Zero Day Stay 'Elective' Admissions in Thames Valley

Higher volumes at particular Trust sites after adjusting for population characteristics and the effect of day case rates

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Aims

- This analysis is NOT about day case rates but about clinical thresholds and non-surgical events which are counted as a 'day case' but which may otherwise be considered an 'outpatient' procedure or test.

- To provide PCT commissioning and PBC leads with an insight into the PBR implications of variations in zero day stay elective admissions which may be due to outpatient procedures and tests.

- To calculate the volume of zero day stay elective admissions in particular locations that should arise due to population charactistics.

- To determine which locations are bearing a higher PbR cost due to activities other than justified by the population characteristics.

- To alert PCTs to which HRG chapters are most susceptible to the inclusion of outpatient procedures and tests.

Executive Summary

This work analyses the results from 2.13 million head of population with 212, 000 zero day stay 'elective' admissions per annum. Analysis is at lower super output area level (LSOA)[1] covering all extremes of age profile, deprivation, ethnic composition (Asian & Black) and students[2] using data for the three years 2003/04, 2004/05 and 2005/06 with volumes normalised to 2005/06 out-turn. Data is analysed at Health Resource Group (HRG) chapter level where each chapter corresponds to a body system, i.e. Nervous System, Vascular System, etc.

A unique relationship between deprivation and increased zero day stay elective admission is confirmed for each individual HRG Chapter. Ethnicity has a variable effect depending on the specific HRG chapter and ethnic type. Students experience lower levels opf admission than their non-student counterparts.

Results have been corrected for differential day case rates and so reveal the underlying level of 'excess' admissions.

The key finding of this work is that excess zero day stay 'elective' admissions are a result of differing clinical thresholds between acute sites and in some instances counting of high volumes of 'outpatient' procedures and tests as a 'day case'. Up to 20% of the entire TV zero day elective volume may therefore be open to scrutiny by commissioners on the basis of re-classification back to an 'outpatient' attendance or excessive surgical intervention. Cherwell, Aylsebury Vale and Wycombe appear to experience the highest excess of zero day admissions while Reading experiences a significantly lower excess than any other location. Orthopaedic intervention rates are especially variable and are particularly high for people living in the catchment area of the Newbury community hospital, for the HWWP Trust and the Horton hospital.

In this study the 12 acute hospital sites (both within and outside of TV) providing care to the residents of TV is used to define 12 hospital elective catchment areas[3]. Each output area was allocated to a catchment using straight line distance[4]. Each acute site at the centre of a catchment area does not provide a full range of services, i.e. spinal surgery, burns care, etc; however, it is illustrative to see how relative rates of zero day stay elective admission vary between different catchment areas. The implications to PbR are discussed. HRG chapter benchmarks and estimates of excess activity have been calculated for each Local Authority, PCT and Acute site.

[1] Each LSOA contains around 1,000 to 3,000 head of population. LSOA nest together into electoral wards and can be further nested into PCT or Local Authority boundaries.
[2] Full-time students aged 16 and over. Students in general have less health needs compared to their non-student counterparts.
[3] The 12 acute sites are as follows: Basingstoke, Frimley Park, Heatherwood, Hemel Hempstead, Hillingdon, Horton, Milton Keynes, Oxford Radcliff, Royal Berkshire, Stoke Mandeville, Swindon, Wexham Park, Wycombe.
[4] This method assumes that the bulk of the population would normally go to the nearest acute site for elective care. Around 5% of elective admissions are to out-of-area hospitals; however for the purpose of establishing good correlations the approximation is fit for purpose.

Key Points

Effect of the Healthcare System

- Excess demand for elective day case healthcare is set by thresholds for admission which are determined by GP referral thresholds and clinical admission thresholds at the receiving acute site.
- In particular HRG chapters there is considerable extra variation due to events which acute trusts 'choose' to count as a day case or admit as a zero day elective stay.
- In other HRG chapters there are very high volumes of attendances due to specific patients with a long term condition who receive regular non-surgical treatment.

Implications to PbR

- The PbR tarrif has the implied assumption that local practice conforms to the national 'average'.
- Hence the case mix within each HRG is assumed to conform to the national average.
- In addition each OPCS procedure code is assumed to mean the same thing.
- However there are a range of HRG which contain procedure codes which can describe genuine surgical activities but can also describe 'outpatient' procedures and tests.
- Put another way any event chosen to be described as an 'inpatient' activity will be assigned to a set of clinical codes even if the chosen codes do not reflect national average practice.
- It is also apparent that short hand recording of events can lead to ambiguous clinical coding.
- These combine to create the opportunity for local practice to deviate from the national average.

Effect of Population Characteristics

- Rates increase with the Index of Multiple Deprivation (IMD)[5], i.e. areas of highest deprivation have highest levels of zero day stay 'admission', however, the effect is modest and to a first approximation the age adjusted national average is a valid reference point.
- Some HRG chapters show increased levels of admission due to ethnic populations.
- All HRG Chapters show reduced levels of activity as the percentage of students increase.
- For the resident population of Thames Valley there is no apparent reduction in the level of zero day admissions due to increasing distance to an acute site.

Introduction

In recent years Thames Valley has shown high apparent growth in the volume of elective admissions, however, analysis reveals that this is exclusively related to elective admissions with a zero day stay. Indeed over the past three years there has been a gradual reduction in the volume of overnight elective stays as day case rates have increased. Instances of rappid growth in zero day stay elective admissions appears to particularly occur when an acute trust shifts the interface from what is previously reported as an outpatient test or procedure to reporting such activities as a day case, i.e. activities which would previously have been charged as an outpatient attendance are now charged as an 'elective admission'.

It is also possible that an acute Trust may make zero day admissions under the label of an 'elective overnight' admission, hence, the usual admission categories have been ignored and the actual length of stay has been used as the reference point for the analysis.

For this reason all zero day LOS elective admissions have been analysed to determine if there is the potential for material differences across Thames Valley.

Method of Analysis

Refer to the companion reports covering non-zero day elective and emergency admissions for a full description of the analytical methods.

During a preliminary stage of the analysis it was noted that certain HRG chapters experience much higher variation from one area to another.

Table One: Analysis of variation[6]

HRG Chapter	Berkshire	Oxford-shire	Bucking-hamshire
L	**9**	**10**	**7**
S	**3**	**3**	**4**
H	**3**	2	2
F	2	**3**	2
K	**3**	1	**3**
P	2	**3**	2
D	1	2	**3**
J	2	2	2
G	1	2	2

Table One presents a summary of the variation between the output areas in the different parts of Thames Valley. In this analysis a value around one indicates that the variation is largely due to statistical randomness while 'special cause' differences account for values greater than one.

Values of three or above indicate that the special cause factors are dominating. For example the high value for Chapter H (Musculoskeletal – mainly Orthopaedics) in Berkshire is due to much higher intervention rates in Newbury and Slough compared to Reading. Very high values in Chapter L (Urology & Renal Medicine) appear to arise when a single patient makes repeated 'outpatient' attendances for treatment which is reported as a day case.

[6] The analysis of variation reported in this table is the Index of Variation which is based on Poisson statistics. The Index is calculated as the observed standard deviation divided by the square root of the average.

Chapters N (Obstetric & Neonatal) and T (Mental Health) were excluded from the analysis on the basis that there are almost no zero day elective admissions in these chapters.

This observation led to a comparison of the volumes in Thames Valley against those expected at the age adjusted 'national average'. Table Two shows the ratio of volumes of zero day stay 'elective' admissions in Thames Valley compared to the national average expected for all (DC+ON) elective admissions. In this table the TV/National ratio should be close to the national DC rate. If it is higher than it is implied that one or more Trusts in TV are counting more than the national average number of outpatient procedures/tests as a 'day case'. As can be seen this is implicated in Chapters L, K, P and G while the reverse is implied in Chapters A, B and C, i.e. it is clearly possible to deviate sufficiently from 'national average' to have a material impact on the PbR costs borne by particular commissioning locations.

Table Two: Volumes in Thames Valley relative to that expected at the national average (adjusted to the TV age profile).

Chapter	TV/National	National DC rate	Outpatient counted as DC in TV
L	135%	68%	V High
K	95%	68%	High
P	66%	51%	High
G	39%	27%	High
M	80%	69%	Moderate
Q	46%	37%	Moderate
F	86%	80%	OK
S	82%	76%	OK
J	73%	69%	OK
E	61%	54%	OK
H	56%	49%	OK
D	46%	48%	OK
R	30%	27%	OK
B	78%	89%	Low
A	50%	65%	Low
C	49%	57%	Low

A final check of the data showed that in particular HRG Chapters certain LSOA had vastly higher levels of zero day stays than the majority. This behaviour which is summarised in Table Three is almost certainly due to specific individuals who make multiple attendances for treatment for long term conditions (e.g. arthritis, renal failure, etc) or for cancer treatment.

Table Three: Maximum ratio of actual to national average, cap applied and number of LSOA effected

Chapter	Maximum ratio	Capped ratio	% of LSOA Effected
L	13.6	2.9	16%
K	34.2	2.0	13%
P	13.9	2.0	8%
G	7.3	2.0	4%
D	20.4	1.9	3%
R	6.9	1.5	2%
S	7.7	3.1	2%
H	7.4	2.7	1%
A	5.7	2.4	1%

The cap was calculated as the mode (middle of ranked values) plus three times the square root of the mode. This is an approximation to the effect of statistical randomness. Chapters B, C, E, F and M all had a maximum ratio less than the calculated cap. This analysis (and indeed most statistical methods) uses the minimisation of residuals to determine the model parameters[7]. If particular data points are unusually high the statistical method can be 'tricked' into placing undue emphasis on attempting to minimise the impact of these 'high' values and by doing so will give model parameters which are distorted. By using the capped values this possible distortion is minimised[8].

Finally it was noted that the sum of residuals was higher than expected in particular HRG Chapters. This is interpreted as evidence for the fact that some of the so-called zero day elective 'admissions' do not have the characteristics of a true 'elective' admission, i.e. the real age profile is probably closer to that applicable to an outpatient than to an 'elective' admission. In addition there is huge variation between sites in the relative volumes of admissions, i.e. the activities reported as a zero day stay 'elective' admission are highly influenced by how a site chooses to count its activities.

Table Four summarises all these findings and points PCTs to those HRG chapters where scrutiny at HRG level is advised either regarding surgical intervention rates or how events are counted and coded.

Table Four: Indicators of particular sources of special cause variation

HRG Chapter	Special cause variation	Relative counting of outpatient as day case is high	Individual patients have multiple attendances	Coding and counting are inconsistent between sites[9]
L - Urinary/Renal	Very High	Very High	Very High	Very High
K - Endocrine	High	High	Very High	Medium
P - Childhood	High	High	Very High	Medium
G - Hepato-biliary	Moderate	High	High	
S - Haematology, Other	High		High	High
D - Respiratory	Moderate		High	
H - Musculoskeletal	High		Moderate	Medium
F - Digestive	High			High
R - Spinal			High	
A - Nervous System			Moderate	
J - Skin, Breast, Burns	Moderate			Medium
M - Female Reproductive		Moderate		Medium
Q - Vascular		Moderate		
B - Eyes				Medium

As can be seen Chapters L, K and P score high across all possible sources of special cause variation while other HRG Chapters appear to also have various potential sources of special cause variation. Even Chapter B (eyes) exhibits some additional source of variation and this may be due to at least one acute site counting a range of minor procedures as a 'day case'.

[7] The sum of residuals is the difference between that actual activity and that predicted by the model summed over all LSOA.
[8] One way of attempting to avoid these effects would be to exclude these values from the analysis. This approach leads to a different type of error due to the fact that only 'high' values are excluded. To go down this route would imply that an equal number of 'low' values should be likewise excluded.
[9] From sum of residuals after application of cap to exclude effect of multiple attendances by individuals with long term conditions.

There is aclear message that there is the potential for special cause variation across almost all HRG chapters and PCTs need to constantly check relative rates for every HRG.

Population factors influencing zero day elective 'admission'

Refer to the companion report for specific comments regarding the role of the Index of Multiple Deprivation (IMD) and ethnicity on the relative volume of admissions.

Coefficients in the model covering these fundamental population characteristics are given in Appendix One. The level of 'excess' zero day stays is calculated for each HRG Chapter after adjusting for the fundamental population characteristics of age profile, IMD and ethnicity (Asian or black).

Effect of acute thresholds

The fact that there is large variation in acute healthcare structure & practice is widely known and implies that thresholds to zero day stay elective admission should be different bewteen sites.

The usual approach to identify a healthcare system is to use a PCT or local authority boundary, however, such boundaries do not reflect the usual flows of patients to the nearest acute hospital site. In this study each LSOA has been assigned to sit in the catchment area of the nearest acute hospital site.

In this study a 100% relative rate of admission represents the TV average while a relative admission rate of 120% implies 20% more elective admissions than the TV average after adjusting for the effects of age, IMD, ethnicity and students.

Table Four demonstrates that certain hospital sites have far higher rates of admission, i.e. have a lower threshold to 'admitting' a patient as a zero day stay once the patient has presented at the hospital. This appears to be a feature of the Milton Keynes GH, Oxford Radcliff and Basingstoke sites (10% to 30% increase in overall volume of zero day elective admissions).

The reader should recall that the so-called admission threshold is an output of the model, i.e. the model is attempting to tell us something about the real world behaviour of each site and its associated catchment population.

The 'admission threshold' must not be seen as a general threshold but is most probably condition specific. Hence one site will 'admit' a higher proportion of say diabetic cases (Chapter K) while another will deal with these via outreach type services. Alternatively one site may code the same event in such a way that it is reported in a different HRG Chapter to that of another site. This understanding then opens up the way for changes in disease management pathways and for greater inter-site coding consistency.

Table Three: Site thresholds for zero day stay 'admissions'. Data at HRG Chapter level is averaged over three years and adjusted to 05/06 out-turn. This acts to adjust for the progressive increase over time in volumes of zero day stays due to changes in the day case rate and due to procedures/tests being switched from an outpatient to inpatient context.

Acute Site	A	B	C	D	E	F	G	H	J	K	L	M	P	Q	R	S
FPH	267%	147%	155%	157%	101%	112%	144%	114%	139%	Low	112%	80%	14%	111%	176%	145%
Heatherwood	125%	108%	112%	70%	98%	94%	102%	109%	131%	94%	144%	107%	55%	86%	87%	94%
Hillingdon	298%	91%	78%	98%	67%	92%	10%	96%	81%	148%	57%	82%	106%	79%	51%	271%
Horton	34%	100%	104%	92%	60%	138%	131%	106%	113%	86%	90%	137%	49%	73%	75%	107%
MKGH	108%	83%	103%	138%	66%	99%	76%	82%	108%	Low	70%	52%	166%	100%	122%	174%
NDH	91%	135%	130%	68%	132%	97%	72%	136%	70%	Low	96%	104%	96%	75%	Low	56%
ORH	39%	107%	87%	151%	86%	113%	108%	94%	127%	289%	96%	143%	138%	77%	Low	103%
RBBH	121%	119%	96%	56%	108%	81%	104%	112%	48%	86%	105%	102%	90%	72%	104%	86%
Slough	115%	98%	96%	87%	107%	107%	81%	115%	131%	88%	125%	102%	75%	91%	188%	102%
Stoke Mandeville	138%	110%	128%	110%	178%	127%	125%	106%	104%	Low	110%	108%	51%	180%	184%	68%
Wycombe	134%	73%	110%	98%	122%	97%	133%	94%	102%	65%	106%	76%	130%	199%	183%	92%
Hemell Hempstead	167%	84%	120%	84%	129%	102%	78%	105%	82%	Low	105%	67%	57%	208%	341%	123%
Swindon	39%	101%	109%	154%	97%	131%	70%	96%	112%	128%	78%	129%	134%	110%	136%	143%

A threshold of 100% equals the TV average. A threshold of say 125% indicates 25% higher volumes than the TV average.

Note that the thresholds in this table have NOT been corrected for the effects of day case rates; however, gross differences should be investigated.

Volume of 'excess' zero day stays

The volume of excess zero day stay elective admissions has been determined relative to the Thames Valley average. The actual volume in each LSOA was compared to the expected volume using the age profile, IMD and ethnic mix applicable to the LSOA.

The difference between actual and expected was then summed across all LSOA falling into a Trust or PCT catchment area and this total reflects the contribution of the non-population characteristics upon the count of zero day stays.

Data is given in Tables Four and Five. As can be seen activities at Oxford Radcliff, Wexham Park, Wycombe, Stoke Mandeville, MKGH and Horton sites (ORH Trust) contribute to the bulk of 'excess' zero day stays (after adjusting for the effect of day case rates) across TV. This excess will be due to higher intervention rates or above average levels of counting of outpatient events as a 'day case'.

Commissioners will need to consider the implications of this 'excess' activity. Refer to the section dealing with national benchmarks for zero day stay at HRG level as a means for interpreting the implications to 2006/07 PbR prices.

Benchmarks for zero day stay elective admissions

The valid benchmark for all discussions around 06/07 activity is the 04/05 national average. This is because 2004/05 activity forms the basis for 2006/07 prices.

Trusts and PCTs are advised to refer to this reference point when seeking to negotiate required actions when local average deviates markedly from the national average.

The 2004/05 national average for zero day stays is given in Appendix Two. This table is given for the purpose of identifying above national average levels of counting of outpatient tests/procedures re-classified to 'inpatient'.

Total elective intervention rates

The process of attempting to adjust for day case rates is itself subject to the potential error of over compensating for the effect of excess levels of outpatient tests/procedures re-classified to 'day case'. The only way to give a total reference point is to add the calculated 'excess' of zero day stays and overnight stays together.

This has been done in Tables Six and Seven.

Commissioners should therefore used tables four and five to identify potential cases of excess due to re-classification of outpatient tests/procedures to 'day case' and should then progress to Tables Six and Seven to see if the overall elective total shows and excess which will be the combined total of excess surgical intervention rates and of local counting issues.

Several interesting points emerge from the combined data. Firstly what appears to be highly variable endoscopy intervention rates (Chapter F) with Cherwell experiencing a large excess as a result of activities at the Horton site. Apparent excess ophthalmology intervention (Chapter B) may be due to counting of minor procedures at some sites and not others. A large excess of Orthopaedic intervention (Chapter H) in Slough, Reading, Newbury and the Horton in Banbury. Considerable excess in Gynaecology (Chapter M) probably due to counting of outpatient procedures.

Table Four: Calculated 'excess to TV average' zero day stay elective admissions for Thames Valley Residents living in the catchment area of various acute sites. These figures are after adjustment for the effect of day case rates.

Acute Site	A	B	C	D	E	F	G	H	J	K	L	M	P	Q	R	S	Total	Excl L & S
ORH/NOC		434	168	249		2,803	208		998	307	10,236	1,497	442	93	17	1,838	**19,290**	**7,216**
Wexham Park	132				52	974	89	827	351	200	6,700		131	100	65	990	**10,611**	**2,921**
Wycombe	172	68	71	162	152	1,141	124		136	135	1,904		237	182	54	740	**5,278**	**2,634**
Stoke Mandeville	86	130	112	71	246	1,166	83		114	6	2,474		68	122	50	336	**5,065**	**2,254**
MKGH	71		41			790	59		486	94			327	147		2,318	**4,333**	**2,015**
Horton			59	42		1,119	49	55	138	27	1,717	429	7	43		442	**4,126**	**1,967**
Heatherwood	58	86	112		24	563	48	238	153	111	3,304	229	52	66	15	574	**5,632**	**1,755**
NDH	13	261	170		123	458		227		13	1,456	211	75	56		103	**3,166**	**1,606**
RBBH	178	295			72		59			285	6,840		271	25	5	1,125	**9,154**	**1,190**
FPH	83	108	97	6	18	299	11	80	87	49	520	21		34	10	224	**1,647**	**903**
Swindon		27	33	30	12	399	14	64	20	16	972	155	58	20		209	**2,029**	**848**
Hemell Hempstead	32		28	8	39	155	6	5	17	59	94		23	62	15	173	**716**	**448**
Hillingdon	33			6		38		33		31	14		27	8	5	251	**446**	**181**
Luton			150			14					137					21	**322**	**164**
Watford					6	46		7					10	7		13	**89**	**76**
Acute Total	**858**	**1,410**	**1,041**	**574**	**744**	**9,964**	**750**	**1,535**	**2,500**	**1,333**	**36,369**	**2,542**	**1,727**	**964**	**236**	**9,358**	**71,904**	**26,177**
% of TV Volume	**23%**	**9%**	**11%**	**21%**	**13%**	**25%**	**43%**	**11%**	**18%**	**71%**	**57%**	**17%**	**57%**	**42%**	**38%**	**47%**	**34%**	**21%**

A blank indicates that the particular site is below the TV average and hence has a negative value.

Note that the calculated 'excess' includes repeat attendances by the same patient. This is most likely to affect Chapters K, L, P, S and T.

Table Five: Calculated 'excess to TV average' zero day stay elective admissions for Thames Valley residents lying within the catchment area of different local authorities and hence PCTs. This is the cumulative outcome of the different acute sites servicing these LAs and PCTs. Figures are after adjustment for the effect of day case rates.

Local Authority	A	B	C	D	E	F	G	H	J	K	L	M	P	Q	R	S	Total	Excl L & S
Cherwell		102	102	115		1,477	65	70	376	64	2,516	625	63	18	14	541	**6,148**	**3,091**
Aylesbury Vale	106	228	168	50	179	1,177	55		112	38	1,986	136	68	107	48	318	**4,776**	**2,472**
Wycombe	145		174	141	136	807	128		112	100	798		179	185	50	509	**3,464**	**2,157**
South Oxfordshire		128	57	87	14	933	80	15	10	94	3,980	465	146	64	5	600	**6,678**	**2,098**
West Oxfordshire		27		75	16	974	39		286	72	2,283	436	84	45		493	**4,830**	**2,053**
Vale of White Horse		148	88	115		875	61		184	71	2,553	354	49	41		473	**5,012**	**1,986**
Milton Keynes	75		131			695	60		448	56			298	131		2,204	**4,098**	**1,894**
Bracknell Forest	97	113	153		44	541	38	166	223	108	1,848	103	15	64	5	405	**3,923**	**1,670**
Windsor and Maidenhead	50		64	7	92	640	40	158	273	79	3,088	266	86	72	36	821	**5,772**	**1,863**
Newbury	50	323	194		143	396		306		43	1,880	205	118	73	5	337	**4,073**	**1,856**
Slough	51				68	293	25	741	116	133	4,819		93	9	32	211	**6,591**	**1,561**
Oxford		60				298	41		196	97	3,517	281	255	17		418	**5,180**	**1,245**
Wokingham	113	272			85	312		96		104	2,953	53	84	37		567	**4,676**	**1,156**
South Bucks	79		36	6	14	426	52	155	34	64	715	87	42	51	19	587	**2,366**	**1,064**
Chiltern	79		34	38	80	450	52			84	215		70	100	21	564	**1,787**	**1,008**
Reading	80	192								131	3,440		82			337	**4,262**	**485**
TV Total	**925**	**1,593**	**1,201**	**634**	**871**	**10,293**	**736**	**1,707**	**2,370**	**1,338**	**36,590**	**3,011**	**1,732**	**1,013**	**235**	**9,385**	**73,634**	**27,659**
% of TV Volume	**25%**	**11%**	**12%**	**23%**	**15%**	**26%**	**43%**	**13%**	**17%**	**71%**	**57%**	**21%**	**58%**	**44%**	**38%**	**47%**	**35%**	**22%**

Any cell with a blank is below the TV average and hence has a negative value.

Note that the calculated 'excess' includes repeat attendances by the same patient. This is most likely to affect Chapters K, L, P, S and T.

Table Six: Total elective (zero day + overnight) 'excess to TV Average' admissions for residents living within various local authority and PCT locations.

Local Authority	A	B	C	D	E	F	G	H	J	K	L	M	P	Q	R	S	T	Total excl L, S, T
Aylesbury Vale	167	237	278	148	393	1,385	99	151	230	54	2,769	256	199	198	64	404	90	3,858
Wokingham	165	243			173	423	8	346		123	3,566	104	113	76	33	684	46	1,806
Newbury	76	312	255		204	491	18	534		56	2,703	269	176	113	34	402	30	2,538
Bracknell Forest	112	109	225		83	603	38	284	276	117	2,457	144	13	79		425	43	2,083
Cherwell		56	29	175		1,686	141	260	380	76	3,382	763	91	76	57	593		3,790
Milton Keynes	51		131	26		900	122		469	64	187		361	187		2,355		2,311
Windsor and Maidenhead	65		109		182	645	34	271	362	80	3,812	268	120	117	32	932	19	2,284
South Oxfordshire		121	65	142		956	80	26	24	101	4,819	508	195	75	42	759		2,334
Wycombe	179		248	164	238	867	135		130	130	1,362		223	296	34	575	35	2,646
Vale of White Horse		90		154		935	73		207	80	3,280	455	155	58	26	536		2,233
Reading	99	142			56			150		128	4,104		113	35	32	421	42	756
West Oxfordshire		35	32	124		977	72		316	80	2,934	460	139	43	15	496		2,293
Slough	47				160	279		908	197	140	4,933		119	12		215		1,863
Oxford				29		298	24		194	124	4,262	355	397	22		445		1,441
South Bucks	105		40		55	463	46	217	49	78	1,096	118	59	59	10	648	12	1,298
Chiltern	131		38	34	148	470	41			86	683		78	167		577	22	1,196
TV Total	1,198	1,346	1,451	996	1,692	11,376	929	3,147	2,833	1,519	46,347	3,700	2,552	1,611	381	10,467	338	34,729
% of Total	23%	8%	10%	21%	19%	25%	24%	14%	16%	58%	66%	19%	64%	37%	19%	46%	66%	

Note that the calculated 'excess' includes repeat attendances by the same patient. This is most likely to affect Chapters K, L, P, S and T.

Note that the RBBH allowed its Orthopaedic waiting list to increase by 542 during 2005/06. This will have a knock on effect to those local authorities lying within the RBBH catchment. Most likely to be effected are Reading (greatest effect), Wokingham, South Oxfordshire and Newbury.

Table Seven: Total elective (zero day + overnight) 'excess to TV average' admissions for residents living within the catchment area of various acute sites.

Acute Site	A	B	C	D	E	F	G	H	J	K	L	M	P	Q	R	S	T	Total excl L, S, T
ORH		258		460		2,985	280		979	367	12,782	1,721	811	183	89	1,942		8,134
Stoke Mandeville	143	277	272	153	420	1,531	92	171	232	16	3,283	273	150	229	70	342	83	4,029
Slough	152		29		312	1,090	71	1,200	414	216	7,535		205	127	25	1,122		3,841
Wycombe	228		241	163	328	1,178	170		163	173	2,820		280	376	17	925	37	3,317
MKGH	86		168	46		996	134		533	105	488		402	204		2,554		2,675
RBBH	261	393			237		5	570		304	8,515		364	138	88	1,462	86	2,360
FPH	90	104	124		22	298		92	79	50	714	28		27	20	250	18	933
Horton			32	75		1,138	60	199	148	29	2,325	474		38	32	448		2,224
Heatherwood	101	31	124		151	612	53	336	272	119	4,084	223	81	102		613	44	2,206
NDH	29	240	199		145	508	16	320		24	2,064	229	109	78	14	130	23	1,911
Swindon		49	39	55		408	32	122	50	22	1,220	157	81	27	9	206		1,053
Hemell Hempstead	54		28	13	45	152		12	22	56	279		29	63	12	182	10	488
Hillingdon	37					65		38		36	77		33	13		261		222
Luton			19			15					148					25		34
Acute Total	1,183	1,353	1,277	966	1,661	10,976	912	3,061	2,891	1,517	46,334	3,106	2,544	1,604	375	10,464	301	33,426
% of Total	23%	8%	9%	20%	18%	24%	24%	13%	17%	58%	66%	16%	63%	37%	19%	46%	59%	

Note that the calculated 'excess' includes repeat attendances by the same patient. This is most likely to affect Chapters K, L, P, S and T.

Also note that the figure in Chapter H (Orthopaedic) for the RBBH is likely to be considerably understated. This is due to the fact that the RBBH allowed the number on the Orthopaedic waiting list to increase by 542 during 2005/06. The likely 'excess' for the RBBH is therefore closer to 1,049 which gives the RBBH and Slough catchments the highest excess of Orthopaedic intervention in Thames Valley.

Links with GP Referral rates

There appears to be some basis for a link between GP referral rates and higher levels of intervention. In particular the higher levels of Orthopaedic intervention appear to correlate with higher levels of GP referral. See the companion report covering outpatient first attendance.

Appendix One: Population characteristics influencing the volume of zero day stay elective 'admissions'

The coefficients in this table were used to calculate the TV average volume expected due to population characteristics. The volume of 'excess' admissions relative to the TV average was then calculated for each LSOA and these were then aggregated to Ward, Local Authority and PCT.

Expected volume = NA x (Intercept + A x IMD + B x % Asian + C x % Black + D x % Student)

HRG Chapter	Intercept	IMD	Asian	Black	Student
A	0.385	0.005		0.003	-0.008
B	0.790	0.005	0.006		-0.007
C	0.370	0.007	0.001	0.003	-0.005
D	0.197	0.008		0.070	-0.004
E	0.461	0.004	0.005	0.002	-0.004
F	0.543	0.006	0.001	0.022	-0.012
G	0.189	0.003	0.001		-0.005
H	0.472	0.004	0.001		-0.007
J	0.679	0.001	0.000		-0.004
K	0.244	0.001	0.003		-0.003
L	0.178	0.008	0.011	0.022	-0.010
M	0.394	0.012		0.056	-0.008
P	0.219	0.003	0.001	0.003	-0.004
Q	0.100	0.003		0.019	-0.006
R	0.153	0.001		0.010	-0.006
S	0.321	0.004	0.002	0.025	-0.007

Appendix Two: National average percentage elective zero days stays at HRG level.

Data is for 2004/05 and is from HES and covers all elective admissions to acute hospitals and mental health Trusts. Since 2004/05 data is the basis of the 2006/07 tariff it serves as the benchmark for assessing the PbR implied 'acceptable' average for zero day stay elective admissions. Decease on the day of admission or miscoding may account for small percentage values in those HRG which describe complex surgery (A03, etc).

PCTs should scrutinise any 'surgical' HRG where the percentage of zero day stays is high to determine if this is due to the inclusion of minor and diagnostic procedures into otherwise genuine surgical activities.

PCTs are advised to make allowance for instances where a higher percentage value is due to a genuinely high surgical day case rate but need to consider if the absolute value of total admission for the procedure is high due to a high intervention rate, e.g. hysterectomy, etc.

Table A2.1: 2004/05 benchmark for zero day stay at HRG level

This table uses % day case as a proxy for zero day stay elective. To obtain local benchmarks multiply national day case activity by local population and divide this by national population. This will give the expected local volume. Actual local volume should be lower than this figure. Alternatively compare local % day case with the national average. Note that some HRG mix surgical and non-surgical cases. See next table for primary OPCS procedure level benchmarks.

This table contains the top 100 HRG for either highest % day case or highest volume of day case.

HRG	Indicator	Day Case Activity	% Day Case
F06	F06 Diagnostic Procedures, Oesophagus and Stomach	308191	98%
B13	B13 Phakoemulsification Cataract Extraction and Insertion of Lens	269661	95%
F35	F35 Large Intestine - Endoscopic or Intermediate Procedures	233214	97%
L21	L21 Bladder Minor Endoscopic Procedure w/o cc	174647	92%
J37	J37 Minor Skin Procedures - Category 1 w/o cc	157750	92%
C58	C58 Intermediate Mouth or Throat Procedures	152833	64%
S27	S27 Malignant Disorder of the Lymphatic/ Haematological Systems with los <2 days	115134	95%
F98	F98 Chemotherapy with a Digestive System Primary Diagnosis	100617	87%
A07	A07 Intermediate Pain Procedures	99122	95%
S22	S22 Planned Procedures Not Carried Out	86487	61%
M05	M05 Upper Genital Tract Minor Procedures	83259	81%
E14	E14 Cardiac Catheterisation and Angiography without complications	80690	85%
H10	H10 Arthroscopies	69307	64%
J98	J98 Chemotherapy with a Skin, Breast or Burn Primary Diagnosis	68220	97%
S98	S98 Chemotherapy with a Haematology, Infectious Disease, Poisoning	60910	86%
M06	M06 Upper Genital Tract Intermediate Procedures	55529	74%
H13	H13 Hand Procedures - Category 1	54882	90%
B16	B16 Oculoplastic Low Complexity	44568	96%
C55	C55 Minor Ear Procedures	42477	87%
M10	M10 Surgical Termination of Pregnancy	39355	95%
H22	H22 Minor Procedures to the Musculoskeletal System	37456	84%
S06	S06 Red Blood Cell Disorders <70 w/o cc	35578	91%
F74	F74 Inguinal Umbilical or Femoral Hernia Repairs <70 w/o cc	34918	61%

L20	L20 Bladder Minor Endoscopic Procedure w cc	34705	83%
F54	F54 Inflammatory Bowel Disease Endoscopic or Intermediate Procedures <70 w/o cc	34634	93%
D98	D98 Chemotherapy with a Respiratory System Primary Diagnosis	32455	87%
M02	M02 Lower Genital Tract Intermediate Procedures	31132	80%
S33	S33 Examination, Follow up and Special Screening	30565	83%
N12	N12 Antenatal Admissions not Related to Delivery Event	27480	89%
D07	D07 Fibreoptic Bronchoscopy	26694	94%
L39	L39 Penis Minor Open Procedure <70 w/o cc	23642	85%
S05	S05 Red Blood Cell Disorders >69 or w cc	23502	78%
C56	C56 Minor Nose Procedures	22091	84%
M98	M98 Chemotherapy with a Female Reproductive System Primary Diagnosis	21956	85%
Q11	Q11 Varicose Vein Procedures	21759	59%
L41	L41 Vasectomy Procedures	21309	97%
L30	L30 Prostate or Bladder Neck Minor Endoscopic Procedure (Male and Female)	20819	94%
H26	H26 Inflammatory Spine, Joint or Connective Tissue Disorders <70 w/o cc	19670	85%
B29	B29 Surgical Retina Low Complexity	18786	93%
M01	M01 Lower Genital Tract Minor Procedures	17842	87%
C04	C04 Minor Mouth or Throat Procedures	17727	91%
K10	K10 Inborn Errors of Metabolism	17722	95%
S36	S36 Diagnostic Extraction of Bone Marrow	16932	91%
J35	J35 Minor Skin Procedures - Category 2 w/o cc	16335	81%
M11	M11 Medical Termination of Pregnancy	16281	77%
F95	F95 Anus - Minor Procedures <70 w/o cc	16005	82%
L45	L45 Extracorporeal Lithotripsy	15599	97%
H17	H17 Soft Tissue or Other Bone Procedures - Category 1 <70 w/o cc	15136	46%
H98	H98 Chemotherapy with a Musculoskeletal System Primary Diagnosis	15089	85%
G98	G98 Chemotherapy with a Hepato-Biliary or Pancreatic System Primary Diagnosis	14966	91%
L43	L43 Scrotum Testis or Vas Deferens Open Procedures <70 w/o cc	13995	67%
F44	F44 General Abdominal - Endoscopic or Intermediate Procedures <70 w/o cc	13757	70%
L19	L19 Bladder Intermediate Endoscopic Procedure w/o cc	13381	53%
H52	H52 Removal of Fixation Device <70 w/o cc	13229	54%
B15	B15 Other Lens Surgery Low Complexity	12507	91%
J05	J05 Intermediate Breast Surgery w/o cc	12333	58%
L48	L48 Renal Replacement Therapy w/o cc	11544	78%
L98	L98 Chemotherapy with a Urinary Tract or Male Reproductive System Primary Dx	11235	72%
J36	J36 Minor Skin Procedures - Category 1 w cc	11179	78%
P07	P07 Neoplasms	10112	78%
P98	P98 Chemotherapy with a Disease of Childhood Primary Diagnosis	9917	72%
J10	J10 Malignant Breast Disorders <70 w/o cc	9840	93%
F93	F93 Anus - Intermediate Procedures <70 w/o cc	8498	47%
H20	H20 Muscle, Tendon or Ligament Procedures - Category 1	8232	67%
S04	S04 Coagulation Disorders	8188	92%
L13	L13 Ureter Intermediate Endoscopic Procedure	8018	47%
F04	F04 Therapeutic endoscopic procedures	7952	73%
C22	C22 Intermediate Nose Procedures	7824	25%
S11	S11 Disorders of Immunity without HIV/AIDS	7789	97%
L35	L35 Urethra Intermediate or Minor Procedures <70 w/o cc	7746	63%
B24	B24 Ocular Motility Intermediate Complexity	7737	85%
B17	B17 Oculoplastic Intermediate Complexity	7682	85%
F53	F53 Inflammatory Bowel Disease Endoscopic or Intermediate Proc >69 or w cc	7451	84%
F63	F63 Gastrointestinal Bleed - Diagnostic Endoscopic or Intermediate Procedures	7426	95%
E30	E30 Arrhythmia or Conduction Disorders <70 w/o cc	6714	81%
B19	B19 Orbit / Lacrimal Low Complexity	6611	95%
R01	R01 Minor Spinal Procedures	6575	81%

F15	F15 Stomach or Duodenum - Therapeutic Endoscopic or Intermediate Procedures	6167	84%
B32	B32 Non Surgical Ophthalmology with los <2 days	6141	84%
L51	L51 Chronic Renal Failure	5844	80%
A08	A08 Percutaneous Image Controlled Pain Procedures	5166	92%
P06	P06 Minor Infections (including Immune Disorders)	5032	81%
S34	S34 Other Procedures and Health Care Problems	4542	81%
B14	B14 Non Phakoemulsification Cataract Surgery	3487	89%
K04	K04 Anterior Pituitary Disorders	3135	88%
E21	E21 Deep Vein Thrombosis <70 w/o cc	3088	94%
P11	P11 Endocrine Disorders (excluding Diabetes Mellitus)	3076	87%
S08	S08 Other Haematological or Splenic Disorders w/o cc	2588	82%
B26	B26 Glaucoma / Uvea Low Complexity	2518	93%
B22	B22 Cornea / Sclera Low Complexity	2429	91%
E20	E20 Deep Vein Thrombosis >69 or w cc	2149	91%
B25	B25 Ocular Motility Redo / Adjustable / High Complexity	2135	89%
M13	M13 Non-Surgical Treatment of Genital Prolapse or Incontinence	2006	87%
K16	K16 Diabetes and Other Hyperglycaemic Disorder <70 w/o cc	1936	89%
L55	L55 Urinary Tract Findings <70 w/o cc	1700	86%
L23	L23 Bladder or Urinary Mechanical Problems <70 w/o cc	1691	83%
S32	S32 Abnormal Findings without Diagnosis	1424	80%
E13	E13 Cardiac Catheterisation and Angiography with complications	1215	83%
R13	R13 Cervical Spinal Disorders <70 w/o cc	960	81%
K21	K21 Non Surgical Thyroid Disorders <70 w/o cc	916	84%
D11	D11 Pulmonary Embolis w/o cc	817	88%
J08	J08 Non-Malignant Breast Disorders	773	83%
L40	L40 Penis Disorders	704	85%
P14	P14 Ingestion Poisoning or Allergies	604	85%
F49	F49 Intestinal Infectious Disorders <70 w/o cc	233	81%

Table A2.2: 2004/05 benchmarks for zero day stay at OPCS primary procedure level

This table contains the top 300 zero day stay primary procedures by volume. To obtain a local benchmark age adjust the local data. For a full data set contact the author. Note procedures highlighted in black may qualify as outpatient procedures and may require local agreement.

OPCS	Zero day volume England	% day case	Age 0-14	Age 15-59	Age 60-74	Age 75+
C75.1	274,868	94%	0%	8%	32%	60%
X35.2	**231,629**	**85%**	4%	45%	40%	11%
G45.1	193,403	85%	1%	44%	32%	23%
M45.9	173,426	90%	0%	31%	36%	32%
X29.8	**166,780**	**80%**	5%	46%	33%	16%
G45.9	111,734	77%	1%	45%	29%	25%
H22.9	75,434	88%	0%	43%	36%	21%
S06.9	**71,978**	**88%**	3%	64%	20%	12%
H25.9	65,433	89%	0%	46%	30%	24%
S06.5	**56,541**	**90%**	5%	50%	22%	23%
H22.1	55,291	89%	1%	54%	29%	15%
A65.1	44,756	91%	0%	60%	23%	16%
K63.3	43,283	71%	0%	35%	49%	15%
X33.9	**42,897**	**61%**	5%	21%	30%	44%
F10.4	**42,503**	**92%**	70%	25%	3%	2%
Q11.1	**39,973**	**90%**	1%	96%	0%	3%

H25.1	35,528	86%	0%	55%	26%	19%
X36.2	**32,962**	**94%**	3%	55%	33%	9%
X33.2	**29,948**	**74%**	5%	24%	30%	41%
T20.2	28,257	50%	0%	48%	33%	18%
W82.2	27,866	73%	0%	75%	21%	4%
X40.1	**27,218**	**98%**	1%	36%	36%	27%
V54.4	26,869	95%	0%	57%	30%	14%
D15.1	**25,991**	**84%**	76%	17%	5%	2%
W90.3	**22,745**	**82%**	3%	45%	34%	18%
M49.4	22,626	96%	0%	18%	44%	38%
F09.1	21,648	90%	1%	97%	2%	0%
N17.1	**20,952**	**97%**	0%	100%	0%	0%
X40.3	**20,687**	**67%**	5%	33%	35%	26%
A52.1	**20,227**	**92%**	0%	55%	29%	16%
N30.3	18,624	78%	44%	43%	9%	5%
L91.3	**18,547**	**87%**	7%	52%	35%	7%
M70.3	18,020	91%	0%	18%	59%	23%
Q18.1	17,357	81%	0%	82%	14%	5%
C12.1	17,296	95%	5%	48%	27%	19%
T43.9	16,695	70%	1%	92%	5%	2%
Q18.9	16,335	81%	0%	77%	17%	6%
W36.5	16,330	81%	8%	37%	33%	22%
K63.6	16,063	70%	0%	36%	49%	15%
F09.3	15,611	90%	1%	95%	4%	1%
A52.2	**15,291**	**92%**	0%	54%	29%	17%
Q35.2	15,000	84%	0%	100%	0%	0%
Q01.3	14,767	87%	0%	94%	5%	1%
H20.1	14,274	88%	0%	31%	44%	25%
L85.1	13,324	57%	0%	76%	21%	3%
W28.3	13,210	51%	19%	63%	12%	6%
X36.9	**12,523**	**96%**	8%	58%	24%	10%
C82.1	12,216	95%	1%	40%	41%	18%
A70.8	12,211	96%	0%	61%	28%	11%
M14.1	11,996	96%	0%	67%	27%	6%
Q18.8	11,866	78%	0%	80%	15%	5%
X33.3	**11,809**	**81%**	8%	34%	36%	22%
K63.4	11,800	66%	0%	37%	48%	15%
W87.9	11,738	72%	2%	78%	17%	4%
F09.4	11,132	90%	40%	49%	7%	4%
C71.2	10,922	97%	0%	6%	32%	62%
X36.8	**10,901**	**93%**	20%	44%	25%	11%
Q17.1	10,719	67%	0%	74%	20%	6%
B28.3	10,450	62%	0%	80%	15%	4%
S06.8	**10,230**	**84%**	5%	62%	20%	13%
X50.1	10,062	77%	0%	29%	49%	22%
E49.1	9,968	72%	1%	27%	43%	29%
X35.8	**9,905**	**82%**	11%	44%	25%	19%
M47.8	9,475	87%	7%	44%	28%	20%
F10.9	**9,442**	**92%**	39%	49%	9%	4%
H52.4	9,403	89%	0%	67%	24%	9%
D02.1	9,387	88%	6%	39%	25%	30%
A73.5	9,365	95%	1%	58%	27%	14%
E09.1	8,776	88%	3%	34%	31%	32%
Q14.5	8,314	68%	1%	94%	0%	6%

E49.8	8,282	73%	1%	33%	41%	25%
W85.2	8,221	66%	1%	63%	27%	9%
Q55.8	**8,175**	**99%**	0%	93%	6%	1%
E49.9	8,045	74%	3%	37%	39%	21%
M45.1	7,923	45%	0%	24%	40%	35%
T72.3	7,374	85%	10%	53%	27%	10%
C73.3	7,220	99%	1%	10%	26%	63%
C12.4	6,973	99%	14%	69%	12%	5%
V09.2	6,878	84%	18%	80%	1%	1%
X35.3	**6,491**	**85%**	13%	48%	29%	10%
A81.8	6,397	93%	0%	67%	25%	8%
Q12.1	6,178	89%	0%	99%	1%	1%
W84.8	6,170	34%	1%	76%	20%	4%
X38.8	**6,079**	**95%**	4%	50%	28%	18%
K66.8	5,979	67%	2%	44%	35%	18%
H20.2	5,828	93%	0%	37%	44%	19%
H23.1	5,275	88%	0%	31%	40%	29%
F02.1	5,253	88%	14%	50%	21%	15%
X59.8	**5,245**	**77%**	84%	11%	3%	2%
X30.8	**5,222**	**79%**	17%	48%	24%	11%
M47.3	5,213	39%	1%	18%	37%	44%
X37.5	**5,165**	**91%**	25%	48%	21%	6%
T52.1	5,092	46%	0%	32%	52%	16%
C15.2	5,015	96%	1%	4%	30%	66%
X29.9	**4,999**	**88%**	5%	44%	31%	20%
Q10.3	4,974	76%	0%	79%	15%	5%
X37.3	**4,949**	**90%**	6%	65%	20%	8%
K63.1	4,925	59%	5%	32%	45%	17%
P27.3	4,921	89%	1%	93%	5%	1%
M42.2	4,861	41%	0%	13%	41%	47%
Q41.3	4,802	84%	0%	97%	0%	3%
M29.3	4,749	68%	3%	63%	24%	10%
M45.8	4,703	90%	0%	30%	37%	32%
F09.5	4,624	91%	5%	64%	21%	11%
X38.2	**4,566**	**75%**	4%	53%	25%	18%
Q11.3	4,418	62%	0%	95%	0%	4%
Q14.6	4,257	70%	0%	99%	0%	0%
T59.1	4,226	88%	4%	85%	9%	2%
M76.4	4,209	67%	1%	48%	29%	22%
A55.9	4,103	36%	23%	62%	11%	5%
G44.3	4,065	71%	1%	26%	34%	38%
S13.2	4,051	90%	2%	49%	25%	24%
F09.2	4,036	89%	44%	54%	2%	1%
C15.1	3,779	93%	0%	5%	24%	71%
J13.2	3,767	42%	1%	62%	27%	10%
T24.3	3,744	60%	15%	62%	18%	6%
L91.2	3,601	28%	9%	40%	31%	20%
H48.2	3,567	78%	1%	84%	13%	3%
T19.2	3,531	70%	95%	4%	1%	0%
A54.2	3,486	82%	63%	27%	9%	2%
Q17.4	3,474	70%	0%	92%	6%	2%
X37.8	**3,458**	**45%**	32%	52%	12%	5%
F12.1	3,457	94%	2%	87%	10%	1%
G45.8	3,427	85%	1%	46%	35%	18%

E20.1	3,387	49%	93%	7%	0%	0%
Q02.3	3,357	92%	0%	98%	2%	1%
F34.1	3,335	8%	57%	42%	0%	0%
S68.2	3,328	93%	26%	66%	6%	2%
Q03.4	3,276	91%	0%	96%	3%	1%
E03.6	3,259	18%	1%	90%	8%	1%
C11.1	3,212	89%	3%	37%	31%	30%
P05.4	3,167	72%	1%	75%	15%	9%
F14.5	3,083	92%	57%	43%	0%	0%
S64.1	2,932	87%	11%	71%	13%	4%
P09.1	2,889	74%	1%	43%	35%	21%
W83.3	2,795	66%	1%	77%	19%	3%
F42.1	2,729	90%	1%	58%	31%	11%
K63.5	2,722	79%	0%	39%	49%	12%
C60.1	2,709	65%	2%	22%	40%	36%
A52.8	2,676	85%	0%	61%	27%	12%
X38.6	**2,675**	**92%**	10%	55%	23%	12%
X33.8	**2,524**	**66%**	4%	35%	29%	32%
C31.1	2,521	88%	70%	25%	4%	1%
Q16.8	2,489	68%	0%	99%	1%	1%
T24.2	2,448	45%	2%	67%	24%	7%
Q03.9	2,447	87%	0%	90%	6%	4%
W90.1	2,436	45%	5%	31%	28%	36%
M47.2	2,390	52%	0%	9%	25%	65%
X30.2	**2,381**	**91%**	6%	51%	32%	10%
M31.1	2,341	89%	0%	68%	25%	6%
X38.4	**2,338**	**95%**	47%	28%	15%	9%
H28.9	2,329	55%	1%	40%	26%	34%
W90.4	**2,295**	**88%**	1%	43%	36%	21%
S09.1	**2,251**	**94%**	48%	43%	6%	4%
W85.8	2,248	64%	1%	77%	18%	4%
C29.2	2,233	99%	1%	26%	39%	34%
T59.2	2,228	92%	3%	69%	21%	7%
N15.3	2,195	73%	5%	63%	27%	5%
S13.1	2,192	97%	1%	36%	28%	35%
S15.2	2,181	76%	6%	43%	26%	26%
W91.9	2,173	55%	8%	59%	23%	10%
T96.2	2,169	57%	4%	63%	22%	10%
N09.2	2,164	74%	91%	9%	0%	0%
L87.4	2,163	72%	0%	79%	18%	3%
A57.8	2,161	88%	0%	60%	28%	13%
M79.2	2,141	69%	4%	42%	30%	24%
A54.8	2,124	83%	33%	47%	17%	3%
X38.3	**2,111**	**86%**	2%	36%	30%	32%
J18.3	2,091	5%	0%	65%	27%	8%
H20.8	2,089	89%	0%	36%	42%	22%
D20.3	2,086	89%	65%	29%	5%	1%
X34.1	**2,074**	**92%**	35%	53%	9%	3%
M49.8	2,074	86%	9%	35%	31%	25%
S09.2	**2,067**	**93%**	23%	56%	11%	10%
C86.5	2,065	98%	0%	19%	31%	50%
D28.2	2,013	76%	44%	43%	10%	4%
X34.8	**2,004**	**78%**	15%	43%	27%	15%
C39.1	1,997	92%	4%	63%	22%	11%

H52.3	1,979	86%	1%	67%	22%	10%
H20.9	1,972	86%	0%	34%	41%	24%
H51.1	1,956	27%	0%	68%	24%	7%
C73.4	1,955	86%	1%	9%	26%	64%
C10.1	1,953	93%	18%	46%	16%	19%
E36.9	1,950	40%	18%	46%	25%	12%
D03.3	1,949	51%	76%	23%	0%	0%
F13.9	1,939	99%	10%	79%	10%	2%
S06.3	**1,923**	**98%**	6%	68%	17%	9%
T20.9	1,892	50%	10%	43%	29%	18%
G44.8	1,870	20%	7%	28%	25%	40%
J43.9	1,865	27%	0%	37%	32%	31%
H23.2	1,846	93%	0%	39%	40%	21%
F24.1	1,846	70%	1%	53%	32%	14%
S70.1	1,845	89%	20%	60%	12%	7%
C86.6	1,832	85%	87%	10%	2%	1%
E25.3	1,823	79%	7%	61%	20%	12%
X38.5	**1,815**	**39%**	68%	20%	8%	4%
G21.1	1,798	78%	26%	56%	15%	3%
S52.1	1,768	85%	0%	82%	16%	2%
E36.8	1,738	80%	6%	50%	31%	13%
T62.5	1,728	86%	0%	46%	37%	16%
E04.1	1,716	58%	24%	68%	7%	1%
T87.2	1,704	37%	8%	61%	21%	10%
C13.2	1,703	87%	0%	37%	39%	24%
A61.1	1,700	64%	1%	78%	18%	3%
F26.3	1,697	89%	90%	10%	0%	0%
L63.4	1,682	21%	0%	19%	42%	39%
T42.3	1,674	45%	1%	92%	5%	2%
S08.2	**1,663**	**97%**	2%	35%	31%	31%
S60.4	1,656	60%	11%	73%	12%	4%
H56.2	1,656	63%	0%	83%	14%	2%
M49.2	1,648	69%	1%	31%	27%	40%
M70.2	1,639	79%	0%	17%	55%	27%
X30.1	**1,636**	**39%**	1%	85%	11%	3%
T19.3	1,630	87%	98%	2%	0%	0%
Q20.2	1,624	93%	0%	84%	11%	6%
F23.1	1,606	71%	6%	56%	27%	10%
C27.3	1,580	95%	50%	11%	18%	20%
V48.5	1,575	98%	0%	60%	29%	11%
L86.1	1,573	97%	0%	77%	18%	4%
S08.1	**1,561**	**99%**	2%	22%	32%	44%
L85.2	1,553	58%	0%	76%	20%	3%
W88.9	1,540	53%	2%	85%	11%	2%
T59.4	1,530	80%	5%	78%	15%	2%
H44.4	1,511	49%	5%	63%	21%	11%
H55.3	1,504	48%	3%	80%	13%	3%
S06.4	**1,500**	**94%**	5%	65%	19%	12%
N28.4	1,497	91%	8%	90%	1%	0%
F09.9	1,492	91%	36%	52%	8%	4%
Q55.3	1,480	63%	0%	94%	5%	1%
C22.6	1,462	98%	3%	25%	30%	42%
A55.8	1,461	44%	28%	58%	10%	4%
H48.1	1,450	67%	1%	67%	23%	10%

E08.1	1,449	18%	1%	62%	29%	7%
W08.3	1,446	56%	10%	69%	17%	5%
X35.9	**1,444**	**83%**	25%	32%	31%	12%
E36.1	1,443	25%	1%	47%	36%	16%
W84.3	1,423	77%	2%	89%	8%	1%
C31.8	1,420	78%	40%	52%	6%	2%
W85.1	1,406	69%	3%	76%	17%	3%
Q03.3	1,387	66%	0%	94%	5%	1%
T42.2	1,381	62%	0%	99%	0%	0%
D07.3	1,381	85%	92%	6%	1%	1%
F38.2	1,352	80%	4%	59%	26%	11%
W36.3	1,339	78%	1%	35%	38%	26%
W59.5	1,335	48%	3%	52%	34%	11%
L91.8	1,329	72%	18%	50%	27%	5%
C18.1	1,323	83%	9%	32%	33%	26%
C79.2	1,319	19%	1%	37%	42%	20%
X36.1	**1,311**	**74%**	2%	74%	24%	0%
B32.1	1,290	71%	0%	59%	23%	17%
S15.1	1,287	85%	4%	36%	29%	31%
T87.3	1,283	44%	2%	56%	28%	14%
X30.9	**1,276**	**86%**	9%	48%	24%	19%
L87.1	1,275	57%	0%	76%	21%	3%
A52.9	1,269	89%	0%	58%	29%	13%
Q11.2	1,260	63%	0%	100%	0%	0%
M77.9	1,257	84%	1%	35%	33%	30%
E05.1	1,256	70%	21%	20%	23%	36%
L35.2	1,244	34%	2%	73%	22%	3%
N01.2	1,243	86%	4%	82%	10%	4%
L67.1	1,241	66%	0%	16%	42%	42%
H56.8	1,238	73%	4%	72%	18%	6%
M14.9	1,232	97%	1%	60%	32%	6%
Q12.4	1,229	85%	0%	97%	2%	1%
T24.9	1,228	60%	16%	60%	18%	6%
W83.8	1,227	64%	1%	83%	14%	2%
K60.3	1,208	25%	1%	16%	30%	54%
F13.5	1,193	94%	31%	66%	2%	1%
T21.2	1,189	29%	0%	31%	40%	29%
C62.3	1,187	94%	0%	23%	41%	36%
G15.3	1,177	57%	5%	28%	35%	31%
Q10.1	1,156	71%	0%	100%	0%	0%
C22.2	1,153	96%	1%	32%	32%	35%
T20.3	1,150	50%	21%	39%	23%	18%
W82.8	1,146	66%	1%	76%	19%	4%
S53.2	1,145	76%	46%	39%	11%	3%
Q17.8	1,140	60%	0%	93%	5%	2%
B28.2	1,136	7%	0%	53%	37%	10%
F18.1	1,131	60%	7%	72%	16%	5%
T27.3	1,120	62%	15%	64%	14%	7%
J38.1	1,120	21%	0%	29%	33%	39%
N30.2	1,118	88%	86%	11%	2%	1%
F34.4	1,110	18%	64%	35%	0%	0%
S52.3	1,102	96%	4%	75%	17%	3%
F10.1	1,100	52%	2%	71%	19%	8%
H59.4	1,090	50%	1%	98%	1%	0%

D15.3	1,089	63%	56%	33%	9%	2%
Q03.8	1,088	89%	0%	92%	6%	3%
L74.2	1,085	23%	0%	40%	37%	22%
L91.1	1,081	26%	25%	42%	25%	9%
K60.1	1,072	7%	0%	10%	30%	60%
V48.6	1,064	99%	0%	53%	31%	16%
X31.3	**1,040**	**77%**	55%	25%	12%	8%
G34.5	1,039	58%	21%	35%	21%	23%
P20.1	1,037	70%	1%	78%	17%	4%
K65.3	1,034	73%	0%	37%	49%	13%
C66.4	1,031	88%	5%	26%	30%	38%
T69.1	1,027	62%	3%	86%	9%	2%
H22.8	1,023	91%	0%	50%	32%	17%
X37.9	**1,009**	**93%**	4%	65%	24%	7%