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GUIDE TO RESPIRATORY CODING

July 2011

Dear Colleague

Three years have passed since I produced the original guide on behalf of BTS. We are currently in the throes of another NHS restructuring and all the uncertainties that accompany such change. However, it seems unlikely that there will be any major change in the coding and costing of health care in the near future and it is hoped that this updated guide will help respiratory health professionals to better understand the complexities of recording, coding and costing of respiratory activity.

In particular it is hoped that this will stimulate colleagues to look more critically at our acquisition of data and liaise more closely with specialty coders and finance departments. There have been some significant gains in our ability to define our activity but such progress continues to be somewhat frustrating. It cannot be emphasised more strongly that unless we record our coded activity in all the relevant settings there will not be enough data volume on which to base reference costs and ultimately mandatory tariffs.

This guide addresses many of these issues in more detail and I would suggest that colleagues might use it as a discussion document in local governance structures. Some of the issues that might be considered include:

- Diagnosis/coding ambiguities
- The importance of the accurate recording of complications and comorbidities
- The importance of recording outpatient/ambulatory care activity wherever possible even if this doesn't yet result in mandatory tariffs. This is particularly relevant in the case of AHP activity, pulmonary physiology, pulmonary rehabilitation and smoking cessation.
- Creation of formal links with commissioning services to consult on:
    - Care pathways supported by national consensus and NICE guidance
    - Activity outside PbR that requires local negotiation
    - Innovative approaches to integrated care with emphasis on the local health economy rather than fragmented services.

All of these initiatives require a local champion to recruit a coder who will become part of the respiratory team and a finance representative, preferably with a good working understanding of NICE guidance and the evolving local commissioning arrangements. Junior doctor, specialty nurse, AHP and pharmacy representation should already be part of the existing respiratory governance framework.

I appreciate that this is a lot to ask of already overburdened staff but the benefits include greater accuracy of our respiratory epidemiology, more realistic tariffs, the potential for patient-level costing, development of more trustworthy national bench-marking and consequent targeting of resources/support for underperforming Trusts where appropriate.

No one can be sure that this system of measuring resource consumption will not evolve in to some alternative but if we can agree basic principles we will be better positioned to drive the developments for the future in the best interest of patients.

Dr S J Connellan

Respiratory Expert Working Group Lead
on behalf of the British Thoracic Society

Updated July 2011

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EXECUTIVE SUMMARY

It is 3 years since the first guide to respiratory coding was produced and although coding issues tend to evolve rather slowly there are enough new issues to merit an updated version. In the current climate of a developing health care market it remains essential that colleagues are aware of some of the complex issues of coding, costing and financial flows. The following update will hopefully provide practical advice in coping with these changes.

The guide considers:

- new HRGs which reflect the need for greater definition of emergency activity, recognition and reference costing of previously 'invisible' activity such as AHP interventions and physiological measurements.

- diagnosis/coding ambiguities and ways to improve the epidemiology of Respiratory care and reduce the risks of anomalous reference costs/tariffs.

- the importance of complications and comorbidity (CC) in the production of reference costs.

- an update on any progress with regard to recording activity such as Hospital at Home (HaH), Pulmonary Rehabilitation, interventions associated with sleep disordered breathing/NIV support, respiratory physiology measurement and non face-to-face contacts.

- Progress on acquiring new OPCS codes, new HRGs and, more importantly, getting these approved and established as mandatory tariffs.

- New rules governing readmissions

INTRODUCTION

Codes are just a string of numbers preceded by a letter which then represents a diagnosis, procedure, intervention or even signs, symptoms, complaints and social factors. The diagnoses are covered by the International Classification of Diseases version 10 or ICD10 and procedures by Office of Population, Censuses and Surveys Classification of Surgical Operations and Procedures, more easily referred to as OPCS codes. There are some 15,000 ICD10 and 9,000 OPCS codes.

It is very important for the responsible healthcare professional to decide, in liaison with a dedicated clinical coder, which are the main diagnoses and procedures that make up the majority of respiratory activity and which are the most appropriate codes that define that activity.

There have been two further revisions of OPCS codes (4.5 and 4.6), following submissions to Connecting for Health (CfH), over the last two years. Unfortunately this has not resulted in many new codes for Respiratory activity. However, this has been the experience of several other specialties and at the time of writing, where there is a feeling that our submission has been misinterpreted, there does not appear to be any appeal process. These new codes would offer us the opportunity to record activity, that was previously not recognised, with greater definition and identify this within National data. This would then improve the epidemiology of our workload. It is one further step forward in our attempts to improve the reference costing of our activity and reduce the risks inherent in the current system of Payment by Results (PbR). There are still a number of challenges with regard to achieving recognition, with new codes, of bundled

packages of care such as Hospital at Home. This requires a new discharge code with approval from the Information Standards Board. There has been progress with the recognition of Programmed Pulmonary Rehabilitation which now has its own Treatment Function Code (TFC). This reflects programmed activity which is separate from a period of rehabilitation within the immediate post acute care setting.

Although the expansion of HRGs and new codes for ambulatory care gives us greater definition of activity, the revision is by no means the answer to all our concerns in the evolving NHS market place. However, one thing is for certain, unless we use the new codes as part of our routine practice, there will be no National recognition of our activity and future reference costs will have to rely on small data volume which will be translated in to anomalous and inaccurate tariffs which heighten financial risks in all settings. This guide is therefore produced primarily for Health Professionals who are responsible for the day-to-day investigations and care of Respiratory patients and for clinical coders (ideally with an interest in General and Respiratory Medicine). It is hoped that this will stimulate stronger liaison between both parties and in turn will generate discussion with finance departments. There will, inevitably, be a need for discussion at local level between Trusts and the evolving Clinical Commissioning Consortia with regard to integration of some services in the best interests of patients and it is clear that the DH encourages such debate. However, as a basis for such liaison, it is essential that our records of activity reduce any potential ambiguity or inaccuracies. Until we look critically at the processes of data acquisition, with the involvement of all interested parties, any progress is likely to be limited and frustrating for all concerned.

INPATIENT GUIDING PRINCIPLES

This update wouldn't be complete without mention of the new rules governing readmissions.

Hospitals will not receive payment for emergency readmissions within 30 days of discharge following an **elective** admission. This accounts for around 25% of all hospital readmissions. It is emphasised that PCTs (or any evolving commissioning framework) must work with providers, GPs and local authorities to reinvest the savings in **re-ablement and post discharge support**.

For emergency readmissions within 30 days of discharge following a **non-elective (emergency) admission**:

- Commissioners and providers will agree a locally agreed threshold rate (i.e. the percentage of non-elective admissions which are followed by an emergency readmission), above which there will be no payment.

- This threshold should be informed by clinical audit where possible to determine the proportion of readmissions that are avoidable.

- This threshold will be set to deliver at least a 25% reduction over the previous year (i.e. if the agreed readmission rate in 2010-11 following clinical audit is 10% then the threshold in 2011-12 will be 7.5% or lower). The only exceptions to this will be where benchmarking suggests rates are already in line with best practice, or where clinical audit suggests that a 25% reduction is unachievable.

I would infer from this that it would still be the case that if e.g. a COPD patient was admitted for an **elective** procedure but then readmitted within 30 days with an acute exacerbation requiring NIV support and several days acute care, there would be no reimbursement for that care. Where a patient is

readmitted within 30 days of a **non-elective (emergency)** admission it would appear that there will be a lot of emphasis on the dialogue between providers and commissioners. There are exceptions e.g. patients undergoing chemotherapy or radiotherapy, patients readmitted after self-discharge against medical advice.

EXAMPLES OF ACUTE ADMISSIONS AND RELATED CODING

In this section the aim is to consider those Healthcare Resource Groups (HRGs) which are high in volume and have been further differentiated to provide greater definition of resource consumption. We will consider examples of typical acute admissions and the related coding. (Please see **Annexe A** for a full list of the up-to-date HRGs taken from the Local Payment Grouper 11/12 documentation suite.)

ACUTE EXACERBATION OF COPD:

A patient with known COPD is admitted acutely following an exacerbation. He also has a background of Diabetes (Type 2) and chronic AF (on aspirin). He does not require any form of assisted ventilation and is in hospital for 10 days. In view of symptoms of haemoptysis, he has a bronchoscopy (fibreoptic) prior to discharge with no need for washings, brushings or biopsy.

Diagnoses:

COPD with acute exacerbation, unspecified (**J44.1**)
Atrial fibrillation and flutter (**I48.X)**
Non-insulin-dependent diabetes mellitus without complications (**E11.9)**
Haemoptysis (**R04.2**)

Procedures:

Unspecified diagnostic fibreoptic endoscopic examination of lower respiratory tract (**E49.9**)

Grouped to:

HRG **DZ21J – COPD or Bronchitis without NIV without intubation with CC**

There would be no separate reimbursement for the bronchoscopy in this case as it was part of an acute admission > 1 day. It is expected that resources used during a patient's overnight stay would exceed the resources for a bronchoscopy and so their condition and not the intervention is the cost driver here. If the patient were discharged and returned to have the bronchoscopy carried out electively, as a day case procedure, it would map to HRG **DZ07Z** and be reimbursed separately.

Acute exacerbation of COPD requiring NIV support

Acute exacerbation of COPD which required NIV support during the first 3 days and following this was complicated by Clostridium Difficile colitis. Discharged after 2 weeks.

Diagnoses:

COPD with acute exacerbation, unspecified (**J44.1**)
Enterocolitis due to Clostridium Difficile (**A04.7**)

Procedures:
Non-invasive ventilation NEC (**E85.2**)

Grouped as:

HRG **DZ21E – COPD or Bronchitis with NIV without intubation with Major CC**

ACUTE EXACERBATION OF COPD REQUIRING INTUBATION AND VENTILATION

Acute exacerbation of COPD requiring intubation soon after admission followed by 10 days in ITU complicated by aspiration pneumonia during the convalescent period. Discharged after 4 weeks.

Diagnoses:

COPD with acute exacerbation, unspecified (**J44.1**)
Pneumonitis due to food and vomit (**J69.0**)

Procedures:

Invasive ventilation (**E85.1**)

Grouped to:

HRG **DZ21B – COPD or Bronchitis with intubation with Major CC**

It should be noted that although the above HRGs are established as a means of differentiating between the various complexities of care in COPD, there has, so far, been a disappointing volume of recorded episodes of NIV and intubation which will inevitably threaten the continuing availability of these HRGS and will reduce the potential to analyse national data in terms of acute COPD assisted ventilation. Information collected in ITU is separate to that in the Admitted Patient Record Commissioning dataset and it may be that this lack of data linkage prevents intubation in ITU being identified. It is possible that colleagues are preferring to use the more generic Respiratory Failure HRGs which were intended to reflect a different casemix and are populated by the following codes:

E66.2 Extreme obesity with alveolar hypoventilation
J80.X Adult respiratory distress syndrome
J95.1 Acute pulmonary insufficiency following thoracic surgery
J95.2 Acute pulmonary insufficiency following nonthoracic surgery
J95.3 Chronic pulmonary insufficiency following surgery
J95.5 Postprocedural subglottic stenosis
J95.8 Other postprocedural respiratory disorders
J95.9 Postprocedural respiratory disorder, unspecified
J96.0 Acute respiratory failure
J96.1 Chronic respiratory failure

J96.9 Respiratory failure, unspecified
R09.0 Asphyxia
R09.2 Respiratory arrest

It is strongly recommended that colleagues, when documenting acute COPD or Asthma, record NIV or intubation on coding forms where appropriate. There is a risk that we will lose these HRGs if there is a failure to recognise these additional supports.

ACUTE EXACERBATION OF COPD DISCHARGED HOME WITHIN 24 HOURS

Acute exacerbation of COPD admitted to the Medical Admissions Unit and seen by specialist Respiratory nurses soon after admission. No evidence of pneumonia on CXR and checklist suggests that s/he is suitable for discharge home. Confirmed by responsible clinician and discharged to Hospital at Home (HaH) pathway with daily visits and assessment as per care pathway for the next 7 days.

As there is no current code to indicate a discharge to Hospital at Home care, this HRG will also include patients who have been seen in the acute setting, assessed and discharged to the home setting within 24 hours without specialist Allied Health Professional (AHP) domiciliary follow up.

Diagnosis:

COPD with acute exacerbation, unspecified (**J44.1**)

As the length of stay is < 1 day and discharged home this episode will be grouped as:

HRG **DZ21A** – **COPD or Bronchitis with length of stay 1 day or less discharged home.**

The tariff for this admission is currently **£545** but does not reflect the true cost for this episode of care if it involves Hospital at Home (HaH), whether this is resourced predominantly via secondary, primary or integrated care. The first challenge is to get approval via the Information Standards Board for an additional discharge destination code which would identify this activity. This is currently in progress (**please see the bid in annexe C**). It would facilitate National data acquisition which would provide the opportunity to compare the number of assisted early discharge/Hospital at Home episodes with the total number of acute COPD admissions. It would seem sensible, in the interim, to keep local data on all such HaH episodes and the agreed resource allocation, whether this is solely funded by secondary care, primary care or a fully integrated model.

The following statement appeared in the PbR guidance document for 2011/12:

'Chronic obstructive pulmonary disease (COPD) with length of stay less than one day discharged home (DZ21A) is designed to support hospital at home services. The intention was that patients who came under this HRG would be discharged into hospital at home care. However, there is no national discharge code to indicate transfer into hospital at home care, so instead the HRG acts as a short stay HRG for a COPD admission. As part of taking forward the national clinical strategy on COPD we will examine the potential for creating a national discharge code that could facilitate a tariff for hospital at home care. In the interim, we encourage commissioners and providers to consider developing pathways for hospital at home care. These pathways could be reimbursed at a percentage rate of the tariff for longer stay COPD admissions.'

COMMUNITY ACQUIRED PNEUMONIA:

Presents with clinical features and CXR evidence of acute lobar pneumonia, confirmed by clinician. No infecting agent identified. Period of atrial fibrillation during acute phase which settles spontaneously.

Diagnoses:

Lobar pneumonia, unspecified (**J18.1**)
Atrial fibrillation and flutter (**I48.X**)

Procedures:

None

Grouped to:

HRG **DZ11B – Lobar, Atypical or Viral Pneumonia with CC**

If the same history above included identification of Mycoplasma Pneumoniae as a cause, the primary diagnosis would read:

'Pneumonia due to Mycoplasma pneumoniae' (**J15.7**) but the HRG would be unchanged. However, this would improve our National recognition of pneumonia causative organisms.

BRONCHOPNEUMONIA

An 80 yr old is admitted because of dehydration due to multi-infarct dementia. She is rehydrated but remains in hospital because of her confusion and the need to sort out Nursing home care. She remains very nursing dependant, gradually deteriorates and dies at 6 weeks following a brief acute but overwhelming lower respiratory tract infection which is considered to be a terminal bronchopneumonia.

Diagnoses:

Multi-infarct dementia (**F01.1**)
Volume depletion (**E86.X**)
Bronchopneumonia, unspecified (**J18.0**)

Grouped to:
HRG **WD11Z** All patients older than 69 years with a mental health primary diagnosis (treated by a_Non-Specialist Mental Health Service Provider) **This relates to the Mental Health Chapter.**

Although the death certificate may well state bronchopneumonia as the first diagnosis this should not be placed first on the coding form as it was not the main condition treated for that admission. However, if she had been admitted directly from a nursing home with all the features of bronchopneumonia and treated as such then it is appropriate to put bronchopneumonia as the first diagnosis on the coding form. This would then map to HRG **DZ23 (A, B or C depending on presence or not of CC)**

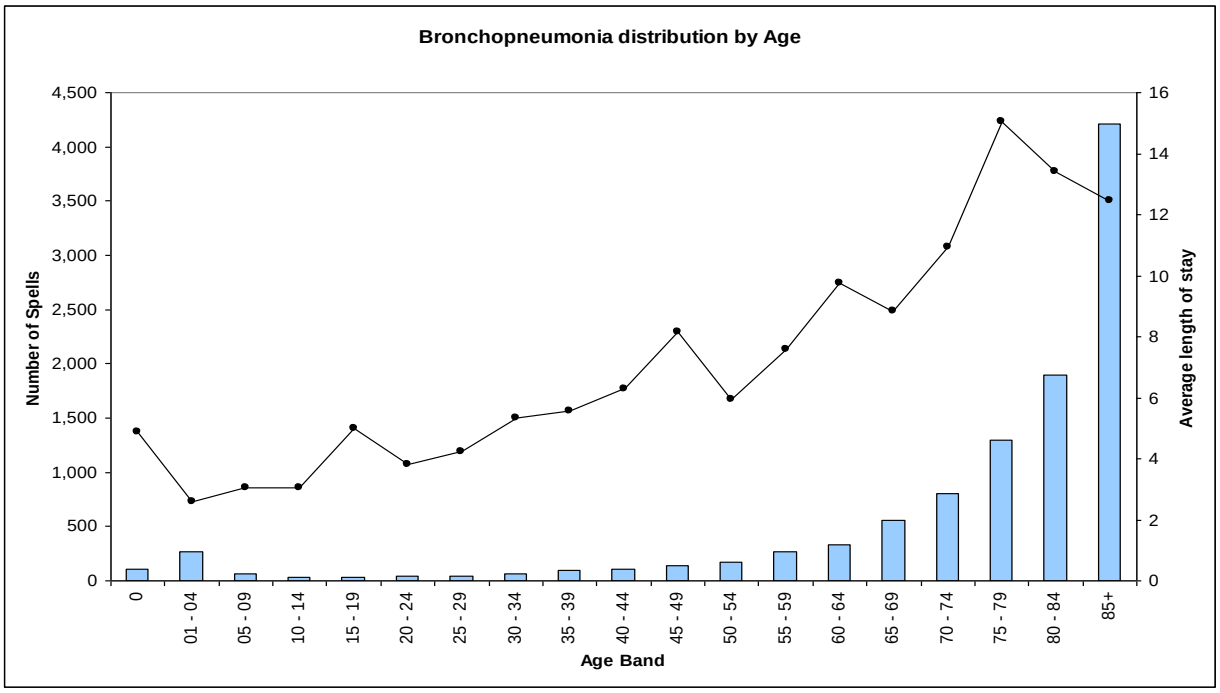
Based on up-to-date data (2009/10) out of a total of 10,536 spells of inpatient care, 63.6% died. The resultant difference in average length of stay is 10.1 days for the records discharged alive and 12.4 days for those cases who died (this latter figure compares favourably with the 12.5 day average LOS in the 2000/01 data). The average mortality rate for all inpatients that year was 1.44%.

The top 10 secondary diagnoses, age and length of stay distributions are as shown in the following table/graphs and are likely to be the main conditions treated during these admissions rather than bronchopneumonia.

Acute renal failure, dementia, COPD and congestive heart failure (including atrial fibrillation and flutter) contribute significantly to this casemix.

As noted above, it is of course possible that a proportion of these patients were admitted direct from home or a nursing home with a terminal bronchopneumonia and died after a short inpatient stay.

Code	Code_Description	Spells
I10X	Essential (primary) hypertension	1875
I48X	Atrial fibrillation and flutter	1803
N179	Acute renal failure, unspecified	1025
J440	Chronic obstruct pulmonary dis with acute lower resp infec	1017
E119	Non-insulin-depend diabetes mellitus without complication	929
I500	Congestive heart failure	907
F03X	Unspecified dementia	885
Z867	Personal history of diseases of the circulatory system	770
I259	Chronic ischaemic heart disease, unspecified	664
N390	Urinary tract infection, site not specified	639



LUNG CANCER

Patient with known diagnosis of lung cancer and not suitable for surgery/chemo/XRT, is admitted with cachexia, hypercalcaemia, dehydration and a pressure sore. He dies in hospital following best supportive care.

Diagnoses:

Malignant neoplasm of bronchus or lung, unspecified (**C34.9**)
Disorders of Calcium metabolism (**E83.5**)
Volume depletion (**E86.X**)
Cachexia (**R64.X**)
Decubitus ulcer (**L89.X)**

Grouped to:

HRG **DZ17A** – **Respiratory neoplasms with Major CC**

ASTHMA

Patient admitted with acute severe asthma not requiring ventilatory support.
Dehydrated on admission. Full recovery in 5 days.

Diagnosis:

Status asthmaticus (**J46.X**) – **NB** This includes the term "Acute severe asthma" and so is valid to be used here. If the diagnosis was simply 'asthma' it would be coded as **J45.9 '**Asthma, unspecified' which tends to be the most commonly used code.

Volume depletion (**E86.X)**

Grouped to:

HRG **DZ15E – Asthma with CC without intubation**

SLEEP STUDIES

A bid was submitted to NHS Connecting for Health (NHSCFH) in order to differentiate sleep studies specifically aimed at the diagnosis of Obstructive Sleep Apnoea from studies which concentrate on sleep disorders which are not specifically related to respiratory dysfunction. We suggested 'Respiratory Polysomnography' for the former with mapping to **HRG DZ50Z** which would be re-named 'Cardio-pulmonary sleep study'. We recommended that sleep studies unrelated specifically to Respiratory dysfunction should be termed 'Full Polysomnography' and should map to the Neuroscience chapter. **Please see Annexe D for the details of this bid.**

The following statement is taken from **Volume 7 Issue 7 March 2011 CfH Coding Clinic**

Code U33.1 *Polysomnography has a new Includes note of 'cardiopulmonary sleep studies'. Polysomnography or cardiopulmonary sleep studies is a comprehensive recording of the biophysiological*

changes that occur during sleep. It is usually therefore performed at night during sleep. This diagnostic test monitors many body functions including brain (EEG), eye movements (EOG), muscular activity or skeletal muscle activation (EMG), heart rhythm (ECG), and breathing function or respiratory effort during sleep. Polysomnography or cardiopulmonary sleep studies are carried out by a specialist respiratory team for the assessment of sleep disorders involving respiratory functions, such as sleep apnoea. ***Code A84.7*** *Sleep studies NEC also has a new includes note of 'full polysomnography'. A full polysomnography will include EEG, electrooculography (EOG), and surface electromyography (EMG) together with multiple sleep latency test (MSLT) and the maintenance of wakefulness test (MWT). These are carried out by specialists in Neurosciences and the emphasis will be on the diagnosis of disorders of sleep pattern without any disorder of breathing.'*

Colleagues may wish to feed back their views to the Coding Clinic on this definition. Particularly in view of the false implication that EEG is a routine part of cardio-pulmonary sleep study and the fact that MSLT, MWT and Actigraphy are often procedures carried out at separate attendances from full polysomnography.

Although we have submitted separate cases to CfH for MSLT, MWT and Actigraphy, to have their own codes, these have so far been rejected as they have decided that these can be captured under the term 'sleep study'. This does not address the need to be able to separately identify this type of activity.

The combined daycase/elective/non-elective tariff for Cardiopulmonary Sleep Study is:

£651

and the relevant HRG is **DZ50Z** 'Respiratory Sleep Study'

Sleep Studies NEC (Includes: Full polysomnography) **A84.7** currently groups to **HRG AA21Z** for funding purposes and the tariff (DC/EL) is:

£1088

If a patient is admitted for overnight cardio-pulmonary sleep study with reference to possible obstructive sleep apnoea the entry on the coding form should be recorded as:

Polysomnography (U33.1)

Grouped as:

HRG **DZ50Z - Respiratory Sleep Study**

It is important to note that there is still the potential for coder confusion to arise if the technician just records 'polysomnography' without stipulating that this is a cardiopulmonary sleep study as opposed to full polysomnography. Coders will need to be aware that if a diagnosis of polysomnography is generated via the Respiratory specialty code (340), this should map to DZ50Z and ideally the clinician/technician should have recorded the procedure, on the coding form, as 'Cardio-pulmonary sleep study'. Fortunately there is now an inclusion note under the code U33.1 of 'cardiopulmonary sleep studies' which will help to ensure that this activity groups to DZ50Z. However, if Respiratory Physicians are actually performing 'full polysomnography', this should be clearly documented on the coding form and this will now ensure that this activity is grouped via A84.7 to the neuroscience HRG and will therefore attract the appropriate higher tariff.

If a patient is admitted for a period of stabilisation specifically related to Obstructive Sleep Apnoea or is diagnosed with the condition during an admission **greater than 1 day** and this is the main resource driver for that admission, then the appropriate entry on the coding form is:

Sleep apnoea (G47.3)

Grouped as:

HRG **DZ18Z Sleeping Disorders Affecting Breathing**

The elective and non-elective spell tariffs for such an admission are **£632** and **£3053** respectively.

The following bid has been presented to CfH but, so far, has been rejected:

'There are circumstances when it is possible or preferable to carry out a simplified version of cardio-pulmonary sleep study in the home environment. This is separate from a cardio-pulmonary sleep study carried out as an inpatient as it requires fewer technological and human resources and is in a domiciliary setting. This would generate a different reference cost to an inpatient procedure and is important to differentiate from the latter as it takes in to account patient choice and 'care closer to home'.

Domiciliary cardio-pulmonary sleep study *would be one of the preliminary investigations prior to establishing CPAP and would map to DZ37Z 'Non-invasive ventilation support assessment'.*

There is, however, a code to cover overnight oximetry (**E91.3**) which has an 'includes' note of 'Measurement of oxygen desaturation index' and so this code is the appropriate one to select to recognise the measure of oxygen desaturation index (ODI). This will map to HRG **DZ37Z '**Non-invasive ventilation support assessment', as it is part of the preliminary assessment of the need for CPAP which also maps to this HRG.

There are also now inclusion notes under E85.2 'Non-invasive ventilation NEC' for both CPAP and high flow CPAP and we have to assume that the former refers to low flow CPAP although it isn't specifically stated. This would cover establishment of CPAP and/or monitoring/ troubleshooting in the ambulatory care setting. However, as outlined in page 16 para 5 below, there remains the problem that at present there is only a mandatory tariff for this HRG (DZ37Z) as a <u>daycase, elective or non-elective</u> admission.

Until we can achieve better defined coding in this field of activity it will be necessary to take a pragmatic approach with the production of an average cost for this day case/OP intervention which will inform future PbR reference costs. For the time being such interventions continue to be outside PbR tariffs and will require local negotiation. However, colleagues are encouraged to record these procedures as a starting point in these local negotiations.

'CHEST INFECTION'

If a diagnosis of 'chest infection' is recorded this will be coded **J22.X Unspecified acute lower respiratory infection** and will map to HRG **DZ22 Unspecified Acute Lower Respiratory Infection (A, B or C depending on CC splits).** However, we would strongly recommend that this vague diagnosis is **not used** anymore if at all possible. We appreciate that in paediatrics this may be more difficult to achieve but it should be possible in adults to define such an admission with greater clarity e.g. pneumonia, COPD, asthma, bronchopneumonia etc.

Previous research has shown that this code is used by coders to reflect 'infective exacerbation' and may obscure the real condition treated during that admission which can be identified in the subsequent codes

e.g. asthma etc. If it is felt essential to note that the admission was precipitated by a lower respiratory tract infection then this could be used in the secondary position as follows:

Patient admitted with acute asthma following a coryzal illness, cough productive of purulent sputum and mild pyrexia. CXR is normal. There are no associated comorbidities.

Diagnoses:

Asthma, unspecified (**J45.9**)
Unspecified acute lower respiratory tract infection (**J22.X**)

Grouped as:

HRG **DZ15E** Asthma with CC without intubation

The following table of primary diagnoses which are followed by asthma in the secondary position are taken from data provided by the IC on reference costs for 2009/10. This shows how cases of asthma may be hidden behind vague primary diagnoses, especially acute upper or lower respiratory tract infection and symptom codes.

In this analysis, if we consider National data were based solely on the top 10 primary diagnoses, with asthma in the second position, there would be an underestimate of acute asthma admissions by 12,243 for that year.

This is less likely to occur in the case of acute infective exacerbations of COPD as there is now a code which takes in to consideration the associated infective element, i.e. **J44.0** COPD with acute lower respiratory infection.

Code	Diagnosis	N
J22X	Unspecified acute lower respiratory infection	6537
R060	Dyspnoea	3527
R05X	Cough	663
R91X	Abnormal findings on diagnostic imaging of lung	547
J969	Respiratory failure, unspecified	283
J961	Chronic respiratory failure	217
J984	Other disorders of lung	151
J960	Acute respiratory failure	120
J209	Acute bronchitis, unspecified	112
R062	Wheezing	86

PNEUMOTHORAX

A 60 yr old man admitted with a pneumothorax on a background of emphysema. Treated with intercostal drainage and makes uneventful recovery. No other comorbidities apart from Emphysema. Discharged 10 days later.

Diagnoses:

Pneumothorax, unspecified (**J93.9**)
Emphysema, unspecified (**J43.9**)

Procedure:

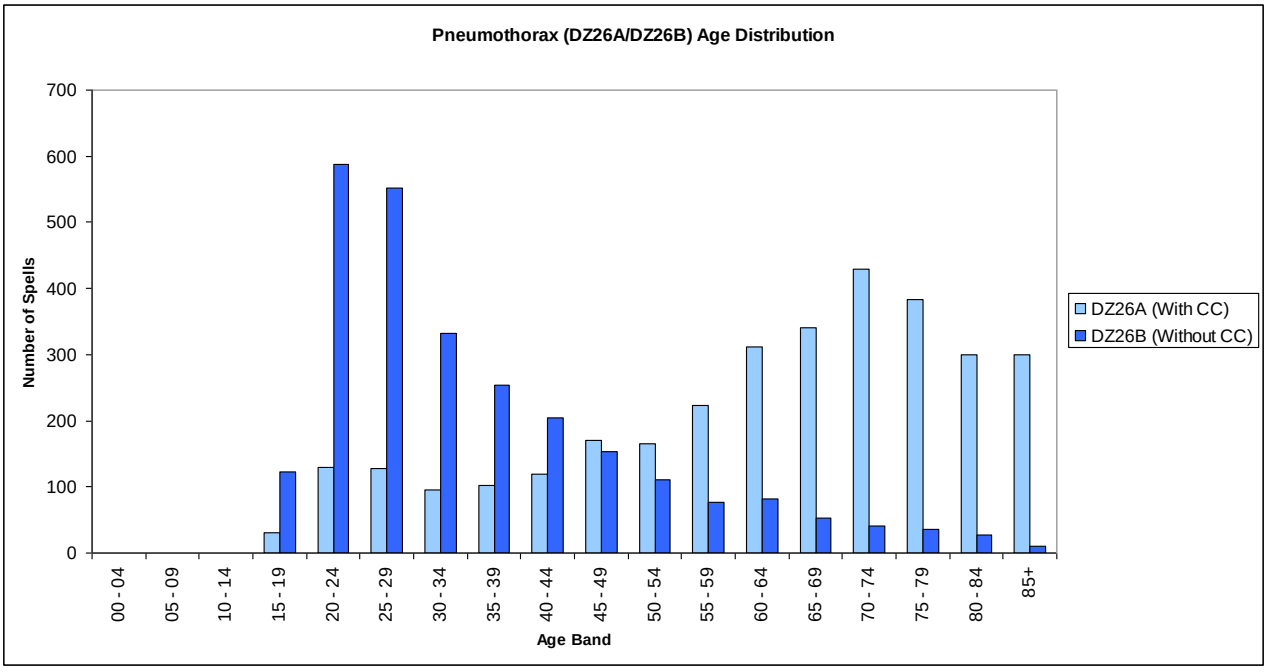
Drainage of pleural cavity NEC (**T12.2**)

Grouped as:

HRG **DZ26A** - **Pneumothorax with CC**

It is very important to document the underling Emphysema in order to differentiate this from a spontaneous pneumothorax in an otherwise healthy young man.

As can be seen from the below table of average length of stay analysis (2009/10) there is a 8 day difference in the FCE and 12 day difference in spell trimpoints (**please see Annexe E for definitions)** when comparing a complex (with CC) and an uncomplicated (without CC) pneumothorax. This has obvious implications for reimbursement. The tariff for pneumothorax with CC is currently twice that for pneumothorax without CC. Note also the bimodal age distribution in the chart below which fits well with the casemix involved.



HRG	HRG Label	Episode Trimpoint	Spell Trimpoint (Days)
DZ26A	Pneumothorax with CC	14	23
DZ26B	Pneumothorax without CC	6	11

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AMBULATORY DAYCASE AND OUTPATIENT CARE

The expansion of OPCS codes in 4.3 through to 4.6 revisions has offered us the opportunity to document activity previously 'invisible' and subsumed within top down costs. It is possible that local agreements, to recognise such activity, have been in place but there has not been any way of producing National data to allow benchmarking and real time analysis of our ambulatory and outpatient work. There is still some way to go before OP, ambulatory and domiciliary interventions can be effectively coded and reimbursed.

The Clinical Advisory Panel has noted the following:

"We will have tariffs for single professional (first and follow-up) and multi-professional (first and follow-up) outpatient appointments. These tariffs will not distinguish between consultant led and non-consultant led activity. Doing so could encourage "gaming" with providers seeking to involve consultants to gain a higher tariff, when their involvement is not clinically necessary. It would also create a grey area in how the activity of highly skilled staff, like nurse consultants, should be counted. However, this approach does risk lower levels of reimbursement for services that have a very high-level of consultant input, which would be expected to have above average costs. This might particularly affect more specialised providers."

The mandatory outpatient attendance tariff therefore remains applicable only to pre-booked, consultant led attendances. A consultant led service does not apply to nurse consultants or physiotherapist consultants. However, **consultant led outreach clinics** held in a GP practice could be eligible to receive the tariff.

The following are relevant outpatient attendance tariffs:

	First attendance (Single professional)	First attendance (Multi-professional)	Follow up
173 Thoracic Surgery	**£260**	**£260**	**£134/134**
300 General Medicine	**£214**	**£219**	**£108/108**
340 Respiratory Medicine	**£232**	**£280**	**£109/137**

There was concern that Consultant-to-Consultant referrals were a difficult to control area of increased activity. However, the Audit Commission have found that consultant-to-consultant referrals are not the main driver of increases in outpatient activity.

There have also been consultations on the issue of **non face-to-face** consultations as follows:

The definition of a non face-to-face consultation is a consultation which must directly entail contact with a patient or with a proxy for the patient such as a parent of a young child. A non face-to-face contact should replace a face-to-face consultation which would have attracted the relevant mandatory outpatient attendance tariff.

The price applies where there is an opportunity for discussion between patient and healthcare professional. For instance, a telephone call to explain the implications of test results to a patient would warrant its use, but a telephone call, text or e-mail to report a result would not. It does not apply to telemonitoring.

The tariff for 2011 is **£23** which is still **non-mandatory**

OUTPATIENT/DAYCASE AMBULATORY CARE INTERVENTIONS WHICH DO NOT EXTEND BEYOND 24 HOURS

There are new codes for a wide variety of such activity which include AHP interventions, lung function testing and smoking cessation. However, as yet, many of these do not have mandatory tariffs. Some examples are as follows:

PHYSIOTHERAPY

A patient with bronchiectasis is seen by a physiotherapist and is taught techniques such as postural drainage and use of PEP mask to facilitate clearance of secretions.

Procedure:

Clearance of secretions of respiratory tract (**E89.1**)

Grouped as:

HRG **DZ30Z - Chest Physiotherapy**

Respiratory Nurse Specialist

A patient with asthma is seen by a respiratory nurse specialist who gives guidance and education on self management.

Procedure:

Education for self-management of respiratory health (**E97.3**)

Grouped as:

HRG **DZ49Z - Respiratory Nurse and AHP Education/Support**

TB NURSE SPECIALIST

A patient is seen by a TB nurse in the OP setting as part of a contact tracing screening.

Procedure:

Contact tracing (**E95.4**)

Grouped as:

HRG **DZ42Z - TB nurse support**

SMOKING CESSATION

Smoking cessation has been approached more recently on an outcome rather than activity basis. Providers will receive payments for both 4 and 12 week quitters, with higher payments available to those providers that support individuals from defined targeted populations such as those from deprived areas, routine and manual workers, people from black and minority ethnic groups, those with mental health issues, communication difficulties and people aged under 25. Higher payments are also going to be paid to providers that incur the costs of stop smoking medications supplied to patients. Providers are required to submit monthly invoices and a patient level, minimum dataset. This dataset is used to verify provider payments, enable PCTs to complete their statutory returns for stop smoking services and allow PCTs to audit provider activity.

Indicative prices used in the West Midlands project may be of use for local price setting.

	Providers that do not incur costs of prescribing		Providers that incur costs of prescribing	
	General population	Targeted populations	General population	Targeted populations
4 week quitter payment £	94	136	166	214
12 week quitter payment £	129	271	228	427

A Health Professional sees a patient as part of a supportive role in smoking cessation and gives advice on Nicotine patches.

Procedure:

Nicotine replacement therapy using nicotine patches (**E98.1**)

Grouped as:

HRG **DZ41Z - Smoking cessation support**

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LUNG FUNCTION TESTS

The following summarises the data definitions and tariffs for pulmonary physiology measurements as of April 2011.

Mandatory tariffs

OP - Outpatient DC - Daycase EL - Elective NEL - Non-elective

DZ37A NIV Support Assessment 19yrs & over **DC/EL/NEL** **£354**

Length of stay less than 1 day and comprises the following OPCS codes:

E85.2 Non-invasive ventilation NEC
Includes:
Continuous positive airway pressure
Intermittent positive pressure ventilation NEC
Negative pressure ventilation
Bilevel positive airway pressure
High flow continuous positive airway pressure

E85.4 Bag valve mask ventilation
E85.8 Other specified ventilation support
E85.9 Unspecified ventilation support
E91.3 Overnight Oximetry
Includes:
Measurement of oxygen destauration index (ODI)

DZ37B NIV Support Assessment 18 yrs and under **DC/EL/NEL** **£584**

DZ38Z Oxygen Assessment and Monitoring **DC/EL/NEL** **£250**
(Includes ambulatory/ LTOT assessments)

DZ50Z Respiratory Sleep Study **DC/EL/NEL** **£651**
(Cardio-pulmonary sleep study)

DZ31Z Complex Lung Function Exercise Testing **OP/DC/EL/NEL** **£235**
(CPET)

DZ32Z Simple Lung Function Exercise Testing **OP/DC/EL/NEL** **£64**
(Shuttle, 6 minute walks, other simple exercise testing)

Non-mandatory direct access

DZ35Z Simple Bronchodilator Studies **£74**

DZ44Z Simple Airflow Studies **£40**

These 2 tariffs will at least form the basis for local negotiations on direct access with primary care and we now have a tariff to support the NICE guidance on COPD, post bronchodilator, studies.

It is disappointing that we failed to persuade PbR to include Lung Volumes and Gas Transfer as OP mandatory tariffs but it looks as if we will have a combined simple airflow studies, Lung Volumes and Gas Transfer (full PFTS) in the future. The combined lung function test HRG will be introduced into Reference Costs 2011/12 and so would feed into funding for 2014/15, as there is a 3 year lead in to the production of mandatory tariffs. However, it would be entirely up to DH if they wished to bring anything forward from Reference Costs 2011/12 but this would likely be 2013/14 (i.e. a year ahead of schedule) if at all. Realistically it is therefore unlikely that we will see a full PFTs mandatory tariff before 2013/14.

We were pleased to see that we managed to get 'simple bronchodilator studies' through for this coming year, albeit on a non-mandatory basis. PbR could have easily refused this on the basis that there are no reference costs data to support it.

We had hoped that there would be an acceptable rationale for considering DZ37Z Non-Invasive Ventilation Support Assessment, DZ38Z Oxygen Assessment and Monitoring and DZ50Z Respiratory Sleep Study (outpatient set up) as daycase options (see above tariffs) bearing in mind the complexity, resource commitment, time involved in these departmental interventions and previous definition of planned same day activity. However, feedback so far suggests that commissioners are likely to show little flexibility when interpreting the data definition of daycase and it may be that these HRGs will not function fully as tariffs until they are also agreed as outpatient procedures.

It will be important to engage in discussion with commissioners with regard to the 'Code of Conduct' when introducing all coded activities in the 2011/12 data.

Code of Conduct for PbR:

http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_112265

The definition of daycase is as follows:

- A daycase admission must be an elective admission, for which a Decision To Admit has been made by someone with the Right Of Admission.
- A Consultant is responsible for the Patient's medical care.
- The Patient uses a Hospital Bed for recovery purposes. If a bed or trolley is used for a specific short procedure rather than because of the Patient's condition, this does not count as a hospital bed.
- The Patient is not intended to occupy a hospital bed overnight, and does not actually occupy a bed overnight.

The remaining lung function HRGs will consolidate in to reference costs and tariffs if we get satisfactory national data on which to base future reference costs and it is accepted that, if we don't, those HRGs are likely to be deleted. Ideally we therefore need to keep our own volume data nationally to prove that this work is out there, particularly in view of the fact that multiple outpatient procedures on the same patient at one attendance just result in one chosen on the basis of a cost hierarchy.

The following ambulatory care OP <1 day lung function HRGs still have no tariffs as it is considered that there have not been enough reference cost data provided to inform tariff production:

DZ39Z	**Complex Gas Exchange Studies** Includes: **E91.2** Continuous pulse oximetry **E92.1** Carbon Monoxide transfer factor test **E92.2** Distribution of Ventilation test
DZ40Z	**Simple Gas Exchange Studies** Includes: **E92.3** Alveolar Carbon Monoxide measurement **E92.4** Blood gas analysis (Arterial or capillary)

DZ34Z	**Complex Bronchodilator Studies** Bronchodilator response to inhaled therapy using complex airflow measures: Includes: **E94.2** Body plethysmographic airways resistance and forced oscillation airways resistance
DZ36Z	**Bronchial Reactivity Studies** Includes: **E94.3** Histamine or Metacholine reactivity testing **E94.4** Bronchial challenge (either allergen or to occupational respiratory sensitising agent)
DZ43Z	**Complex Airflow Studies** Includes: **E93.3** Body plethysmographic measurement of airways resistance **E93.4** Measurement of airways resistance using forced oscillation technique.

DZ45Z	**Lung Volume Studies** Includes: **E93.5** Using Helium dilution or body plethysmographic technique
DZ46Z	**Respiratory Muscle Strength Studies** **E93.6** Measurement of respiratory muscle strength
DZ48Z	**Respiratory Drive Studies** **E89.4** Control of respiration studies (O2 or CO2 drive)

As some of these (DZ34, DZ48) might be considered as less likely to form part of a routine lab's business, it is possible that they will never achieve the required volume to fulfil the criteria for tariff production.

There is a separate **OP Treatment Function Code (TFC)** for Respiratory Physiology which is defined as follows:

'Physiological measurement of the function of the respiratory system. Includes Sleep Studies (the diagnosis and treatment of sleep disordered breathing, including upper airway resistance syndrome and sleep apnoea).'

This has the following designation and tariffs:

	First attendance single or multiple professional	Follow up
341 Respiratory Physiology	**£136**	**£92**

As one might anticipate, all of the above remain in a somewhat evolutionary process and I hope have been accurately reported as of the date of this document.

PROGRAMMED PULMONARY REHABILITATION

I am pleased to report that the TFC for Programmed Pulmonary Rehab was approved by the TFC Management Group and subsequently by the NHS Information Standards Board on 25 January 2011. There are on-going consultations with regard to the production of a costing profile in the hope that this might speed up the process of tariff production rather than waiting for 3 years for reference costs to be fed in to

the tariff process. However, as it is still possible that the latter approach will be taken by PbR, it is essential that all attendances for programmed pulmonary rehabilitation are recorded nationally during 2011/12.

It is also possible that this TFC will form part of a bundled COPD pathway.

OTHER RESPIRATORY DIAGNOSES

This HRG comprises a number of ICD10 codes which would not logically map to any of the others and could not be justified as being of enough volume or clinically homogeneous enough to merit their own HRG. This HRG is predominantly driven by symptom codes and the hope was that doctors would **not use symptom codes** as the primary descriptor of an episode of care. However, more recent analysis, over the financial year 09/10, suggests that this is far from the case although there has been a nearly 50% reduction since the last reported data from 2006/07.

Entry on coding form	Code	Number	
Haemoptysis	RO4.2	4754	
Cough	RO5.X		3491
Dyspnoea	RO6.0	29251	
Wheeze	RO6.2	327	
Hiccough	RO6.6	149	
Total		37972	

It is appreciated that on occasions it may be difficult to enter a more definitive diagnosis at the time of completion of the coding details e.g. the diagnosis in a patient being bronchoscoped for haemoptysis may not yet be clear. However, it is unlikely that all the cases noted above, particularly those that were admitted for investigation, continued to have a diagnosis as vague as e.g. dyspnoea. It is hoped that the definition of these cases can be improved on with education and by the example of senior colleagues as we are missing out on a large volume of important casemix epidemiology.

TUBERCULOSIS

There is currently no code to identify MDRTB (this is pending in the update to ICD-10 expected to be implemented 2012/13) and following discussions with our IC colleagues there is now a new HRG **DZ51Z Complex Tuberculosis** which is based on length of stay. This TB HRG will be activated when a patient had been admitted for **29 days or more**. The tariff for 2011/12 is £12,689. This will more accurately reflect the much greater resource implications, in terms of treatment, clinical expertise and isolation facilities until specific diagnosis information can be used to capture these resource intensive patients.

FIBREOPTIC BRONCHOSCOPY

There are on-going discussions with regard to the introduction of an additional HRG 'Complex Fibreoptic Bronchoscopy'. This would allow for the complexity differentiation with regard to additional procedures based on fibreoptic bronchoscopy e.g. autofluorescence, bronchial thermoplasty, EBUS-TBNA. With regard

to the latter it is possible to achieve a more realistic reimbursement by recording on the coding form the following:

Endobronchial Ultrasound Trans Bronchial Needle Aspirate (EBUS-TBNA) and lymph node biopsy which will be coded as **E63.2** Endobronchial ultrasound examination of mediastinum and **T87.4** Excision or biopsy of mediastinal lymph node respectively, as per issued coding guidance. If the lymph node biopsy record is left out of the entry then reimbursement will be at the lower fibreoptic bronchoscopy tariff as follows:

Combined daycase/elective tariff **£503**

For patients 18 yrs and younger the tariff is **£1,165**

CYSTIC FIBROSIS remains excluded from PbR but considerable progress has been achieved in a collaborative exercise between the CF Trust and PbR Team. This has resulted in a complexity-adjusted yearly banding system which will be available for commissioners and providers in February 2011 to use for contracting in 2011-12. Please see the full guidance for details of the banding and costing structures.

The bandings are derived from clinical information including drug requirements and lung function. The bands stretch from **band 1** for the patients with the mildest care requirements (perhaps involving outpatient treatment two to three times a year and oral medication), to **band 5** for patients in the end stages of the illness (where patients may additionally be in need of intravenous antibiotic treatment for up to 100 days a year together with significant levels of nebulised therapy).

To help identify outpatient activity, new TFCs for adult cystic fibrosis (TFC 343) and paediatric cystic fibrosis (TFC 264) have been introduced.

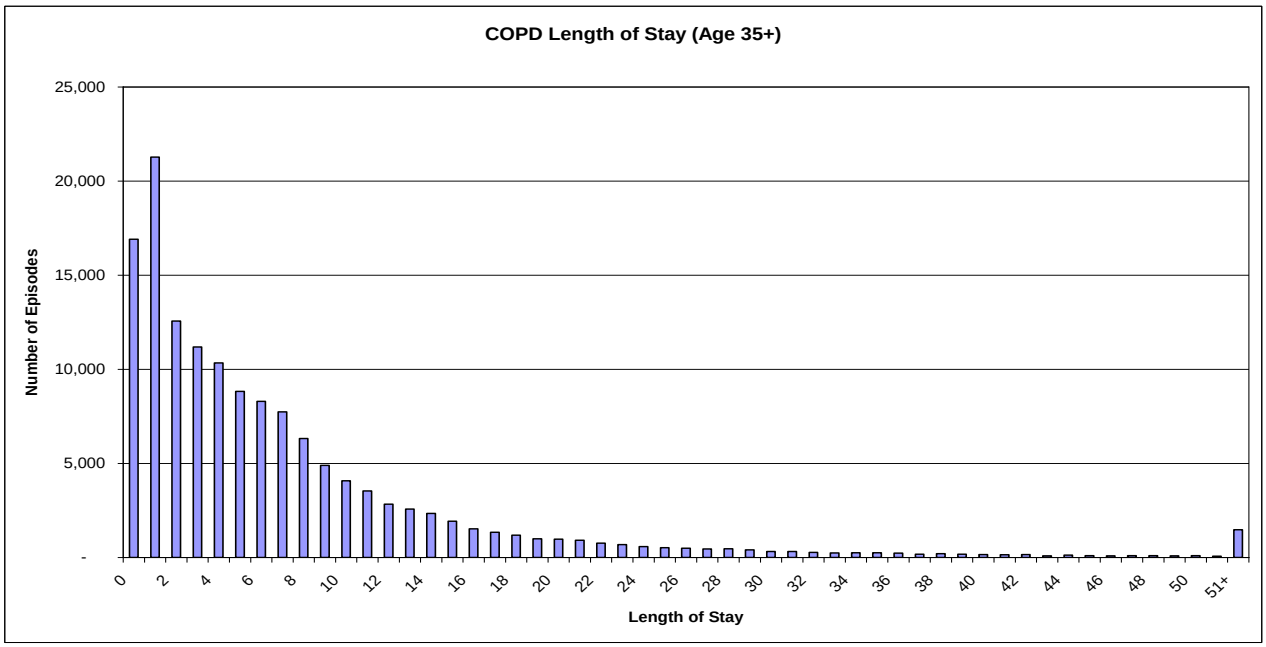
TARIFFS

Within General Medicine, reference costing and the derivation of tariffs are predominantly driven by length of stay/spell. These act as a proxy for cost as the majority of the resource relates to the staffing/hotel costs/general overheads rather than individual expensive bits of equipment/drugs. There are exceptions which often lie within the Specialty Services National Definition Set, e.g. expensive antibiotics in the treatment of Cystic Fibrosis patients, antiviral drugs in the treatment of HIV/AIDS. Such treatments are excluded from PbR on the basis of their high costs. The same applies to a number of devices such as radio-frequency ablation probes in the treatment of cancer.

The length of stay distribution for a given HRG is usually skewed because of a tail of patients staying much longer than the mean/median. In the absence of a normal distribution it is not possible to derive average lengths of stay and this is why trimpoints are derived for each HRG beyond which a reduced cost per day is attributed. The tails of such distributions are however very important and often require closer inspection as they represent multifactorial causes of delayed discharge and although they are reimbursed at a lower, per diem, rate they may well still be just as demanding on resources as they were earlier in their stay. There should also be more detailed analysis of the peaks at the beginning of these distribution curves and what influence the admitting Consultant FCE length of stay has. Bearing in mind that patients will move on to another Consultant FCE in many cases, when distributed to other wards, after transfer from Medical Admission Units. The use of Spells rather than FCEs will reduce this effect to some extent but raises the

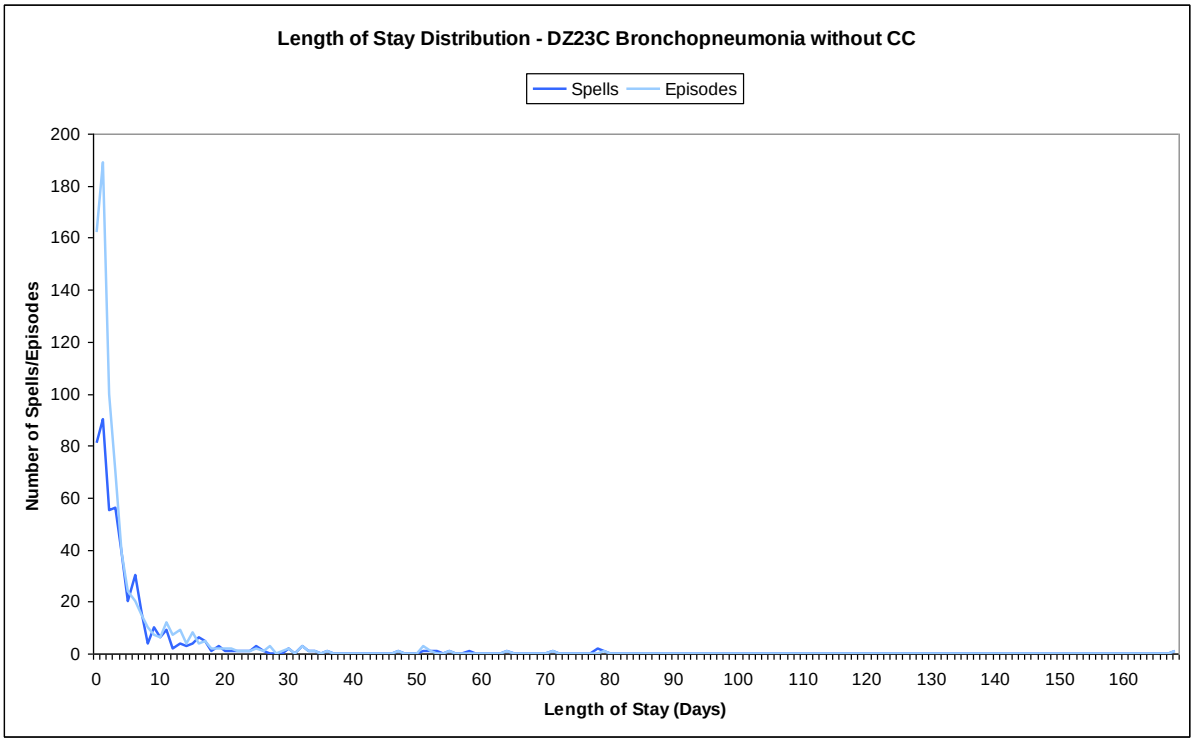
new requirement to ensure that the Spell (complete episode of inpatient care comprising all FCEs) represents the most resource consuming component of that admission. This should happen automatically in line with the software grouper. If, for example, a COPD patient had to be transferred, during the same admission, to another consultant for management of his Diabetes, thus generating another FCE, a diagnosis hierarchy would come in to play and COPD would be the spell HRG, as it is higher in resource terms, based on average length of stay.

The following graph, which looks at patients aged > 35 years admitted with a primary diagnosis of COPD, demonstrates the typical shape of length of stay distribution.



This graph demonstrates the different shapes of the LOS distribution when we compare FCEs versus Spells.

The following graph demonstrates the difference in LOS distribution when comparing FCEs with Spells in the case of uncomplicated bronchopneumonia.



If we are to derive more accurate data on e.g. how many COPD patients receive NIV during admission it is important that we ensure that these data are captured through the new codes that are available. We can then follow through on the current drive to estimate the cost of care with more sophistication than just average length of stay (LOS). It may simply be, in such an example, that we add a supplement to the average LOS, which reflects the average resources consumed in a period of acute NIV support, whenever that HRG is generated. There is now a separate critical care dataset (with unbundled non-mandatory tariffs) and there has been some discussion about the possibility of combining this activity with specific HRGs provided those HRGs have a clear indication that critical care is part of the activity. Examples in Respiratory care would be Asthma, COPD and Respiratory Failure with additional recorded procedures of NIV or intubation.

A tariff for the **critical care HRGs** has not yet been introduced because of the large range in costs and contract values, and the wide variation in income that a single national price would produce. Prices will remain for local negotiation. The guidance states:-

'Commissioners of smaller units may prefer a fixed and variable funding model to ensure capacity and availability of beds, whereas commissioners of larger units may prefer a per-patient funding model to incentivise efficiency or movement of beds to meet other strategies (e.g. major trauma).'

Having gained new codes for lung function testing and NIV (establishment and monitoring), we should be proactive in the promotion of costing these individual interventions or consider bundling relevant ones together in costed packages.

Hospital at Home and Programmed Pulmonary Rehabilitation are highly suited to patient-level costing as they are well-defined pathways of care with established National standards and this will be essential as tariffs based on LOS are inappropriate in these cases. The same will apply to procedure driven HRGs such

as Respiratory Sleep Study where a tariff based on a LOS < 1 day may not truly reflect the cost of that episode when the staffing and technical aspects are all taken in to consideration.

BEST PRACTICE TARIFFS (BPTS)

There has been a more recent drive to look more critically at quality and outcomes as a basis for payment. The introduction of BPTs is one example whereby the basic tariff e.g. Stroke is reduced but if there is evidence that the quality metrics have been achieved there is a top up over and above the basic tariff. These tariffs are also exempt from any reduction in reimbursement for within 30 days readmissions. So far there has been no development of BPTs in Respiratory Medicine however the Department of Health are receptive to suggestions for areas where a best practice tariff may be appropriate.

CONCLUSION

It is hoped that this guide will stimulate health professionals and coders to look more critically at our approach to the whole question of data acquisition and help formulate progressive thinking, in liaison with our respective finance departments, in the field of costing our health care. If the Government remains committed to the pursuit of a market economy approach then we need to be actively involved in striving for better quality data which underpins our goal of better casemix accuracy and costing. It is essential that Healthcare Professionals use their Governance procedures to liaise more closely with specialty coders to gain a mutual understanding of the remaining barriers to progress. This should not be driven by a 'them and us' approach but should be based not only on a more accurate reflection of resource consumption for the whole Health Economy but also on pathways of integrated care which are recommended by national consensus in the best interests of patients.

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Respiratory HRG EWG Lead

On behalf of the British Thoracic Society 16/06/2011

Acknowledgement

I am grateful to Rachel McIlroy (NHS Information Centre) and Martin Allen (Respiratory EWG member) for the contribution of helpful feedback on the document.

Some useful references

PbR Guidance document 2010/11

http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/@ps/documents/digitalasset/dh_123073.pdf

Audit Commission pages on PbR

www.auditcommission.gov.uk/pbr

HRG4

http://www.ic.nhs.uk/casemix

NHS Connecting for Health

www.connectingforhealth.nhs.uk

NHS Information Centre for health and social care

www.ic.nhs.uk

Operating framework for the NHS in England 2011-12

http://www.dh.gov.uk/en/Managingyourorganisation/Financeandplanning/Planningframework/index.htm

PbR pages on the Department of Health website

www.dh.gov.uk/pbr

Who pays? Establishing responsible commissioner

http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4069634

I would strongly recommend the IMPRESS NHS Jargon Buster for a comprehensive overview of terms relating to health care management in the NHS in England. This can be found within the BTS website at:

http://www.impressresp.com/JargonBusterAZ.aspx

Last, but definitely not least, I would also highly recommend the NHS Information Centre document in collaboration with the Academy of Medical Royal Colleges on Hospital Episode Statistics (HES): Improving the Quality and Value of Hospital Data.

http://aomrc.org.uk/publications/reports-guidance.html

Annexe A

HRG Code	Resp. Chapter	HRG sub chapter	Thoracic Procedures or Disorders
DZ01Z	D	DZ	Lung Transplant
DZ02A	D	DZ	Complex Thoracic Procedures with Major CC
DZ02B	D	DZ	Complex Thoracic Procedures with CC
DZ02C	D	DZ	Complex Thoracic Procedures without CC
DZ03A	D	DZ	Major Thoracic Procedures with CC
DZ03B	D	DZ	Major Thoracic Procedures without CC
DZ04A	D	DZ	Intermediate Thoracic Procedures with CC
DZ04B	D	DZ	Intermediate Thoracic Procedures without CC
DZ05Z	D	DZ	Other Thoracic Procedures
DZ06Z	D	DZ	Minor Thoracic Procedures
DZ07Z	D	DZ	Fibre optic Bronchoscopy
DZ08Z	D	DZ	Rigid Bronchoscopy
DZ09A	D	DZ	Pulmonary Embolus with Major CC
DZ09B	D	DZ	Pulmonary Embolus with CC
DZ09C	D	DZ	Pulmonary Embolus without CC
DZ10A	D	DZ	Lung Abscess-Empyema with Major CC
DZ10B	D	DZ	Lung Abscess-Empyema with CC
DZ10C	D	DZ	Lung Abscess-Empyema without CC
DZ11A	D	DZ	Lobar, Atypical or Viral Pneumonia with Major CC
DZ11C	D	DZ	Lobar, Atypical or Viral Pneumonia without CC

DZ12A	D	DZ	Bronchiectasis with CC
DZ12B	D	DZ	Bronchiectasis without CC
DZ13A	D	DZ	Cystic Fibrosis with CC
DZ13B	D	DZ	Cystic Fibrosis without CC
DZ14A	D	DZ	Pulmonary, Pleural or Other Tuberculosis with CC
DZ14B	D	DZ	Pulmonary, Pleural or Other Tuberculosis without CC
DZ15A	D	DZ	Asthma with Major CC with Intubation
DZ15B	D	DZ	Asthma with CC with Intubation
DZ15C	D	DZ	Asthma without CC with Intubation
DZ15D	D	DZ	Asthma with Major CC without Intubation
DZ15E	D	DZ	Asthma with CC without Intubation
DZ15F	D	DZ	Asthma without CC without Intubation
DZ16A	D	DZ	Pleural Effusion with Major CC
DZ16B	D	DZ	Pleural Effusion with CC
DZ16C	D	DZ	Pleural Effusion without CC
DZ17A	D	DZ	Respiratory Neoplasms with Major CC
DZ17B	D	DZ	Respiratory Neoplasms with CC
DZ17C	D	DZ	Respiratory Neoplasms without CC
DZ18Z	D	DZ	Sleeping Disorders Affecting Breathing
DZ19A	D	DZ	Other Respiratory Diagnoses with Major CC
DZ19B	D	DZ	Other Respiratory Diagnoses with CC
DZ19C	D	DZ	Other Respiratory Diagnoses without CC
DZ20Z	D	DZ	Pulmonary Oedema

DZ21A	D	DZ	Chronic Obstructive Pulmonary Disease or Bronchitis with length of stay 1 day or less discharged home
DZ21B	D	DZ	Chronic Obstructive Pulmonary Disease or Bronchitis with Intubation with Major CC
DZ21C	D	DZ	Chronic Obstructive Pulmonary Disease or Bronchitis with Intubation with CC
DZ21D	D	DZ	Chronic Obstructive Pulmonary Disease or Bronchitis with Intubation without CC
DZ21E	D	DZ	Chronic Obstructive Pulmonary Disease or Bronchitis with NIV without Intubation with Major CC
DZ21F	D	DZ	Chronic Obstructive Pulmonary Disease or Bronchitis with NIV without Intubation with CC
DZ21G	D	DZ	Chronic Obstructive Pulmonary Disease or Bronchitis with NIV without Intubation without CC
DZ21H	D	DZ	Chronic Obstructive Pulmonary Disease or Bronchitis without NIV without Intubation with Major CC
DZ21J	D	DZ	Chronic Obstructive Pulmonary Disease or Bronchitis without NIV without Intubation with CC
DZ21K	D	DZ	Chronic Obstructive Pulmonary Disease or Bronchitis without NIV without Intubation without CC
DZ22A	D	DZ	Unspecified Acute Lower Respiratory Infection with Major CC
DZ22B	D	DZ	Unspecified Acute Lower Respiratory Infection with CC
DZ22C	D	DZ	Unspecified Acute Lower Respiratory Infection without CC
DZ23A	D	DZ	Bronchopneumonia with Major CC
DZ23B	D	DZ	Bronchopneumonia with CC
DZ23C	D	DZ	Bronchopneumonia without CC
DZ24A	D	DZ	Inhalation Lung Injury or Foreign Body with Major CC
DZ24B	D	DZ	Inhalation Lung Injury or Foreign Body with CC
DZ24C	D	DZ	Inhalation Lung Injury or Foreign Body without CC
DZ25A	D	DZ	Fibrosis or Pneumoconiosis with CC
DZ25B	D	DZ	Fibrosis or Pneumoconiosis without CC

DZ26A	D	DZ	Pneumothorax with CC
DZ26B	D	DZ	Pneumothorax without CC
DZ27A	D	DZ	Respiratory Failure with Intubation with Major CC
DZ27B	D	DZ	Respiratory Failure with Intubation with CC
DZ27C	D	DZ	Respiratory Failure with Intubation without CC
DZ27D	D	DZ	Respiratory Failure without Intubation with Major CC
DZ27E	D	DZ	Respiratory Failure without Intubation with CC
DZ27F	D	DZ	Respiratory Failure without Intubation without CC
DZ28Z	D	DZ	Pleurisy
DZ29A	D	DZ	Granulomatous, Allergic Alveolitis or Autoimmune Lung Disease with CC
DZ29B	D	DZ	Granulomatous, Allergic Alveolitis or Autoimmune Lung Disease without CC
DZ30Z	D	DZ	Chest Physiotherapy
DZ31Z	D	DZ	Complex Lung Function Exercise Testing
DZ32Z	D	DZ	Simple Lung Function Exercise Testing
DZ33Z	D	DZ	Hyperbaric Oxygen Treatment
DZ34Z	D	DZ	Complex Bronchodilator Studies
DZ35Z	D	DZ	Simple Bronchodilator Studies
DZ36Z	D	DZ	Bronchial Reactivity Studies
DZ37A	D	DZ	Non-Invasive Ventilation Support Assessment 19 years and over
DZ37B	D	DZ	Non-Invasive Ventilation Support Assessment 18 years and under
DZ38Z	D	DZ	Oxygen Assessment and Monitoring
DZ39Z	D	DZ	Complex Gas Exchange Studies

DZ40Z	D	DZ	Simple Gas Exchange Studies
DZ41Z	D	DZ	Smoking Cessation Support
DZ42Z	D	DZ	TB Nurse Support
DZ43Z	D	DZ	Complex Airflow Studies
DZ45Z	D	DZ	Lung Volume Studies
DZ46Z	D	DZ	Respiratory Muscle Strength Studies
DZ48Z	D	DZ	Respiratory Drive Studies
DZ49Z	D	DZ	Respiratory Nurse and AHP education/support
DZ50Z	D	DZ	Respiratory Sleep Study
DZ51Z	D	DZ	Complex Tuberculosis

Annexe B

HRGs and OPCS listing

Healthcare Resource Groups (HRGs) are standard groupings of clinically similar patients who consume similar levels of resources. The HRG for COPD is a composite of many diagnosis codes (ICD10) which include descriptions such as:

COPD with acute exacerbation (J441)
COPD with acute lower respiratory infection (J440)
COPD unspecified (J449)
Emphysema (J439)
Acute bronchitis unspecified (J209)

These all 'map' or 'group' to the COPD HRG. 'Acute bronchitis' was included in this HRG because the length of stay (LOS) distribution was very similar to COPD and it was felt likely that this diagnosis implied a significant element of COPD.

Further revisions of the COPD HRG, in version 4, have taken in to account as to whether there are any associated complications/comorbidities (CC) or any support with NIV or intubation. These factors will have an influence on LOS and cost.

OPCS (Office for Population Censuses and Surveys) codes are used to identify specific health interventions carried out by medical professionals. These have, in the past, been driven predominantly by surgical procedures but with the development of the PbR programme it has been
necessary to add new codes to account for changing clinical practice in specialty services activity and also to define other interventions such as AHP activity, physiological measurement etc. OPCS 4.3 version was available in April 2006 and, as part of an annual update, suggestions for clinical
activity, not currently captured by OPCS-4.3, were sought. The NHS Classifications Service evaluated nearly 800 requests for change over the summer of 2006, from all sources in the NHS, and OPCS-4.4 was produced. We are now up to version 4.6.

Whenever a doctor or coder enters a diagnosis (ICD10) or procedure (OPCS) on a Körner Medical Records (KMR) form, at the front of the patients' notes, this information is 'translated' in to the relevant codes and acts as the building block for all our casemix activity and epidemiology. It also provides data on complications/comorbidity and length of stay which is ultimately 'translated' in to reference costs and ultimately tariffs for hospital admissions. The responsibility for entering this important information in the notes is not standardised and may fall to an inexperienced junior doctor who may not have a full appreciation of the crucial nature of these data.

Annexe C

Need to identify a new intervention:

A previous request for Chapter D (ref 20070427182923) to identify the intervention of Hospital at Home for an acute exacerbation of COPD was turned down.

This request is once again fully supported by the Respiratory EWG, Specialist Society (BTS) and is fully in line with the Government's views on 'Care closer to Home' and admission avoidance.

This activity is already occurring in many Trusts throughout the UK but there is no current data flow to identify, reference cost or bench mark it.

The Government is keen to support and promote any initiatives which reduce unnecessary hospital admissions and 'care closer to home' is one of its 'visions'. The British Thoracic Society (BTS) has produced clear guidance on one such intervention, Hospital at Home (Thorax 2007;62:200–210.) Active treatment is provided by health professionals, in the patient's home, for a limited period, for an exacerbation of COPD.

A Cochrane report in 2003 concluded that this intervention was safe and effective and that 1:4 patients presenting as an emergency to hospital would be suitable for treatment at home with nursing support (BMJ 2004; 329:315-8). It has been recommended that assisted or early discharge schemes followed by home care and avoided admission with care at home would be encompassed under the overall umbrella of Hospital at Home (HaH).

There is support from NICE guidance on commissioning which looks at benchmarks for a standard population and service components. (www.nice.org.uk/usingguidance/commissioningguides)

In order to recognize such activity on a National scale it is important that we introduce a method of identification which specifically defines this activity so that we can benchmark across the NHS and relate this activity to the overall admission rates for acute COPD. There are Integrated Care Pathways published for these episodes of care and as such would be ideal for patient-level costing. Current practice is for the patient to be assessed by a hospital respiratory health professional with subsequent out of hours cover undertaken by the acute Trust.

This intervention is a well-defined package of care which is described in terms of an Integrated Care Pathway with clear standards and can be patient-level costed. The unique situation arises when a patient suffering from an acute exacerbation of COPD may be safely treated in the home environment, usually up to 7 days, by experienced health professionals provided specific criteria are satisfied.

There may be occasions when this intervention is activated without hospital admission as part of admission avoidance in the community but current commissioning practice assumes that the pathway begins following acute admission and assessment in hospital.

Further to helpful consultation with Jayne Harding (CfH) we understand that the most appropriate way forward would be to request an addition to the Minimum Dataset via the Information Standards Board. This addition to the data dictionary would be termed 'Hospital at Home (COPD)' and whenever an acute

exacerbation of COPD was discharged to the care of a Hospital at Home team and this was documented on the KMR form, a discharge code would identify this intervention.

Annexe D

Bid to CfH re: Sleep studies

"*There is confusion around the definition of what constitutes full polysomnography or sleep studies.*

The DH document, "What is physiological measurement", refers to these measurements which include oximetry, actigraphy, cardio-pulmonary sleep studies (without electroencephalography EEG) and full polysomnography which includes EEG, electrooculography (EOG), and surface electromyography (EMG) together with multiple sleep latency test (MSLT) and the maintenance of wakefulness test (MWT). These tests have all been promoted in the DH in recent documents.

*It has come to our attention that **A84.7** (Sleep studies) has been mapped to **DZ18Z** (Sleep disorders affecting breathing). This was never the intention of the Respiratory EWG as this code refers to the full polysomnography as described above which is aimed predominantly at the diagnosis of sleep disorders which do **not** specifically affect breathing.*

Our recommendation is as follows:

U331** code, ' polysomnography' should now map to **DZ50Z

***U331** should be re-named **'Respiratory Polysomnography'** and the description for **HRG DZ50Z** should be changed to: **'Cardio-pulmonary sleep study'**.*

***A84.7** should be termed **'full polysomnography'** and should map to the Neuroscience chapter.*

***DZ18Z** 'Sleep Disorders Affecting Breathing' should stay as it is. This will cover the eventuality of a patient **not** being admitted specifically for cardio-pulmonary sleep studies but subsequently being diagnosed as suffering with this condition during the inpatient episode. Alternatively, the patient may already be diagnosed but is admitted for further treatment or stabilisation of the condition."*

Annexe E - Definitions

Term	Description
A&E	Accident and emergency contracts have developed from block contracts to more differentiated tariffs dependent on case severity, i.e. high cost, standard cost, and minor injuries.
Electives	Non emergency admissions generally have lower costs when compared to emergency admissions.
Excess bed days	The number of additional days of an admission for a given HRG over and above the trimpoint. It is derived mathematically as follows: spell duration – upper trimpoint for a specific HRG = excess bed days. Excess bed days are only calculated when the spell duration is greater than the upper trim point.
Flexibility	This is applied where locally agreed tariffs are used instead of the national tariffs. There are many variations on this and for further details the national guidance as well as local commissioning plans need to be scrutinised.
Market Forces Factors	Additional top ups for providers in high cost areas such as London.
Outliers	Events that have unusual characteristics. In relation to HRGs these usually are admissions where the LOS (i.e. length of admission) is longer than expected. The expected range of LOS for a given HRG is defined by values known as trimpoints.
Outpatients	New referrals are paid a higher tariff to follow-up referrals. A follow-up referral is a referral to the same medical clinic within a six month period. Outpatient tariffs have been augmented in 2007/8 for certain procedures e.g. colposcopy, epidural injections (for non obstetric pain services), fine needle biopsy of breast, flexible sigmoidoscopy.
Per diem cost	A cost per day specific for a given HRG that is used to calculate the outliers is as follows: HRG tariff + (per diem cost x excess bed days [> 0]) = total cost.
Short stays	Patients admitted for short length of stay cost the hospital less than the full tariff price. This has been mathematically adjusted by a short stay discount that is specific to certain HRGs where the length of stay is less than 2 days.
Spell	An admission. The spell length is time in days from admission date to discharge date. Spells are sometimes called finished hospital stay (FHS) and should not be confused with finished consultant episode (FCE).
Spell duration	The length of an admission in days; sometimes known as length of stay (LOS).

Top up payments	Additional payments that are factored into the HRGs based on a number of parameters – especially children's services. Specialised services have unique HRGs These include bone marrow transplants, cystic fibrosis, renal transplant, chemotherapy, burns, and radiotherapy. There are specific HRGs for regular outpatient attenders and pathology.
Upper trimpoint	A statistically derived length of stay that denotes the upper end of a range of expected length of stays for an admission with a given HRG.