Clinical Indicators for the NHS
June 2001
## CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>1</td>
</tr>
<tr>
<td>Background</td>
<td>2</td>
</tr>
<tr>
<td>Using the indicators</td>
<td>3</td>
</tr>
<tr>
<td>Role of the Commission for Health Improvement</td>
<td>3</td>
</tr>
<tr>
<td>Conclusion</td>
<td>3</td>
</tr>
<tr>
<td><strong>Indicator 1:</strong> % of patients with lung cancer under the care of a chest physician at the time of diagnosis.</td>
<td>4</td>
</tr>
<tr>
<td><strong>Indicator 2:</strong> % of patients with breast cancer where checks for any spread of the cancer have been made by histological examination of at least four axillary lymph nodes.</td>
<td>6</td>
</tr>
<tr>
<td><strong>Indicator 3:</strong> Average time from arrival at hospital to administration of thrombolytic therapy for patients with an acute myocardial infarction (heart attack).</td>
<td>8</td>
</tr>
<tr>
<td><strong>Indicator 4:</strong> % of patients admitted as an emergency with acute myocardial infarction (heart attack), under the care of a specified cardiologist.</td>
<td>10</td>
</tr>
<tr>
<td><strong>Indicator 5:</strong> Coronary Artery By-pass Graft (CABG): Percutaneous Transluminal Coronary Angioplasty (PTCA) ratio. The ratio of CABG/PTCA procedures performed.</td>
<td>11</td>
</tr>
<tr>
<td><strong>Indicators - All-Wales level:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Indicator 6:</strong> % of patients diagnosed with non small cell lung cancer who have a thoracotomy.</td>
<td>12</td>
</tr>
<tr>
<td><strong>Indicator 7:</strong> Deaths in hospital within 30 days of first time elective coronary artery by-pass grafting (CABG).</td>
<td>13</td>
</tr>
<tr>
<td><strong>Indicator 8:</strong> % of rectal cancer cases in which the circumferential margin is reported in pathology.</td>
<td>14</td>
</tr>
<tr>
<td><strong>Indicator 9:</strong> % of rectal cancers in which the resection was carried out by a surgeon who is a part of the colorectal multi-disciplinary team.</td>
<td>15</td>
</tr>
<tr>
<td><strong>Indicator 10:</strong> % of patients admitted as an emergency with a ruptured aortic aneurysm or dissection of aorta who die in hospital within 30 days.</td>
<td>16</td>
</tr>
<tr>
<td><strong>Indicators – For the three areas of the Welsh Ambulance Trust</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Indicator 11:</strong> % of patients transported by ambulance, with persistent cardiac-type chest pain, who are given aspirin by a paramedic prior to admission.</td>
<td>17</td>
</tr>
<tr>
<td><strong>Annex A:</strong> Technical Specifications</td>
<td>18</td>
</tr>
</tbody>
</table>
Introduction

Clinical indicators are now recognised as being integral to the process of monitoring performance at NHS trust level and remain part of the National Assembly for Wales commitment to the promotion of quality in the NHS: setting standards; implementing standards; and monitoring achievement. Clinical indicators straddle all three categories.

Two sets of indicators have already been published. The first set comprising three indicators "Clinical Indicators for the NHS 1995-98" was published in April 1999 and covered deaths in hospital after emergency admissions with a heart attack or hip fracture and hospital discharges following admission with a hip fracture. The second set "Clinical Indicators for the NHS: December 1999" published in December 1999, covered post–operative deaths in hospital following surgery, emergency re-admissions to hospital, and discharge rates following emergency admissions with a stroke.

For the purpose of the current publication, agreement was reached to the development of new indicators around the National Assembly priorities of heart disease and cancer. In due course indicators will also be developed around the National Service Framework (NSF) priority of mental illness. It is aimed primarily (but not exclusively) at an audience of NHS managers and clinicians, and its aim is to highlight areas of clinical practice in a trust, or trusts, which may benefit from further investigation. However, the indicators are not a substitute for rigorous self-regulation.

The NHS Plan “Improving Health in Wales” has further signalled a strengthening of performance management aiming for continuous improvement within NHS Wales. In future performance will be judged in the round to include the use of resources, clinical quality, and responsiveness to service users. The National Performance Indicator (NPI) set, a key component of the NHS Performance Management Framework, is currently being revised to include indicators at trust, GP, and community nursing service level. Where trust based indicators are proposed these will include clinical indicators, ensuring a more rounded assessment of NHS performance.

We are grateful for the advice and assistance provided by the external Clinical Advisory Group convened for the purpose of developing the indicators. This comprised representatives of general medicine, surgery, cardiology, cancer, mental illness, nursing and professions allied to medicine (PAMS) and of the Cancer Services Co-ordinating Group. We must also acknowledge our thanks to Health Solutions Wales, NHS trusts, the Cancer Services Co-ordinating Group, Welsh Cancer Intelligence and Surveillance Unit, Breast Test Wales, the Welsh Thoracic Society and the All Wales Audit Resource. All have assisted in the provision of data, and without whose co-operation this publication would not have been possible.

National Assembly for Wales
June 2001
CLINICAL INDICATORS

Background

1.1 The first set of indicators published in April 1999, included information on:

- Deaths in hospital within 30 days of an emergency admission with an acute myocardial infarction (heart attack);
- Deaths in hospital within 30 days of an emergency admission with a fracture of neck of femur (hip fracture);
- Discharge to usual place of residence within 28 days of an emergency admission with a fracture of neck of femur (hip fracture).

1.2 The second publication included the following:

- Discharge to usual place of residence within 56 days of an emergency admission with a stroke;
- Emergency readmission to hospital within 28 days of previous discharge from hospital;
- (Post-operative) deaths in hospital within 30 days of:
  a) first time elective coronary artery by-pass grafting (CABG);
  b) an excision of right hemicolon, by type of admission;
  c) an endoscopic resection of outlet of male bladder – non emergency;
  d) a planned hip replacement;
  e) an aneurysmal repair or bypass of segment of abdominal aorta, by type of admission.

This third publication includes:

1.3 At Trust level

- % of patients with lung cancer under the care of a chest physician at the time of diagnosis;
- % of patients with breast cancer where checks for any spread of the cancer have been made by histological examination of at least four axillary lymph nodes;
- Average time from arrival at hospital to administration of thrombolytic therapy for patients with an acute myocardial infarction (heart attack);
- % of patients admitted as an emergency with acute myocardial infarction [heart attack], under the care of a cardiologist;
- Coronary Artery By-pass Graft (CABG): Percutaneous Transluminal Coronary Angioplasty (PTCA) ratio. The ratio of CABG/PTCA procedures performed;

1.4 At an all-Wales level:

- % of patients diagnosed with non small cell lung cancer who have a thoracotomy;
- Deaths in hospital within 30 days of a first time elective coronary artery by-pass grafting (CABG);
- % of rectal cancer cases in which the circumferential margin is reported in pathology;
- % of rectal cancers in which the resection was carried out by a surgeon who is a part of the colorectal multi-disciplinary team;
- % of patients admitted as an emergency with a ruptured aortic aneurysm or dissection of aorta who die in hospital within 30 days of an aneurysmal repair or bypass of segment of abdominal aorta.
For the three areas of the Welsh Ambulance Trust:

- % of patients transported by ambulance, with persistent cardiac-type chest pain, who are given aspirin by a paramedic prior to admission.

**Using the indicators**

The clinical indicators presented in this report should be considered alongside other performance indicators and used as a starting point for further investigation. Constructive use of the data and local investigations can highlight areas where improvements are possible through comparison with those trusts with the ‘best’ rates.

The indicators should not, by themselves, be used as a measure of a trust’s performance, because of the multitude of factors that determine the outcome of an individual patient’s treatment. These might include age, sex, severity, history of illness, together with geographical and environmental considerations. Adjustments can be made for some of these factors to allow for a direct comparison, but no inferences about quality of care should be drawn from these indicators. Alongside these technical considerations there are issues related to interpretation. There are contributory factors which will differ in each case but will include, for example, the time it takes for an ambulance to arrive, and the patient’s previous medical history. It is for this reason we have labelled the indicators as "clinical" and not "clinical quality" or "clinical outcome" indicators.

In order to ensure comparability, the data shown in this report, are the most up-to-date held centrally for all Trusts. More recent data may be available locally in some cases. The cancer data shown in this report relate to a period before minimum cancer standards were introduced. They will not, therefore, reflect any developments or improvements which may have been made since then.

**Role of the Commission for Health Improvement (CHI)**

The Commission for Health Improvement (CHI) is an independent body and will assure, monitor and improve the quality of patient care by undertaking clinical governance reviews at every NHS trust and health authority in England and Wales. CHI’s findings will be based on evidence and will take into account differences in the performance management mechanisms operating across the UK countries. The results will be used to guide NHS organisations towards best practice.

**Conclusion**

It is important that these clinical indicators are used pragmatically and constructively. Applied together with other indicators and complemented by quality improvement tools such as clinical audit, they provide incentives for further quality improvements in healthcare provision. Adequate information flows between all sectors of the health service influencing the indicators will be necessary to exact improvements.

We would welcome any feedback and suggestions on these indicator findings and how they could be used for identification and adoption of best practice. Ideas on how these, or additional indicators might be further refined and developed would also be welcomed.

**Further information**

Any comments or enquiries on policy issues should be addressed to Mandy Arthur PMD2 (tel: 029 20825630) or David Boyland PMD1 (tel: 0292085537). Statistical enquiries to Lisa Dunsford (tel: 029 20826899) and health professional issues to Dr David Salter, Health Professional Group (tel: 029 20825402).

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TRUST LEVEL INDICATORS (1 – 5)

Indicator 1: % of patients with lung cancer under the care of a chest physician at the time of diagnosis.

2.1 This indicator measures the percentage of patients suffering from lung cancer who were under the care of a doctor specialising in lung disease at the time of their diagnosis. It should be noted that it is likely that there were a number of patients who were not technically under the care of a chest physician but may have been seen by one during the diagnostic process, or during the period of treatment. These patients would not have been identified as being under the care of a chest physician.

2.2 The data only relates to patients who were actually an inpatient, or day case, at the time of diagnosis. Differences in rates should be used by the NHS to assess not only the adequacy of initial access to chest physicians by patients suffering from lung cancer, but also the adequacy of the data returns on which this indicator is based.

2.3 The figures include patient registrations with a diagnosis date in the calendar year 1998. The figures are incidence based and therefore relate to the earliest admission where diagnosis was made. This may well be at an acute unit but could equally originate from a community unit (see example at supplementary note 3). Patients who were seen as out-patients will not be included. It should also be noted that minimum standards were not introduced until January 1999 – which is after the period to which this data relates.

2.4 A recent audit of the patients with lung cancer managed in hospitals in Wales in 1996 showed a better survival rate (12% compared with 2%), at two years for those seen at some time by a chest physician, compared with those who were not. Differences in rates should be used by the NHS to assess not only the adequacy of initial access to chest physicians by patients suffering from lung cancer, but also the adequacy of the data returns on which this indicator is based.

Figure 1. Indicator 1

<table>
<thead>
<tr>
<th>Trust</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bridgend and District NHS Trust</td>
<td>25</td>
</tr>
<tr>
<td>Carmarthen &amp; District NHS Trust</td>
<td>59</td>
</tr>
<tr>
<td>Ceredigion &amp; Mid Wales NHS Trust</td>
<td>41</td>
</tr>
<tr>
<td>East Glamorgan NHS Trust</td>
<td>54</td>
</tr>
<tr>
<td>Glan Clwyd DGH NHS Trust</td>
<td>58</td>
</tr>
<tr>
<td>Glan Hafren NHS Trust</td>
<td>39</td>
</tr>
<tr>
<td>Glan-y-Mor NHS Trust</td>
<td>62</td>
</tr>
<tr>
<td>Gwynedd Hospitals NHS Trust</td>
<td>47</td>
</tr>
<tr>
<td>Llandough Hospital and Community NHS Trust</td>
<td>42</td>
</tr>
<tr>
<td>Llanelli/Dinefwr NHS Trust</td>
<td>49</td>
</tr>
<tr>
<td>Morriston Hospitals NHS Trust</td>
<td>40</td>
</tr>
<tr>
<td>North Glamorgan NHS Trust</td>
<td>31</td>
</tr>
<tr>
<td>Pembrokeshire &amp; Derwen NHS Trust</td>
<td>52</td>
</tr>
<tr>
<td>Swansea NHS Trust</td>
<td>26</td>
</tr>
<tr>
<td>Wrexham Maelor NHS Trust</td>
<td>50</td>
</tr>
<tr>
<td>Wales</td>
<td>43</td>
</tr>
</tbody>
</table>

For further details see technical specification and notes in Annex A.
**Notes:**

The figures include patient registrations with a diagnosis date in the calendar year 1998.

Data supplied by the Welsh Cancer Intelligence and Surveillance Unit (WCISU) from their population database. This information is based primarily on data from the Patient Episode Database for Wales (PEDW) although additional information from radiotherapy centres and private hospitals has also been used.

Chest physicians have been identified from a list supplied by the Cancer Services Co-ordinating Group (CSCG) Office. Trusts can obtain details of the chest physicians specified for their own Trust on request from the Health Statistics and Analysis Unit at the National Assembly for Wales.

**Supplementary notes:**

1. In future in the case of cancer indicators, key data will be incorporated into the Cancer Core Data sets being drawn up by the Cancer Core Data Set Working Group in collaboration with the All Wales Cancer Steering Group.

2. A recent lung cancer audit has shown that 39% of patients with lung cancer were admitted as emergencies. Of the elective referrals 84% saw the consultant chest physician at the first appointment. At 2 years, survival was found to be 12% for those patients seen by a chest physician and 2% for those who were not. The CSCG Minimum Standards requires all patients to be seen by a consultant within the first 2 visits. This, therefore, is important to clinicians as a marker of quality and was recommended by the All Wales Lung Cancer Steering Group.

3. Example: Hospital A (community hospital) reports 15 cases of lung cancer in 1998 under the care of a geriatrician. Hospital B (acute unit) has 115 cases with lung cancer under the care of a chest physician but 15 have already been diagnosed at Hospital A. In such an example, this indicator would show 100 cases under the care of a chest physician at Hospital B.
Indicator 2: % of patients with invasive breast cancer where checks for any spread of the cancer have been made by histological examination of at least four axillary lymph nodes.

3.1 This indicator measures the percentage of patients in whom the possible spread of cancer to the glands of the armpit (axilla) was looked for in an adequate manner. Sampling or clearing these lymph glands allows appropriate management of the disease by assessing the extent of the progression of the cancer, and forms a component of the staging process. Staging can provide accurate information for assessing the likely prognosis for the patient and provides essential information on how severe the disease is for auditing clinical practice and assessing the outcome after surgery. If at least four nodes are clear, radiotherapy to the axilla is not usually necessary. Axillary node status remains the single most important indicator for prognosis and better axillary node status has been shown to correlate with improved survival. The data for this indicator generally shows a very good picture in that all but four trusts have a figure above 90%, with five showing 100%.

3.2 The figures include all patients admitted and operated upon for invasive breast cancer, excluding those patients who had neoadjuvant chemotherapy/radiotherapy, during the calendar year 1998. The indicator is a measure of the quality of the breast surgery and of the subsequent pathological examination of the specimens.

3.3 It is a measure of the service provided by the trust and not of the individual clinician. Differences in rates should be used by trusts to generate discussion about the quality of the service provided to patients with breast cancer.

Figure 2. Indicator 2

<table>
<thead>
<tr>
<th>Trust</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bridgend and District NHS Trust</td>
<td>100</td>
</tr>
<tr>
<td>Carmarthen &amp; District NHS Trust</td>
<td>91</td>
</tr>
<tr>
<td>Ceredigion &amp; Mid Wales NHS Trust</td>
<td></td>
</tr>
<tr>
<td>East Glamorgan NHS Trust</td>
<td>91</td>
</tr>
<tr>
<td>Glan Clwyd DGH NHS Trust</td>
<td>82</td>
</tr>
<tr>
<td>Glan Hafren NHS Trust</td>
<td>98</td>
</tr>
<tr>
<td>Glan-y-Mor NHS Trust</td>
<td>100 (*)</td>
</tr>
<tr>
<td>Gwynedd Hospitals NHS Trust</td>
<td>97</td>
</tr>
<tr>
<td>Llandough Hospital and Community NHS Trust</td>
<td>100</td>
</tr>
<tr>
<td>Llanelli/Dinefwr NHS Trust</td>
<td>94</td>
</tr>
<tr>
<td>Morriston Hospitals NHS Trust</td>
<td>94</td>
</tr>
<tr>
<td>Nevill Hall NHS Trust</td>
<td>100</td>
</tr>
<tr>
<td>North Glamorgan NHS Trust</td>
<td>81</td>
</tr>
<tr>
<td>Pembrokeshire &amp; Derwen NHS Trust</td>
<td>79</td>
</tr>
<tr>
<td>Swansea NHS Trust</td>
<td>97</td>
</tr>
<tr>
<td>University Hospital of Wales NHS Trust</td>
<td>100</td>
</tr>
<tr>
<td>Wrexham Maelor NHS Trust</td>
<td>99</td>
</tr>
<tr>
<td>Wales</td>
<td>95</td>
</tr>
</tbody>
</table>

(*) 10 cases or fewer

(**) Data not shown for this Trust due to small numbers and incomplete data
Notes

Source: This data has been provided by Breast Test Wales.

The figures include all patients admitted and operated upon for invasive breast cancer during the calendar year 1998, excluding those patients who had neoadjuvant chemotherapy/radiotherapy.

The percentage figures have been calculated by dividing the number of cases in which four or more lymph nodes were sampled by the total number of cases, which also includes both cases where fewer than four lymph nodes were sampled and cases where the number of nodes sampled was not stated, or where no lymph nodes were found at pathology.

Supplementary note:

In future in the case of cancer indicators, key data will be incorporated into the Cancer Core Data sets being drawn up by the Cancer Core Data Set Working Group in collaboration with the All Wales Cancer Steering Group.
Indicator 3: Average time from arrival at hospital to administration of thrombolytic therapy ("clot buster drugs") for patients with an acute myocardial infarction (heart attack) – "the door to needle time."

4.1 This indicator measures the speed at which patients with acute myocardial infarction (heart attack) receive thrombolytic therapy after their arrival in hospital. Research shows that a delay of one minute in administering the treatment, equates to an average of 11 days reduction in life. Ideally patients should receive this treatment within 20 minutes of arrival which allows sufficient time to confirm the diagnosis and establish any contra-indication to this type of treatment. It is, therefore, an indicator of the quality of care.

4.2 Although there may be differences in this door-to-needle time for trusts due to the way in which the data was compiled, the variations are significant enough to warrant further investigation. From the data, only two trusts at present appear to be administering thrombolytic therapy within the timeframe recommended.

4.3 The NHS will wish to address the organisational issues that prevent patients receiving thrombolytic therapy within 20 minutes of arrival in hospital although it is recognised that not all patients are able to be treated in this way, as they may have contra-indications to its use. Therefore, it would be unreasonable to expect 100% compliance with the 20 minute target.

Figure 3. Indicator 3

<table>
<thead>
<tr>
<th>Trust</th>
<th>Time (min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bro Morgannwg NHS Trust</td>
<td>52</td>
</tr>
<tr>
<td>Cardiff and Vale NHS Trust</td>
<td>47</td>
</tr>
<tr>
<td>Carmarthenshire NHS Trust</td>
<td>61</td>
</tr>
<tr>
<td>Ceredigion and Mid Wales NHS Trust</td>
<td>128</td>
</tr>
<tr>
<td>Conwy and Denbighshire NHS Trust</td>
<td>58</td>
</tr>
<tr>
<td>Gwent Healthcare NHS Trust</td>
<td>93</td>
</tr>
<tr>
<td>North East Wales NHS Trust</td>
<td>34</td>
</tr>
<tr>
<td>North Glamorgan NHS Trust</td>
<td>17</td>
</tr>
<tr>
<td>North West Wales NHS Trust</td>
<td></td>
</tr>
<tr>
<td>Llandudno -</td>
<td>63</td>
</tr>
<tr>
<td>Ysbyty Gwynedd -</td>
<td>90</td>
</tr>
<tr>
<td>Pembrokeshire and Derwen NHS Trust</td>
<td>13</td>
</tr>
<tr>
<td>Pontypridd and Rhondda NHS Trust</td>
<td>25(a)</td>
</tr>
<tr>
<td>Powys Healthcare NHS Trust</td>
<td></td>
</tr>
<tr>
<td>Brecon hospital</td>
<td>29</td>
</tr>
<tr>
<td>Swansea NHS Trust</td>
<td>52</td>
</tr>
</tbody>
</table>

Note

Source: Data have been provided by NHS Trusts.
**Supplementary Notes:**

1. Some of the data are based on sampled information (small numbers). There may also be some differences in the way that Trusts have compiled this data, therefore the data should be treated with caution.

2.(a) This figure is the median rather than the mean time.

3. This indicator will in future allow direct monitoring of the target set out in ‘Improving Health in Wales’ (published by the National Assembly for Wales - February 2001). This states that by 2002 "following a myocardial infarction, they (patients) will receive thrombolysis (clot busting) treatment within 20 minutes of arriving in hospital."

4. The denominator is the total number of patients who receive thrombolytic therapy following a definite admission diagnosis of myocardial infarction. The numerator is the total time for these patients between arrival at hospital and the administration of thrombolytic therapy.
Indicator 4: % of patients admitted as an emergency with an acute myocardial infarction (heart attack) under the care of a specified cardiologist.

5.1 This indicator measures the proportion of patients, who having been admitted with a heart attack are then placed under the care of a specialist team in the care of heart disease. Although some patients may not have been under the care of a cardiologist, they may have actually seen or experienced some form of specialist advice during their period of treatment. Whilst it is recognised that this indicator only shows patients who were under the care of a cardiologist, there is, however, a wide variation between the figures reported for trusts. The figures range from 10% to 50%, with some trusts having no cardiologist at all. Local investigations are recommended in order to assess whether there is a need to revise current working practices.

5.2 The indicator refers to patients admitted with an acute myocardial infarction (heart attack) during the period 1999/2000

Figure 4. Indicator 4

<table>
<thead>
<tr>
<th>Trusts</th>
<th>% patients admitted with an AMI for period 1999/2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bro Morgannwg NHS Trust</td>
<td>21</td>
</tr>
<tr>
<td>Cardiff and Vale NHS Trust</td>
<td>34</td>
</tr>
<tr>
<td>Carmarthenshire NHS Trust</td>
<td>22</td>
</tr>
<tr>
<td>Conwy and Denbighshire NHS Trust</td>
<td>10</td>
</tr>
<tr>
<td>Gwent Healthcare NHS Trust</td>
<td>18</td>
</tr>
<tr>
<td>North East Wales NHS Trust</td>
<td>24</td>
</tr>
<tr>
<td>North Glamorgan NHS Trust</td>
<td>14</td>
</tr>
<tr>
<td>North West Wales NHS Trust</td>
<td>31</td>
</tr>
<tr>
<td>Pontypridd and Rhondda NHS Trust</td>
<td>38</td>
</tr>
<tr>
<td>Swansea NHS Trust</td>
<td>50</td>
</tr>
<tr>
<td>Wales</td>
<td>23</td>
</tr>
</tbody>
</table>

The following Trusts do not have any patients under the care of one of the specified cardiologists. Patients in these Trusts are likely to be under the care of a general physician with an interest in cardiology:

Ceredigion and Mid Wales NHS Trust,
Pembrokeshire and Derwen NHS Trust and
Powys NHS Trust.

For further details see technical specification and notes in Annex A.

Notes:

Data were provided by Health Solutions Wales from the Patient Episode Database for Wales (PEDW).

For the purpose of this indicator, specified cardiologists (obtained from a list provided by the Welsh Cardiac Group) were defined for each of the NHS Trusts. Trusts can obtain details of the cardiologists specified for their own Trust on request from the Health Statistics and Analysis Unit at the National Assembly for Wales.
**Indicator 5: Coronary Artery By-pass Graft (CABG): Percutaneous Transluminal Coronary Angioplasty (PTCA) ratio. The ratio of CABG/PTCA procedures performed.**

6.1 This indicator measures the ratio of "open heart surgery" (CABG), in the treatment of blocked coronary arteries, to the use of the less invasive technique of Angioplasty (PTCA), where a balloon (or other method) on the end of a catheter is used to open up the blocked blood vessel. Angioplasty is an alternative to open surgery in patients who are suitable for this procedure. The indicator measures access to appropriate facilities in the treatment of coronary artery disease where an expected ratio would be one-to-one. However this will be highly dependent on the severity of disease in the population being treated - the worse the severity, the higher the CABG:PTCA ratio will be. Trusts providing cardiac surgery should monitor their CABG:PTCA ratio as a measure of access to Angioplasty facilities.

6.2 The indicator includes all patients treated with a CABG or PTCA during the three year period 1997/98 to 1999/2000.

**Figure 5. Indicator 5**

<table>
<thead>
<tr>
<th>Trust</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiff and Vale NHS Trust</td>
<td>1.5 : 1</td>
</tr>
<tr>
<td>Swansea NHS Trust</td>
<td>2.2 : 1</td>
</tr>
<tr>
<td>Wales</td>
<td>1.7 : 1</td>
</tr>
</tbody>
</table>

For further details see technical specification and notes in Annex A.

**Note:**

Data were provided by Health Solutions Wales from the Patient Episode Database for Wales (PEDW).
Wales-level indicators (6 – 11)

Indicator 6: % of patients diagnosed with non-small cell lung cancer who have a thoracotomy

7.1 Surgery is the main curative treatment for patients with non-small cell lung cancer, the proportion of patients having surgery, therefore, is often regarded as an indicator of the quality of a lung cancer service. It may, however, reflect a number of different factors, some but not all of which are dependent on the local clinical service. These include delay in presentation to GPs, access to and processing by the diagnostic services, access to thoracic surgery and, crucially, the age and co-morbidity of the patient population. The absolute numbers of patients having surgery from any one hospital are likely to be small, and so variations between them may result from chance alone.

7.2 The original intention was to use data from the Welsh Cancer Intelligence and Surveillance Unit (WCISU), however, this was not possible, since cancer registration data for the required time period was collected for a different use, and not to the level required for clinical indicators. The implementation of the cancer minimum data sets in 2002 should overcome these difficulties.

7.3 Data has been extracted from the 1996 lung cancer audit produced for the Welsh Thoracic Society by the All Wales Audit Resource of the Clinical Effectiveness Support Unit. This audit data showed that in 1996, 127 (13%) out of 1,007 non-small cell lung cancer patients had a surgical procedure. Excluding hospitals which saw less than twenty five cases of non small cell lung cancer, the thoracotomy rate ranged from 0 to 20% with a median of 13%.

Notes:

Data has been extracted from the 1996 lung cancer audit produced for the Welsh Thoracic Society by the All Wales Audit Resource of the Clinical Effectiveness Support Unit.

In future it is expected that key data will be incorporated into the Cancer Core Data sets being drawn up by the Cancer Core Data Set Working Group in collaboration with the Cancer Services Coordinating Group. This should enable the data to be monitored and published at Trust level.
Indicator 7: Deaths in hospital within 30 days of a first time elective coronary artery by-pass grafting (CABG).

8.1 This indicator was first published in December 1999. It measures the percentage of people who die in hospital within 30 days of undergoing their first Coronary Artery By-pass Graft (CABG) operation performed as an elective (non-emergency) procedure. The purpose of monitoring this indicator is to help to prevent, or to reduce as far as possible, the number of potentially avoidable deaths. The indicator only refers to non-emergency CABG in order to provide a more consistent basis for understanding the data. This procedure is only carried out in two specialist cardiac centres in Wales – at the University Hospital of Wales and in Morriston hospital.

8.2 The figures include all patients admitted to hospital for their first CABG operation and discharged during the period 1997/98 to 1999/2000. Elderly people would be expected to have a higher mortality rate.

8.3 A number of factors, may affect the reliability and comparability of the results. These include:

- differences in completeness and accuracy of coding;
- the lengths of stay that patients experience in hospital, as deaths outside hospital are not included in these figures;
- previous and concurrent illnesses and treatment received; and
- differences in the social and economic mix of the local population (deprivation).

8.4 In view of these constraints, care should be taken not to draw too many conclusions from the data. Instead any differences should be used as a tool for further investigation and discussion.

Figure 6. Indicator 7.

| Deaths in hospital within 30 days of a first time elective CABG | 1.5% |

For further details see technical specification and notes in Annex A.

Notes:

Data were provided by Health Solutions Wales from the Patient Episode Database for Wales (PEDW).
Indicator 8: % of rectal cancer cases in which the circumferential margin is reported in pathology.

9.1 This indicator measures the percentage of patients who have had their rectal cancers removed at operation and in which, at pathological examination of the excised specimen, there is a clear area of normal tissue around the whole of the tumour. The purpose of monitoring this is to assess the completeness of removal of the rectal cancer and to assess the comprehensiveness of the pathology report. As the Colorectal Wales Audit identified that surgical sub specialisation was important to the survival outcome in rectal cancer, this is an indicator of the quality of the service provided. However, minimum standards for rectal cancer were not introduced until June 1998 (halfway through the reporting period) – and it would be expected that figures for subsequent years should be higher.

9.2 The figures relate to patient registrations with a diagnosis date in the calendar year 1998. Since the indicator measures both an aspect of surgical practice and the completeness of the pathology reporting, it is a measure of the service provided by the Trust, and not of the individual clinician. Differences in rates should be used by the NHS to generate discussion about the quality of the service provided for patients with rectal cancer.

9.3 Rectal cancer care should be provided by a specialist multi-disciplinary team (mdt).

Figure 7. Indicator 8

| % of rectal cancer cases where the circumferential margin is reported in pathology | 31% |

For further details see technical specification and notes in Annex A.

Notes:

Data supplied by the Welsh Cancer Intelligence and Surveillance Unit (WCISU) from pathology reports. This indicator is partially complete due to one site being unable to submit data and technical difficulties with some non-Telepath sites.

In future in the case of cancer indicators, key data will be incorporated into the Cancer Core Data sets being drawn up by the Cancer Core Data Set Working Group in collaboration with the All Wales Cancer Steering Group.

The Colorectal Wales Audit identified that surgical sub specialisation was important to the survival outcomes in rectal cancer. Data obtained in the audit relating to pathology were published in 1997 and indicated that only 51% of rectal cancer reports contained a statement on the completeness of the excision at the circumferential resection margin. This is important to clinicians as a marker of quality and was recommended by the All Wales Colorectal Cancer Steering Group.
**Indicator 9: % of rectal cancers in which the resection was carried out by a surgeon who is a part of the colorectal multi-disciplinary team.**

10.1 This indicator measures the percentage of patients with rectal cancer whose operation was carried out by a surgeon who was a member of the Colorectal Multidisciplinary Team. This team would be operating to at least the minimum standards for colorectal cancer, agreed by the Cancer Services Co-ordinating Group, and is, therefore, a measure of the quality of service provided. However, minimum standards for rectal cancer were not introduced until June 1998 (halfway through the reporting period).

10.2 The figures relate to patient registrations with a diagnosis date in the calendar year 1998.

10.3 The NHS will wish to examine the reason why patients are not operated upon by the surgical members of the colorectal multidisciplinary team. There may be valid reasons why this figure does not reach 100%, such as an emergency admission for rectal cancer when immediate treatment is required by the on-call surgical team. Comparison with other trusts will act as a benchmarking guide to optimum performance.

**Figure 8. Indicator 9**

| % of rectal cancers in which the resection is carried out by a member of the colorectal multi-disciplinary team | 77% |

For further details see technical specification and notes in **Annex A**.

**Notes:**

Data supplied by the Welsh Cancer Intelligence and Surveillance Unit (WCISU) from their population database. The registrations are made using data primarily from the Patient Episode Database for Wales (PEDW) although additional information from radiotherapy centres and private hospitals has also been used.

Rectal surgeons have been identified from a list supplied by the CSCG Office.

In future in the case of cancer indicators, key data will be incorporated into the Cancer Core Data sets being drawn up by the Cancer Core Data Set Working Group in collaboration with the All Wales Cancer Steering Group.
11.1 Data relating to mortality following an aneurysmal repair or bypass of segment of abdominal aorta was first published in December 1999. This indicator measures the percentage of people who die in hospital following admission with a ruptured aortic aneurysm or dissection of aorta. The purpose of monitoring this indicator is to help to prevent, or to reduce as far as possible, the number of potentially avoidable deaths.

11.2 The indicator includes all patients admitted as an emergency to hospital with a ruptured aortic aneurysm or dissection of aorta during the period 1997/98 to 1999/2000.

11.3 For patients admitted with a ruptured aortic aneurysm or dissection of aorta, the overall death rate following an aneurysmal repair or bypass of segment of aorta is 57%. Although this mortality rate would at first glance appear to be quite high, the prognosis for patients who do not have this operation would be very poor.

11.4 A number of other factors can affect the reliability and comparability of the results. These include:

- differences in completeness and accuracy of coding;
- the lengths of stay that patients experience in hospital, as deaths outside hospital are not included in these figures;
- timeliness and quality of care before admission (GP care, ambulance response times and care provided by ambulance staff);
- severity of the condition;
- previous and concurrent illnesses and treatment received;
- deaths which occur before the patient can be admitted to hospital; and
- differences in the social and economic mix of the local population (deprivation).

11.5 In view of these constraints, care should be taken not to draw too many conclusions from the data. Instead any differences should be used as a tool for further investigation and discussion.

### Figure 9. Indicator 10

| % of patients admitted as an emergency with a ruptured aortic aneurysm or dissection of aorta who die in hospital within 30 days of an aneurysmal repair or bypass of segment of abdominal aorta | 57% |

For further details see technical specification and notes in Annex A.

**Note:**

Data were provided by Health Solutions Wales from the Patient Episode Database for Wales (PEDW).
Indicator 11: % of patients transported by ambulance, with persistent cardiac-type chest pain, who are given aspirin by a paramedic prior to admission.

12.1 This indicator measures the proportion of patients with persistent cardiac-type chest pain of a cardiac nature, who are transported to hospital by ambulance and are given aspirin by the accompanying paramedics prior to admission.

Evidence shows that the administration of aspirin early in the course of a heart attack can improve the eventual outcome by slowing down the rate of clot development in the blocked coronary artery.

Figure 10. Indicator 11

<table>
<thead>
<tr>
<th>Region</th>
<th>% patients administered aspirin by paramedics</th>
<th>95% confidence interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central &amp; West</td>
<td>25.2%</td>
<td>23.7 to 26.7%</td>
</tr>
<tr>
<td>North</td>
<td>22.8%</td>
<td>21.2 to 24.4%</td>
</tr>
<tr>
<td>South East</td>
<td>25.1%</td>
<td>24.0 to 26.3%</td>
</tr>
</tbody>
</table>

Notes:

Data provided by the Welsh Ambulance Services NHS Trust. Note that the data is based on sampled data taken during the period January to August 2000 (samples vary for each ambulance region).

There are also limitations with the existing data in that information is not collected on:

- Patients who have a contra-indication to the administration of aspirin;
- Patients who have been administered aspirin by a health care professional prior to the arrival of the ambulance;
- Patients who have self-administered aspirin.

This affects the current data collection system as these patients cannot be excluded from the calculation to give the number of patients who are ‘eligible’ to be administered aspirin by a paramedic. The Trust is currently revising its data collection system in order to address these inadequacies. The current data shows that the percentage of patients who are administered aspirin by paramedics prior to hospital admission is around 25%.

Work is also underway in the Trust to develop National clinical guidelines for the management of chest pain. These should be implemented in the financial year 2001-2002.
Technical Specifications

**Indicator 1: % of patients with lung cancer under the care of a chest physician at the time of diagnosis.**

ICD 10 codes C33 & C34

Excludes
210 null hospitals
324 death certificate registrations
30 extra-regional registrations

Chest physicians have been identified from a list supplied by CSCG Office.

**Indicator 4: Percentage of patients admitted as an emergency with an acute myocardial infarction (heart attack), under the care of a cardiologist**

Trust level indicator for the period 1999/00

where

Primary diagnosis is acute myocardial infarction = ICD10 code I21 or I22
Admission method = 21-25, 28 (emergency admission)
Patient Classification = 1 or 5

excludes

- day cases

The year in which the spell falls will be determined by the date of admission

**Numerator**

Number of patients admitted as an emergency admission with a primary diagnosis of acute myocardial infarction, under the care of a "listed" cardiologist.

**Denominator**

Number of patients admitted as an emergency admission with a primary diagnosis of acute myocardial infarction

Details of listed cardiologists for specific Trusts can be made available on request.

**Indicator 5: The ratio of CABG:PTCA procedures performed**

Trust level indicator (2 Trusts only) for the three year period 1997/98 to 1999/00.

where

CABG is any of K40-K46
PTCA is K49-K50
Admission method = 11, 12 or 13 (elective)
Patient Classification = 1

excludes

- day cases

The year in which the spell falls will be determined by the date of discharge

**Indicator 7: Deaths in hospital within 30 days of a first time elective coronary artery bypass grafting**

**Definition of indicator**

Age standardised rate of deaths in hospital occurring within 30 days of a first time elective coronary artery bypass grafting, per 100 completed spells.

where

Admission method = 11, 12 or 13 (elective)
Coronary artery bypass grafting is any of K40-K46 but excluding K44.2 K45.6 and K46.5
Discharge method = 4-5 (deaths) , for numerator
Patient Classification = 1

Excludes

- records where date of birth or sex is unknown (sex= 0,3,9)
- day cases

The year in which the spell falls will be determined by the date of discharge

**Numerator**

Number of completed spells where a first time elective coronary artery bypass grafting has taken place, ending in death in hospital less than 30 days after that procedure.

**Denominator**

Number of completed spells where a first time coronary artery bypass grafting has taken place.

**Note:**

Fuzzy matching based on sex, date of birth & postcode was also used to match patients over the period 1991 to 1998 to check whether a patient who had a first time elective coronary artery bypass graft during the three year period 1997/98 – 1999/00 had previously been admitted for the same procedure. Any such patients would be excluded.

**Indicator 8:** Cancer: % of rectal cancer cases in which the circumferential margin is reported in pathology.
Data is partially complete due to one site being unable to submit data and technical difficulties with non-
Telepath sites.
ICD 10 C20

Figures have been produced from pathology data from 11 Trusts using Telepath systems for pathology
reporting. Data is still to be received from remaining Trusts.

**Indicator 9: Cancer:** % of rectal cancers in which the resection was carried out by a
surgeon who is a member of the colorectal multi-disciplinary team.

ICD 10 C20

Rectal surgeons have been identified from a list supplied by CSCG Office.

**Indicator 10: Percentage of patients admitted as an emergency with a ruptured aortic
aneurysm or dissection of aorta who die in hospital within 30 days of an aneurysmal
repair or bypass of segment of abdominal aorta**

All-Wales level for the three year period 1997/98 to 1999/00.

where

Ruptured aortic aneurysm or dissection of aorta is ICD10 I71 except I71.2, I71.4, I71.6 and I71.9
Aneurysmal repair or bypass of segment of abdominal aorta is L18-L20 but excludes L18.1, L18.2, L19.1,
L19.2, L20.1 and L20.2
Admission source = 21- 25, 28 (emergency)
Discharge method = 4-5 (deaths) for numerator
Patient Classification = 1

excludes:

- day cases

The year in which the spell falls will be determined by the date of discharge

**Numerator**

Number of hospital spells where the patient is admitted as an emergency with a ruptured aortic aneurysm or
dissection of aorta who die in hospital within 30 days of an aneurysmal repair or bypass of segment of
abdominal aorta.

**Denominator**

Number of hospital spells where the patient is admitted as an emergency with a ruptured aortic aneurysm or
dissection of aorta who have an aneurysmal repair or bypass of segment of abdominal aorta.