

# **Healthcare for Single Homeless People**

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## Table of contents

<b>1. Executive summary</b>	<b>1</b>
<b>2. Definition and scale of homelessness</b>	<b>3</b>
2.1 Introduction	3
2.2 Assistance for people homeless or at risk of homelessness	3
2.3 Services for homeless people not owed a duty to secure accommodation	5
2.4 The client groups focused on in this paper	7
2.5 Estimated numbers of rough sleepers and people living in the hostel system	7
<b>3. Morbidity and mortality in the homelessness population</b>	<b>10</b>
3.1 Existing literature on morbidity and mortality in the homelessness population	10
3.2 Additional evidence from Hospital Episode Statistics	12
<b>4. Use and cost of health services for this client group</b>	<b>13</b>
4.1 Introduction	13
4.2 HES data (for those with No Fixed Abode)	14
4.3 Data from six specialist homelessness GP practices	15
4.4 Estimate of total resource usage by this client group	16
<b>5. Models of primary care for this client group</b>	<b>17</b>
5.1 Barriers to access to mainstream services	17
5.2 Models of specialist primary care for this client group	17
5.3 Links between service need and primary care provision	20
5.4 Barriers to provision of primary care for homeless people	20
5.5 Intermediate care for this client group	21
<b>6. PCT funding for this client group</b>	<b>23</b>
<b>7. Technical Annex A: Detailed findings from analysis of HES data</b>	<b>25</b>
7.1 Key points	25
7.2 Introduction	26
7.3 Initial results and filtering by age	27
7.4 General inpatient usage	27
7.5 Emergency / elective split	27
7.6 Geographical breakdown	28
7.7 Outpatients	28
7.8 Speciality / HRG breakdown	29
7.9 Comparison with results from the 2006/7 data year	32
7.10 Details of the inpatient variables and dataset used from HES	32
7.11 Details of the outpatient variables and dataset used from HES	32
<b>8. Technical Annex B: Costing this client group's use of acute services</b>	<b>34</b>
8.1 Key points	34
8.2 Introduction and summary	34
8.3 Inpatient costs (component #1): the size of the homelessness population	35
8.4 Inpatient costs (component #2): data on relative use from specialist homelessness healthcare providers	35
8.5 Inpatient costs (components #3 and #4): identifying the average NFA cost per patient and internally consistent estimates of the average general population cost per patient and the average 16-64 population cost per patient	36
8.6 Inpatient costs: putting the components together to give a final estimate	38
8.7 Outpatient usage	39
8.8 Accident & Emergency attendances	39
8.9 Summary of results	40

*Please note that this paper reflects the results of analysis by the Office of the Chief Analyst; any inferences and conclusions are those of the authors and not of the Department of Health. The authors are Andrew Edmunds, Peter-Sam Hill, Barry McCormick, Emmi Poteliakhoff, Alistair Rose, Marianne Scholes and Jonathan White.*

## 1. Executive summary

- 1.1 This paper presents the results of analysis aimed at better understanding the health needs and relative healthcare costs of people who are homeless or living in certain types of insecure or short-term accommodation.
- 1.2 Section 2 defines in more detail the client group on which this paper is focused. Broadly, this group includes people who are sleeping rough (homeless) or sleeping in a hostel, a squat or on friends' floors (insecure or short-term accommodation). This group is predominantly male and without dependents, although there are some homeless women and couples who sleep rough. It should be noted that the definition does not include people such as families (with children) living in temporary accommodation provided by a local authority under homelessness legislation. This is because although their housing may be unsettled (potentially leading to increased health problems as a consequence), they are not considered to have substantially different health needs to the mainstream population, and will not generally have significant problems in accessing primary health care. For similar reasons, the definition also excludes people living in overcrowded or unsuitable accommodation.
- 1.3 *Please note that for the purpose of this paper the terms 'homeless people' and 'the homelessness population' are used as shorthand for the above definition: people who are sleeping rough or living in a hostel, a squat or sleeping on friends' floors.*
- 1.4 It is estimated that in England around 40,500 people are in the hostel system at any one time and that over the course of a year, approximately 100,000 individuals cycle in and out of it. For some of these individuals, the lack of a settled home may be temporary and quickly resolved; others may be homeless or living in insecure circumstances for longer periods and either sleep rough, in squats or on friends' floors when not in the hostel system. The homelessness population is also found to be very unevenly distributed amongst PCTs.
- 1.5 Sections 3 and 4 explore the evidence on hospital service usage and health needs for this client group, which is set out in detail by Annexes A and B. By combining Hospital Episode Statistics with data from elsewhere, it is estimated that this client group consume around 4 times more acute hospital services than the general population, costing at least £85m in total per year. For inpatient costs, the figure rises to 8 times when the client group is compared to the population aged 16-64, arguably a more reasonable comparison. The most common reasons for admission include toxicity, alcohol or drugs and mental health problems. The analysis shows that, although this client group have almost three times the average length of stay of the 16-64 population, this is due to the severity of their health conditions (their 'case mix') rather than differences in delays for discharge. It is also found that this client group are much more likely to be admitted as emergency admissions.
- 1.6 Section 5 discusses the different models for provision of primary care services to this client group. It is argued that they experience many barriers to accessing mainstream primary care; ideally, PCTs would provide specialist homelessness primary care services, suited to both the size of this client group in their area and the extent of existing services. Four models of care are described, ranging from outreach services to a fully integrated primary and secondary care model. Current provision of specialist primary care services is variable; a third of PCTs provide no specialist homelessness primary care services at all, and another third do not provide permanent registration in a specialist service. This will be partly explained by variation in need. Further analysis could be undertaken to explore whether specialist primary care services provide any efficiency gains in terms of reducing hospital admissions, as analysis of existing data (which has some limitations) has not been conclusive.

- 1.7 Although some homeless populations will be counted in the Census, it is unlikely that all homeless people are captured in the population data used as the basis of PCT revenue allocations. Therefore, there is a concern that some PCTs may not be appropriately funded for the homeless populations for which they are responsible. Further work should be undertaken to determine an accurate estimate of the numbers, location and need levels of homeless populations to determine how material the issue is. Only once this information is available can the treatment of homeless populations within the resource allocation formula be considered.
- 1.8 This paper has been published alongside Inclusion Health, a joint short study by the Department for Health and the Social Exclusion Task Force in the Cabinet Office that outlines how improvements in health care for the most excluded groups in society can be accelerated to ensure high quality services are available to all. New Inclusion Health commissioning guidance has also been produced to support commissioners and providers to further improve primary care services for socially excluded groups. The reports are available at the link below.
- [http://www.cabinetoffice.gov.uk/social\\_exclusion\\_task\\_force/short\\_studies/health-care.aspx](http://www.cabinetoffice.gov.uk/social_exclusion_task_force/short_studies/health-care.aspx)

*The Key Points sections at the beginning of Annexes A and B summarise in more detail the results of the analysis of the health needs, service usage and funding of this client group.*

## **2. Definition and scale of homelessness**

### **2.1 Introduction**

2.1.1 The following section sets out the statutory and non-statutory assistance available for people who are homeless or at risk of homelessness. It defines the precise client group considered by this paper and estimates the size of this population.

### **2.2 Assistance for people homeless or at risk of homelessness<sup>1</sup>**

2.2.1 Accommodation is available for rent by private landlords in most areas. Social housing is provided by local authorities and housing associations and is available by application to the local authority through its housing register. However, in most areas, demand for social housing exceeds supply and social housing is not available on demand. In some areas, particularly London and the South East, applicants for social housing may have to wait a number of years for an allocation. Housing benefit is generally available to help people on low or no income meet their rent payments (although certain groups of person from abroad may not be eligible for this benefit – see 2.2.12).

2.2.2 Local housing authorities have a statutory duty to have a strategy for preventing homelessness and for ensuring that accommodation and support will be available for people in their district who need these. They also have a general duty to ensure that advice and information about homelessness and the prevention of homelessness is available free of charge to everyone in their district. This includes persons from abroad who may be ineligible for more substantive assistance.

2.2.3 Most local housing authorities in England have expanded their role of provider of advice and information to develop what is often referred to as a housing options service. The Government encourages authorities to assist everyone who seeks help from the authority because they face a risk of homelessness, with the emphasis on preventing homelessness wherever possible. Among other things, advice and assistance provided through the housing options service may include the provision of rent guarantees or bonds to help people to secure accommodation in the private rented sector.

2.2.4 In England, under Part 7 of the Housing Act 1996, local housing authorities must secure suitable accommodation for applicants who are eligible for assistance, homeless through no fault of their own, and who fall within a priority need group (“the main homelessness duty”). Some categories of person from abroad are not eligible for assistance (see 2.2.12).

2.2.5 The priority need groups are set out in legislation and include, among others:

- a pregnant woman or a person with whom she resides or might reasonably be expected to reside
- a person with whom dependent children reside or might reasonably be expected to reside
- a person who is vulnerable<sup>2</sup> as a result of old age, mental illness, mental disability, physical disability or other special reason (or a person with whom such a vulnerable person resides)

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<sup>1</sup> Drafted with assistance from Department for Communities and Local Government colleagues

<sup>2</sup> Case law has established that, when determining whether an applicant is vulnerable, the local authority must consider whether, when homeless, the applicant would be less able to fend for him or

- a person aged 16 or 17 who is not owed a duty under the Children Act 1989
- a person aged 18-20 who has previously been looked after, accommodated or fostered
- a person aged 21 or over who is vulnerable<sup>3</sup> as a result of having been looked after, accommodated or fostered
- a person who is homeless, or threatened with homelessness, as a result of an emergency such as flood, fire or other disaster

2.2.6 In practice, where the main homelessness duty is owed, the local authority must secure suitable temporary accommodation until an offer of settled accommodation can be made (or some other circumstance brings the duty to an end). In most cases, the offer of settled accommodation that brings the duty to an end is an offer of social housing (allocated through the housing register under Part 6 of the Housing Act 1996).

2.2.7 Lesser homelessness duties are owed if the applicant does not meet all the criteria mentioned above. If someone has priority need but is intentionally homeless, the local authority must secure temporary accommodation for long enough to provide a reasonable opportunity for the applicant to obtain accommodation for him or herself and must ensure that advice and assistance is provided. If someone is homeless through no fault of his or her own but does not have 'priority need' (e.g. a single person or a couple who do not have a child and are not vulnerable), the authority must ensure that such applicants are provided with advice and assistance to help them obtain accommodation for themselves.

### ***The interim duty***

2.2.8 When someone applies to a housing authority for accommodation or assistance in obtaining accommodation, the local authority must consider whether it has reason to believe the person may be homeless or likely to become homeless – and if so, must make inquiries to determine whether any duty is owed under the homelessness legislation. If the authority also has reason to believe the applicant may be eligible for assistance, may be homeless and may be in priority need, it has an immediate duty to secure accommodation (“the interim duty”), pending a decision whether any substantive duty is owed under Part 7.

### ***Relevant definitions***

2.2.9 Broadly, someone is statutorily homeless if they do not have accommodation that they have a legal right to occupy, and which is accessible and physically available to them (and their household) and which it would be reasonable for the whole household to continue to live in. Someone is “threatened with homelessness” if they are likely to become homeless within 28 days.

2.2.10 Someone is also statutorily homeless, if they have accommodation available but it would not be reasonable for them to continue to occupy it, for example, because their household is overcrowded or because the condition of the property is very poor. However, when deciding whether someone who has accommodation may be homeless for this reason, local authorities can decide that, despite the poor circumstances, it would be reasonable for them to continue to occupy their home

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herself than an ordinary homeless person so that he or she would suffer injury or detriment in circumstances where a less vulnerable person would be able to cope without harmful effects

<sup>3</sup> See previous footnote

because their circumstances are not exceptional by comparison with the general housing conditions in the district.

- 2.2.11 Broadly, someone becomes 'homeless intentionally', if they have to leave their home as a consequence of deliberate action or inaction on their part – for example, because they assaulted their landlord or a neighbour or they failed to pay the rent when they had the means to do so – and it would otherwise have been reasonable for them to continue to live there. However, something done, or not done, in good faith in ignorance of a relevant fact cannot be treated as deliberate.

### ***Ineligibility for homelessness assistance – certain categories of person from abroad***

- 2.2.12 Certain categories of person from abroad are ineligible for homelessness assistance (and for housing benefit) – for example, foreign nationals from outside the EU (and wider European Economic Area) whose leave to enter or remain in the UK is conditional on them having no recourse to public funds. Also ineligible are asylum seekers (who can seek help from the Home Office, if destitute), illegal entrants and people who have overstayed their leave to enter or remain in the UK.

### ***Referrals to another local authority***

- 2.2.13 Where an applicant meets the criteria for being owed the main homelessness duty, the local authority has discretion to take into account whether the applicant has a local connection with its district. If the applicant does not have a local connection with the district where they have applied for help but does have one elsewhere in Great Britain, the local authority can seek to refer the case to the authority in the other area. Referrals are subject to conditions such as no risk of violence in the other area. The authority dealing with the application has a duty to secure temporary accommodation until the referral is agreed.

## **2.3 Services for homeless people not owed a duty to secure accommodation**

- 2.3.1 People who do not fall within the statutory 'priority need' categories and who are unable to find accommodation for themselves in the hostel system, in squats or on friend's floors may face homelessness and ultimately the possibility of having to sleep rough.
- 2.3.2 Whilst these groups are not owed a duty to secure accommodation under the homelessness legislation, there are services that can provide them with information, advice and assistance, as well as accommodation and support. Local authorities are encouraged to develop enhanced housing options services that will offer advice and assistance to people including those who do not have a priority need for accommodation.
- 2.3.3 The Audit Commission's Key Lines of Enquiry for homelessness and housing advice services<sup>4</sup> describes an excellent service as follows:
- Available to any person in the area and those returning to the area, e.g. ex-offenders and those leaving residential drug treatment services

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<sup>4</sup> See <http://www.audit-commission.gov.uk/housing/inspection/Keylinesofenquiry/Pages/HomelessnesshousingadviceKLOE.aspx>



- Having 'well publicised and highly effective out-of-hours advice and emergency accommodation arrangements in place to ensure the risk of people needing to sleep rough is minimal'
  - Conducting proactive multi-agency work to identify individuals at risk of homelessness so that advice and assistance can be provided in a timely manner to prevent homelessness
- 2.3.4 Under the homelessness legislation, local authorities have a power to secure accommodation for housing applicants who are eligible for assistance, unintentionally homeless but not in priority need. They must consider whether to exercise the power, for whom, and for how long.
- 2.3.5 Supported accommodation is available in England for people at risk of homelessness, funded by central Government through the Supporting People programme. Some local authorities provide additional funding for these services.
- 2.3.6 Many authorities use their Supporting People commissioning arrangements to develop targeted accommodation and support pathways for people who are homeless or at risk of homelessness. These enable different needs to be met within the system, and for individuals to progress through different services towards greater independence as they develop skills and confidence. The SP provision therefore accommodates a wide range of needs. Those with the greatest health care challenges are likely to be people living in first stage hostels (e.g. direct access, night shelters) or accommodation targeted at people with higher support needs.
- 2.3.7 Despite this safety net and provision for preventing homelessness, some people may still face homelessness. For example, this may occur when insecure, temporary arrangements (e.g. staying on friends' floors) break down, or if their behaviour cannot be safely managed in hostels and other supported accommodation. Whilst some people who sleep rough do so for a very limited period of time, and can be guided through services to find appropriate accommodation relatively quickly, others have additional support needs and problems.
- 2.3.8 The 'individual' risk factors associated with homelessness include poverty, unemployment, sexual or physical abuse, family disputes and breakdown, drug or alcohol misuse, school exclusion and poor mental or physical health (Fitzpatrick et al<sup>5</sup>). These authors also suggest that specific events such as leaving the parental home after arguments, marital or relationship breakdown, eviction, a sharp deterioration in mental health or an increase in alcohol or drug misuse can 'trigger' homelessness. Other research has also suggested that a lack of supportive factors such as strong support networks can play a role.
- 2.3.9 People who sleep rough for a significant period of time are likely to have pre-existing health-related difficulties and will be less well-equipped to access the healthcare they need. As is presented in the main section of this paper, their conditions can deteriorate and without targeted and proactive health services the complexity of their health needs results in a case mix that is far more costly to treat than that of the general population.

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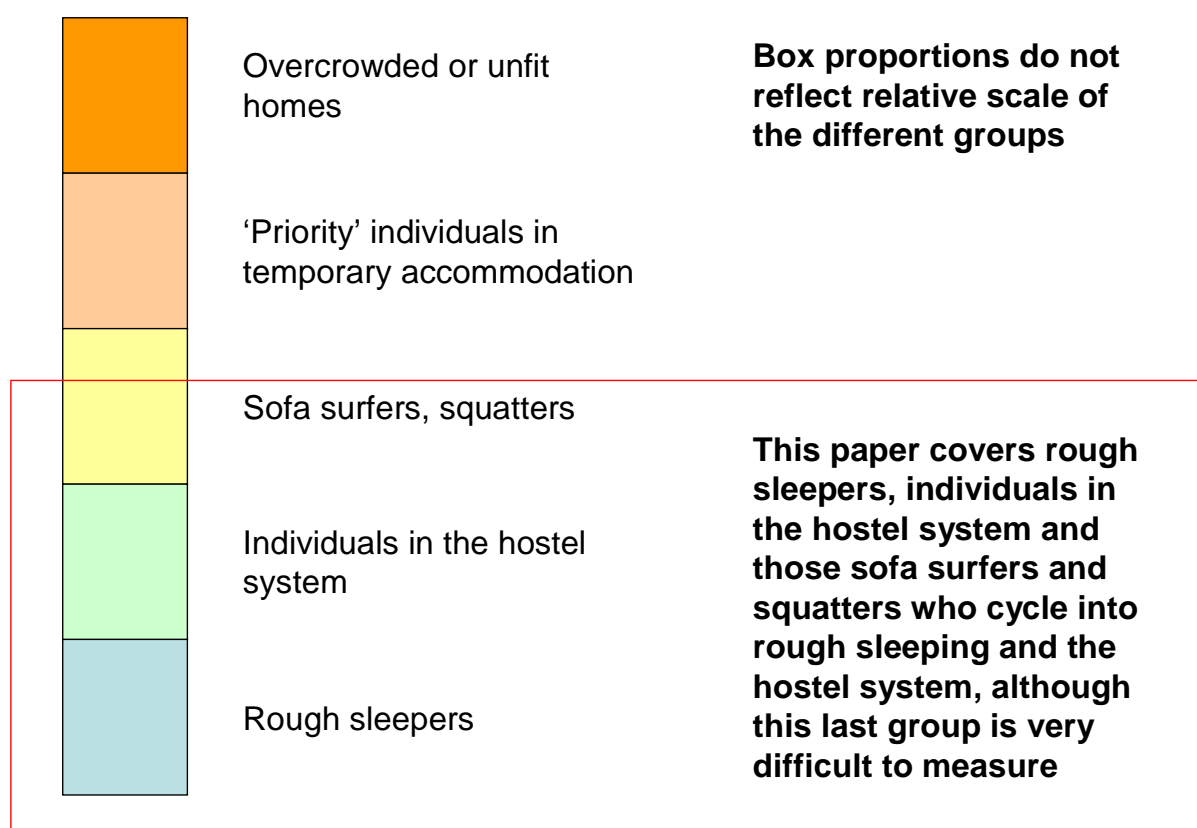
<sup>5</sup> 'Single homelessness - An overview of research in Britain', Suzanne Fitzpatrick, Peter Kemp and Susanne Klinker, 3 April 2000, Joseph Rowntree Foundation. The authors also listed a background of local authority care and experience of prison or the armed forces as risk factors associated with homelessness.

## 2.4 The client groups focused on in this paper

2.4.1 This paper focuses on people sleeping rough or living in the hostel system, rather than those who otherwise resolve their homelessness. This is because it is generally agreed that these people are vulnerable, have particularly high health needs and are hard to reach through mainstream services. Other people living in poor conditions (such as those in overcrowded or unfit homes) may also suffer from increased health problems linked to their housing situation. This paper does not focus on them because they do not suffer the same barriers to accessing mainstream health care, and are not recognised to have health needs that are substantially different from the general population.

2.4.2 The coverage of this paper is illustrated in Figure 1:

Figure 1: Coverage of this paper



## 2.5 Estimated numbers of rough sleepers and people living in the hostel system

2.5.1 There is no agreed estimate of the number of people living in the hostel system, nor is there a clear consensus on which data source or methodology to use when estimating homeless figures. The estimates below include both a 'stock' figure (the number of people sleeping rough or living in the hostel system at any one time) and a 'flow' figure (the number of people who have, at any point in the past year, slept rough or lived in the hostel system).

## ***'Stock' estimate for rough sleepers and people in the hostel system***

### 2.5.2 Rough Sleepers:

Official figures on rough sleepers are collected by means of annual 'street counts' on one night by local authorities, in conjunction with homelessness charities. The latest estimate in 2009<sup>6</sup> was that there are 464 individuals sleeping rough on any one night, of which more than half were in London. However, this methodology, while providing a useful benchmark between areas and over time, reveals the minimum number of people sleeping rough.

### 2.5.3 Hostels and Supported Accommodation:

We estimate that there are 40,500 people living in hostels or supported accommodation (because they have experienced homelessness or are considered to be at risk of homelessness) at any one time. This estimate is based on analysis of the Homeless UK database undertaken by Homeless Link<sup>7</sup>, which gives an estimate of 45,000 total bed spaces (3,000 of which are second-stage). Supporting People data yield an estimate of similar magnitude, although they are less well-focused on those who were provided with accommodation because they were homeless (for example, they also include a category of 'young people at risk'). Assuming an average occupancy rate of 90%, 40,500 people are estimated to be living in this accommodation at any one time.

2.5.4 The 40,500 figure is taken as a conservative estimate of the number of people living in the hostel system, and is used later on in this paper. The 464 rough sleepers may also be double counted in the hostel estimate (if they cycle between the two within the year), so they are not added to the 40,500 total. In any case, the 464 estimate is comparatively small.

2.5.5 To estimate the geographical distribution of these 40,500 people, 2007/8 Supporting People (SP) client numbers<sup>8</sup> are taken (at local authority level) for the categories of 'single homeless with support needs' and 'rough sleeper'. This gives a total of 65,000 client records, with each record relating to a new client for SP-funded services, or a switch in the service received by an existing client<sup>9</sup>. The proportions of these client records in each of the local authorities are then applied to the 40,500 population to give an estimate of the homelessness population by local authority. In doing this, an equal turnover rate and service-switching rate in each local authority is implicitly assumed. Lastly, the local authority data is transformed to the Primary Care Trust (PCT) geography using population-weighted averaging.

2.5.6 The PCT-level estimates are mapped in Figure 2, which illustrates how the distribution of the homelessness population across PCTs is very uneven. In the main, central London and other urban centres have the highest density of this client group per capita. The PCTs with the highest density have the equivalent to 611 to 1,443 homeless people for a PCT population of 330,000. The PCTs with the lowest density have the equivalent to 11 to 76 for the same PCT population.

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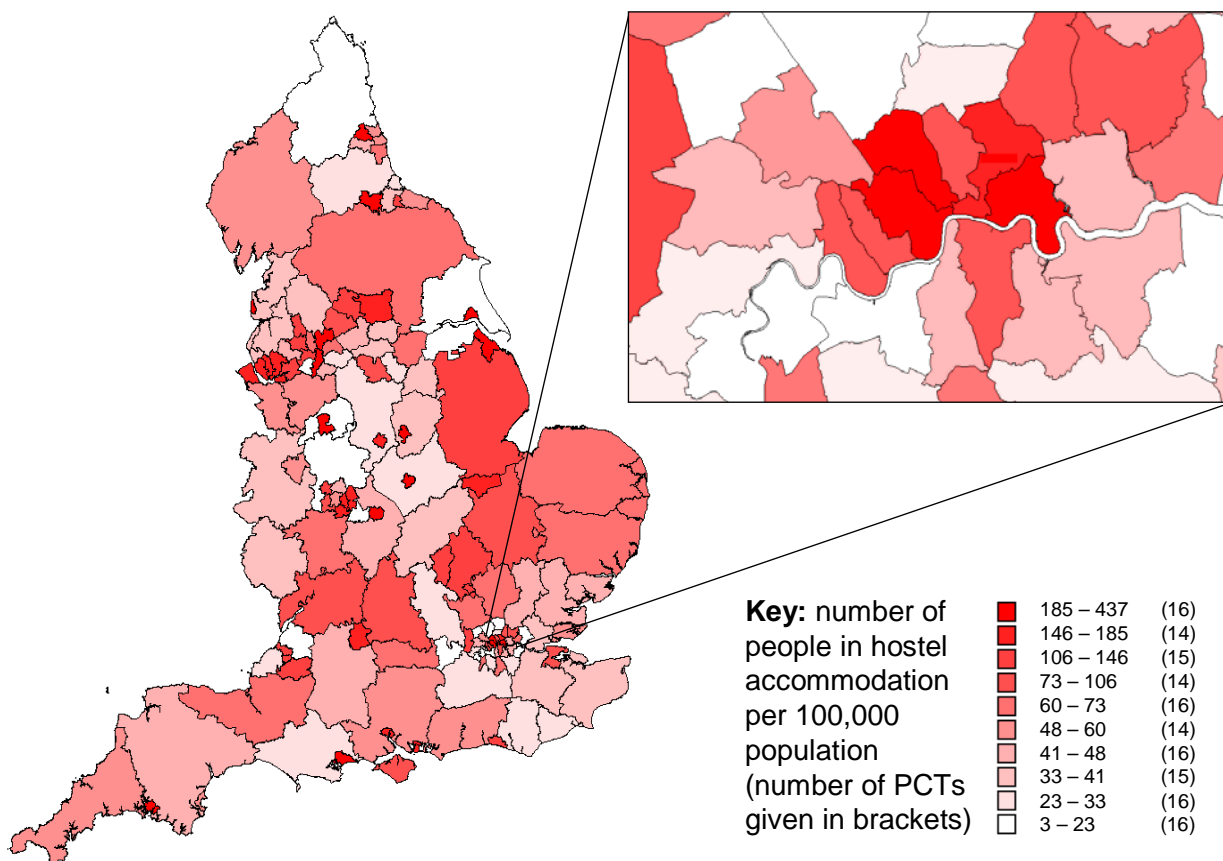
<sup>6</sup> See <http://www.communities.gov.uk/publications/corporate/statistics/roughsleeping2009>

<sup>7</sup> Survey of Needs and Provision (SNaP), Homeless Link, 2009.

<sup>8</sup> See <http://www.spclientrecord.org.uk/webdata/reports.cfm>

<sup>9</sup> See the Quick Reference Card at <http://www.spclientrecord.org.uk/crf.cfm>

Figure 2: Number of individuals in hostel accommodation per capita by PCT



Data source: Supporting People Client Records 2007/8, mapped from LA to PCT

### ***'Flow' estimate for rough sleepers and people in the hostel system***

2.5.7 It is more difficult to estimate a flow figure because it is likely that many individuals will cycle between different types of accommodation and sleeping rough over a year. The homelessness charity Thames Reach estimates about 3,000 people sleep rough in London during the course of a year. At an England level, combining SP data with the earlier population estimate yields a flow estimate of around 100,000 homeless individuals in 2007/8<sup>10</sup>. This estimate will not count homeless individuals who avoid hostels entirely during the year, and does not cover entry into non-SP-funded bed spaces. On the other hand, it may double count individuals who access SP-funded services more than once in a year (if this is not noticed at the local level), and individuals who switch towards a different type of service (thus generating a new record).

<sup>10</sup> In the 2007/8 Supporting People data, around 65,000 client records relate to the single homeless and rough sleepers. Since these records relate to new clients (or a switch in the service received by an existing client), they will not include the estimated 40,500 living in hostels at the start of the year. This yields 105,500 people per year (approximately 100,000), subject to the caveats set out in the text.

### **3. Morbidity and mortality in the homelessness population**

#### **3.1 Existing literature on morbidity and mortality in the homelessness population**

- 3.1.1 There is abundant evidence that people who are sleeping, or have slept, rough and/or are living in hostels and night shelters, have significantly higher levels of premature mortality and mental and physical ill health than the general population. Several sources show that of deaths that occur in hostels or while registered with homelessness services, the average age at death is low, about 40-44 years<sup>11</sup>. It is very important that these figures are not misrepresented as life expectancy figures (as has happened in the past). The figures give the average age at death of a sample of homeless people who die whilst they are homeless and do not take into account those people who become settled in a home. Recently, such misrepresentation of the average age at death of Cambridge Access Surgery patients led some homeless people in Cambridge to wrongly understand that they will probably only live until they are 44. However, deaths amongst the Cambridge Access Surgery registered population of several hundred number only about 10 deaths per year, about 2-3%. This is very high compared to the national population, but does not mean that a 40-year-old homeless person can only expect to live another 4 years<sup>12</sup>.
- 3.1.2 The following table, derived from a 2006 paper by NMJ Wright<sup>13</sup>, highlights common health problems experienced by homeless people.

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<sup>11</sup> At the Dawn Centre in Leicester, where all patients are homeless at registration but not necessarily rough sleeping, the average age at death for clients who died between 1989 and 2007 was 40.2 years. At the Cambridge Access Surgery, the equivalent figure for 2003-2008 was 44 years. Crisis reported a similar figure in 1996.

<sup>12</sup> Adapted from 'Dying for a Home', The Willow Walker Autumn 2009, Dr Christine Hugh-Jones, Cambridge Access Surgery

<sup>13</sup> 'How can health services effectively meet the health needs of homeless people?', Nat MJ Wright and Charlotte NE Tompkins, Br J Gen Pract. 2006 April 1; 56(525): 286-293. See <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1832238/>

Figure 3: Health problems commonly found in homeless patients

Health problem	Description and examples from NMJ Wright, 2006
Mental ill-health	Schizophrenia, depression and other affective disorders, psychosis, anxiety states, personality disorder, earlier onset of drug misuse and severity of alcohol use.
Physical trauma	Injury, foot trauma and dental caries due to self neglect.
Skin problems	Inflammatory conditions e.g. erythromelalgia, infestations e.g. scabies or body lice, infections e.g. cutaneous diphtheria impetigo
Respiratory illness	Pneumonia, influenza, tuberculosis (often latent)
Infections	Blood-borne viruses e.g. Hepatitis B, C and HIV. Hepatitis A. Secondary to louse infestations e.g. typhus, trench fever, relapsing fever.
Drug/alcohol dependence	Heroin-related death secondary to respiratory coma. Cocaine – case reports of toxic inhalation leading to pulmonary inflammation and oedema ('crack lung'), agitation and paranoia due to acute toxicity and thromboembolic events. Cardiological – cardiomyopathy. Neurological – peripheral neuropathy, erectile dysfunction, Wernicke's encephalopathy, Korsakoff's psychosis, amnesic syndrome, cerebellar degeneration, alcohol withdrawal seizures. Gastrointestinal and hepatobiliary – hepatitis, liver cirrhosis, pancreatitis, gastritis, peptic ulceration, oesophageal varices, carcinoma of the oesophagus and oropharynx, cardiomyopathy. Metabolic – vitamin deficiency (particularly thiamine), obesity. Psychosocial ill-health – including depression and suicide, sexual dysfunction, alcoholic hallucinosis, marital, family or employment breakdown.

Foot trauma is common in homeless people due to walking for long times in inappropriate shoes, standing or sitting for long periods (leading to venous stasis, oedema and infection), frost bite, skin anaesthesia due to alcoholic peripheral neuropathy, lack of hygiene due to over-wearing of unwashed clothing, or overgrown toe nails.

Complications of injecting illicit drugs include blood-borne virus infections, skin commensals or pathogens causing septicaemia, encephalitis, endocarditis, cellulitis and abscesses or deep vein thrombosis (through a combination of poor hygiene and repeated skin puncture). Tetanus may be secondary to injecting contaminated drugs.

3.1.3 Many homeless people demonstrate a tri-morbidity of physical illness, mental health problems and substance misuse. Research by the charity St. Mungo's<sup>14</sup> found that approximately half of their residents have mental health problems including depression and schizophrenia, emotional and psychological disorders and 'lower level' mental health illnesses. The research also found that 32% had an alcohol dependency and that 63% had a drugs problem.

3.1.4 Furthermore, a detailed report by the Royal College of Physicians<sup>15</sup> recognised that ill health could be both a cause and consequence of homelessness. Expert opinion suggests that perhaps the majority (circa two thirds) of serious chronic health problems amongst homeless people pre-exist before the person becomes homeless (and may be part of the cause of the transition to homeless), though will often be exacerbated by the person being homeless.

3.1.5 The St Mungo's research also found that 43% of the residents interviewed in its hostels had a physical illness. One in three had a condition for which they were not being treated and that half of these could deteriorate to the point where they would require urgent medical attention. This is further evidenced by the fact that the majority of their ambulance call-outs were for pre-existing conditions that had reached emergency status.

<sup>14</sup> 'Homelessness: it makes you sick', St Mungo's, September 2008

<sup>15</sup> 'Homelessness and ill health', Report of a working party of the Royal College of Physicians, 1994

3.1.6 Homelessness is a complex problem which, for many people, results from a complex interaction of environmental and mental health factors. There is emerging evidence (Maguire et al<sup>16</sup>) that psychological disorders strongly predict homelessness, in particular youth homelessness and rough sleeping. Maguire et al also find evidence that the behaviours that lead to homelessness may be associated with mental health problems such as Personality Disorder (PD), Post Traumatic Stress Disorder, complex trauma or conduct disorders in children. It is estimated that up to 60% of people within the hostel population in England may suffer from PD. The behaviours observed in people with PD can be described as ways of coping with the traumatic experience of difficult childhoods. It may therefore be more useful to describe PD as 'complex trauma', i.e. a reaction to an ongoing and sustained traumatic experience.

## 3.2 Additional evidence from Hospital Episode Statistics

3.2.1 The analysis set out by this paper in the next section and in Annex A<sup>17</sup> uses a 'No Fixed Abode' indicator as a proxy to identify hospital admission data for part of the homelessness population. It shows that the 'No Fixed Abode' group's most common reasons for admission include toxicity, alcohol or drugs, and mental health problems, in line with many of the findings above. A breakdown of the most common reasons for admission is given in Figures 4 and 5, with the comparison group being the fixed abode population aged 16-64. It is also found that this client group are high users of secondary care, with high rates of emergency admissions and almost triple the length of stay of the population aged 16-64.

Figure 4 – Most common HRG<sup>18</sup> chapters within the No Fixed Abode group

HRG Chapter	HRG Chapter Description	%	Total Episodes	Prominent HRGs within this Chapter
T	Mental health	22.4%	2,673	Alcohol or drugs dependency (30%), Alcohol or drugs non-dependent use (21%), Schizophreniform psychoses (21%), Acute reactions or personality disorders (12%)
S	Haematology, Infectious Diseases, Poisoning and Non-Specific Groupings	19.0%	2,269	Poisoning, toxic, environmental and unspecified effects (50%), Examination, follow-up and special screening (31%)
H	Musculoskeletal System	12.0%	1,431	Sprains, strains or minor open wounds (36%), Head injury (19%)
F	Digestive System	9.4%	1,123	General abdominal disorders (27%), Gastrointestinal bleed (17%)
E	Cardiac Surgery and Primary Cardiac	8.2%	985	Chest pain (33%), Syncope or collapse (26%)
J	Skin, Breast and Burns	6.4%	763	Minor skin procedures (29%), Major skin infections (27%)
A	The Nervous System	6.1%	733	Epilepsy (52%)
D	Respiratory System	4.8%	579	Lobar, atypical or viral pneumonia (22%), Unspecified acute lower respiratory infection (17%), Other respiratory diseases (15%), COPD or bronchitis (12%)
C	Mouth, Head, Neck and Ears	2.0%	245	Intermediate medical head, neck or ear diagnoses (27%), Intermediate mouth or throat procedures (22%), Minor mouth or throat procedures (13%)
L	Urinary Tract and Male Reproductive	1.9%	228	Kidney or urinary tract infections (20%), Urinary tract stone disease (20%), Bladder minor endoscopic procedure (11%)
Other		7.8%	928	
<b>Total</b>		100%	11,957	

<sup>16</sup> 'Homelessness and complex trauma: a review of the literature.' Maguire, N.J., Johnson, R., Vostanis, P., Keats, H. and Remington, R.E. (2009) Southampton, UK, University of Southampton (Submitted). See <http://eprints.soton.ac.uk/69749/>

<sup>17</sup> The ethnic makeup of the NFA population was considered but the NFA dataset did not record ethnicity for 20% of patients so the data were not deemed sufficiently accurate for this purpose.

<sup>18</sup> An HRG is a Healthcare Resource Group. These are groupings of treatment episodes that are similar in resource use and clinical response. HRG4 Design Concepts document (NHS Information Centre 2007)

Figure 5 – Top 10 HRGs for the No Fixed Abode group and the comparison group

No Fixed Abode (Age 16-64)			Fixed Abode (Age 16-64)		
HRG version 3.5		% of all episodes	HRG version 3.5		% of all episodes
S16	Poisoning, Toxic, Environmental and Unspecified Effects	9.46%	F06	Diagnostic Procedures, Oesophagus and Stomach	3.74%
T12	Alcohol or Drugs Dependency	6.69%	F35	Large Intestine - Endoscopic or Intermediate Procedures	3.34%
S33	Examination, Follow up and Special Screening (Chapter S: Haematology, Infectious Diseases, Poisoning and Non-Specific Groupings)	5.85%	C58	Intermediate Mouth or Throat Procedures	2.71%
T10	Alcohol or Drugs Non-Dependent Use >18	4.64%	E36	Chest Pain <70 w/o cc	2.43%
T03	Schizophreniform Psychoses without Section	3.41%	F47	General Abdominal Disorders <70 w/o cc	2.00%
H42	Sprains, Strains, or Minor Open Wounds <70 w/o cc	3.35%	M05	Upper Genital Tract Minor Procedures	2.00%
A30	Epilepsy <70 w/o cc	2.91%	J37	Minor Skin Procedures - Category 1 w/o cc	1.95%
T14	Acute Reactions or Personality Disorders	2.68%	H10	Arthroscopies	1.70%
E36	Chest Pain <70 w/o cc	2.42%	S22	Planned Procedures Not Carried Out	1.70%
T07	Depression without Section	2.04%	S16	Poisoning, Toxic, Environmental and Unspecified Effects	1.66%

## 4. Use and cost of health services for this client group

### 4.1 Introduction

4.1.1 In this section, the usage of secondary care services is estimated for people who are homeless or living in insecure or short-term accommodation. There is little systematic data on the use and cost of health services for this client group, so several different data sources are combined with a number of assumptions to derive an estimate. The key data is taken from:

- Hospital Episode Statistics (HES), which provides information on every inpatient episode and outpatient appointment in hospitals in England. 2007/8 records are identified where the address is reported as No Fixed Abode and the patient's age is between 16 and 64 inclusive, as a proxy for the client group on which this paper is focused.
- Data from a small number of specialist homelessness GP practices and PCTs in England.

4.1.2 The HES data is set out in detail in Annex A, and the costing process is set out in Annex B.



## 4.2 HES data (for those with No Fixed Abode)

- 4.2.1 In HES, each record allows the patient's Government Office Region of Residence (part of their home address) to be set to 'No Fixed Abode' (NFA). This section summarises the results of analysis based on the NFA code, with full details being given in Annex A.
- 4.2.2 The guidance on the use of the NFA code simply states that it should be selected if the patient has no fixed abode. Since this information is provided by individual patients, it will reflect their interpretation of their situation (and, possibly, any guidance given by hospital staff when submitting this information).
- 4.2.3 In 2007/08, there were around 17,400 inpatient episodes coded as NFA (15,800 different patients). However, the NFA code is not a perfect indicator of homelessness. Firstly, it will not include all admissions from the aforementioned definition of this client group, as some people may give the address of their hostel, a friend or relatives instead. Secondly, it is also likely to contain people who are not homeless, e.g. those who do not want others to know that they are receiving treatment, for example in some case of abortion, sexually transmitted disease, illicit drug use or domestic violence. The NFA code may also be present in records that are generally of poor data quality, but do not relate to homelessness.
- 4.2.4 To help correct for the second category of issues, certain HRG codes are excluded from the analysis (corresponding to neonatal diagnoses, invalid coding and pregnancy terminations). Patients are also excluded if their age range is improbable for a homeless individual; those under 16 or over 64<sup>19</sup>. (Comparisons are then made with the general population in the same age band of 16-64). It is assumed that the remaining admissions are representative of admissions from this client group, but have incomplete coverage due to some giving addresses such as for the hostel where they are staying. A summary of the NFA data is given in Box 1.

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<sup>19</sup> This excluded 154 patients with no age data, 490 patients aged under 16, and 1,619 patients aged over 64 (of which 764 were coded as aged 65-74, and 855 aged 75-120). 65 was chosen as the cut-off because it is the age at which the state pension begins and also because of evidence from the Health E1 GP practice that less than 1% of its registered patients are aged over 65. The age limit may lead to the exclusion of some older homeless patients from the data but avoids including a larger proportion that are probably not homeless and have been coded as NFA for another reason.

**Box 1: Characteristics of hospital usage for patients with 'No Fixed Abode'**  
**Full details included in Annex A**

*The following summarises the findings from analysis of Hospital Episode Statistics (HES) data for patients with 'No Fixed Abode' recorded in the Government Office Region of Residence field ('NFA patients').*

*Age (before limiting the age range to 16-64) & sex:*

*86% of all NFA patients are under 65, compared with only 63% in the general population. The average age of NFA admissions is 43 years compared to 50 years for the population at large. After limiting the NFA age range to 16-64, 78% of NFA episodes are recorded for men, compared with 48% in the population aged 16-64 (the 'comparison population').*

*Emergency and elective split:*

*89% of all NFA admissions are emergency admissions compared to around 41% of admissions for the comparison population*

*Average length of stay:*

*The average length of stay is 6.2 days for NFA patients, compared to 2.1 days in the population aged 16-64. Although this average for NFA patients is almost triple that of the comparison population, it is almost fully explained by the difference in case mix. If the comparison population had the same case mix as NFA patients, their average length of stay would be 5.5 days compared to the NFA average of 6.2 days.*

*Specialty mix:*

*The specialty mix of inpatient episodes is also significantly different for the NFA patients relative to the comparison population. Specialities with high admissions for NFA patients include: A&E (33.13% of all NFA patients against 4.58% in the comparison population), adult mental health (9.58% compared to 1.22%) and general medicine (27.70% compared with 18.85%). Conversely, NFA patients have relatively few episodes in ENT, general surgery, oncology, ophthalmology and urology.*

*Outpatients:*

*The ratio of outpatient appointments to inpatient episodes is roughly 1.4 in the NFA group, compared to a ratio of more than 6 in the comparison population.*

#### **4.3 Data from six specialist homelessness GP practices**

- 4.3.1 Secondary care activity for homelessness populations was collected in six locations around England. The data was in some cases extracted specially for this project and in others for a local audit. The results are given in Figure 6 below.

Figure 6 – Summary of inpatient and A&E data from six specialist GP practices

Homeless population	A&E attendance ratio (Homeless : non-homeless)	Admissions ratio (homeless : non-homeless)	Non-homeless figure used for denominator, A&E	Non-homeless figure used for denominator, admissions	Sample size	Homeless population base
Stoke on Trent	5.1		National, 235 per 1000		200 attendances	Based on hostel residence, PCT data
Bournemouth	5.5		National, 235 per 1000		76 attendances	Street homeless known to specialist nurse
Health E1, Tower Hamlets, London	6	2	Local, 200 per 1000	Leicester figure, 150 per 1000	1375 attendances	Registered with specialist homeless nurse
Dawn Centre, Leicester	6	4	Local, 290 per 1000	Leicester figure, 150 per 1000	990 registered patients	Registered with specialist homeless practice
South London hostel sample	3.9	3.69	National, 235 per 1000	Leicester figure, 150 per 1000	309 attendances, 108 admissions	Hostel residents, 6 hostels in South London, Lambeth PCT data
Cambridge Access Surgery, Cambridge	3.4	3.16	Local, CAS calculation	Local, CAS calculation	1733 admissions over 4 years	Registered with specialist homeless practice

Note: All figures are unadjusted for age. Cambridge Access Surgery does quote indirectly standardised figures in the Cambridgeshire Homelessness JSNA (a ratio of 5.53 for A&E attendance and 3.77 for admissions), but such data was not available for the other practices. For the admissions at the Health E1 practice, the Dawn Centre denominator has been used due to lack of specific data. The A&E ratio for Health E1 is an overestimate as the denominator only includes attendances at one hospital (Barts and The London).

4.3.2 Most of the sources reported that homeless people have between three and six times as many A&E attendances as the general population. Only four sources reported admissions data, with admissions ratios ranging from two to four times as many admissions as the general population.

4.3.3 It was decided to take averages of the above figures to use in the analysis, which gives the following ratios:

- A&E attendances were 5 times the local average
- Hospital admissions were 3.2 times the local average

#### 4.4 Estimate of total resource usage by this client group

4.4.1 The HES and specialist GP practice data are combined with National Tariff and Reference Cost data to estimate the total resource usage by this client group. This is detailed in full in Annex B, with the main results provided in Box 2.

**Box 2: Estimated resource use by the homelessness population**  
**Full details included in Annex B**

*Inpatient admissions:*

*Taking into account homeless patients' relative rate of admission (from above) and relative cost per episode (derived from HES, Reference Costs and the National Tariff), inpatient stays are costed at £76.2 million. This is a minimum estimate because it is based only on the portion of inpatient care that is funded under Payment by Results.*

*Outpatients:*

*Assuming homeless people have the same number of outpatient appointments per person per year as the general population, homeless people are estimated to account for around 45,000 outpatient appointments per year, costing around £4.4m.*

*A&E attendances:*

*Assuming that homeless people attend A&E five times as frequently as the non-homeless, this would imply a total of around 53,000 attendances annually by homeless people, costing around £5m per annum.*

*Overall:*

*The total cost of hospital usage by this client group is conservatively estimated to be £85 million. This is around 4 times the level of the general population, with inpatient costs (the bulk of the usage for this client group) being 8 times higher than for the comparison population (aged 16-64).*

- 4.4.2 Given the scale of current resource use, PCTs may be able to identify more effective and cost-efficient ways of securing healthcare for this population by reviewing current delivery models and considering alternative models.

## **5. Models of primary care for this client group**

### **5.1 Barriers to access to mainstream services**

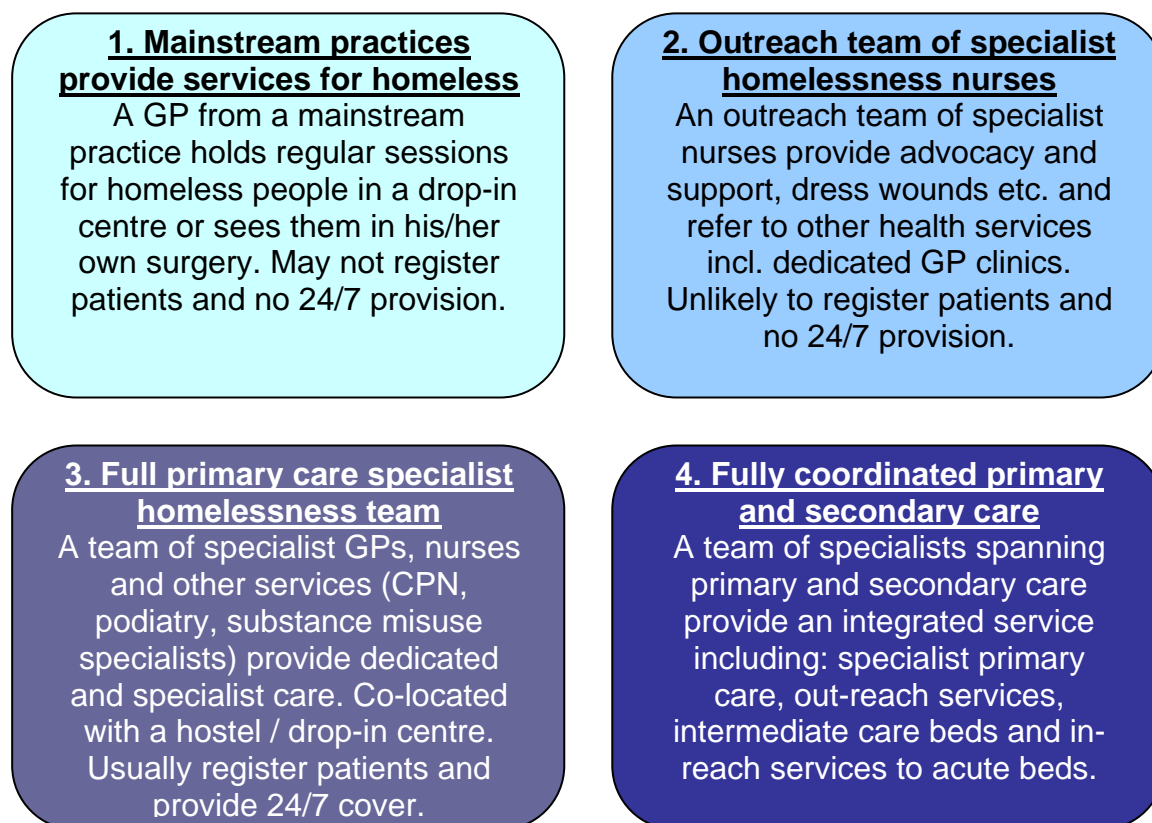
- 5.1.1 There is evidence that the homelessness population face many barriers to registering with mainstream GP practices, with one study suggesting that this client group are forty times more likely not to be registered with a GP than the general population<sup>20</sup>. These barriers include:
- Mainstream GP surgeries may require proof of address for registration
  - Homeless people generally have poor engagement skills and chaotic lifestyles which makes it difficult for them to book and keep appointments
  - Some will not seek assistance until their health is critical, as health needs are often surpassed by other, more immediate needs.

### **5.2 Models of specialist primary care for this client group**

- 5.2.1 Specialist homelessness services may be able to help address these barriers to mainstream care. The different arrangements for primary care provision for this client group have been loosely categorised into four models, as represented in Figure 7. Model 1 represents the least specialised and dedicated service, with Models 2, 3 and 4 being increasingly specialised.

<sup>20</sup> 'Critical condition', Crisis, 2002

Figure 7: Models of care for specialist homelessness primary care provision



### **Provision of specialist homeless primary care services by PCT**

5.2.2 Box 3 summarises an analysis of the current provision of specialist services. This data suggests that a third (48) of PCTs do not provide any specialist homelessness service. Although some PCTs' small homelessness populations must be taken into account, this may indicate that there remains a significant challenge that PCTs can work to improve. The other two thirds of PCTs that do provide some sort of specialist primary care service to this client group have been compared with the above care models 1 to 4 as far as possible. It is not possible from the data to identify where services are best matched to the size and nature of the local homelessness population.

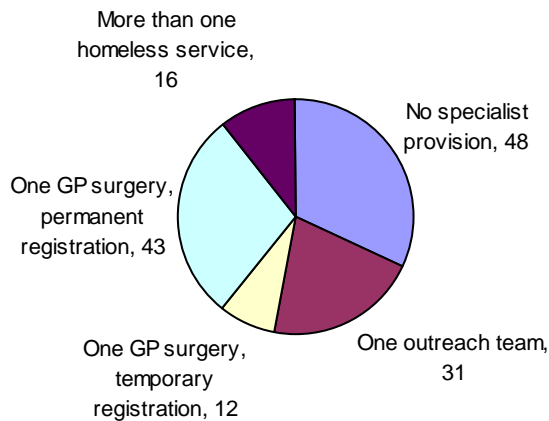
### **Models 1 and 2**

5.2.3 Models 1 and 2 are likely to be appropriate for PCTs with small homelessness populations. Which of these two models is most appropriate will likely depend more on the area's existing services than on differences in health needs. The data in Box 3 suggests that 31 PCTs provide just one outreach team, with another 12 providing temporary registration for homeless people in one GP surgery. These services seem similar to the above descriptions of models 1 and 2.

### **Box 3: Provision of specialist homeless primary care services by PCT**

Using a database of 125 primary care services provided to homeless people across England\*, PCT services were categorised into the following five groups:

- No specialist provision
- One outreach team - provided by individual nurses, health visitors and doctors or by teams, without dedicated facilities
- One GP surgery offering temporary registration
- One GP surgery offering permanent registration
- More than one specialist homeless service



\* 'Health service provision for the homeless across England - A mapping, classification and analysis' Dr Lucy Chiddick. August 2007. MPH Dissertation. University of Leeds.

### **Model 3**

5.2.4 Model 3 is a full primary care specialist homelessness team. This model has the potential to provide excellent primary care to this client group because it can tailor the service to meet their health needs and help overcome some of the access issues (such as to drug and alcohol dependency and mental health teams). The Dawn Centre in Leicester and Health E1 in Tower Hamlets are examples of such a model. The above data suggests 43 PCTs have one GP surgery that provides permanent registration for homeless people. These may or may not be full specialist homelessness teams. Such a model is likely to be justifiable in the major urban centres with larger homelessness populations. The level of service that can feasibly be provided by a full primary care specialist homelessness team will be greater the larger the local homelessness population. Services that are suitable in areas with a very large population can include frequent walk in sessions or regular clinic sessions with Consultant Psychiatrists.

### **Model 4**

5.2.5 Model 4 is loosely based on the services provided in Boston, USA for homeless people, described in more detail in Box 4 below. Although the service is not representative of health care provided to homeless people across the USA, it gives a working example of the way in which care for homeless people could be integrated. No English PCTs are currently known to provide a fully integrated care model including a step-up / step-down secondary care unit, though pilots are underway that seek to increase the integration of care for homeless patients. These include homelessness ward rounds in central London hospitals and care navigators: people

with experience of homelessness, who can offer emotional support and assertive outreach for those most in need and link them up with services<sup>21</sup>. It can be argued that the major urban centres such as London, Manchester, Birmingham and others have a sufficiently large homeless population for fully integrated primary and secondary care.

**Box 4: Integrated Health services for homeless people in Boston, USA**

*One example where excellent, joined up primary care and acute care is provided to homeless people is in Boston, USA. Care is integrated across the health economy. The team of doctors, nurses, social workers and assistants follow their patients through primary care, in specialist clinics, in A&E, inpatient, medical respite and home visits when homeless people find housing.*

*This service consists of:*

- *A medical walk-in unit for homeless people for primary care*
- *Out-reach clinics to 70 community based locations*
- *A distinctive feature of this service is a 90-bed step-up / step-down unit based in Boston City Hospital providing acute and sub-acute beds, pre- and post-operative, recuperative and rehabilitative care to homeless people who require preparation prior to treatment or who are too unwell to withstand life in shelters or on the street, following hospital treatment.*

*There is a special service catering for rough sleepers, involving intensive follow-up to achieve continuity of care from the streets to Intensive Care Units and respite. Preventative care is also offered to the most hard to reach homeless persons (e.g. flu vaccines and prenatal care).*

### **5.3 Links between service need and primary care provision**

5.3.1 As noted above, two thirds of PCTs provide one or more specialist homelessness service. However, this information does not tell us whether these services are located where they are needed most and whether the provision is sufficient to meet the needs of the local homelessness population in each area. We have investigated whether there is a correlation between the size of the local homelessness population and the intensity of services. This analysis shows that permanent registration is more common in areas with higher rates of homelessness, as evidenced by the Supporting People client data from section 2. However, the analysis is unable to demonstrate how far the provision is fully meeting the needs of this population.

### **5.4 Barriers to provision of primary care for homeless people**

5.4.1 The following reasons may explain why primary care provision does not currently meet the needs of homeless people in many areas:

- There may be a disincentive for individual PCTs to provide good primary care for homeless people where they are a mobile population and the provision of a high quality, easily accessible service may attract users from other areas, putting additional strain on resources. In cases such as this, the situation could be improved where SHAs or the regulator take more seriously their role in ensuring that all PCTs are meeting their obligations under equalities legislation and the

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<sup>21</sup> Please contact Nigel Hewett for more information: [Nigel.Hewett@GP-C82670.nhs.uk](mailto:Nigel.Hewett@GP-C82670.nhs.uk)

rights enshrined in the NHS constitution by providing access to services based on clinical need.

- There is a lack of research evidence on the potential for improved primary care to reduce secondary care costs and improve health outcomes. Practices specialising in providing a service for homeless people will tend to be expensive compared to mainstream practice, with costs per registered patient at least twice as large. Prescribing spend may be particularly high<sup>22</sup>. It is likely however, that better primary care will improve health outcomes, producing valuable additional years of healthy life. It is also plausible that better primary care will reduce secondary care use and save money to PCTs, though improved primary care may also raise utilisation of secondary care via increased referrals for previously undiagnosed conditions. This should however improve outcomes and therefore give better value for money. The overall effect on costs and outcomes is not known and further research in this area would be valuable.
- There is a lack of understanding of the problem, the magnitude of current spend on homelessness populations in secondary care and their poor outcomes. This may stem from a mistaken belief that homelessness is no longer a significant problem because of the reduced numbers counted in street counts and/or a belief that homelessness is primarily a housing issue and not a health / mental health / substance misuse issue.
- Feasibility of services – some PCTs may not have sufficient numbers of homeless people to justify a specialist homelessness service. In such cases, one of the less intensive models of provision as described above could be appropriate or the PCT could consider commissioning jointly with neighbouring PCTs.
- Lack of vocal demand – homeless people may have lower expectations of services and be unlikely to put pressure on PCTs for better services. They have limited ‘voice’ that can be overshadowed by other, more vocal groups.
- Performance Management – practices specialising in providing a service for homeless people may find it hard to meet routine primary care targets including patient satisfaction, bookable appointments, management of conditions, prescribing levels and referrals. They may appear to be poor performers because they work with harder to reach populations. PCTs can work with providers to develop alternative performance measures.

## **5.5 Intermediate care for this client group**

5.5.1 The Boston USA model (described in Box 4) includes some intermediate care beds for homeless people. Such beds are designated for patients who need less care than an acute bed but still need some nursing (such as wounds dressed, a nutritional diet, overseeing medication, and bed rest). Clearly, living conditions on the streets are not conducive to recovery from poor health; neither do hostels provide all elements of a good environment for recovery.

5.5.2 Currently, intermediate care facilities only exist in England explicitly for homeless people as part of a pilot scheme (discussed below). The rationale for intermediate care beds for homeless people includes the following:

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<sup>22</sup> Prescribing budgets are calculated using a formula that gives a lower weight to patients aged between 16 and 65; prescribing budgets in specialist homelessness practices are therefore lower because many of their patients fit this age group. However, homeless people have high prescribing needs – the Health E1 practice in Tower Hamlets has highlighted medications that individuals in mainstream general practice would be expected to buy over the counter (such as paracetamol, ibuprofen and knee supports). There is significant demand for these medications to be prescribed, as in many cases patients are not in a position to pay for the product themselves. Health E1 has also mentioned regular replacement of medications due to loss or theft.



- Many homeless people rotate between hospital discharge and re-admission because there is nowhere suitable to discharge them or because they sometimes have challenging behaviour, which can include drug or alcohol use, leading to discharge against medical advice or disciplinary discharge. This is not only a large drain on resources, but it has negative implications for the patients' health as there is limited continuity of care. It may also be costly to PCTs, who will pay for a series of short spells rather than one longer spell that resolves the medical problem. Intermediate care beds could prevent this cycle by providing a place for homeless people to receive the care they need on hospital discharge (or instead of a hospital admission).
- Existing intermediate care beds are predominantly for the elderly and often require an address on discharge, so homeless people are not eligible to access them. They would also be inappropriate environments for homeless people (who may have disruptive behaviour or a need for alcohol or drug treatment). Staff would also need special training to deal with homeless peoples' needs and their sometimes-challenging behaviour.
- One specific condition that could be far better managed with an intermediate care facility is tuberculosis (TB). Homeless peoples' chaotic lifestyles mean that they are unlikely to wholly comply with the long drug treatment of TB; the subsequent development of more drug-resistant TB poses a serious public health issue.

5.5.3 Several different forms of intermediate care are possible, including an 'extra care' model, permanent hostel co-location and a standalone facility. Each has strengths and weaknesses; which one is most appropriate will depend in part on the setting and the type of patient.

#### ***'Extra care' model***

5.5.4 Intermediate care could be provided via an 'extra care' model. This would involve the spot purchase of 'extra care' in existing hostels, with care commissioned as and where it is required. Under this model, care could be provided at a wider number of existing hostels, as opposed to a permanent standalone facility or permanent provision in a small number of hostels. An extra care model, which separates the provider of accommodation and support from the provider of care, means that the premises would not need to be registered, allowing greater flexibility. The removal of the Supporting People ring fence (which precludes staff from providing some basic domiciliary support and assistance with managing medication) should help facilitate such a model. Joint Strategic Needs Assessments could provide the vehicle for PCTs and local authorities to identify these needs and put in place the appropriate provision.

5.5.5 Liverpool City Council<sup>23</sup> has used this approach successfully in order to sustain hostel placement for a small number of entrenched rough sleepers. This has involved putting additional services into hostels including personal and cleaning services and extra bedding, which has enabled the individuals (who suffer chronic health issues, sometimes including incontinence) to be able to remain in a hostel where they had otherwise cycled between hostels, rough sleeping and hospital for years. The level and combination of support is agreed via an individual complex needs panel. Those in receipt of this service will also be able to access accompaniment to secondary care via the rough sleepers outreach team; they can also receive help with medical issues such as managing medicines and dressing wounds via dedicated homelessness outreach nurses. An important aspect of this approach is the focus on progression, where the hostel is seen as a place of change and not a long-term accommodation option.

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<sup>23</sup> Please contact Anne Doyle for more information: [Anne.Doyle@liverpool.gov.uk](mailto:Anne.Doyle@liverpool.gov.uk)

### ***Co-location with a hostel***

- 5.5.6 Intermediate care beds could be co-located with a hostel, with nursing care provided on an 18- or 24-hour basis. Such a model is currently being piloted in St. Mungo's Cedars Road Hostel in South London. This model has the advantage of utilising the services already available at that site, which include some onsite GP services and the hostel staff, who are trained and highly experienced in working with homeless people. The pilot has received funding from Guy's and St Thomas' Foundation to conduct a formal economic evaluation that is due to be published in spring 2010. Initial results have been positive with the number of deaths at the hostel and hospital admissions of residents significantly reduced<sup>24</sup>.

### ***Stand-alone intermediate care***

- 5.5.7 A further model would be to create a stand-alone intermediate care facility, which might be more amenable to recovery than the more hectic hostel environment and could be feasible in areas with a wide catchment area such as London. One such service currently in the planning stages is a 20-bed intermediate care service in London that would offer "intensive, holistic health care and emotional support for those with the most complex needs, networked to other hostels that provide differing levels of primary care"<sup>25</sup>. This would probably need to be commissioned by health commissioners and costs could be a challenge. Such a model would also need to be supported through well-developed reconnection and resettlement protocols with all boroughs of origin. The removal of the Supporting People ring fence would also help facilitate this model.

### ***Which model is most appropriate?***

- 5.5.8 It is likely that the most appropriate model will depend on the setting, the concentration of homeless people and their needs. The following are some of the issues that will need to be taken seriously when considering intermediate care:
- The need to avoid a facility becoming a long-term accommodation option
  - Security of funding sources
  - Difficulty managing drug- and alcohol-using populations – this can bring safety and legal issues and expertise tends to lie with experienced hostel staff. Abstinence requirements can reduce engagement of clients.
  - Standalone intermediate care could be counter to mainstreaming objectives which may be held by some commissioners that seek to reduce stigmatisation of homeless people
  - Displacement of homeless patients to another borough may bring problems where they need to go to appointments in their home borough and when they need to return to their borough of origin

## **6. PCT funding for this client group**

- 6.1.1 Some homeless populations will be accounted for within PCTs' revenue allocations through the Census data used to inform the population base for the allocations. Additionally, some of the costs of treating these populations will be picked up to

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<sup>24</sup> Please contact Chiara Hendry for further information: [Chiara.Hendry@lambethpct.nhs.uk](mailto:Chiara.Hendry@lambethpct.nhs.uk)

<sup>25</sup> Professor Aidan Halligan, Dr Nigel Hewett, Trudy Boyce, James Gubb, Briefing for Cabinet Office Homeless Health Project Development Team, UCLH NHS Foundation Trust. Please contact Nigel Hewett for more information: [Nigel.Hewett@GP-C82670.nhs.uk](mailto:Nigel.Hewett@GP-C82670.nhs.uk)

some extent through the activity data used to inform the allocations and therefore may be reflected in individual PCT allocations. However, it is unlikely that all homeless people are captured in the population data used as the basis of PCT revenue allocations. There is therefore a concern that some PCTs may not be appropriately funded for the homeless populations for which they are responsible.

6.1.2 Recommendation:

Further work should be undertaken to determine an accurate estimate of the numbers, location and need levels of homeless populations, to determine how material the issue is. Only once this information is available can the treatment of homeless populations within the resource allocation formula be considered.

## 7. Technical Annex A: Detailed findings from analysis of HES data

### 7.1 Key points

- 7.1.1 In this paper, data on homeless patients is extracted from 2007/8 Hospital Episode Statistics (HES, whose data covers England only) by identifying records whose address is recorded as '**No Fixed Abode**' (NFA).
- 7.1.2 NFA coding is an **imperfect indicator** of homelessness:
- It is unlikely to capture all use of hospital services by this client group because it is dependent on local interpretation and recording; many homeless people will instead record temporary addresses, last available addresses and so on.
  - It will also capture some non-homeless individuals. These may include those who do not report their address due to the sensitivity of their medical procedure, and records that are flagged as NFA due to poor data quality.
- 7.1.3 This paper makes adjustments to remove many of the records discussed in the second bullet. Although NFA coverage is still incomplete, it should nonetheless provide useful estimates of **relative use of hospital services** compared to the non-homeless population, and can be **combined with other data** to produce total estimates.
- 7.1.4 It is first found that NFA patients are younger, with 86% of inpatient episodes accounted for by the **under 65s** (average age 43), compared to 63% in the non-NFA population (average age 50). To focus the NFA dataset on homeless patients and make age-relevant comparisons, subsequent analysis only covers those aged 16-64 and compares outcomes with non-NFA individuals aged 16-64 (our preferred '**comparison population**').
- 7.1.5 Using the population estimate of 40,500 for this client group, there is already evidence that the number of episodes per person (the 'episode rate' per head, 0.30 per NFA patient) is higher than for the comparison population (0.19 per patient). The true rate is likely much higher because of the incomplete coverage of NFA.
- 7.1.6 NFA patients are also **predominantly male** with 78% of episodes recorded by men, compared to 48% in the comparison population.
- 7.1.7 The average **length of stay** for NFA inpatients is longer at 6.2 days, compared to 2.1 days within the comparison population.
- 7.1.8 Homeless patients are more likely to be admitted as **emergencies** with 89% of all NFA episodes recorded as emergencies, compared to 41% in the comparison population. This supports the view that this client group present later at hospitals, and their use of services is more unplanned, with more access through emergency pathways.
- 7.1.9 At regional (Government Office) level, there are significant differences between the ratio of NFA patients to the estimated number of homeless people. This may reflect real differences in levels of homeless morbidity across the country, or their use of hospital services, or it might reflect differences in the use of NFA coding.
- 7.1.10 The ratio of **outpatient appointments** to inpatient episodes is 1.4 for NFA records compared to 6.2 for the comparison population. This mirrors the notion that this client group access hospital services in a more unplanned and unpredictable way.

- 7.1.11 There are significant differences in the mix of **specialities** for NFA and other inpatients. In particular, around 33% of all episodes are for the A&E speciality, compared to 4.6% in the comparison population.
- 7.1.12 There are also significant differences in the mix of **Healthcare Resource Groups** (HRGs), with mental health and substance dependence featuring prominently. It is found that NFA patients' different mix of HRGs accounts for the vast majority of the differences in average length of stay.
- 7.1.13 Technical details of the HES dataset and variables used are presented at the end of this annex.

## 7.2 Introduction

- 7.2.1 To identify homeless patients in the 2007/8 Hospital Episode Statistics (HES) database (which covers data relating to England), the data can be filtered by a 'No Fixed Abode' (NFA) response in the variable showing each patient's Government Office Region of residence. In England in 2007/8, there were around 17,400 such NFA inpatient episodes for 15,800 patients. For the following main reasons, NFA coding is an imperfect indicator of the total number of hospital episodes accounted for by this client group:
- It is unlikely to capture all use of hospital services by this client group because of its dependence on local recording and interpretation of the patient's housing situation. For example, those living in shelters, hostels or other temporary accommodation may supply that as their address, so will not be counted as NFA.
  - It will also capture some non-homeless individuals. Patients may report their status as NFA for reasons other than homelessness – for example, in the case of abortion, they may not want others to know they are in hospital. Alternatively, a patient's address may be reported as NFA in records that are generally of poor data quality.
- 7.2.2 To try to correct for the second category of issues, certain Healthcare Resource Groups (HRGs) are excluded from the following analysis. The excluded HRGs include neonatal diagnoses, invalid coding and pregnancy terminations<sup>26</sup>, i.e. pregnancy terminations (codes M09-M11), Obstetrics & Neonatal care (chapter N) and Unidentified groups (chapter U). It is assumed that these HRGs would account for a significant proportion of cases that show poor data quality or where patients report their status as NFA for an intimate condition, such as abortions or pregnancy related diagnoses. There may, however, be other reasons for using NFA (including illicit drug use or domestic violence), and patients using NFA for these reasons would remain in the sample. Another reason for excluding neonatal episodes is that homeless pregnant women have a 'priority need' for accommodation under the homelessness legislation and so should not be left homeless.
- 7.2.3 The first category of issues is harder to resolve but does not invalidate this analysis. NFA data can still provide useful comparative information with those who are recorded as having a fixed abode, and is the only known source of such information<sup>27</sup>. For instance, it can enable comparative analysis of average length of stay, the ratio of emergency to elective admissions, the ratio of outpatient appointments to inpatient admissions and a speciality and HRG breakdown. NFA data can also be combined with other data to arrive at better estimates of total resource usage by this client group.

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<sup>26</sup> This means that our analysis cannot cover pregnancy terminations for homeless women.

<sup>27</sup> Homeless Link is currently being funded by the Department of Health to develop an internet-based Homeless Health Needs Audit. It is currently in its pilot stage and will provide more detailed data at hostel level.

7.2.4 Details of the precise HES datasets and variables used are presented at the end of this document, alongside a note on comparison with 2006/7 HES data.

### **7.3 Initial results and filtering by age**

7.3.1 Using the 2007/8 dataset for England, there are approximately 14,400 episodes listed for approximately 13,000 NFA patients after making the HRG exclusions discussed above. Of the 14,400 NFA episodes, 86% are accounted for by under-65 year olds, compared to 63% in the non-NFA population, supporting the view that people in this client group tend to be younger.

7.3.2 In order to further focus the NFA dataset on this client group, only records for those aged 16-64 (inclusive) have been included in subsequent analysis. This NFA population is then compared with a 'comparison population' of non-NFA English patients aged 16-64. Comparing resource use by this client group with a similar age group gives a more reasonable view of their relative usage, as they are not being compared with the over-65 age group (who clearly have higher usage of health services).

### **7.4 General inpatient usage**

7.4.1 After the 16-64 age limit has been applied, there are 11,957 NFA episodes corresponding to 10,751 patients. Given the homelessness population estimate of 40,500, this equates to an 'episode rate' of 0.3 inpatient episodes per person per year. By contrast, there are 6,206,636 episodes corresponding to 5,296,818 patients in the comparison group; with an English population of 33,451,000<sup>28</sup> 16-64 year olds, this equates to an episode rate of 0.19. The homeless episode rate is therefore found to be higher than the comparison group, even though the NFA data is likely to underestimate total healthcare usage by this client group – the true episode rate will be even higher than 0.3. The above findings also imply that the number of episodes per patient is similar between the NFA group (1.11) and the comparison group (1.17).

7.4.2 The NFA episodes represent 73,633 bed days compared to 13,249,747 bed days for the comparison group. Taking average length of stay as the number of bed days per episode, NFA patients have an average length of stay of almost triple the comparison group (6.16 days compared to 2.13 days). Further differences in average length of stay are explored later on in this Annex, where it is found that case mix is by far the main driver.

### **7.5 Emergency / elective split**

7.5.1 As was proposed in other literature, this client group are significantly more likely to be admitted as emergencies than the general population; 89% of all NFA episodes were admitted as emergencies compared to only 41% for the comparison group. The ratio of emergency to elective admissions gives an even starker picture<sup>29</sup>; the ratio is 0.7 in the comparison group and 11.3 in the NFA group.

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<sup>28</sup> Office for National Statistics mid-2008 population estimate for England, ages 16-64 inclusive, minus the estimated homeless population of 40,500. See <http://www.statistics.gov.uk/statbase/Product.asp?vlnk=15106>

<sup>29</sup> These figures are not perfectly consistent with the percentages in the previous sentence, which instead compare to *total* episodes (including episodes whose elective/non-elective status is unknown).

7.5.2 This supports the view that use of hospital services by this client group is more unplanned, with later presentation and more unpredictability, increasing the level of emergency admissions.

## 7.6 Geographical breakdown

7.6.1 For geographical analysis, the NFA patients were broken down by the PCT responsible for commissioning for the patient. This 'responsibility' entails whether the patient is registered with a GP practice within the PCT, or not registered but resident within the PCT's boundaries. Patient numbers at Strategic Health Authority level were then compared to the scaled Supporting People numbers for homeless people (see footnote 2 of the table). The results are presented below, along with a proportional measure of NFA patients relative to the total estimated number of homeless persons in each region.

Table A1 – NFA patients and homeless people by Government Office Region

Strategic Health Authority	Total NFA patients (HES 2007/8 data) <sup>1</sup>	Total homeless (SP 2007/8 data, scaled) <sup>2</sup>	NFA patients per homeless person
North East	154	2,004	0.08
North West	1,753	6,292	0.28
Yorkshire & The Humber	885	4,591	0.19
East Midlands	352	3,573	0.10
West Midlands	313	5,343	0.06
East of England	698	3,986	0.18
London	3,582	5,796	0.62
South East Coast	574	2,002	0.29
South Central	644	2,787	0.23
South West	751	4,126	0.18
<b>Total for England</b>	<b>9,706</b>	<b>40,500</b>	

1. All NFA patients for whom a PCT of Responsibility is recorded, Hospital Episode Statistics, 2007/8.

2. Supporting People client record data, 2007/8. The original data sum to more than the estimated total of 40,500 as each hostel room can be used by multiple clients during the year; above, the data are linearly scaled so that the total number of homeless people equals 40,500.

7.6.2 The proportional measure would be expected to be the same across the country if three factors are consistent between regions. These are (i) the level of sickness amongst NFA inpatients, (ii) the degree of NFA coding for homeless patients and (iii) the type of care and access to care. These would equate a homeless person's propensity to present for an inpatient episode, and be registered as having no fixed abode. Clearly the number of NFA patients per homeless person varies markedly between SHAs, so some of the conditions in (i) to (iii) above must not hold.

## 7.7 Outpatients

7.7.1 Using the HES outpatient database for 2007/8, 16,603 NFA appointments were recorded for 12,405 patients. As with inpatient records, this is likely to be a significant underestimate of the actual usage of outpatient services by this client group but again useful relative comparisons can be made.

- 7.7.2 Two measures potentially highlight this client group's transitory tendencies through a lower use of outpatient services and lower 'follow-up' rates. The number of outpatient appointments per patient is lower for NFA patients at 1.3 compared to 2.0 in the comparison group and the ratio of outpatient appointments to inpatient episodes is 1.4 for NFA patients compared to 6.2 for the comparison group<sup>30</sup>. This is unsurprising given the mobile nature of this client group and the incompatibility of the administration in outpatient care (e.g. appointment letters) with a patient having no fixed abode. This evidence also further supports the notion that homeless use of health services is generally more unplanned with more unpredictability.
- 7.7.3 In contrast to inpatient results, urgent use of outpatient services is lower for homeless people compared to the non-homeless. Only 8.5% of NFA outpatient appointments are 'urgent' compared to 14% for the comparison group. This reinforces the belief that this client group's primary access to care is more through A&E attendances and less through GP services.

## 7.8 Speciality / HRG breakdown

- 7.8.1 Speciality: Although specialties are a broad category definition, it is observed that the speciality mix for inpatient episodes is significantly different for NFA patients relative to the comparison population. Below is a table summarising the ten specialities with the highest number of episodes.

Table A2 – Top 10 specialities for the NFA group and the comparison group

No Fixed Abode (Age 16-64)		Fixed Abode (Age 16-64)	
Main treatment specialty	% of all episodes	Main treatment specialty	% of all episodes
Accident & Emergency (A&E)	33.13%	General Medicine	18.85%
General Medicine	27.70%	General Surgery	13.23%
Adult Mental Illness	9.58%	Trauma & Orthopaedics	9.59%
General Surgery	4.70%	Gynaecology	7.00%
Trauma & Orthopaedics	3.63%	Urology	5.13%
Gastroenterology	2.98%	Gastroenterology	5.03%
Cardiology	2.08%	Accident & Emergency (A&E)	4.58%
Clinical Haematology	1.65%	Cardiology	3.36%
Hepatology	1.25%	Clinical Haematology	3.16%
Not Known	1.20%	Ear, Nose & Throat (ENT)	3.01%
		Not Known	1.01%

- 7.8.2 33.13% of NFA episodes are for the A&E speciality compared to 4.58% for the non-NFA population. Other specialities over-represented in the NFA mix are adult mental illness (9.58% for NFA compared to 1.22% in the rest of the population) and general medicine (27.70% compared with 18.85%). Conversely, NFA patients have relatively few episodes in ENT, general surgery, clinical oncology, urology, ophthalmology and trauma and orthopaedics. There is also a slightly higher proportion of records coded 'Not Known' for NFA patients (1.20% versus 1.01%); this may highlight a higher degree of poor coding or recording amongst NFA patients' files in general even after removing the Chapter U HRG which includes 'invalid' records.

<sup>30</sup> This comparison assumes that there is no systematic difference in the probability of someone who is homeless actually being coded as NFA in the inpatient and outpatient datasets.



7.8.3 **HRG**: The purpose of breaking down statistics at HRG level is to further investigate (i) the speciality breakdown and (ii) the significant difference exhibited in average length of stay between the NFA population and the rest of the population. The following table illustrates the breakdown by HRG chapter and the prominent HRGs within each chapter.

*Table A3 – Most common HRG chapters within the NFA group*

HRG Chapter	HRG Chapter Description	%	Total Episodes	Prominent HRGs within this Chapter
T	Mental Health	22.4%	2,673	Alcohol or drugs dependency (30%), Alcohol or drugs non-dependent use (21%), Schizophreniform psychoses (21%), Acute reactions or personality disorders (12%)
S	Haematology, Infectious Diseases, Poisoning and Non-Specific Groupings	19.0%	2,269	Poisoning, toxic, environmental and unspecified effects (50%), Examination, follow-up and special screening (31%)
H	Musculoskeletal System	12.0%	1,431	Sprains, strains or minor open wounds (36%), Head injury (19%)
F	Digestive System	9.4%	1,123	General abdominal disorders (27%), Gastrointestinal bleed (17%)
E	Cardiac Surgery and Primary Cardiac	8.2%	985	Chest pain (33%), Syncope or collapse (26%)
J	Skin, Breast and Burns	6.4%	763	Minor skin procedures (29%), Major skin infections (27%)
A	The Nervous System	6.1%	733	Epilepsy (52%)
D	Respiratory System	4.8%	579	Lobar, atypical or viral pneumonia (22%), Unspecified acute lower respiratory infection (17%), Other respiratory diseases (15%), COPD or bronchitis (12%)
C	Mouth, Head, Neck and Ears	2.0%	245	Intermediate medical head, neck or ear diagnoses (27%), Intermediate mouth or throat procedures (22%), Minor mouth or throat procedures (13%)
L	Urinary Tract and Male Reproductive	1.9%	228	Kidney or urinary tract infections (20%), Urinary tract stone disease (20%), Bladder minor endoscopic procedure (11%)
Other		7.8%	928	
<b>Total</b>		100%	11,957	

7.8.4 Clearly, the mental health chapter, substance misuse, wounds and so on feature prominently, which is what can be expected given other literature. The following table contains a different presentation of the results, comparing the top 10 HRG codes for the NFA group and the comparison group, to further illustrate the differences in case mix.

Table A4 – Top 10 HRGs for the NFA group and the comparison group

No Fixed Abode (Age 16-64)			Fixed Abode (Age 16-64)		
HRG version 3.5		% of all episodes	HRG version 3.5		% of all episodes
S16	Poisoning, Toxic, Environmental and Unspecified Effects	9.46%	F06	Diagnostic Procedures, Oesophagus and Stomach	3.74%
T12	Alcohol or Drugs Dependency	6.69%	F35	Large Intestine - Endoscopic or Intermediate Procedures	3.34%
S33	Examination, Follow up and Special Screening (Chapter S: Haematology, Infectious Diseases, Poisoning and Non-Specific Groupings)	5.85%	C58	Intermediate Mouth or Throat Procedures	2.71%
T10	Alcohol or Drugs Non-Dependent Use >18	4.64%	E36	Chest Pain <70 w/o cc	2.43%
T03	Schizophreniform Psychoses without Section	3.41%	F47	General Abdominal Disorders <70 w/o cc	2.00%
H42	Sprains, Strains, or Minor Open Wounds <70 w/o cc	3.35%	M05	Upper Genital Tract Minor Procedures	2.00%
A30	Epilepsy <70 w/o cc	2.91%	J37	Minor Skin Procedures - Category 1 w/o cc	1.95%
T14	Acute Reactions or Personality Disorders	2.68%	H10	Arthroscopies	1.70%
E36	Chest Pain <70 w/o cc	2.42%	S22	Planned Procedures Not Carried Out	1.70%
T07	Depression without Section	2.04%	S16	Poisoning, Toxic, Environmental and Unspecified Effects	1.66%

7.8.5 It was previously noted that the average length of stay for the comparison group is 2.13 days, compared to the NFA group where it is 6.16 days. This is a relative difference of almost 3 times longer for NFA patients. However, if the comparison population (with their respective average length of stay by condition) had the same case mix as the NFA inpatient population, their average length of stay would be 5.5 days. This suggests that the majority of the difference in average length of stay between 6.16 and 2.13 days is explained by NFA inpatients being admitted to HRGs that exhibit longer average length of stay. Residual differences are accounted for by:

- Differences between the NFA group and the comparison group for lengths of stay in HRGs with small patient numbers
- A higher emergency rate amongst NFA patients, as emergency admissions tend to have longer average length of stay

7.8.6 It may be the case that where average length of stay varies more widely amongst NFA than non-NFA patients, the above calculations are limited by their use of averages. The average found may include a proportion of homeless patients who tend to have longer lengths of stay (even after adjustment for case mix), and that this is offset by other homeless patients who self-discharge against medical advice or who are discharged on disciplinary grounds.

## 7.9 Comparison with results from the 2006/7 data year

7.9.1 An earlier version of the above analysis was originally performed using HES data for 2006/7, without the 16-64 age restriction. The results were very similar to the non-age-limited results for 2007/8, with a similar number of episodes and patients, similar common HRGs and specialties, similar outpatient usage and so on. This implies that NFA morbidity and the usage of NFA coding is similar across the two years.

## 7.10 Details of the inpatient variables and dataset used from HES

7.10.1 The following variables are used from version 9 of the 2007/8 inpatients HES universe.

- Age at Start of Episode (STARTAGE)
- Current PCT of Responsibility (PCTCODE06)
- Current PCT of Responsibility Desc (PCTCODE06\_NAME)
- HRG Version 3.5
  - HRG Version 3.5 Description
- Treatment Specialty (TRETSPF)
  - Tretspf Description (TRETSPDS)
- Bed Days During the Year (BEDYRUG)
- Total Patients (PATSUG)
- Ungrossed.Total Episodes (EPISODUG)<sup>31</sup>
- Elective and Non-Elective
- Elective, Emergency, Babies and Other (ADMETHG2)
- Resgor Description (RESGORDS)
- Sex Description (SEXDS)

7.10.2 Separate queries are used for the NFA group and the comparison group. The following conditions (filters) are applied to the NFA group:

- Requiring Resgor Description to equal 'No Fixed Abode'
- Excluding HRGs M09-M11, and the entirety of chapters N and U
- Restricting the Age at Start of Episode to between 16 and 64 (inclusive).

7.10.3 The same filter is used for the comparison group, except Resgor Description is required to match any one of the English Government Office regions (instead of 'No Fixed Abode').

## 7.11 Details of the outpatient variables and dataset used from HES

7.11.1 Additionally, the following variables are used from version 6 of the 2007/8 outpatients HES universe:

- Age at Appointment (STARTAGE)
- Attended
  - Attended Name
- Govt Office Region of Residence (RESGOR)
  - Resgor Description (RESGORDS)
- Priority
- Priority Name
- Appointment Count

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<sup>31</sup> This episode definition was chosen instead of Fixed Consultant Episodes (FCEs) in order to capture all episodes active at any point during the year. However, FCEs yield exactly the same episode totals for the NFA query, and very similar totals for the population-level queries, so the difference is not material.

- Total Patients (PATSUG)

7.11.2 As with the inpatient analysis, separate queries are used for the NFA group and the comparison group. The NFA group is identified in the following way:

- Requiring Resgor Description to equal 'No Fixed Abode'
- Restricting the Age at Appointment to between 16 and 64 (inclusive).

7.11.3 The same filter is used for the comparison group, except Resgor Description is required to match one of the English Government Office regions.

7.11.4 Because clinical coding is highly incomplete in the outpatient HES dataset, it is not possible to exclude appointments corresponding to termination procedures or those with poor data quality (as has been done in the inpatient HES dataset).

## 8. Technical Annex B: Costing this client group's use of acute services

### 8.1 Key points

- 8.1.1 Because of its incomplete coverage, the HES NFA data yields an underestimate of this client group's use of acute services. By combining it with data from other sources, such as records from specialist GP practices, population estimates and prices from the National Tariff and Reference Costs, it is possible to produce an improved preliminary estimate. However, this will continue to underestimate the true cost of this client group's use of acute services because it is based on activity covered by Payment by Results, which only forms part of acute care revenue. In addition, the cost of ambulance services is not included in our estimates because of lack of accurate national data with which to estimate it. All estimates relate to England and use 2007/8 data and prices.
- 8.1.2 The preliminary estimate of the cost of acute services for the homelessness population calculated in the Annex is **£85 million per annum** for a homelessness population of 40,500. This equates to over **£2,100 per person per year and is probably an underestimate**.
- 8.1.3 The £85 million annual estimate breaks down into £76.2 million per annum for inpatient costs, £4.4 million per annum for outpatient costs, and £5.05 million per annum in Accident & Emergency attendance costs.
- 8.1.4 Where we can calculate estimates of both the cost per person for the homelessness population and the cost per person for an average person using the same methodology and where both will be underestimates to the same degree, it is preferable to express the difference in terms of a ratio rather than as a monetised cost<sup>32</sup>. These ratios are as follows: the inpatient cost per person of the homelessness population represents **4.8 times** the cost for the non-homeless population, and **8 times** the cost for the non-homeless population aged 16-64. The latter is argued to be a more valid comparison given the age distribution of the homelessness population; it is a higher figure because the comparison group's age range of 16-64 excludes the cost of old age.
- 8.1.5 When outpatient and Accident & Emergency cost are added to inpatient cost, the homelessness population are estimated to have **4 times** the cost per person of the non-homeless population.

### 8.2 Introduction and summary

- 8.2.1 Though analysis of Hospital Episode Statistics (HES) data provides a variety of interesting insights, it is not sufficient to estimate total use of services by this client group, particularly since NFA HES records are thought to be a significant underestimate of their true use of hospital services. However, by combining the results from HES data with data from a number of specialist homelessness

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<sup>32</sup> With the methodology we have used there are some reasons to suggest that we could be underestimating the cost for the non-homeless population more than the homelessness population and vice versa. The former reasons include the removal of HRGs associated with maternity and the latter the removal of invalid records and the potential for homeless patients to have more complex needs compared to others within the same HRG (e.g. complications in surgery relating to anaesthetising long term drug users).

healthcare providers, some preliminary estimates can be obtained. Note that all of the following estimates are in 2007/8 prices.

- 8.2.2 The estimates in this Annex relate to inpatient usage, outpatient usage and Accident & Emergency attendance. The inpatient usage estimates are calculated from several components, as follows:

*Table B1 – Components of inpatient cost calculation*

<b>Component of inpatient cost estimate</b>	
1	Number of individuals in the homelessness population
2	Ratio of homeless peoples' inpatient admission rate relative to the general population
3	Ratio of the NFA cost per patient relative to the general population cost per patient
4	Cost of inpatient usage per head of the general population
	<b>Total inpatient cost estimate:</b> The product of the above estimates

- 8.2.3 This Annex first produces the inpatient cost estimate by deriving estimates for each of the components #1 to #4 in the above table. Outpatient usage and A&E usage are then considered and a total cost is calculated, alongside useful ratios.

### **8.3 Inpatient costs (component #1): the size of the homelessness population**

- 8.3.1 The 40,500 homelessness population estimate (component #1) is set out in the main part of this paper.

### **8.4 Inpatient costs (component #2): data on relative use from specialist homelessness healthcare providers**

- 8.4.1 The main paper includes data on patients' relative rate of inpatient admission at a number of GP practices who specialise in serving the homelessness population. Taking all of the data together, it is estimated that homeless people have 3.2 times as many inpatient admissions as the general population.

- 8.4.2 Because these data are based on homeless people who are registered with a specialist primary care provider, they may not be representative of all homelessness acute service usage.

- One might expect overall usage by homeless people to be even higher, since many areas do not enjoy such specialised primary care services and are thus likely to see demand manifest in hospitals, particularly as emergency admissions.
- On the other hand, one might expect that areas with good primary care coverage for homeless people will have lower levels of unmet need, which might be evidenced by higher rates of elective admissions. (For example, a homeless person with access to a GP may be referred for cataract removal, but would be left untreated if living in an area without primary care access).

- 8.4.3 It is not clear which effect will dominate and data is not available to test this. However, in the absence of data on the true level of homeless inpatient activity, it is assumed that the specialist-practice-derived rates hold nationally:

- 8.4.4 It is therefore estimated that homeless people have 3.2 times as many inpatient admissions as the general population (component #2).

8.4.5 The GP practice data also implies that homeless people have around 5 times the rate of inpatient admission compared to the general population. This estimate is used later on in this Annex; the above caveats also apply here.

## **8.5 Inpatient costs (components #3 and #4): identifying the average NFA cost per patient and internally consistent estimates of the average general population cost per patient and the average 16-64 population cost per patient**

8.5.1 The following section sets out in detail how the average NFA cost per patient is identified. It then more briefly sets out how the internally consistent figures for the average general population cost per patient and the average 16-64 population cost per patient were calculated. These will be described as the matched method average general population cost per patient and the matched method average 16-64 population cost per patient. (The latter is not used in the actual costing calculations, but is a useful point of comparison). The ratio of the average NFA cost per patient relative to the matched method average general population cost per patient can then be calculated (component #3), as well as the matched method average general cost per head of population (component #4).

8.5.2 The NFA calculation is set out below, and uses the same NFA HES query that is set out at the end of Annex A. The method is approximate and likely to produce an underestimate, in that it does not take account of adjustments to tariff, including those relating to long stays, emergency short stays and top-ups for specialised services. Nonetheless, it is fully internally consistent with the matched method general population and 16-64 population costings that are calculated later on (and are used as points of comparison). These are also likely underestimates but the key point is that the ratio between them and the NFA costs are accurate.

- Episodes identified at start: The number of (i) elective, (ii) non-elective and (iii) unknown NFA episodes is first identified for each Healthcare Resource Group (HRG) Version 3.5 code, so that it can be applied to the following cost data. 11,957 episodes are identified in total.
- Cost for episodes to which Tariff can be applied: Initially, the elective and non-elective costs for each HRG are applied from the National Tariff 2007/8<sup>33</sup>. Note that the Tariff is paid per spell; applying it to the above episode counts would overestimate the total cost because each spell contains (on average) 1.1397 episodes<sup>34</sup>. Tariff values are therefore divided by 1.1397 before they are applied to the episode counts for each HRG (both elective and non-elective). One episode does not have an elective/non-elective status (it is recorded as 'unknown') but corresponds to an HRG that does have Tariff costs available. This episode is costed at £1,200 (an average, equal to the total cost for all NFA Tariff-costed episodes with a known elective/non-elective status, divided by the number of such episodes). So far, 9,204 episodes have been costed, giving a total of £11.05 million.
- Cost for mental health episodes: However, Tariff costs are not available for mental health (the entirety of HRG Chapter T). This constitutes 2,673 mental health episodes, so is a notable proportion of the total. Chapter T is costed on a bed-day basis as follows. A unit cost per mental health bed day is derived from

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<sup>33</sup> Payment by Results (PbR) in 2007-08, Department of Health. See [http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH\\_062914](http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_062914)

<sup>34</sup> Obtained from Hospital Episode Statistics (HES) inpatient database v9 2007/8, ratio of Finished Consultant Episodes (AFCEUG) to Finished Admission Episodes (BADMIUG). The latter is proxying for a spell count, as each spell must have an admission episode. It is assumed that NFA patients have the same number of episodes per spell as non-NFA patients.

2007/8 Reference Costs<sup>35</sup>; at £280 per day, it is an average (weighted by activity) of the average unit cost for the 5 currency codes (rows in the Reference Cost table) listed for mental health inpatients. Because HES shows that the 2,673 Chapter T episodes correspond to 52,139 bed days, these can be costed at £14.6 million in total.

- Cost for episodes to which only Reference Costs can be applied: There are 79 remaining episodes that neither have a Tariff cost nor are in Chapter T. These episodes are costed using national average unit costs from 2005/6 Reference Cost data<sup>36</sup>, which is the most recent data to use HRG Version 3.5. Because these costs are for 2005/6 rather than 2007/8, they are uplifted for inflation using a specialist UK healthcare inflation index (the HCHS Pay and Prices index)<sup>37</sup>. These costs total £202,000.
- Overall cost for the NFA population: Overall, the NFA data shows a total cost of £25.87 million for 10,751 patients, i.e. an average cost of £2,406 per patient. One episode is not costed because it has neither a Tariff price nor a Reference Cost.

8.5.3 The matched method general population cost is identified using a modified NFA query; the Government Office Region of Residence is instead set to any English region (rather than NFA), and no age restriction is included. The calculations are the same as the NFA calculation set out above, so are summarised below:

- Episodes identified at start: 14,870,843
- Cost for episodes to which Tariff can be applied: £18.1 billion for 13,941,323 episodes. This includes 7,386 episodes whose elective/non-elective status is unknown, to which a £1,299 average Tariff cost is applied. (£1,299 is the total cost for all Tariff-costed episodes with a known elective/non-elective status, divided by the number of such episodes).
- Cost for mental health episodes: £1.18 billion for 192,546 episodes / 4,198,218 bed days.
- Cost for episodes to which only Reference Costs can be applied: £816 million for 518,947 episodes. This includes 38 episodes whose elective/non-elective status is unknown, to which a £1,573 average Reference Cost is applied. (£1,573 is the total cost for all Reference-costed episodes with a known elective/non-elective status, divided by the number of such episodes).
- Overall matched method cost for the general population: £20.1 billion for 12,561,145 patients, i.e. an average of £1,600 per patient. 198,544 episodes are not costed because no Tariff or Reference Cost is available.

8.5.4 Lastly, a matched method cost for the age 16-64 population is calculated for comparison purposes. The query is mostly identical to the NFA query (including the age restriction) but instead requires each record to have an English Government Office Region of Residence. The calculations are summarised as follows:

- Episodes identified at start: 6,206,636
- Cost for episodes to which Tariff can be applied: £6.6 billion for 5,756,056 episodes. This includes 2,279 episodes whose elective/non-elective status is unknown, to which a £1,149 average Tariff cost is applied. (£1,149 is the total cost for all Tariff-costed 16-64-aged episodes with a known elective/non-elective status, divided by the number of such episodes).

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<sup>35</sup> NHS Reference Costs 2007-08, Department of Health. See [http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH\\_098945](http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_098945)

<sup>36</sup> NHS Reference Costs 2005-06, Department of Health. See [http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH\\_062884](http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_062884)

<sup>37</sup> Unit Costs of Health and Social Care 2008, Personal Social Services Research Unit. See <http://www.pssru.ac.uk/pdf/uc/uc2008/uc2008.pdf>, Page 165. The HCHS Pay and Prices index is 256.9 in 2007/8 and 240.9 in 2005/6, implying inflation of 6.64% across these two years.



- Cost for mental health episodes: £788 million for 138,856 episodes / 2,809,453 bed days.
- Cost for episodes to which only Reference Costs can be applied: £462 million for 302,800 episodes. This includes 25 episodes whose elective/non-elective status is unknown, to which a £1,527 average Reference Cost is applied. (£1,527 is the total cost for all Reference-costed 16-64-aged episodes with a known elective/non-elective status, divided by the number of such episodes).
- Overall matched method cost for the general population aged 16-64: £7.9 billion for 5,296,818 patients, i.e. £1,485 per patient. 8,924 episodes are not costed because no Tariff or Reference Cost is available.

8.5.5 Components #3 and #4 can now be calculated from the above findings. Specifically, the ratio of the NFA cost per patient relative to the general population cost per patient, equals £2,406 over £1,600.

8.5.6 Each NFA patient therefore costs 1.5 times as much as a patient from the general population calculated using an internally consistent, matched, method (component #3).

8.5.7 Lastly, the equivalent, matched method inpatient cost per head of the general population is equal to £20.1 billion over a population of 51,405,700<sup>38</sup>.

8.5.8 Under the above assumptions, the matched method inpatient cost per head of the general population is £391 per annum (component #4). This is likely to be an underestimate for the reasons given above in point 7.5.2.

## 8.6 Inpatient costs: putting the components together to give a final estimate

8.6.1 Table B2 summarises the inpatient cost findings above and applies them to arrive at the final inpatient cost estimate of **£76.2 million per annum**.

Table B2 – Calculation of inpatient cost

Component of inpatient cost estimate		Value
1	The homelessness population is identified from the main section of this paper	40,500 people who are homeless or living in short term or insecure accommodation
2	Data from specialist GP practices is used to identify a ratio of homeless peoples' rate of inpatient admission, compared to the general population	Homeless people have 3.2 times as many hospital admissions as the general population
3	A ratio is calculated for the NFA cost per patient relative to the general population cost per patient	NFA episodes cost 1.5 times as much as those of the general population
4	The cost of inpatient usage per person in the general population is calculated using HES, the National Tariff and Reference Costs	Inpatient episodes cost £391 per head of the general population (matched method, only covers Payment by Results)
	<b>Total inpatient cost estimate:</b> (The product of the above estimates)	<b>£76.2 million per annum</b> (40,500 times 3.2 times 1.5 times £391; likely an underestimate)

<sup>38</sup> This is equal to the mid-2008 English population estimate of 51,446,200 (Office for National Statistics, see <http://www.statistics.gov.uk/statbase/Product.asp?vlnk=15106>) minus the estimated homeless population of 40,500.

- 8.6.2 It is also helpful to calculate ratios of homeless inpatient usage to (i) that of the comparison group, i.e. the population aged 16-64 and (ii) the general population more widely. The NFA data shows a cost of £76.2 million per annum for an estimated homelessness population of 40,500. This is equivalent to £1,881 per person per annum.
- 8.6.3 In the general population, a matched method, internally consistent cost of £20.1 billion corresponds to a population of 51,405,700<sup>39</sup>, i.e. £391 per person per annum. The homeless usage estimate is therefore **4.8 times** higher than the matched method estimate for the general population.
- 8.6.4 In the comparison population, a matched method cost of £7.9 billion relates to a population of 33,451,000<sup>40</sup>, i.e. £235 per person per annum. Homeless usage is therefore **8 times** higher than the matched method estimate for the comparison population (i.e. the population aged 16-64).

## 8.7 Outpatient usage

- 8.7.1 In the absence of further information, it is assumed that homeless people have an 'outpatient rate' (appointments per head of population) that is the same as the general population. Since their inpatient rates are roughly 3 times higher than the general population, this still implies that this client group use outpatients services relatively much less than the rest of the population. The implication is reasonable given the results of Annex A, which show a markedly lower ratio of outpatient appointments to inpatient episodes for those with No Fixed Abode.
- 8.7.2 Specifically, 2007/8 Reference Cost data show outpatient activity of 57,754,878<sup>41</sup> for a population of 51,446,200<sup>42</sup>, i.e. 1.12 appointments per person. If this ratio also applies to homeless people this will result in 45,466 appointments for 40,500 people. With a Reference Cost-derived unit cost of £97 per outpatient attendance<sup>43</sup>, the total annual cost is **£4.4 million per annum**.

## 8.8 Accident & Emergency attendances

- 8.8.1 Currently, national collections of A&E data do not include individual level markers for NFA. Therefore, there are no systematic national estimates on the use of A&E by homeless people. Data from specialist GP practices, however, suggest that per capita A&E attendance rates are around 5 times higher for this client group than for the rest of the population. Evidence from HES (as set out in Annex A) does support the notion that this client group are significantly more likely to be admitted to hospital through A&E; NFA patients admitted as inpatients are seven times more likely to be admitted to the A&E specialty as the comparison population.

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<sup>39</sup> Office for National Statistics mid-2008 population estimate for England, minus the estimated homeless population of 40,500. Op. cit.

<sup>40</sup> Office for National Statistics mid-2008 population estimate for England, ages 16-64 inclusive, minus the estimated homeless population of 40,500. Op. cit.

<sup>41</sup> For the categories 'Consultant Led: Follow Up Attendance Non-Admitted Face to Face' (TCLFUSFF), 'Consultant Led: First Attendance Non-Admitted Face to Face' (TCLFASFF), 'Non-Consultant Led: Follow up Attendance Non-Admitted Face to Face' (TNCLFUSFF) and 'Non-Consultant Led: First Attendance Non-Admitted Face to Face' (TNCLFASFF).

<sup>42</sup> Office for National Statistics mid-2008 population estimate for England. Op. cit.

<sup>43</sup> For the outpatient categories set out earlier, each service code (table row) is costed by multiplying the activity volume by the national average unit cost. The unit cost is then derived by dividing the total calculated cost by total activity.

8.8.2 2007/8 Reference Cost data show A&E activity of 13,394,961<sup>44</sup> for 2007/8. Using the same population estimate as the outpatient calculation, this yields a rate of 0.26 attendances per year. If the homeless rate were five times this figure, it would equal 1.302 attendances per year. For a population of 40,500, this is equivalent to 52,725 attendances; using a Reference Cost-derived unit cost of £96<sup>45</sup> yields an estimate of **£5.05 million per annum**.

## 8.9 Summary of results

8.9.1 The estimated cost of £85 million per annum is broken down in the following table. Given the estimated homelessness population of 40,500, it is equivalent to £2,115 per person per annum.

*Table B3 – Overall summary of cost calculation*

<b>Cost estimate</b>	<b>Value</b>
Inpatient stays	£76.2 million
Outpatient visits	£4.4 million
Accident and Emergency attendances	£5.05 million
<b>Total</b>	<b>£85.65 million</b>

8.9.2 It is also noted that homeless inpatient usage costs 4.8 times that of the matched method estimate for the general population, and 8 times that of the comparison population (those aged 16-64). Given the age distribution of the homelessness population (as set out in Annex A), the latter is argued to be a more reasonable comparison.

8.9.3 From 2007/8 Reference Cost data, a total population cost of outpatient attendance of £5.6 billion can be identified<sup>46</sup>, alongside a total A&E cost of £1.28 billion<sup>47</sup>. Adding in the matched method inpatient cost estimate of £20.1 billion identified above gives a total of £27 billion for a population of 51,446,200<sup>48</sup>, i.e. £525 per person. The homeless estimate of £2,115 per person is just over 4 times this amount.

<sup>44</sup> For the categories TAandEMSAD, TAandEMSNA, TAandEMinAD, TAandEMinNA, TAandEWiCAD, TAandEWiCNA, TNon24HRDEPAD and TNon24HRDEPNA. These categories cover both admitted and non-admitted patients across all A&E activity, including the Minor Injury Service, Walk-in Centres and non-24 hour A&E/Casualty departments.

<sup>45</sup> For the same categories as described in the previous footnote. The unit cost is derived in the same way as the outpatient unit cost.

<sup>46</sup> For the same categories as the unit cost calculation. To obtain the total cost, each service code (table row) is costed by multiplying the activity volume by the national average unit cost.

<sup>47</sup> Again, for the same categories as the unit cost calculation. Method as in the previous footnote.

<sup>48</sup> Office for National Statistics mid-2008 population estimate for England. Op. cit.

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