Delivering Quality and Value: Consultant Clinical Activity 2006-07

Activity rates of consultants in five surgical and five medical specialties
Delivering Quality and Value: Consultant Clinical Activity 2006-07

Activity Rates of Consultants in Five Surgical and Five Medical Specialties

Prepared by Workforce Directorate
# DH Information Reader Box

<table>
<thead>
<tr>
<th>Policy</th>
<th>Estates</th>
</tr>
</thead>
<tbody>
<tr>
<td>HR/Workforce Management</td>
<td>Performance</td>
</tr>
<tr>
<td>Planning</td>
<td>IM &amp; T</td>
</tr>
<tr>
<td>Clinical</td>
<td>Finance</td>
</tr>
<tr>
<td></td>
<td>Partnership working</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Document purpose:</th>
<th>Action</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>ROCR ref:</th>
<th>Gateway ref: 9161</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Title:</th>
<th>Delivering Quality and Value: Consultant Clinical Activity 2006-07 Activity rates of consultants in five medical and five surgical specialties</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Author:</th>
<th>Workforce Directorate</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Publication date:</th>
<th>February 2008</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Target audience:</th>
<th>Medical Directors and HR Directors in acute trusts</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Circulation list:</th>
<th>Web based only</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Description:</th>
<th>This toolkit updates Delivering Quality and Value: Consultant Clinical Activity 2005-06 published in September 2007. The toolkit enables clinicians and managers to compare activity rates of consultants in their trust to national activity rates.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Cross ref:</th>
<th>Delivering Quality and Value: Focus on Productivity and Efficiency</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Superseded docs:</th>
<th>Delivering Quality and Value: Consultant Clinical Activity 2005-06: Activity rates of consultants in five medical and five surgical specialties</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Action required:</th>
<th>Use the tool to benchmark consultant clinical activity and inform job planning.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Timing:</th>
<th></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Contact details:</th>
<th><a href="mailto:MBConsultantClinicalActivity@dh.gsi.gov.uk">MBConsultantClinicalActivity@dh.gsi.gov.uk</a></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>For recipient's use:</th>
<th></th>
</tr>
</thead>
</table>

© Crown copyright 2008
First published 11 February 2008

Published to DH website, in electronic PDF format only.
[http://www.dh.gov.uk/publications](http://www.dh.gov.uk/publications)
Executive summary

This tool enables acute trusts to benchmark consultant clinical activity in ten specialties. Charts will be sent to individual trusts with the data for their own consultants. An anonymised version of the tool is available on the DH website.

This release follows up last year's joint DH, Information Centre and York University report which used 2004-05 HES data and the DH publication using 2005-06 HES data. The methodology used this time is the same as previously and uses the methodology outlined in York University’s report: Measuring Productivity of Hospital Consultants using Hospital Episode Statistics in England.

Acute Trusts with (the relevant specialties) are able to use the tool to benchmark consultant clinical activity and inform job planning.

The Department will be repeating this exercise using HES data for 2007-08.
## Contents

Executive summary ..................................................................................................................................... 4  
Contents .................................................................................................................................................. 5  
What is this toolkit? .................................................................................................................................. 6  
Introduction ............................................................................................................................................. 7  
Measuring Consultant Clinical Activity ................................................................................................. 8  
Methodology ........................................................................................................................................... 9  
Potential sources of variation .................................................................................................................. 10  
Using this data – a hypothetical example ............................................................................................... 11  
Annex A: Hospital Episode Statistics ...................................................................................................... 14  
Annex B: Workforce Census .................................................................................................................... 15  
Annex C: FAQs ....................................................................................................................................... 16
What is this toolkit?

This document is a hypothetical version of a toolkit that has been sent to individual trusts. It repeats and updates the information pack distributed in September 2007. This year's analysis covers the same 10 specialties as the earlier exercises:

- **Surgery**: general surgery, urology, T&O, ENT and ophthalmology; and
- **Medical**: general medicine, gastroenterology, cardiology, paediatric medicine and geriatric medicine.

The information package sent to individual Trusts comprises:

- a set of up to 20 charts (two for each specialty) (sent separately);
- some background;
- guidance notes; and
- Q&A briefing.

The charts that have been sent to individual trusts show the national distribution of finished consultant episodes (FCEs) per consultant in the ten specialties both with and without casemix adjustment based on 2006-07 data. The figures for consultants in the Trust are highlighted on the charts enabling comparison of the admitted patient activity levels of your consultants with those of their peers on a national basis.
Introduction

This toolkit updates the ‘Delivering Quality and Value: Consultant Clinical Activity’ issued in September, which used HES data for 2005-06. The department will undertake a similar exercise using HES data for 2007-08 when available. The tool uses the methodology outlined in a report commissioned by the DH Policy research Programme from the University of York. Further details can be found in ‘Measuring Productivity of Hospital Consultants using Hospital Episode Statistics in England’.

The Consultant Clinical Activity tool enables clinicians and managers to:

- compare the activity rates of consultants within their Trust to national activity rates;
- compare activity rates across specialty areas;
- identify the highest performing consultants to spread the working practices and techniques that are enabling high performance;
- inform job planning and appraisal;
- help consultants consider where their efforts might best be applied to achieve greatest productivity and patient care improvements.

It should be stressed, however that there are valid reasons for variations in consultant activity such as teaching or managerial responsibilities, part time or part year working, and these must be taken into account when considering the data. Further reasons for variations in activity rates are explained in the section “Potential Sources of Variation”.

This Consultant Clinical Activity tool covers the same five surgical specialties (general surgery, urology, T&O, ENT and ophthalmology) and five medical specialties (general medicine, gastroenterology, cardiology, paediatric medicine and geriatric medicine) the previous exercises. The information package attached comprises a set of up to 20 charts (two for each specialty) together with some background and guidance notes and Q&A briefing to help you identify how your charts can be interpreted and explored.

The charts are sent direct to your Trust and show the national distribution of finished consultant episodes (FCEs) per consultant in the ten specialties both with and without casemix adjustment based on 2006-07 data. The figures for consultants in your Trust are highlighted on the charts enabling you to compare the admitted patient activity levels of your consultants with those of their peers on a national basis.

As mentioned before, the charts need careful interpretation as they cover only one aspect of consultant activity; they do not capture outpatient activity or non-clinical duties. The background and guidance notes attached should help you to identify how your charts can be interpreted and explored.
Measuring Consultant Clinical Activity

The measurement and management of variations in consultant performance are essential elements in the implementation of the NHS Plan and the modernisation of services delivered to patients. The Department is working with clinicians to develop a range of measures of clinical performance including quality, outcome, access, patient satisfaction and leadership as well as activity. The attached charts are based on early work in the development of consultant team level productivity analyses which is only one strand of the wider developing work on consultant performance.

Measures of consultant productivity are needed to support job planning and appraisal. This package, which presents some simple measures of consultant clinical productivity in five surgical and five medical specialties, uses activity data (FCEs) from HES (see Annex A) together with workforce data from the medical census (see Annex B). It should be seen as early work in a process of development and refinement.

Previous research demonstrated that it is feasible and potentially helpful to use the national HES dataset to compare activity rates of consultants and to provide analyses which managers and clinicians can use to inform job planning and appraisal. However, it was clear that data quality varied from Trust to Trust. A particular concern was the need for accurate recording of activity and of the GMC code of the lead consultant in the HES dataset. It is believed that data quality has begun to improve as clinicians and managers have started to use the data locally.

The current package is limited since it covers only a small number of specialties, does not capture work in outpatients or non-clinical workload and does not take account of the size of the consultant team. There is also limited adjustment for case-mix and no attempt to chart quality and outcomes. It is therefore important to note that this package is only an early stage in a process of working with clinicians and managers to improve and extend the data and is meaningful only in the context of local interpretation.

The Department welcomes feedback on how to improve the tool for future versions. For example, would it be useful to include information on outpatient activity, day-case rates or length of stay? Also, are there any quality measures from HES data that could be incorporated into the tool?
Methodology

Hospital Episode Statistics (HES) for England for 2006-07 were downloaded for each finished consultant episode (FCE) in five surgical specialties (general surgery, urology, trauma and orthopaedics, ENT and ophthalmology) and five medical specialties (general medicine, gastroenterology, cardiology, paediatric medicine and geriatric medicine), identified either by consultant main specialty or by treatment specialty.

HES data includes a consultant identifier. This was used to link with other sources of data about consultants (principally the medical workforce census) to minimise the chances of attributing data incorrectly to a consultant because of poor data quality. Each FCE was attributed to a consultant and a total number of episodes per consultant was derived.

Based on information within HES (including diagnoses, procedures, patient age, length of stay and admission type) HRGs were attributed to each episode. Total FCEs per consultant were adjusted for differences in casemix by using the Payment by Results tariff at HRG level. Aggregating this for each consultant’s FCEs permits a casemix-adjusted activity rate to be derived.

Consultants who work in more than one of the ten specialties (e.g. urology and general surgery), are shown in the chart for the specialty in which they do the majority of their work – the other activity is shaded turquoise. For consultants who work in more than one Trust, they are highlighted on the chart of that Trust in which they do the majority of their work, with activity in the other Trust(s) shown in yellow. Where activity is in another Trust and another specialty, it is shown in red.

Charts were produced illustrating the national distribution of clinical activity rates per consultant, ranked in order of activity, with and without casemix-adjustment. The charts show the variations in the amount of clinical activity and the cost of it, highlighting the consultants from the particular Trust.
Potential sources of variation

To help you reconcile what you see in the charts with your locally held view of consultant team productivity we have set out some pointers on sources of variation below. We suggest you refer to these in conjunction with the methodology described above and the raw data provided in tabular form to help you interpret the charts.

Data quality

- Code error: missing / invalid consultant identifiers. There is no reason to think that these are evenly distributed between consultants and this may cause under-reporting of some consultants’ activity rates.

- Code error: incorrect specialty attribution. Records for consultants in these ten specialties which show an incorrect specialty code have been excluded.

- It is possible that the amount of activity may be different from expectation where duplication of episodes has occurred or some have been left out of the data set at source. Tables are provided to help identify any differences.

Other potential sources of variation

- Part-time consultants or those who worked for only part of the year.

- Variable responsibilities of consultants: there is no reflection of outpatients, administrative, teaching or research responsibilities which would justifiably cause variation in patient contact.

- Consultants may have different sized teams of medical and other support staff working with them, which may cause variation.

- Other consultant characteristics (e.g. experience), hospital characteristics (e.g. availability of operating theatres) and population characteristics (e.g. catchment population, casemix) cause variation.

- There are significant numbers of consultants where the amount of activity is low. Once factors such as honorary contracts have been taken into account, it may be that these indicate activity not carried out by consultants at all.
Using this data – a hypothetical example

The charts attached show activity rates of the consultants in (up to) ten specialties in your trust, compared with the national distribution. The grey area is the national distribution, made up of a large number of vertical lines. Each of these is an individual consultant and the height of the line represents the number of finished consultant episodes in HES assigned to each, first without, and in the second chart with, adjustment for patient case mix. They are ranked from high to low and labelled in percentiles. The highlighted lines on each chart are the consultants in your trust – with different colours representing episodes in this specialty for this trust, other specialties in this trust, and work in other trusts. The charts below are hypothetical examples to help trust managers to consider how they might use this data.

Consider the first two charts – inpatient / day case activity in Trauma and Orthopaedics:
You will note that nine surgeons appear on this chart: four above the midpoint, and five below, one with a very low activity rate at the bottom of the distribution. After adjustment for case mix, the dispersion changes slightly. One consultant above the midpoint undertakes some work in another trust (shaded in yellow). Another consultant above the midpoint undertakes some work in another trust and also some work in a different specialty at the same trust (shaded in turquoise).

How can these results be interpreted and explored? The first thing to consider is the accuracy of the data. For example, the line (consultant) at the tail of the distribution could arise from under-reporting (failing to include correct consultant identifiers in the HES dataset) or by mis-reporting (perhaps these episodes should have been coded in a different specialty (e.g. accident and emergency), or perhaps they were coded to a registrar rather than the responsible consultant). In the second table supplied with the charts, you will see any FCEs in each of the ten specialties in your Trust which have non-standard consultant identifiers in HES – these episodes do not appear on your chart.

Considering the consultants in the lower part of the distribution, there are a number of possible justifiable reasons for this variation. These may be questions to consider, but there are many others:

- Do any of these surgeons work part-time or were any employed for only part of the year?
- Do any of these surgeons have substantial teaching responsibilities?
- Do any of these surgeons have substantial administrative responsibilities?
- Are there differences in the size of surgical teams within trauma and orthopaedics, which could account for variations in activity rates?
- Do some of the surgeons focus on inpatient activity, and some on outpatient activity? Remember these data are only inpatient episodes.
- Are there institutional or organisational reasons for the observed variation? For example, are there differences in access to operating theatres?

The charts are meant to be used by Medical Directors and HR Directors with individual consultants to assist in job planning. After the last release, a few comments were received about identification of the individual consultants by way of their GMC number. The charts identify all consultants within the same specialty in the same Trust, if some activity has been coded against them. Given varying working patterns and caseload, it could be potentially straightforward to identify individuals.

The Freedom of Information Act 2000 gives a general right of access to all types of "recorded" information held by public authorities (and those providing services for them), sets out exemptions from that right and requires public authorities to maintain a publication scheme setting out how and when we publish departmental information.

The Data Protection Act 1998 is about human rights, and specifically the right to privacy. The Data Protection Act 1998, Human Rights Act 1998 and the Freedom of Information Act 2000 are interlinked. They are intended to help maintain a fair balance between the rights and interests of individuals, in particular between the freedom to process information on the one hand and rights of privacy on the other.

The Information Commissioner, an independent officer who reports directly to Parliament, administers the Data Protection Act and the Freedom of Information.

If a consultant approaches the Department asking for copies of the charts relevant to them, DH will send the charts if the consultant has said that he been shown them by either the HR or Medical Director, who will be asked to verify this. Alternatively a consultant may ask the Trust for a copy.
Annex A: Hospital Episode Statistics

The Hospital Episode Statistics database is a record level database of hospital admissions, taken from quarterly and annual “snapshots” of a sub-set of the data submitted by NHS Trusts to the NHS-Wide Clearing Service (NWCS). A separate database table for each financial year holds around 14 million in-patient records from all NHS Trusts in England. Each HES record contains over 50 items of information, allowing analysis of hospital inpatient episodes by NHS Trust or area of residence for diagnoses, operations, methods of admission, lengths of stay, patient age or sex and waiting times for elective surgery, etc.

Since 1997-98, each episode record has included a single piece of personal data relating to consultants: the GMC code of the lead consultant of the team mainly responsible for the care of the patient. HES cannot currently distinguish between the work actually done by the lead consultant and that done by others for whom he is responsible, so HES analysis by “consultant team” would include:

- all the work carried out by the lead consultant;
- that done by others under the guidance or supervision of the lead consultant (e.g. junior doctors, nurse practitioners) and those members of staff for whom the consultant is responsible; and
- work done by staff in other specialties who participate in team activities e.g. anaesthetists.

Data are generally presented in aggregated, form in tables, which are either detailed, eg. variations by Trust, or summarised, eg. total admissions to NHS hospitals in England. Main uses of the data are for central and local NHS management; for developing, monitoring and evaluating departmental policies on the effective delivery of care; public health and fair access; examining health outcomes; research studies and for public and parliamentary accountability.

On-line access to HES data is restricted to authorised individuals only who adhere to a non-disclosive dissemination protocol. Some HES users require access to an extract of record level data in order to meet their purposes. The stringent application procedure requires them to justify why aggregated data will not suffice. Such requests involving sensitive or potentially disclosive data items are referred to two independent groups and need the approval of both before they can proceed. Firstly, the Security and Confidentiality Advisory Group (S&CAG). This is an independent group of health professionals, set up to ensure that the NWCS and HES databases are used with proper regard for data security and patient confidentiality. Secondly, requesters have to go to the Patient Information and Advisory Group (PIAG) to seek exemption from section 60 of the Health and Social Care Act which requires that all use of patient identifiable data has to be pseudonymised or have patient consent.

Current initiatives using the lead consultant GMC code on HES abide by an agreement not to attempt to identify consultants, nor to publish any results which might identify them. The only exceptions are NHS organisations or individual consultants accessing their own data. This agreement will no doubt evolve as greater use of the data resulting in improvements in its quality and content lead us in the direction of publication at this level.
Annex B: Workforce Census

The Department carries out three annual workforce censuses, with separate ones covering General Practice, HCHS medical staff and HCHS non-medical staff. All three provide details of staff working at 30 September each year. The first two censuses, when put together, provide details for all doctors working in or for the NHS in Great Britain. There are smaller quarterly censuses, for end of March, June and December, covering GPs and consultants only.

The data are collected on an individual record basis. The HCHS medical census covers details of the contract or work for the NHS, such as grade or payscale, medical specialty, hours worked, etc. as well as personal data. The personal information (name, date of birth, gender, ethnic category, NI number) is used mainly to check that two doctors with the same GMC number are, in fact, the same doctor. The GMC data are also used to produce reliable aggregate counts of numbers of doctors as well as useful background information (for example on leavers, joiners and promotees) to feed into workforce planning models. The GMC number has also been used in this exercise to link the contract information in the census to the activity information in HES, via the consultant code in HES.

Similar information has been collected for many years, and individual data from 1987 onwards (later for some groups) are held in electronic form by the Department. There have been some minor changes to coverage, principally in 1996 when it was decided that details on Locums in the HCHS sector and doctors in the University sector would no longer be collected. The smaller censuses of GPs and Consultants were first carried out in March 2002, and have been quarterly from March 2003.

In almost all cases, the data are provided in aggregated tables, making it anonymous. The exercise to link workforce data to HES is the first time the data have been used in a way that may make it possible to identify individuals. The data are more generally used to support workforce planning and the compilation of figures for pay review body evidence. Because the dataset is on an individual record basis, a wide variety of different analyses are possible.

A limited number of people are authorised to have on-line access to the data. A request for data that would allow individuals to be identified (either directly from the data provided or in combination with other data sources) would be refused, except in certain very limited circumstances where data are disclosed to bona fide researchers. Even then, we ensure that there is no risk of data about an individual being disclosed or being used to make decisions about the individual.
Annex C: FAQs

Why have you issued this information package?

‘Delivering Quality and Value: Consultant Clinical Activity 2006-07’ aims to help managers and clinicians consider where their efforts might best be applied to achieve greatest productivity and patient care improvements. Robust activity data are needed to support resource allocation, performance monitoring and appraisal. Only national HES data enable managers and clinicians to discuss their performance within the national picture.

Why has it been sent out now?

In December 2002 a pilot analysis of consultant clinical activity in five surgical specialties based on 1999-2000 data was issued, as the first stage in an exercise to develop methods of data analysis and presentation. The analysis was updated using 2004-05 data and extended to include some medical specialties. It has now been updated again with 2006-07 data.

Why has it not been widely published?

The aim is to develop methods of data analysis and presentation and to tackle the issues of data quality. This analysis is based on data for 2006-07. The charts and data have been issued to the relevant Trust and will not be available to any other Trust. However, the intention is that consultant level activity data will be published in future years when the Department is satisfied that it is robust and meaningful.

What about HES data quality?

Many other users of HES data believe the data is quite high quality, but it is recognised that there are currently concerns about the accuracy of the HES data submitted by some Trusts and Trusts have to take responsibility for the quality of data they return. Data quality will be improved as more clinicians and managers start to use the data locally.

How should the variation in consultant clinical activity be interpreted? Why do some consultants have high and others low levels of FCEs?

In interpreting the charts, Trusts need to consider a number of issues including:

- The accuracy and completeness of local data submitted to HES;
- Variations in the non-clinical workload of the consultants eg teaching, management and research responsibilities;
- Variations in the level and nature of out-patient activity between consultants;
- Possible organisational/institutional bottlenecks eg access to operating theatres, provision of beds.

The information package includes a hypothetical example to help managers and clinicians consider how their own results might be interpreted and explored.
Is this data fit for purpose?
The primary reason for issuing these analyses is to illustrate how routine HES data can be used and to encourage and support improvements in data quality. The Department and Information Centre have been open about improving the data in respect of:

- Case-mix,
- Quality,
- Consultants’ other duties,
- Size of firm; and
- Mis-coding.

The Information Centre welcomes managers’ and clinicians’ help to achieve these improvements.

Why might the figures not be easily reconcilable with local data?
Apart from data quality issues already mentioned, there are two likely reasons: Some data could not be used when HES and the Workforce systems were found to hold different details eg consultant only identifiable in one dataset and these data exclude private patients treated in NHS hospitals.