1 | Fibroblast growth factor receptor 1 (FGFR1) | Fibroblast growth factor receptor 1 (FGFR1) is a protein that controls the formation of new cells (mitogenesis) and cells changing from one type into another (differentiation). The overproduction of FGFR1 in breast and lung cancers is generally associated with poor prognosis and increased likelihood of relapse. | Not in Cwm Taf |
| Ki67 | Antigen Ki67 | Antigen Ki67 is a protein that plays a key role in cell proliferation. Ki67 is used as a marker to assess the rate at which cancer cells divide and form new cells. High levels of Ki67 are often correlated with a poor prognosis. | Yes |
| KRAS | KRAS | KRAS is a protein that plays an essential role in normal cell signalling. A mutation in the *KRAS* gene that controls the KRAS protein is an essential first step in the development of many cancers, including colorectal and lung cancer. | Not in Cwm Taf. Performed in UHW for Cwm Taf patients |
| MEK1 | Mitogen-activated kinase/ERK kinase 1 (MEK1) | Mitogen-activated kinase/ERK kinase 1 (MEK1) is a protein involved in key cell processes and cell signalling. Mutations in MEK1 can lead to uncontrolled growth of cancer cells. | Not in Cwm Taf |
| MET | c-MET/hepatocyte growth factor receptor (HGFR) | c-MET is a protein that is essential to the development of embryos and wound healing. The production of c-MET is no longer controlled in many types of human cancers, including kidney, liver, stomach, breast and brain. Abnormal c-MET production in cancer also correlates with poor prognosis. | Not in Cwm Taf |
| NRAS | Neuroblastoma RAS viral oncogene homologue (NRAS) | Neuroblastoma RAS viral oncogene homologue (NRAS) is an enzyme that, in humans, is controlled by the *NRAS* gene. Mutations in the *NRAS* gene have been linked with causing a variety of tumours. | Not in Cwm Taf |

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| P53 | P53 | P53 is a protein that suppresses tumours and stops normal cells turning into cancerous cells via numerous methods. The *TP53* gene that controls the P53 protein is the most frequently mutated gene in human cancers. | Yes |
| PCA3 | Prostate cancer antigen 3 (*PCA3* ) | Prostate cancer antigen 3 (*PCA3* ), also referred to as DD3, is a gene that is only found in human prostate tissue. It is overproduced in patients with prostate cancer and is therefore a useful biomarker to determine the presence of prostate cancer. | Not in Cwm Taf |
| PIK3CA | Phosphatidylinositol-4,5-bisphosphate 3-kinase (*PIK3CA* ) | Phosphatidylinositol-4,5-bisphosphate 3-kinase (*PIK3CA* ) is a gene that controls the p110alpha protein, which is involved in many normal cell functions. The *PIK3CA* gene can be mutated in a range of cancers, including breast and cervical cancer. | Not in Cwm Taf |
| Prostate-specific antigen (PSA) | Prostate-specific antigen (PSA) | The presence of high levels of prostate-specific antigen (PSA) in urine samples can be used by healthcare professionals to predict the presence of prostate cancer. | Royal Glamorgan Hospital & Prince Charles Hospital |
| PTEN | Phosphatase and tensin homologue (PTEN) | Phosphatase and tensin homologue (PTEN) is a protein that, in humans, is controlled by the *PTEN* gene. *PTEN* is a gene that suppresses tumours and it can be mutated in a large number of cancers, including glioblastoma, endometrial cancer and prostate cancer. | Not in Cwm Taf |
| RB | Retinoblastoma protein (RB) | Retinoblastoma protein (RB) is a protein that suppresses tumours and stops excessive cell growth. It has been shown not to work properly in several types of cancers. | Not in Cwm Taf |
| Retinoic acid receptor alpha RARA | Retinoic acid receptor alpha (RARA) | Retinoic acid receptor alpha (RARA) is found in the nucleus of cells and is involved in a range of cell processes. A mutation in the *RARA* gene that controls this protein is associated with acute promyelocytic leukaemia. | Not in Cwm Taf |
| ROS | Proto-oncogene tyrosine-protein kinase ROS | *ROS* is a proto-oncogene – a gene that has the potential to cause cancer when mutated. The protein that it controls is an integral membrane protein involved in cell growth and differentiation (cells changing from one cell type to another). *ROS* is overproduced in a range of cancer cells. | Not in Cwm Taf |
| RRM1 | Ribonucleoside-diphosphate reductase large subunit (RRM1) | *RRM1* is a gene that controls ribonucleoside-diphosphate reductase large subunit – an enzyme known to affect the formation of new DNA molecules. Mutations in the *RRM1* gene have been identified in a range of different cancers. | Not in Cwm Taf |
| ERCC1 | ERCC1 | *ERCC1* is a gene that controls a protein involved in repairing damaged DNA. Changes in the *ERCC1* gene have been shown to play a role in the development of cancer, particularly colorectal cancer and gliomas. | Not in Cwm Taf |
| STAT3 | Signal transducer and activator of transcription 3 (STAT3) | Signal transducer and activator of transcription 3 (STAT3) is controlled by the *STAT3* gene. STAT3 alters the expression of a variety of genes in response to cell signals, and thus plays a key role in many processes, such as cell growth and cell death. If STAT3 is not regulated, causing it to be always active, it can promote cancer growth. | Not in Cwm Taf |
| TIMP1 | TIMP-1 | *TIMP1* is a gene that controls the production of a protein known to be a natural inhibitor of MMPs, a group of enzymes involved in the breakdown of the area surrounding the cell. TIMP1 also promotes cells dividing to form new cells and may prevent cell death. Increased activation of *TIMP1* has been linked to worse prognosis in various cancers. | Not in Cwm Taf |
| TMPRSS2-ERG Fusion Transcript | TMPRSS2-ERG fusion | The fusion of the transmembrane protease, serine 2 (*TMPRSS2* ), and ETS-related (*ERG* ) genes leads to the overproduction of the ERG protein. The TMPRSS2-ERG fusion gene is present in around 40–80% of prostate cancers. The overproduction of ERG contributes to the development of androgen-independence in prostate cancer, meaning that anti-androgen therapies are often ineffective. | Not in Cwm Taf |
| UGT1A1 | UDP-glucuronosyltransferase 1-1 (UGT1A1) | UDP-glucuronosyltransferase 1-1 (UGT1A1) is an enzyme controlled by the *UGT1A1* gene that is responsible for breaking down substances so that they can be removed from the body. A mutation in the *UGT1A1* gene can lead to the body being unable to break down certain cancer drugs properly leading to a build-up of toxic substances in the body. | Not in Cwm Taf |