The London Borough of Newham
Population growth and change
2007 to 2011

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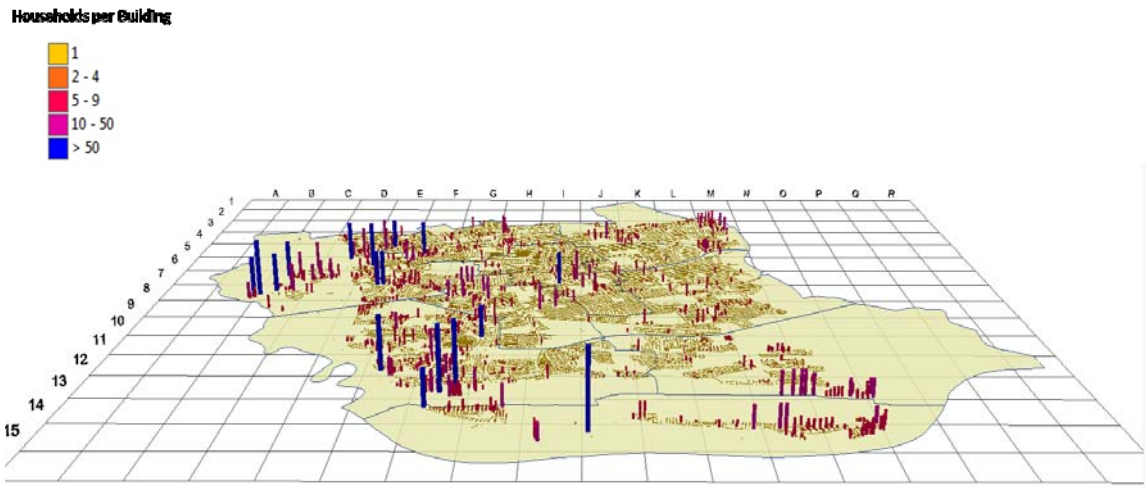
neighbourhood knowledge management



Newham[1]

Executive Summary

This report is based on snapshot of Newham's population in March 2011 using administrative data sources. It compares the results with the 2010 ONS Mid-year Estimates and GLA population estimates for the same year, and with results from a similar study conducted by the same authors using administrative data from 2007.

Key findings

The new study finds that the population of Newham grew by 10.7% from 270,091 in June 2007 to 298,916 by March 2011. Our results identify 30,062 more persons than the GLA estimates, which in turn are 28,654 higher than the ONS 2010 MYEs (Mid-Year Estimates).

Other key findings are that:

- Population growth between 2009 and 2011 took place in all age groups except for the 65+ age group which declined by 2.3%. The 0-9 year age range grew by 4.3k or by 9.9%, the 10-19 age group by 2.2k or 5.7%.

- By far the largest amount of growth was in the 20-64 age group which grew by 22.9k or 13.7%.

- All areas of Newham have experienced growth with above average increases of over 12% in some wards. Some of this growth is in regenerated areas. For example, Green Street East and West grew by 17.3% and 15.3% respectively.

[1] 3-D view of Newham from the south, showing number of households per building.

- The largest ethnic group is of Asian origin with 106.2k members accounting for 35.5% of the population. This is followed by the White population with 73.1k members is accounting for 24.5% of the population.

- The Black population and other/unknown population account for 50k and 54k persons respectively or 16.7% and 18% of the total. The 'Mixed' population account for 15.9k persons or 5.3%.

- People of Black African origin are over 3 times more prevalent than the Black Caribbean community. The Black African group breaks down into three main countries of origin: Ghana, Nigeria, and Somalia.

- In the Asian community, the Bangladeshi, Indian and Pakistani communities are comparable in size each with between 29k and 33k members. The estimated size of the growing East European community is around 10.2k.

- For persons whose age is known and who have NHS numbers, the results show that there were 110k newcomers to Newham since 2007 by immigration or birth and 74k leavers by outmigration and death.

- Of the 36k net arrivals between snapshots including births, 9% were Black, 4% White, 47% Asian, 2% mixed and 38% other/unknown. This finding suggests that Newham's population is becoming more Asian in complexion.

- Estimates show that 53.9% of the population stock is unchanged since 2007; 6.9% of the stock were not born in 2007; 31.6% arrived from outside Newham since 2007; and 7.7% of the stock moved between wards during the period.

- In this period, there was an increase of 10.7k in the number of UPRNs (addresses) on the Local Land and Property Gazetteer from 100.4k units to 110.1k units (a 9.7% increase). As a result increases in the accommodation stock, average occupancy rate per household is broadly unchanged.

- An estimated 57.5k people live in 6.8k households with 7+ people (6 persons per address is the maximum allowed on a single 2011 Census form). This compares with 48k people in 5.7k households in 2007.

- Of the confirmed population aged 18+, 67% are registered to vote. Of those not registered to vote, they tend to be male aged 18-30 or of Flag 4 status. This is a system to indicate that someone registering with a GP was previously living overseas.

- It is impossible to put a precise figure on the people still on administrative records who cannot be confirmed as still living in the borough. However, we found a further 13k people who could be classified as 'possibles' according to our methodology.

Background to study

Previous work commissioned by the London Borough of Newham highlighted large discrepancies between official population figures and estimates based on administrative data.

This has significant implications as undercounted population figures reduces the level of Revenue Support Grant (RSG) local authorities receive and funding for other local services including, most importantly, health.

Along with the five other Olympic boroughs, Newham commissioned a new study from Mayhew Harper Associates Ltd. using the latest administrative data based on the same methodology in all cases.

The timing of the new study coincided with Census day on 27th March 2011. Its findings are designed to enable the council to provide an evidence base to help quality assure the 2011 Census outputs.

There are four interrelated issues:

- The official methodology for counting populations relies on the decennial Census and postal (and internet) survey techniques which tend to elicit a poor response, especially in boroughs like Newham

- ONS population counts do not use all available evidence especially all available administrative data which is more up to date and verifiable. Official figures are therefore out of date before they are published

- The subdivision of populations based on official sources into constituent ethnicities does not deliver detailed or timely information about distinctive communities

- A key issue is how international migrants are allocated to local authorities using the International Passenger Survey which does not seem to reflect local experience or the evidence available.

- First results from the 2011 Census, in the form of summary data for local authorities, are not expected until September 2012. More detailed results, for a range of statistical and administrative areas, will not be available until 2013 and beyond.

Unlike the Census the turnaround using administrative data is much shorter with headline results available in just two months from receiving all the data and full results in just over three months.

Because the *nkm* estimates are based on current data they are arguably more likely to be accurate than ONS Mid-year Estimates (MYEs) estimates that use 2001 Census as a base.

The results are also available in a finer disaggregate form than the Census, which will enable a more targeted as well as timely analysis of local issues. Results from this

study down to LSOA level (the smallest geographical unit supplied by ONS) have already been fed back to ONS to assist in their Census Quality Assurance Programme. The full data base is being handed over to Newham for its own use.

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Annex A: Household composition in 2007by Community Forum
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The London Borough of Newham – Population growth and change 2007 to 2011

1. Introduction

1.1 Background

In 2007, the London Borough of Newham commissioned a study from Mayhew Harper Associates (MHA) to estimate the total population of Newham using local administrative data sources. Earlier this year it commissioned MHA to repeat and update that work, analysing any changes.

The timing of the latest study coincided with Census day which took place on 27th March 2011. Its findings will enable the council to analyse the impact of population change and churn since 2007, as well as provide an evidence base to help quality assure the 2011 Census outputs.

There are a number of interrelated issues:

- Population estimates are the cornerstone of several government allocation formula which ultimately decide the level of resources for council, health and many associated services

- The official methodology for counting populations relies on the decennial Census and postal (and internet) survey techniques which tend to elicit a poor response in boroughs like Newham

- ONS population counts do not use all available evidence, especially all available administrative data which is more up to date and verifiable. Official figures are therefore out of date before they are published

- The subdivision of populations based on official sources into constituent ethnicities does not deliver detailed or timely information about distinctive communities

- A key issue is how international migrants are allocated to local authorities using the International Passenger Survey which does not seem to reflect local experience or evidence

- First results from the 2011 Census, in the form of summary data for local authorities, are not expected until September 2012. More detailed results, for a range of statistics and administrative areas, will not follow until 2013 and beyond.

The turnaround using the current methodology is much faster than the Census with high level results available in around two months and full results in three months. High level results and detailed breakdowns by output area and by age and ethnicity were dispatched to the London Borough of Newham in July for quality assurance

purposes. This report sets out the methodology, provides a more detailed analysis of the findings and puts the results into a wider context.

Because the *nkm* estimates are based on current data they are arguably more likely to be accurate than ONS MYE estimates that use 2002 Census as a base and a methodology for estimating migration which has increasingly come in for criticism Unlike the Census, the *nkm* method uses multiple local data sources and takes account of housing. The rules and assumptions for confirming a person at an address are set out in the report and explained[2].

Note that there are no overarching accessible Government data bases or sources of information to validate our estimates, although their use in practice by service providers, census planners, and emergency services in various boroughs has shown them to be robustly based. Where data comparisons are available, such as for Child Benefit (0-15 age group) or State Pension counts, our results are demonstrably more in agreement as compared with ONS figures for the relevant year.

The results will be available in the form of a geo-referenced population database of all Newham residents, that can be used for more detailed work at neighbourhood or other geographic levels (e.g. for use in housing, environmental services, and public health). In addition, this database will have the ability to link up with similar work being undertaken for the other Olympic Host Boroughs and be easily updated.

The rest of section one describes the general approach, Section 2 provides details of the population estimates, Section 3 analyses population changes over the past two years by geography, Section 4 is an analysis of housing and households, Section 5 considers income deprivation by demographic group, Section 6 considers ethnicity and Section 7 analyses the population with 'flag 4' status (a proxy for international migrants); Section 8 profiles the registered and registered electorate and Section 9 analyses the unconfirmed population. Section 10 concludes with two annexes providing further details of specific analyses undertaken.

1.2 General Approach

The approach follows the same general methodology as in 2007 based on administrative databases which included a detailed analysis of the following administrative data sets at March 2011:

- The GP register (GP reg.)
- The School Pupil Census (formerly PLASC)
- Persons liable for Council Tax
- Households in receipt of Council Tax Benefit or Housing Benefit

[2] Further information on the methodology may be found in two articles published in the Journal of Applied Spatial Analysis and Policy. These can be accessed at:

http://www.cass.city.ac.uk/__data/assets/pdf_file/0019/82711/Using_administrative_data_to_count_populations_harper_mayhew_full_text_JASP_0411.pdf
http://www.cass.city.ac.uk/__data/assets/pdf_file/0009/82692/Applications_of_population_counts_harper_mayhew_full_text_JASAP_0411.pdf

- The Electoral Register (ER)
- Housing Waiting List (HWL)
- School Place Applications
- Connexions
- Resident parking permits
- Library Users
- The Local Land and Property Gazetteer (LLPG)
- Hospital Admissions (for Births and Deaths)

The GP register and Hospital Admissions data were provided by Newham Primary Care Trust and the rest by the London Borough of Newham. The method works by matching all administrative records to the LLPG using address matching techniques from which primary information about residential location, gender, date of birth etc are extracted.

The information provided is then analysed to eliminate double counting and ensuring each person identified at an address is the latest person at that address. Each data set is managed and kept up to date by the data owners in different ways with variations in updating procedures and other processes, which means they may not be entirely current or of the same quality as each other and so they need to be used with caution and carefully cross-referenced.

In the approach, several tests are undertaken before a person is deemed to be a current resident:

- Only persons on datasets with a UPRN assigned, and therefore a relevant address, are considered
- A person is 'confirmed' if they are on the GP Register and on another data set
- If they are on the GP Register, but not on any other database, they are classified as 'confirmed' if they are the latest person registered with a GP at that address, or related to someone who is confirmed at that address by name, or are a child living with confirmed adults
- A person may also be included if an address would otherwise be vacant; this is ascertained after checking for people on other data sets with that address and removing duplicates to avoid double counting
- Anyone present at more than one address is allocated to their most recent property and removed from other addresses
- People who are on datasets considered less reliable are only used for confirmatory purposes

People are not included (counted as 'confirmed') if:

- They do not have a recognised address in the borough
- They are on the GP Register but have not met the confirmation rules and are therefore considered as 'list inflation'
- They are on other datasets but not on the GP Register and have a UPRN that is already occupied by persons on the GP Register

The first category is known as the 'confirmed' population and the second category as the 'unconfirmed' population. We focus in this report on the confirmed population. Also included in the report is an analysis of ethnicity. However, because no single data set specifying ethnicity covers the whole population, it is necessary to resort to statistical methods to fill in the gaps.

The main information on ethnicity is currently provided by the School Pupil Census which is a register of pupils aged 3 to 19 attending schools in Newham. This provides information on the school population and the households where they live, but for the rest of the population it is necessary to infer ethnicity by other means.

For this purpose we use our extensive database on surnames by country built up over numerous similar projects mainly using the School Pupil Census (previously known as PLASC). A set of rules, explained later, are then used to assign all individuals in the data set to their respective ethnic categories.

1.3 Audit trail

Table 1 is a summary setting out the key stages of the estimation process which subsumes many smaller sub-stages and processes. The total confirmed population of 298,916 persons is given in the final column at the foot of the table.

Stage	Summary	Main Comments	Population Count
1 – Clean GP Register	Identify current registered patients at each UPRN	❑ 1,299 GP patient records could not be assigned a UPRN ❑ 94,122 of UPRNs are on the cleaned GP Register	+ 292,451
2 – Identify additional people from other datasets	Eliminate people on CT Liable, CT Benefits, ER, HWL, PLASC, Connexions and School Place Applications who are already on GP Register	❑ Eliminated 322,803 people using person matching across all datasets – people will be duplicated ❑ Leaves 138,562 records to check	
3+4 – Allocate people to UPRNs not on the GP Register	Identify which of the remaining 138,562 records are in the 26,230 UPRNs, and remove duplicates	❑ 38,022 records across datasets have these UPRNs ❑ Reduced to 20,905 people after removing duplicates and non-person records using available criteria. Allocated to unused UPRNs ❑ Leaves 58,543 records to check that do not have a non-GP Register UPRN ❑ 4,735 duplicates identified and removed	+ 20,905 - 4,735
5 – Add births and remove deaths		❑ Based on the Birth Mothers data; 4,516 of the 5,119 mothers are in our population. Of those, 3,644 have a child of less than 1 within the house. This therefore leaves a possible 872 mothers on the population estimation without a child in the house (therefore a minimum of an extra 872 children). These have not been added to the population due to lack of information. ❑ Another 603 mothers and their children are not in the population at all - these however may not be within the borough etc. ❑ 78 extra deaths identified in the population estimation	-78
6 – Plausibility Checks	Remove people who do not meet the following criteria:	❑ Households where only children (16 or less) reside – 1,391 ❑ Households where two children live who have a birth date within 300 days of each other, except for twins – earliest record removed 779 ❑ Those who live in a household who do not share the common household surname, have an earlier registration date than those with the common surname and are aged between 20 and 65 – 4,958 ❑ Records who can only be found on either the ER or HWL – 2,499 ❑ 1,869 UPRNs left empty	- 9,627
Population Base = Covers 104,909 UPRNs (of which 4,350 are not classed as residential) Leaves 5,235 unallocated residential UPRNs (of 105,795) = 4.9%		**<u>298,916</u>**	

Table 1: Audit trail

2. Estimates of the confirmed population

2.1 Population by age and gender

Table 2 shows the Newham confirmed population at March 2011 by age and gender. It finds that there are 298,916 persons that can be confirmed as living at addresses in Newham at the time. This represents a 10.7% increase over the previous exercise conducted at June 30th 2007 or 28,825 additional people. Of the total, the ages of 8,376 people could not be determined from the data.

Age group	persons	females	males
Under 1	5,262	2,597	2,665
1-4	20,862	10391	10471
5-9	21,841	10,869	10,972
10-14	19,889	9,716	10,173
15-19	20,031	9,858	10,173
20-24	25,753	12,149	13,604
25-29	31,692	15,528	16,164
30-34	28,719	13,586	15,133
35-39	22,913	10,665	12,248
40-44	20,790	9,779	11,011
45-49	17,759	8,557	9,202
50-54	14,607	6,975	7,632
55-59	11,036	5,389	5,647
60-64	8,756	4,546	4,210
65-69	6,111	3,293	2,818
70-74	5,629	2,967	2,662
75-79	4,050	2,095	1,955
80-84	2,701	1,532	1,169
85-89	1,461	950	511
90+	678	471	207
age/unknown	8,376	2,771	5,211
Total	298,916	144,684	153,838

Table 2: Table showing the number of persons by age and gender based on nkm methodology

2.2 Comparison with GLA 2011 estimates and ONS 2010 MYEs

As explained in the 2009 report, in order to compare our figures with other sources such as the GLA's estimates of population or ONS, it is necessary to re-distribute the 'age unknowns' across other age groups based on their most likely age group.[3] In our

[3] In this project the number of age unknowns was 8,376 which compares with a higher figure of 14,852 in 2007, the lower figure in 2011 most probably indicating improvements in data quality. *nkm* assumes that *nkm* estimates are 'exactly right' where they exceed the ONS 2010 estimates in each 5-year age category. It then redistributes the 'age unknown' population in proportion to the relative magnitude of the differences, where the MHA estimates are below the ONS figures in a given age group. This gives a plausible boost to age categories particularly among young adults, where under counts are thought to exist.

methodology, this tends to be mainly working age adults and so the same methodology as before is adopted using ONS 2010 Mid-year Estimates as the reference population for consistency with previous work. The practical effect of this step is to increase those in the age range 25-34.

Table 3 and Figure 1 show the result of this step and provide comparisons with two other population sources. These include our previous work from 2007, ONS 2010 Mid Year Estimates (MYEs) and GLA 2011 estimates. Our results identify 30,062 more persons than the GLA estimates which in turn are 28,654 higher than the ONS 2010 MYEs. Compared with our previous work in 2007, we identify extra 28,825 persons in 2011 based on the *nkm* methodology or a 10.7% increase.

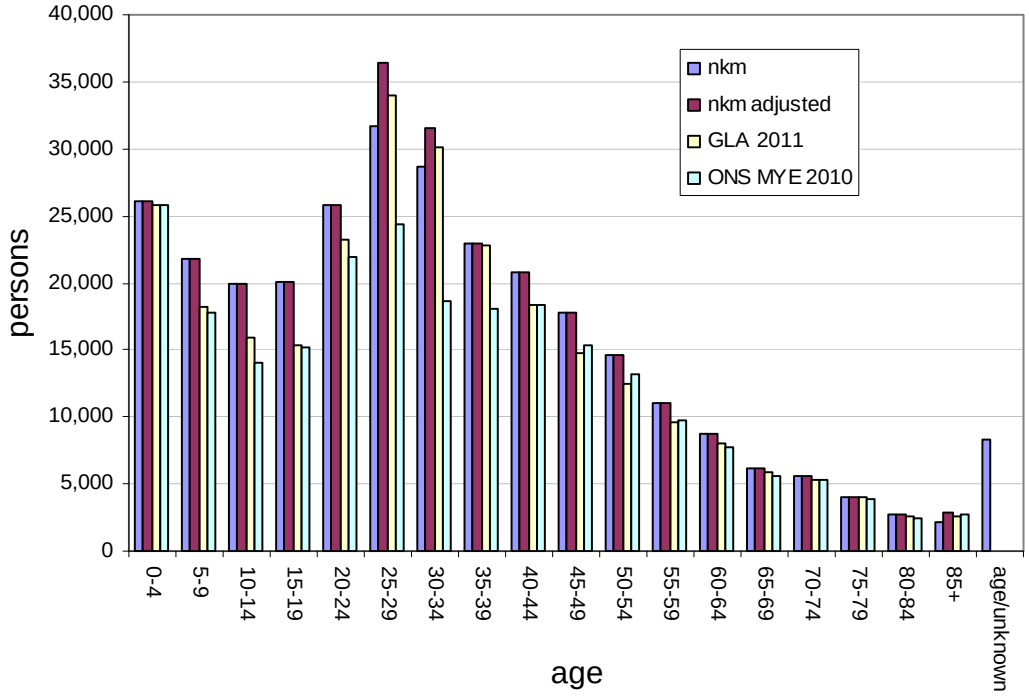


Figure 1: Comparative distribution of population by age according to nkm, GLA and ONS

Age group	*nkm*	*nkm* adjusted 2011	*nkm* adjusted 2007	GLA 2011	ONS MYE 2010
0-4	26,124	26,124	24,152	25,835	25,800
5-9	21,841	21,841	19,500	18,268	17,800
10-14	19,889	19,889	19,278	15,892	14,000
15-19	20,031	20,031	18,492	15,347	15,200
20-24	25,753	25,753	32,348	23,242	22,000
25-29	31,692	36,458	25,912	34,027	24,400
30-34	28,719	31,530	22,901	30,096	18,600
35-39	22,913	22,913	21,246	22,726	18,000
40-44	20,790	20,790	18,834	18,341	18,400
45-49	17,759	17,759	16,073	14,780	15,400
50-54	14,607	14,607	12,240	12,522	13,200
55-59	11,036	11,036	9,707	9,621	9,700
60-64	8,756	8,756	7,475	7,976	7,800
65-69	6,111	6,111	6,436	5,828	5,600
70-74	5,629	5,629	5,238	5,258	5,300
75-79	4,050	4,050	3,984	3,954	3,800
80-84	2,701	2,701	2,606	2,610	2,500
85+	2,139	2,937	3,669	2,530	2,700
age/unknown	8,376				
Total	298,916	298,916	270,091	268,854	240,200

*Table 3: Table showing number of persons by 5-year age band, nkm, nkm-adjusted, nkm 2007, GLA and ONS (*Note that in the nkm-adjusted columns totals are rounded)*

2.3 Independent checks

Differences in population estimates from varying sources are inevitable due to timing, methodological and definitional differences, but are useful as reasonability checks.

There is no single internal or external independent source of information that covers the whole age range with the exception of the now very dated 2001 Census and its various derivatives such as the 2010 MYEs.

It is possible, however, to provide independent albeit partial checks based on segments of the age range. Two government sources of administrative information that can sometimes provide assurance are State Pension and Child Benefit counts.

State Pension is a widely available income replacement for males and females aged 65+, although eligibility depends on certain qualifying conditions and so it may not equate exactly to the 65+ population (e.g. some people defer take up of the state pension until after 65, others may not have made sufficient contributions).

Child Benefit is a universal social security benefit for all children up to 16. Between the ages of 0 and 15 it can provide a reasonable benchmark for the actual 0 to 15 population in any area. This assumes that people take up their entitlement and that Child Benefit recipients live where they are registered.

High level administrative checks against benefits data for the London Borough of Newham show that:

- Based on *nkm* estimates there were 71,785 children aged 0-15 living in Newham as compared with a GLA figure of 65,486 for 2011. Child Benefit data record that there were 69,900 children aged 0-15 in receipt of Child Benefit living in Newham in August 2010, which is closer to the *nkm* figure. The ONS MYE appears to be far too low at 60,382 persons.

- Based on *nkm* estimates there were 20,630 people aged 65 and over living in Newham; this is lower than the comparable estimated GLA figure of 21,822 persons for 2011, but higher than the 19,772 people in the ONS MYEs. Based on 65+ in receipt of State Pension at November 2010 there were 18,700 people (although not all older people necessarily qualify for State Pension).

nkm figures are close to the comparable Child Benefit figures whereas ONS MYEs and GLA estimates are adrift. The other main differences between *nkm* and GLA (and ONS) lie in the number of working age adults between 20 and 59 for which *nkm* estimates are consistently much higher. We discuss this further below.

3. Population change

3.1 Population change since 2009

Between 2007 and 2011 the confirmed *nkm* population of Newham grew by 28,825 or 10.7%. Table 4 shows that the absolute change accounting for 22.9k persons was in the 20-64 age group with an estimated 12.6k in the age range 25-34. This was followed by the 0-9 age group which increased by 4.3k or 9.9% and then the 10-19 age group by 2.1k or 5.7%. By contrast, there was a small 2.3% decline in the number of people aged 65+ of around 500 people. In the rest of this section, we analyse the changes between 2007 and 2011 in more detail including at a local level.

Age group	2011-2007	% change
0-9	4,313	9.9
10-19	2,150	5.7
20-64	22,867	13.7
64+	-505	-2.3
total	28,825	10.7

Table 4: Change in population by broad age group

3.2 Inflows and outflows by age band

Basing our analysis on each individual's NHS number, we used the confirmed population from the GP Registers in 2007 and 2011 to split the population into people: (a) that had remained in Newham in 2007 and 2011; (b) were new to the borough in 2011 by birth or in-migration; (d) lived in Newham in 2007 but not in 2011 either through movement out of the borough or death.

We had no information on people at either snapshot who were not on the GP Register or had no date of birth, but had been confirmed by other data sets. For persons whose

age is known and who have NHS numbers, the results show 110k newcomers to Newham including births since 2007 and 74k leavers including deaths.

These figures are broken down into 5-year age bands in Figure 2. It shows that people moving into Newham tend to be younger than the people leaving Newham. Since 2007 it is also clear that the population has been boosted by a high number of births.

Figure 2 shows the expected pattern of movement with young people joining and older people leaving. This trend in inflows is most noticeable between the 20-34 age groups. The sub-peak in the youngest age groups (particularly ages 1-4) is an indicator of young accompanying children or births since 2007.

In terms of ethnicity, of the net inflow of 36k between 2007 and 2011, 9% were Black, 4% White, 47% Asian, 2% mixed and 38% other/unknown. This suggests that Newham's population is becoming increasingly Asian in complexion. (For further details of the ethnic structure of the population see section 6.)

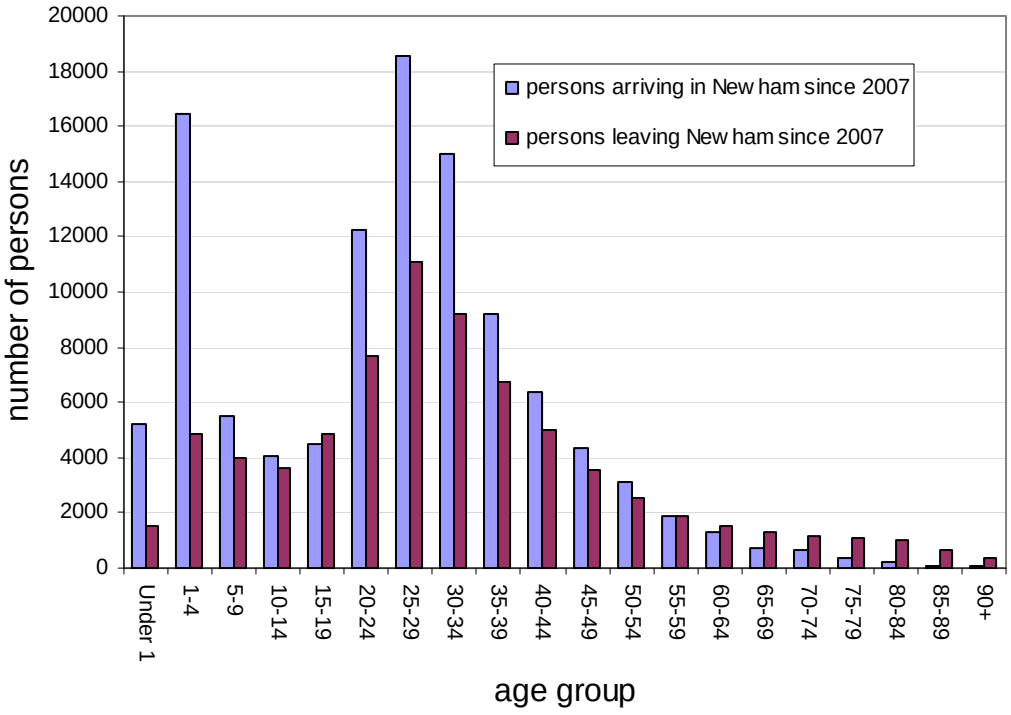


Figure 2: *Inflows and outflows in Newham between 2007 and 2011 by age band*

3.3 Changes in population by LSOA population

The map in Figure 3 compares the difference in the Newham population between 2007 and 2011 by LSOA (Lower Super Output Area). This map and others in the report work like spreadsheets with alphabetic columns A to N and rows 1 to 16. Each cell is identified by a letter (column) and a number (row) and equates to an area of 0.5 x 0.5 square kilometres. In the map, areas shaded in red were either static or experienced small decreases; those in blue large increases and yellow moderate increases.

The results indicate a mixed geographical pattern, with mainly growth but also isolated examples of decline. For example, in LSOAs in darker blue, such as F13 and those neighbouring, the Beckton area east of column L and south of row 9, cells H3 and I6, and the area between column A and D and rows 6 and 9 all increased substantially. A few isolated areas also declined relative to 2007. Examples include cells M3, K11, M12, and F12.

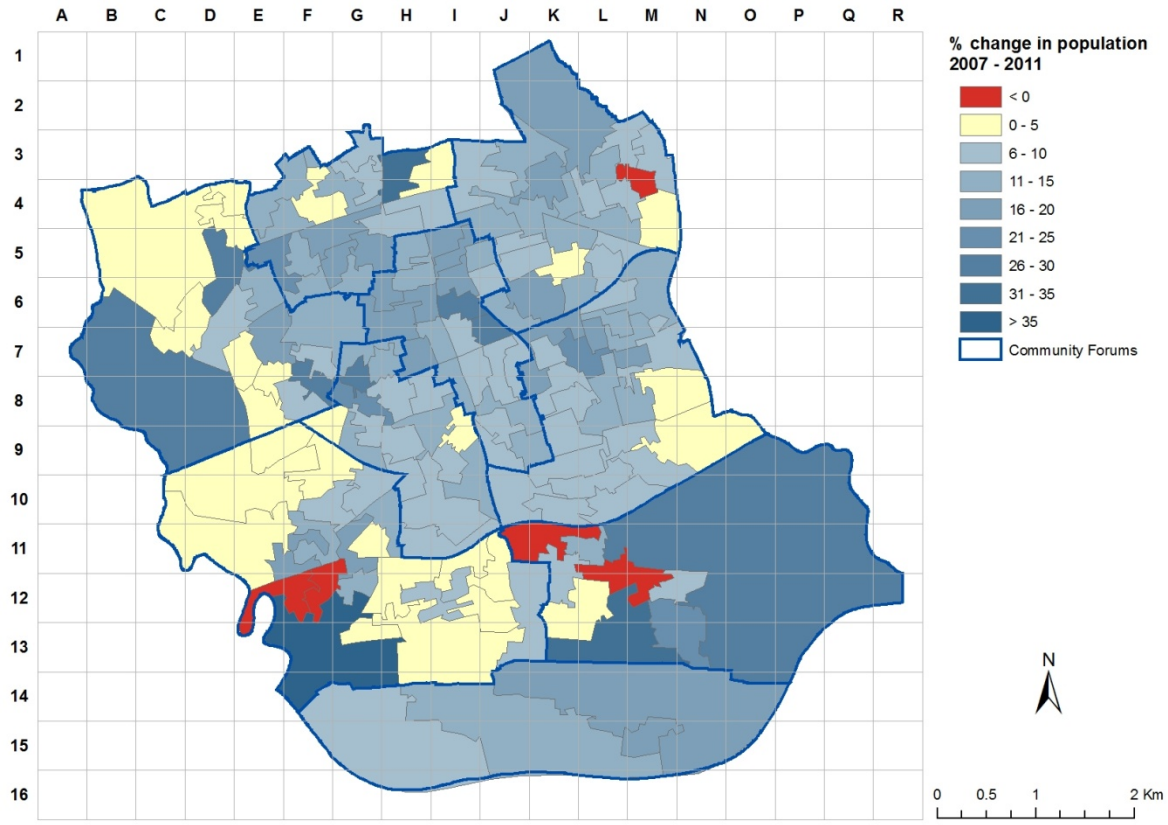


Figure 3: Percentage change in population by LSOA

3.4 Population turnover at LSOA level

The difference in population size is a measure of the net change in population between two snapshots in time. Population turnover by contrast measures the magnitude of flows into and out of an area. For example, the population of an area may be unchanged, but the people that live there may be completely different from those at a previous snapshot.

The population P2 in time t2 equals the population P1 in t1 plus inflows minus outflows, where inflows and outflows include births and deaths. This can be written as P2 = P1 + I - O. Suppose an area retained exactly the same people between two points in time, then the turnover is defined as zero % in this case (i.e. I=0 and O=0)

However, if the population is unchanged in size but the incumbent population were all replaced by new people, the index would take a value of 100%. To take into account intermediate cases, we combine both inflow and outflow by creating the index 100 x (I+O)/(P1+P2) . For example, an LSOA that had 400 people, then lost 200 and gained 300 would have a turnover index of 55.5 % (i.e. 100 x (300+200)/(400+500)).

The results of applying this index to each LSOA are shown in the form of a map of Newham in Figure 4. In the map, LSOAs are colour coded according to the amount of churn. Areas with the highest turnover are coloured dark blue and those with the least are coloured from green to yellow (least).

Turnover rates of over 50% are evident at various points in the borough, particularly at the four vertices or corners of Newham (N, S, E and W). The longer the intervening period, this case 3.75 years, the higher churn rates are expected to be so changes of this magnitude are not unusual. In the map there are only a few areas with churn rates of less than 35% and these are highlighted in yellow.

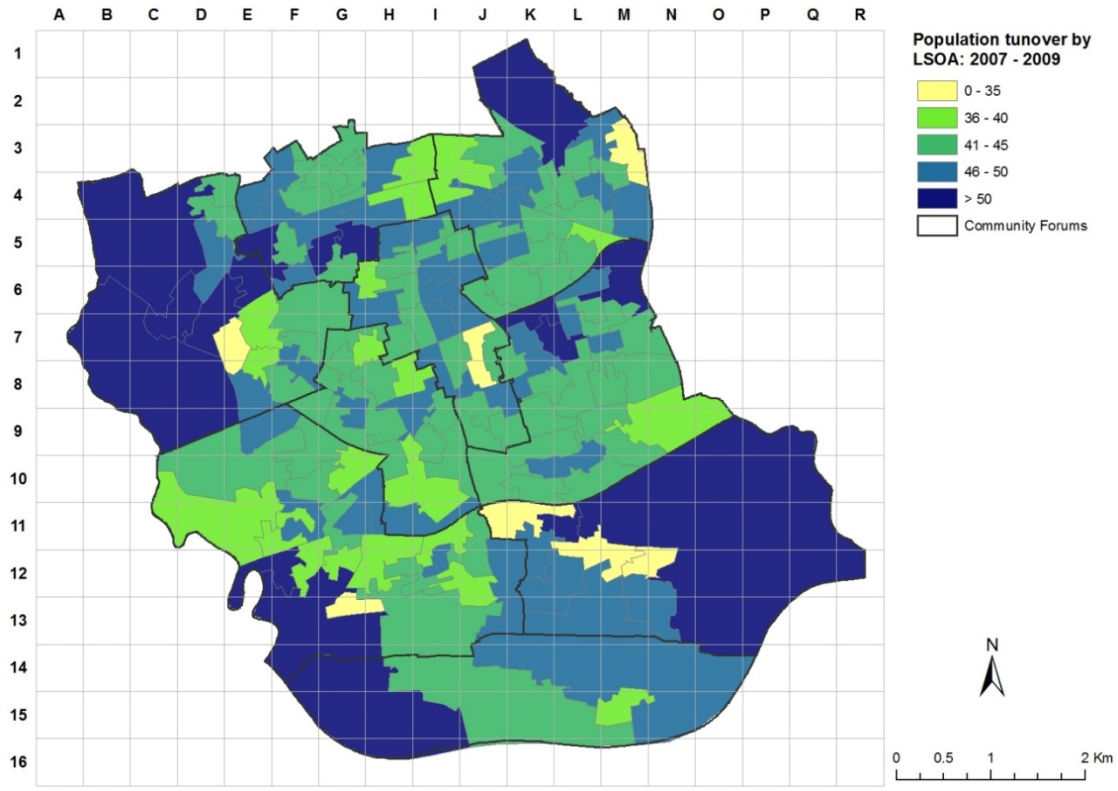


Figure 4: Population turnover by LSOA

3.5 Population change at ward level

Table 5 shows the changes in population at ward level and may be compared with the LSOA map in Figure 3 and the ward map in Figure 5. Wards in which the population increased are in areas of new and existing development.

Newer developments are more generally situated in the south, in wards such as Royal Docks, Beckton or Canning Town South, or in Stratford in the northwest. All of these experienced population growth over 10%.

Central and northern wards such as Green Street (E & W), Forest Gate (N & S), Plaistow North, Manor Park and Wall End also experienced similar rates of growth.

Custom House, Canning Town North and East Ham South changed least in population terms.

For planning purposes, ward level data are also aggregated into nine Community Forums. Table 12 in Section 4 analyses population change and household structure, housing tenure and benefits status by Community Forum geography.

Ward Code	ward name	population 2007	population 2011	% change
00BBGB	Beckton	13878	15542	12.0
00BBGC	Boleyn	14143	15439	9.2
00BBGD	Canning Town North	13668	14502	6.1
00BBGE	Canning Town South	13500	14900	10.4
00BBGF	Custom House	13311	13889	4.3
00BBGG	East Ham Central	13575	15332	12.9
00BBGH	East Ham North	13098	14277	9.0
00BBGJ	East Ham South	14077	15065	7.0
00BBGK	Forest Gate North	13866	15381	10.9
00BBGL	Forest Gate South	14277	16331	14.4
00BBGM	Green Street East	14172	16624	17.3
00BBGN	Green Street West	13731	15827	15.3
00BBGP	Little Ilford	14810	16147	9.0
00BBGQ	Manor Park	13785	15194	10.2
00BBGR	Plaistow North	13193	14807	12.2
00BBGS	Plaistow South	14235	15467	8.7
00BBGT	Royal Docks	8453	9624	13.9
00BBGU	Stratford and New Town	13338	14988	12.4
00BBGW	Wall End	13306	14659	10.2
00BBGX	West Ham	13675	14921	9.1
	total	270091	298916	10.7

Table 5: Breakdown by ward of population change between 2007 and 2011

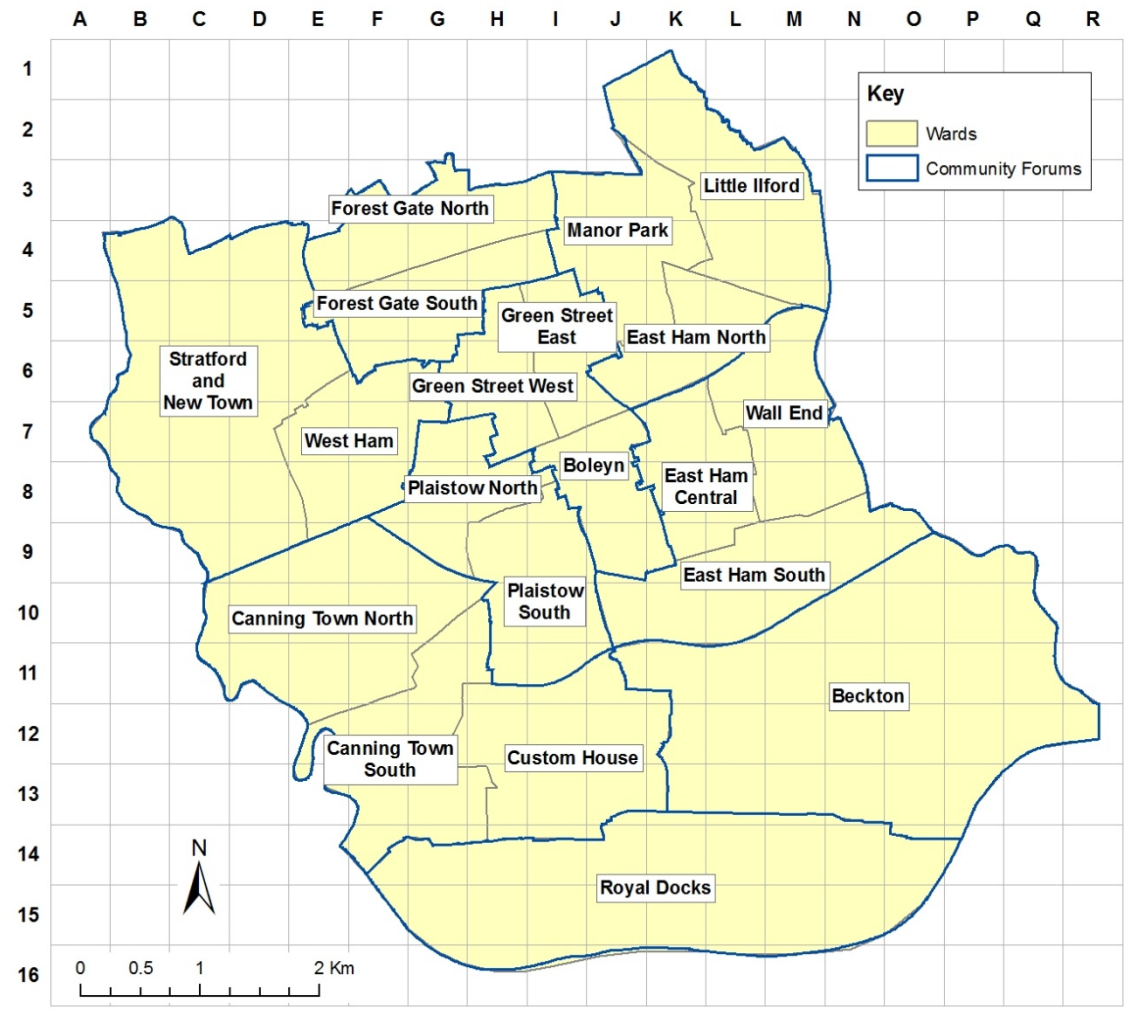


Figure 5: Map showing Newham wards.

3.5 Sources of change to 2011 population stock

Table 6 is based on a division of the population stock by ward in 2011 into four components:

- the percentage of the stock in 2011 that was not born in 2007;
- the percentage due to in-migration;
- the percentage from internal movement within Newham; and
- the percentage unchanged since 2007.

All numbers are derived using NHS numbers of the confirmed population and do not include the minority of people that are confirmed but have no NHS number. The results show 53.9% of the population stock is unchanged; 6.9% of the stock were not born in 2007; 31.6% arrived from outside Newham since 2007; and 7.7% of the stock moved between wards during the period.

These figures vary depending on ward. For example, over 35% of Green Street East and Forest Gate North and Stratford and New Town populations came from outside Newham since 2007. The more popular destinations for internal ward movements included Canning Town North and South, East Ham South, Plaistow North and South.

Wards in which the population were *least* likely to be the same people as in 2007 included Royal Docks, Stratford and Newtown and Forest Gate South. The percentage of the population born since 2007 were spread in roughly equal measure in nearly all wards ranging from 6% in Stratford and New Town to 7.7% in Little Ilford and East Ham South (it is 8.3% in Royal Docks).

Ward	population in 2011	% change since 2007	% of 2011 stock born since 2007	% of 2011 stock new to Newham by migration	% of 2011 stock due to internal movem-ent	% of 2011 stock unchang-ed since 2007
Beckton	15,542	12	7.2	31.4	6.5	54.9
Boleyn	15,439	9.2	7.1	28.6	8	56.3
Canning Town North	14,502	6.1	6.5	27.3	8.8	57.3
Canning Town South	14,900	10.4	6.6	30.5	9	54
Custom House	13,889	4.3	7.2	26.5	7.9	58.5
East Ham Central	15,332	12.9	6.8	32.4	8.6	52.2
East Ham North	14,277	9	6.4	30.8	6.4	56.4
East Ham South	15,065	7	7.7	25.5	9.9	56.9
Forest Gate North	15,381	10.9	6.4	32.5	6.6	54.4
Forest Gate South	16,331	14.4	6.6	38.1	6.5	48.8
Green Street East	16,624	17.3	6.5	35.7	6.8	51.1
Green Street West	15,827	15.3	6.1	34.3	5.5	54
Little Ilford	16,147	9	7.7	30.6	7.6	54.1
Manor Park	15,194	10.2	7.1	32.2	7.7	53
Plaistow North	14,807	12.2	6.9	29.8	9.1	54.2
Plaistow South	15,467	8.7	7.5	29.2	9.2	54.2
Royal Docks	9,624	13.9	8.3	36	6.4	49.3
Stratford and New Town	14,988	12.4	6	40.7	6.5	46.7
Wall End	14,659	10.2	7.3	30.4	8.5	53.9
West Ham	14,921	9.1	6.4	30.1	7.5	56
total	298,916	10.7	6.9	31.6	7.7	53.9

Table 6: Sources of population stock in 2011 due to changes since 2007

4. Housing and households

4.1 UPRNs by usage and population

The Local Land and Property Gazetteer (LLPG) is a property database maintained by local authorities in the United Kingdom. The LLPG extract is a snapshot of properties at a point in time which lists all properties, buildings and land units within the borough classified by usage.

Many addresses are not relevant for residential occupation, and are removed for population estimation purposes. For example, records on the LLPG classified as 'leisure' usage, could be a local sports centre, so would not have people living there.

UPRNs available for occupation are those with residential or unclassified usage. UPRNs with any other type of usage are only included if a confirmed resident has given such an address on any of the other datasets.

Table 7 identifies 120,301 UPRNs on the LLPG in 2011 and of these 105,795 were classed as residential with 100,559 units containing households. Remaining households live in units classified as commercial or hotels/guest houses. The table also shows 6,710 units were unclassified and of these 2,864 contained households.

Dummy UPRNs are created for addresses sourced from the administrative data sets that are not found on the LLPG in their full form and are included in the table. This tends to be where a flat number is not found on the LLPG, but the parent shell is, and can indicate illegal conversions or where the LLPG has not yet caught up with changes on the ground. These are included under other/unclassified.

Category	usage	number of UPRNs in total on LLPG	number of households	number of people	% of people
1	Residential*	105,795	100,559	289,518	96.86
2	Commercial	6,577	1,211	2,411	0.81
3	Hotels/guest houses	1,219	275	304	0.10
4	Other / unclassified	6,710	2,864	6,683	2.24
	total	120,301	104,909	298,916	100.00

Table 7: Breakdown of UPRNs (addresses) by function

4.2 Differences by occupancy and tenure

Between 2007 and 2011 there was an increase of 10,678 in the number of UPRNs (addresses) on the Local Land and Property Gazetteer from 100,403 units to 110,144 units (a 9.7% increase).

The empty property rate increased by 0.8% over period to 4.8% probably related to the amount of housing regeneration in the borough. Table 8 and Figure 6 analyse occupancy according to the frequency of UPRNs.

One-person households remain the most numerous and common form of household. The filled occupancy rate (i.e. ignoring empty UPRNs) is unchanged at 2.8 persons per household; however, this average is subject to a wide distribution.

An estimated 57,465 people live in 6,813 households with 7+ people (6 persons per address is the maximum allowed on a single 2011 Census form). This compares with 47,962 people in 5,675 households in 2007.

Number of people at a UPRN	frequency	social housing	private tenure
0*	5,235	661	4,574
1	38,342	5,043	33,299
2	20,074	2,371	17,703
3	14,319	1,830	12,489
4	11,991	1,416	10,575
5	8,249	972	7,277
6	5,121	592	4,529
7	2,890	292	2,598
8	1,651	178	1,473
9	945	85	860
10	539	44	495
11+	788	49	739
Total**	110,144	13,533	96,611

** Residential Only*
*** Includes 4,350 UPRNs which are not residential*

Table 8: Breakdown of UPRNs by occupancy and tenure

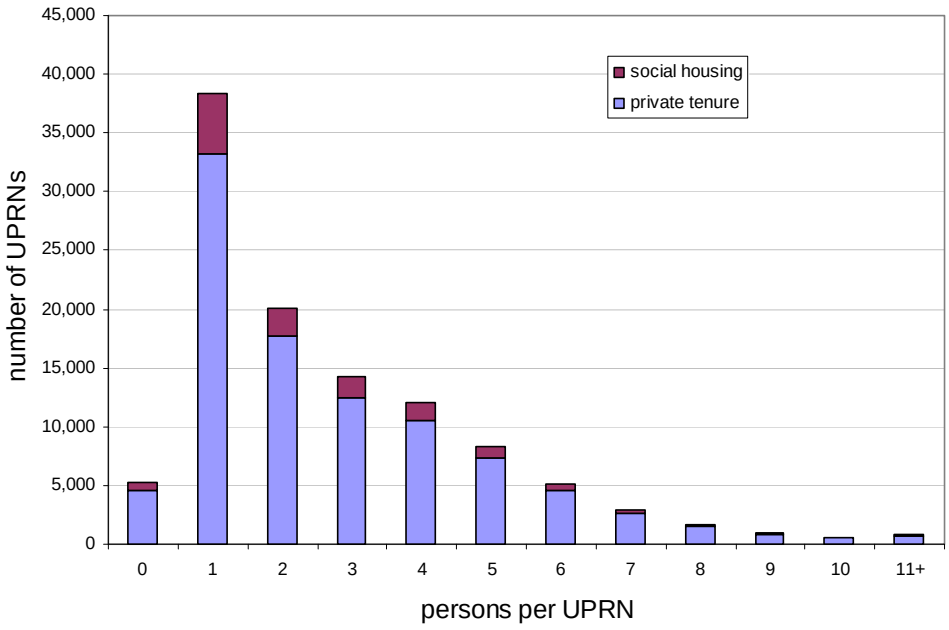


Figure 6: Chart showing frequency of households by number of occupants and tenure

If we define multiple occupancy households as those with ten or more people then the data shows that their number has increased from 1,160 in 2007 to 1,327 in 2011. Figure 7 is a map showing the locations of 7+ households in Newham which has been colour coded according to ethnic group (see also section 7).

The results show a tendency for larger households to concentrate between rows 3 and 9 and columns H to M. In these areas the households tend to be Asian. Beyond this area 7+ households have a greater tendency to be White or Black rather than Asian.

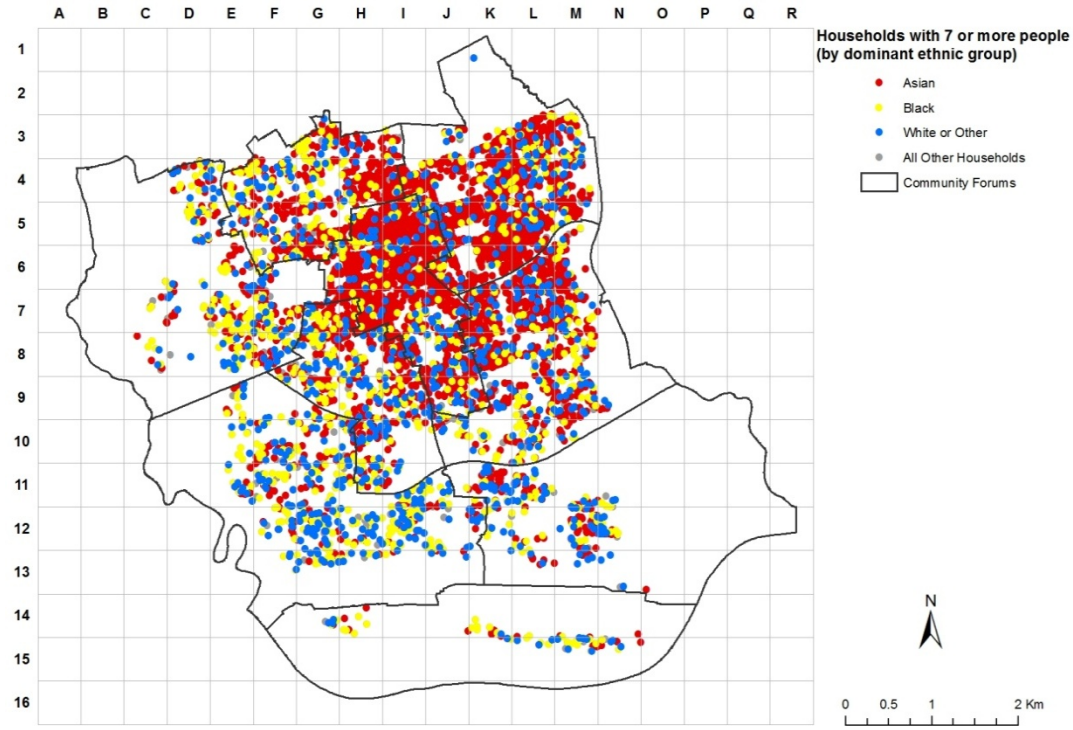


Figure 7: Dot map of Newham showing households with 7+ occupants by major ethnic grouping

4.3 Changes by type of household unit

Using the *nkm* population database each person is classified according to the demographic characteristics of their household. Eight categories exist distilled from 81 sub-types, which are shown in Table 9 below. These categories are mutually exclusive.

Category	description
A	family households with dependent children
B	single adult households with dependent children
C	older cohabiting households
D	older person living alone
E	three generational households
F	cohabiting adult households no children
G	single adult households
H	other households

Table 9: Classification and definitions of households

Type H households are a residual category for households not fitting another group. They comprise, for example, cases where there was an older person(s) 65+ living with a young person(s) age 19 or under. It could also comprise examples of households with teenagers who are also young parents.

Households can be further classified according to which housing band they belong to for Council Tax purposes (a proxy measure of housing wealth), whether they receive means tested benefits (a measure of income deprivation) and so on.

Table 10 breaks down household type of the Newham population in 2011 according to frequency by household type, benefit and tenure status[4], and the number of properties banded A to C for Council Tax purposes[5].

Household type	frequency	population	% bands A-C	% benefits	% social housing	occup-ancy
A	27,225	139,976	74.4	41.6	11.8	5.1
B	10,282	29,235	81.8	55.4	18.4	2.8
C	6,839	17,905	75.1	50.0	7.4	2.6
D	6,276	6,276	88.0	64.5	18.5	1.0
E	3,217	20,301	63.6	54.0	9.9	6.3
F	17,857	49,166	74.9	27.0	9.8	2.8
G	31,739	31,739	76.2	25.1	12.0	1.0
H	1,474	4,318	68.7	51.9	14.0	2.9
Total	104,909	298,916	76.2	37.9	12.3	2.8

Table 10: Breakdown of Newham household by household type in 2011

The results show that most of the population live in Type A, family households. The data show that on average 37.9% of households are eligible for means tested benefits. This rises to 55.4% in the case of Type B households, 64.5% in the case of Type D and 54% Type E. On average 12.3% of all households are designated as social tenure but these percentages rise to over 18% in the cases of Type B and Type D households.

Around 76.2% of households are banded A-C for Council Tax purposes with these percentages falling slightly in the case of Type E households but increasing to over 80% in the case of Type B and Type D households.

The biggest users of local authority services are types A, B, C and D and so any increase in their number must be regarded as significant. Table 11 shows in the period 2007 to 2011 there has been a 16% increase in Type A family households and 4% rises in Type B and Type C households. Type G single adult households increased by 17.3% but Types D and F also fell slightly. The residual category Type H fell by 16%.

[4] Tenure status is limited to whether a property is owned by an RSL.
[5] Houses are banded in value from A (lowest value) to H (highest value) for Council Tax purposes

Household type	frequency	population	change in % bands A-C	change in %benefits	change in % social housing	change in occup-ancy
A	16.0	17.3	0.3	4.8	-4.6	0.1
B	4.3	2.5	0.4	7.6	-4.1	-0.1
C	3.9	5.8	-2.2	2.1	-17.2	0.0
D	-2.1	-2.1	-1.6	-1.0	-17.7	0.0
E	4.0	0.6	0.4	2.6	-4.1	-0.2
F	-1.5	2.6	-1.6	5.1	-3.8	0.1
G	17.3	17.3	-4.2	-1.1	-2.3	0.0
H	-15.9	15.6	-6.3	12.5	2.9	0.8
All	8.9	10.7	-1.8	2.6	-5.3	0.0

Table 11: Percentage changes since 2007

This significant restructuring towards households with children is accompanied by an average 2.6% rise in the percentage of households on benefits. This rises to 4.8% in the case of Type A, 7.6% in Type B and 5.1% in Type F, cohabiting adult households.

Based on Council Tax banding there has been a fall in the percentage of type G, single adult households living in band A-C properties, possibly reflecting regeneration and new building. There have also been falls in social tenure especially in the case of Type C and Type D households, but this may be related in part to tenure classification.

Occupancy levels in 2011 were much the same as in 2007. Minor downward changes are recorded under Type B and Type E households coupled with an increase of 0.8% in Type H households, the residual category.

4.4 Community Forum analysis

Newham is divided into 9 community forums. Table 12 breaks down the population change between 2007 and 2011 and household composition, and indicate the proportion of households on social tenure and in receipt of benefits (a proxy for income deprivation).

The largest relative increases in population are in Royal Docks, Green Street, Forest gate, and Beckton with changes exceeding 12%. Income deprivation is relatively more concentrated in Manor Park, Plaistow and Custom's House and least concentrated in Royal Docks. Social housing is most commonly found in Beckton.

Family Type A households are relatively more common in East Ham, Green Street, Manor Park and Plaistow, and least common in Royal Docks and Stratford. Type B single parent households are slightly more common in Beckton, Customs House and Royal Docks. Older households are less likely in Beckton, Royal Docks whereas single adult households are most common in Royal Docks.

As previously noted, there have been substantial changes in household composition by type of household. These changes are reflected in some community forums more

than others. In Royal Docks, for example, Type A household increased by 35.8% and Type E single adult households by 108.3%.

There were also above average increases of Type A households in Forest Gate (23.3%), Beckton (19.6%) and Plaistow (16.7%). Above average increases in Type G cohabiting adult households occurred in Beckton (32.8%), Stratford and West Ham (26.4%), Custom House (21%) and Green Street (19.7%). Elsewhere type E households grew by 20.1% in Custom House and by 13.3% in East Ham. Annex A provides further details.

Community Forum	populat-ion 2007	populat-ion 2011	% change	A	B	C	D	E	F	G	H	% house-holds social housing	% house-holds on benefits
Beckton	13,877	15,542	12.0	1,570	693	227	291	113	1,034	1,851	111	27.9	37.3
Custom House & Canning Town	40,474	43,291	6.9	3,896	1,910	1,100	1,176	352	2,778	5,464	231	14.6	41.5
East Ham	40,969	45,056	10.0	4,534	1,426	1,067	973	503	2,427	3,243	177	6.0	39.3
Forest Gate	28,121	31,712	12.7	2,670	1,139	731	669	367	2,130	4,185	169	16.3	33.5
Green Street	42,032	47,890	13.9	4,228	1,091	1,108	761	662	2,403	3,464	228	8.2	37.2
Manor Park	41,695	45,618	9.4	4,171	1,293	1,026	797	605	2,250	3,604	207	7.9	41.4
Plaistow	27,437	30,274	10.4	2,885	1,146	715	710	317	1,780	2,931	154	13.2	40.1
Royal Docks	8,453	9,624	13.9	838	493	154	168	50	729	1,979	36	12.7	27.7
Stratford & West Ham	27,033	29,909	10.7	2,433	1,091	711	731	248	2,326	5,018	161	13.5	34.7
	270,091	298,916	10.7	27,225	10,282	6,839	6,276	3,217	17,857	31,739	1,474	12.3	37.9

Table 12: Population change, household structure, and benefit and tenure status in 2011

5. Income deprivation by age and risk factor

5.1 Income deprivation by single year of age

There are no local data on income by household; however, a suitable proxy for low income is indicated by whether or not a household is in receipt of means tested benefits. Households are eligible for means tested benefits, if they have an income that would put them below the Government poverty line based on their circumstances.

In this section, we consider different age groups in single year steps and whether they live in households based on local authority administered benefits; we then segment according to broader age groups and different socio-economic risk factors.

Figure 8 based on single year of age from age 0 to 100 typify the patterns obtained. On the vertical axis is the percentage of population at each age that lives in households on mean tested benefits in 2007 and 2011.

Ignoring tenure, the results show that the probability of living in a household on low income rises from birth to peak between 5 and 11 years of age before declining to a low of 30% at age 30 and then increasing again to between 60% and 70% at the oldest ages.

Between 2007 and 2011 the percentage of the population on benefits increased especially between the ages of 5 and 20 and 35 and 60. This is primarily attributable to increases in the number of Type A and B households with children and to economic factors (official figures indicate a rise in the unemployment rate in Newham from 8.3% to 13.4% between 2008 and 2011.)

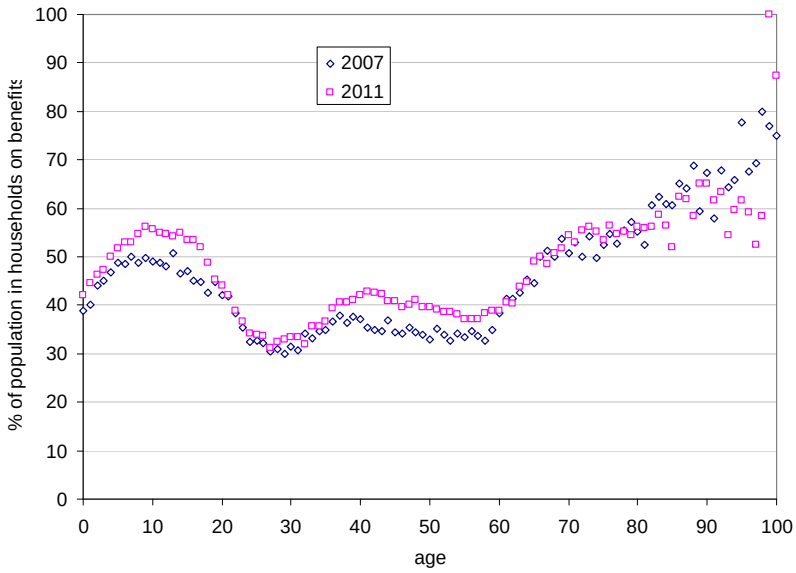


Figure 8: Percentage of population living in households on means tested benefits in 2007 and 2011

5.2 Income deprivation segmented by risk factor

In this sub-section, we analyse and segment income deprivation by broad age group. The aim is to disaggregate income poverty by key risk factors to measure the range of income deprivation as well as numbers of people in different risk sub-groups. We concentrate on three age groups: 0-19, 20-64, and 65+ and use risk factors that have been shown in over 20 studies[6] to be highly significant predictors of income deprivation.

The methodology uses a technique called 'risk ladders', which have been developed to identify and quantify groups and their levels of exposure to risk. In this case the risk outcome is income deprivation (in this case benefit status). Since there are no data at a local level on income by household we use take up of means tested benefits (Housing Benefit or Council Tax Benefit) as a proxy.

0-19

Category	frequency	social housing	single adult	3+children under 20	on benefits	lower CI%	upper CI%
1	1,558	Y	Y	Y	86.8	85.1	88.5
2	4,712	Y		Y	80.3	79.1	81.4
3	2,080	Y	Y		70.9	68.9	72.8
4	6,315		Y	Y	67.2	66.0	68.4
5	3,621	Y			62.1	60.5	63.7
6	32,845			Y	52.5	51.9	53.0
7	9,154		Y		49.4	48.4	50.5
8	27,600				35.9	35.3	36.5
total	87,885	11,971	19,107	45,430	50.9	50.6	51.3

Table 13: *Risk ladder showing the number and percentage of children and young living in households receiving means tested benefits by risk group (CI = 95% confidence interval). (Note: 'Y' indicates that given risk factor applies)*

Table 13, an example of a risk ladder, covers the whole of the age group 0-19 years. The risk factors used to estimate the risk of income deprivation are whether the child lives in a single adult household (i.e. there is only one adult aged 20+ at an address), if there are 3+ children living at the address and by housing tenure (whether private or social housing).

Each row shows the numbers of children and young people in each of 8 mutually exclusive categories ranked from most to least income deprived. The totals at the foot of the columns show the number of people to whom a particular risk factor applies. For example, 11,971 children and young people out of a total of 87,885 live in social housing (see foot of column 3); 19,107 live in households with only one adult; and 45,430 live in households with 3+ children.

Of the 87,885 children identified, 50.9% live at addresses receiving means tested benefits (50.6% to 51.3% with 95% probability). The categories at most risk of income deprivation are located in row 1 in which 1,558 children and young people are

[6] See: http://www.*nkm*.org.uk/case_studies.html for examples of links to studies using risk ladders

identified that live in social housing, in single adult (parent) households, in which there are also at least two other children. Of these 86.8% (85.1% to 88.5% with 95% probability) live in households receiving benefits.

The group at least risk on this measure is diametrically the opposite and to whom none of these factors applies. There are 27,600 contained in this group situated in row 8 of whom 35.9% are in households on benefits (35.3% to 36.5% with 95% probability).

Further analysis using statistical regression techniques shows that the odds of living in a household on benefits increase:

- 3.1 times if living in social housing
- 1.8 times if living in a single adult household
- 2 times if there are 3+ children in the household

These odds are multiplicative so that for a person in the highest risk group to whom all risk factors apply the odds increase 3.1 x 1.8 x 2 = 11.2 times. Figure 9 is a chart showing the robustness of this relationship in which the predicted percentage on benefits based on the statistical model are plotted against the observed percentage on benefits.

20-64

Category	frequency	social housing	single adult household	child or young person at address (<20)	on benefits	lower CI%	upper CI%
1	1,889	Y	Y	Y	73.0	70.9	75.0
2	9,554	Y		Y	67.4	66.5	68.4
3	5,150	Y			55.7	54.3	57.1
4	3,819	Y	Y		52.8	51.2	54.4
5	8,393		Y	Y	51.4	50.4	52.5
6	80,074			Y	38.4	38.1	38.7
7	53,602				27.9	27.6	28.3
8	27,920		Y		21.3	20.8	21.8
total	190,401	20,412	42,021	99,910	36.1	35.9	36.3

Table 14: Risk ladder showing the number and percentage of working age adults living in households receiving means tested benefits by risk group (CI = 95% confidence interval

Table 14 shows the equivalent table for the 20-64 age group, i.e. persons of working age. There are 190,401 people in this group of whom 36.1% live in a household on means tested benefits (35.9% to 36.3% with 95% probability). The risk factors used in this case are whether a person lives in a single adult household, there is at least one child at the address, or a person lives in social housing.

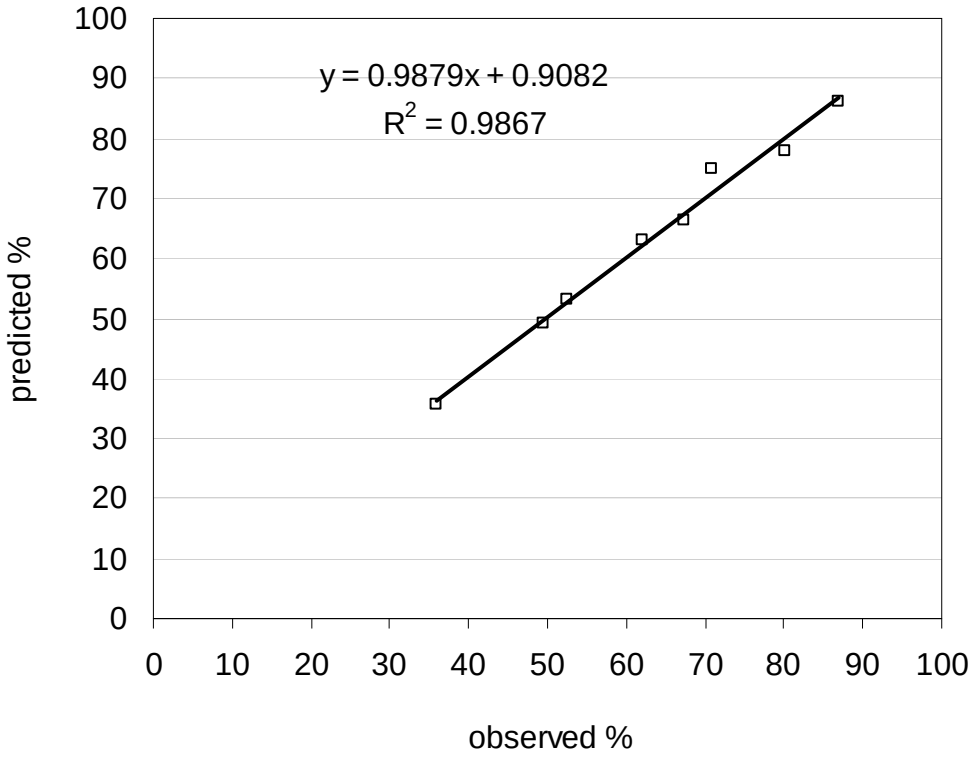


Figure 9: Observed versus predicted percentage of young people living in households on benefits

The highest risk category is located in row one to which all three risk factors apply, which comprises 1,889 persons, of whom 73.0% live in households in receipt of benefits (73.0% to 70.9% with 95% probability). The least income deprived group in this age range is situated in row 8, in which there are 27,920 persons who live alone in private tenure of whom 21.3% are on benefits (20.8% to 21.8%).

By comparing the rows in this table with the previous table for young people, we observe that working age adults are less likely to incur the same extremes of income deprivation. Further analysis shows that compared with households in which none of the risk factors applies, the odds of income deprivation increase:

- 3.4 times if living in social housing
- 1 times (i.e. evens) if it is a single adult household
- 1.9 times if there are children at the address

65+

Category	frequency	social housing	living alone	75+	on benefits	lower CI%	upper CI%
1	538	Y	Y		86.6	83.4	89.4
2	622	Y	Y	Y	86.0	83.0	88.6
3	392	Y		Y	79.8	75.5	83.7
4	694		Y	Y	76.9	73.6	80.0
5	2,778	Y			62.0	60.1	63.8
6	2,338		Y		56.6	54.6	58.7
7	5,098			Y	48.4	47.1	49.8
8	8,170				46.7	45.6	47.8
total	20,630	4,330	4,192	6,806	54.2	53.5	54.9

Table 15: Risk ladder showing the number and percentage of 65+ persons living in households receiving means tested benefits by risk group (CI = 95% confidence interval)

Table 15 is the equivalent risk ladder for older adults aged 65+. The three risk factors in this case are whether an older person lives alone, is aged 75+ or lives in social housing. The table shows that there are 20,630 people aged 65+ living in Newham based on our analysis. Of the total; 4,330 live in social housing, 4,192 live alone, and 6,806 are aged 75+.

Based on the given risk factors, we find that the group at highest risk live alone and are in social housing whether aged 75+ or not. They are situated in the first two rows of the table. They account for 1,260 persons out of the 20,630 people in this age group of whom 86.6% live in households on benefits.

Those where none of these risk factors applies number 8,170 persons of whom 46.7% live in households on benefits (45.6% to 47.8% with a 95% probability). This compares with an average 54.2% for the whole of the 65+ age range.

In this age group, an older person is:

- 2.3 times more likely to be on benefits if living in social housing
- 2 times if living alone
- 1.3 times if aged 75+

Hence a person to whom all three risk factors apply is 2.3 x 2 x 1.3 = 6.1 times more likely to be on benefits as compared with someone to whom none of these risk factors apply.

6. Ethnicity in Newham

6.1 Preliminary considerations

Quantifying the ethnic composition of the local population is valuable for assessing recent migration and for identifying populations likely to have particular requirements (e.g. in terms of employment, local health and council services). However, comprehensive data on the ethnicity of local residents is lacking.

One of the few consistent, albeit partial sources of information is the School Pupil Census (previously known as PLASC). This is a register of pupils attending state schools in Newham containing names, self-reported ethnicity and other useful information. It identifies up to 100 different sub-groups using a mixed nomenclature based on country, region or other information (e.g. dialect).

In order to quantify the Newham population, we supplement the data in the School Pupil Census with a much larger database of unique surnames based on a large number of School Pupil Census data sets from all over London and beyond in which each name is assigned a probability of belonging to one of a number of ethnic groups.

For children and their families residing in Newham ethnicity assignment is unique but for a household without children probabilistic assignment is used. That is for people in households where there are no children that go to school in Newham we use probabilistic assignment based on surnames.

The limitations of this approach are that not all names are on the database and so some cannot be assigned an ethnicity (in which case they are allocated to 'unknown'). Some people refuse to give their ethnicity and some of the categories especially those 'Mixed' may lack precision (e.g. some may call themselves Black African rather than Nigerian).

The wider database of names is constantly being updated with new names added to freshen and extend the database and reduce the number of 'ethnicity unknowns'. In this regard, it is considerably larger than the database used for the same assignment purposes in 2007.

In many cases, only one ethnic group is indicated by any given surname and so it is easy to assign a person to a group but in some cases the same name appears in two or more ethnic groups. In these cases a probability of origin is assigned to the name based on the frequency of occurrences of the name within each ethnic group. Extreme cases of representation across multiple ethnic groups include names like Ahmed or Brown which appear in nearly all ethnic groups.

The level of accuracy of this process depends also on how many ethnic groups are defined at the outset. In addition, assignment by nationality rather than by ethnic group will be more or less accurate depending on the nationality and distinctiveness of the names involved. In the following section, we provide estimates and maps of the population broken down by ethnic category.

We divide the population into 3 tiers for classificatory purposes: Tier 1 broadly coincides with the high level categorisation based on the Census, namely White, Black, Asian, Mixed and Other. Tier 2 splits each of these into broad sub-groups such as African Caribbean and 'Any other Black' in the case of the Black population. Tier 3 is individual country breakdowns.

Not every country can be identified using this method, as when for example there is no corresponding School Pupil Census category or certain ethnicities are grouped into larger categories. This applies, for example, to former Soviet bloc countries including Russia and the Baltic states which are bracketed under East European. With around 10,214 members, this grouping is relatively large and comparable in size to the Black Caribbean community which is estimated to total 11,906 people.

6.2 Results

Tables 16 to 19 below set out the main results and categories by Tier 1 and Tier 2. A small caveat is that Tier 1 Asian comprises anyone from the sub-continent including India, Bangladesh, Pakistan and Sri Lanka; note that Tier 2 Asian includes Chinese and other south-east Asian.

All the tables in each Tier breaks down the population into three age groups: 0-19, 20-64, and 65+. A further category is included for 'age unknown', although most of this harder to identify group will fall into the 20-64 age bracket. Two further columns show the estimated percentage of each group living in households on benefits or in social housing.

The results show that the White population with 73,147 members is the second largest group in Tier 1 accounting for 24.5% of the population. The largest group are Asians with 106,184 members accounting for 35.5% of the population. The Black population and other/unknown population account for 49,928 and 53,839 persons respectively or 16.7% and 18% of the total. The 'Mixed' population account for 15,817 persons or 5.3%.

The results indicate that the White population is predominantly of UK origin although the analysis finds that 19k have 'any other White background'. Reference has already been made for example to the estimated number of East Europeans living in Newham.

The results further indicate that people of Black African origin are over 3 times more common than people who are Black Caribbean out of a total of 50k Black people altogether. In the Asian community, the Bangladeshi, Indian and Pakistani communities are comparable in size each with between 29k and 33k members.

Higher tier census category	0-19	20-64	65+	age NA	total	% on benefits	% in social housing
White	16,235	44,549	9,524	2,839	73,147	41	13
Black	19,513	26,653	2,689	1,073	49,928	46	19
Asian	35,970	63,807	4,568	1,839	106,184	44	8
Mixed	4,738	9,199	1,404	,476	15,817	42	16
Other Unknown	11,429	37,817	2,445	2,148	53,839	34	9
total	87,885	182,025	20,630	8,376	298,916	42	12

Table 16: Tier 1 Total population

Lower tier census (white)	0-19	20-64	65+	age NA	Total	% on benefits	% in social housing
UK	9,180	32,622	8,765	2,282	52,849	41	16
Irish	165	594	145	44	947	41	16
gypsy or Irish traveller	45	61	12	3	120	66	26
any other white background	6,845	11,273	602	510	19,230	40	7
total	16,235	44,549	9,524	2,839	73,147	41	13

Table 17: Tier 2 White population

Lower tier census (Black)	0-19	20-64	65+	age NA	total	% on benefits	% in social housing
African	16,003	19,754	1,320	694	37,771	48	18
Caribbean	3,470	6,723	1,343	370	11,906	42	20
Any other Black	41	176	25	10	251	38	16
total	19,513	26,653	2,689	1,073	49,928	46	19

Table 18: Tier 2 Black population

Lower tier census (Asian)	0-19	20-64	65+	age NA	total	% on benefits	% in social housing
Indian	8,236	22,526	1,989	718	33,469	29	5
Pakistani	10,928	17,128	1,115	555	29,726	46	7
Bangladeshi	13,065	17,199	975	345	31,584	58	13
Any other Asian background	4,755	9,347	654	507	15,264	40	7
total	36,983	66,201	4,734	2,125	110,043	44	8

Table 19: Tier 2 Asian population

6.3 Tier 3 country breakdown

Table 20 provides the same age breakdown by country of origin based on Tier 3. The countries included in Tier 3 are limited to those with 100 or more members based on our estimates. Some of the counts e.g. those only identifiable as 'Black African' by their names cannot be allocated to a specific country only to 'Africa'. The practical effect is that some African countries in this table will be underestimated for this reason.

The table shows that after 'White British' the largest group is the Indian, Bangladeshi and Pakistani communities with approximately 30k members each, followed by Black Caribbean with 12k members. The Black African population breaks down into three major groupings – Nigerian, Somali and Ghanaian, although some of their number will have been bracketed as Black African as previously noted and so will be an underestimate.

From the table, the other groups that stand out are the very significant Sri Lankan community (3.9k), Chinese (2.3k), Turkish (1.2k) and Afghan (1.3k) communities. Also represented are people from a range of countries such as Albania, Kosovo, Vietnam and so on each with between 100 and 900 members.

Each Tier also shows the percentages of each community that live in social housing or receive benefits. In Tier 1, the White population is 41.1% likely to live in a household receiving means tested social security benefits. This compares with only 29.4% in the case of the Indian community but 57.8% in the case of the Bangladeshi community and 46.4% in the Pakistani case.

Based on the tier 3 country tables, 77.7% of the Somali community live in households receiving means tested benefits, and 77% of the Albanian community. Others among the larger communities with higher than average percentages living in households on means tested benefits include the Afghan, Turkish and Sri Lankan communities.

In terms of social housing, the picture is very varied with higher than average percentages of for example White British, Black Caribbean, and Somali living in social housing, but significantly lower than average percentages of Indian, Pakistani, Sri Lankan, Chinese, Filipino etc.

6.4 Mapping ethnic communities

The maps in Figures 10 (a – c) show the distribution of ethnic groups in Tier 1 categories. Three types of boundary are included: LSOA boundaries, the lowest level geography, Community Forum boundaries and the Newham local authority boundary. The patterns at community forum level may be compared with the demographic and household information in Table 12 earlier.

The maps show several distinctive patterns. The White population (a) is widely distributed with a stronger presence in the west and south. Black communities follow a fairly similar pattern to the White community. The most distinctive pattern of all is among the Asian community which is highly concentrated between rows 2 and 9 and columns G and M.

Figure 10 (d) is a map showing the proportion of the population resident in each LSOA (Lower Super Output Area) that is categorised as White. The results further highlight the significantly different spatial distribution of White and Asian populations with under 26% of the population being White in the predominantly Asian districts of the borough as illustrated in Figures 10 (c and d).

Country tables	0-19	20-64	65+	age NA	total	% on benefits	% in social housing
White British	9,156	32,510	8,743	2272	52,681	41.1	15.6
Indian	8,193	22,365	1,978	712	33,247	29.4	4.7
Bangladeshi	13,065	17,199	975	345	31,584	57.8	12.5
Pakistani	10,971	17,290	1,127	561	29,948	46.4	7.5
Black Caribbean	3,470	6,723	1,343	370	11,906	42.1	19.9
Nigerian	2,958	3,593	218	117	6,886	30.4	14.6
Somali	3,381	2,851	207	72	6,512	77.2	20.1
Sri Lanka	1,759	2,050	94	42	3,945	52.6	5.6
Chinese	381	1,506	111	263	2,262	20.5	6.6
Filipino	814	1,090	92	17	2,013	14.4	5.7
Ghanaian	288	1,177	73	46	1,583	35.0	20.2
Afghan	531	705	44	21	1,301	59.3	10.3
Turkish	360	719	52	34	1,165	53.4	14.4
White - Irish	165	594	145	44	947	40.9	15.7
Kosovo	300	324	7	4	636	77.0	17.7
Vietnamese	208	362	29	28	628	60.4	22.0
Gypsy / Roma	243	296	12	10	562	57.1	4.1
Portuguese	69	262	18	13	362	41.8	12.0
Iraqi	85	155	10	6	256	58.1	15.1
Kurdish	61	138	9	8	215	51.8	15.0
Greek	23	135	23	16	197	30.9	8.3
Sierra Leone	38	135	12	6	191	39.7	17.5
Congolese	34	106	6	3	150	62.6	17.9
Iranian	47	92	5	2	145	57.8	20.6
Nepal	12	106	2	3	123	15.7	2.2
Traveller of Irish Heritage	45	61	12	3	120	66.2	26.3
Albanian	21	81	3	5	110	48.9	13.4
Yemeni	28	68	4	2	103	52.7	13.7

All Newham	87,885	182,025	20,630	8376	298,916	41.7	11.7

Table 20: Tier 3 country breakdown of ethnicity

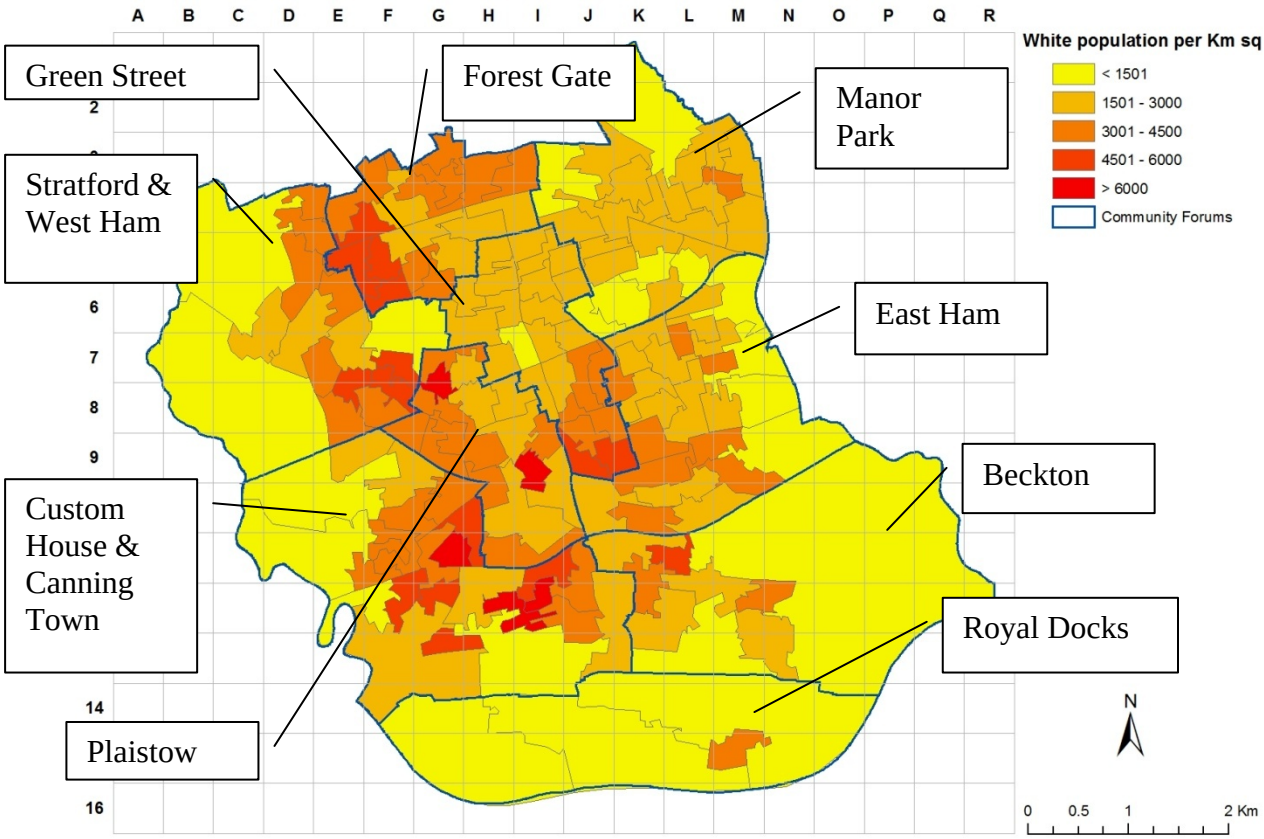


Figure 10(a): Density of White population per square kilometre at LSOA level showing Community Forum boundaries

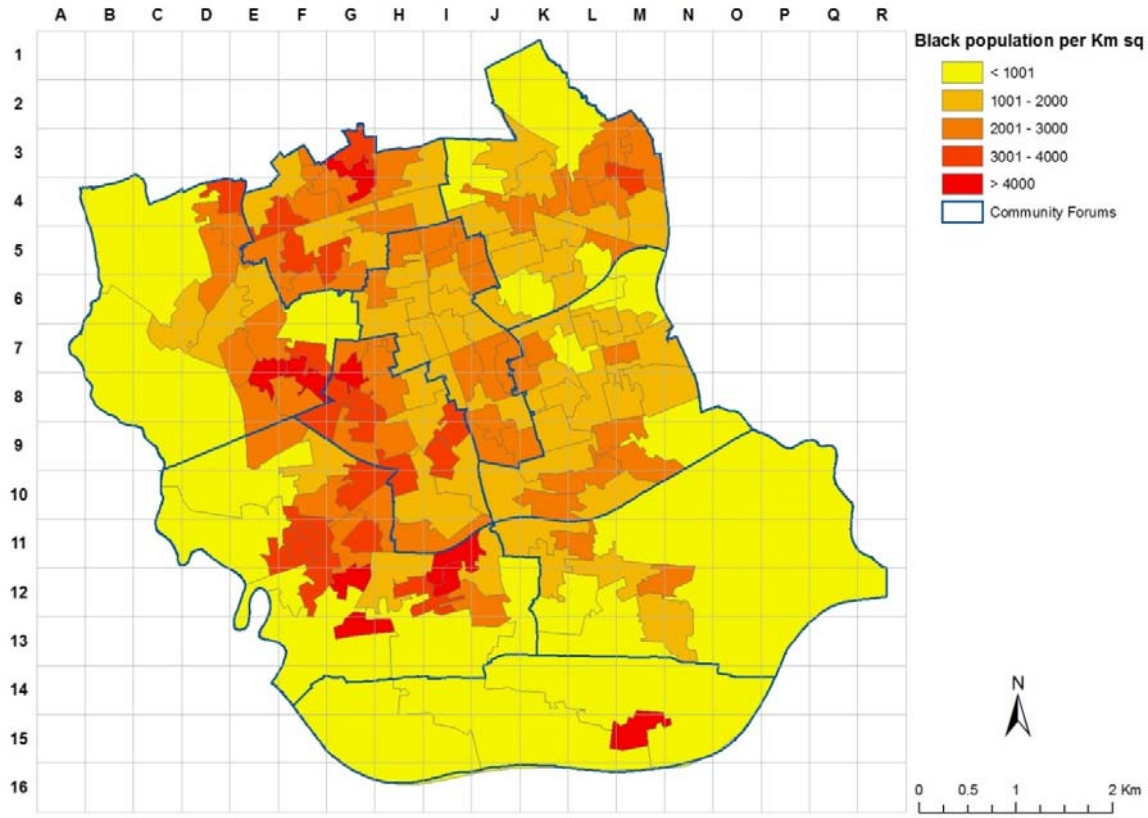


Figure 10(b): Destiny of Black population per square kilometre

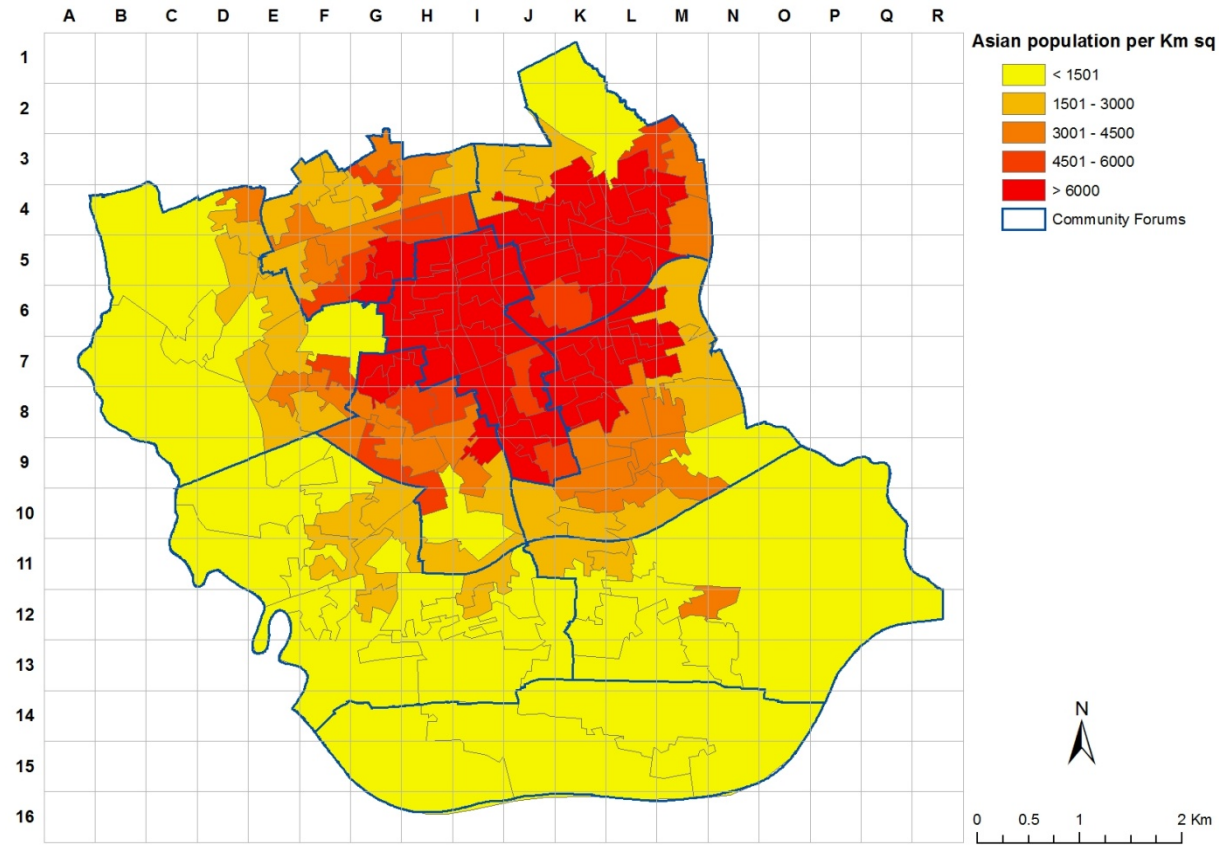


Figure 10(c): Density of Asian population per square kilometre

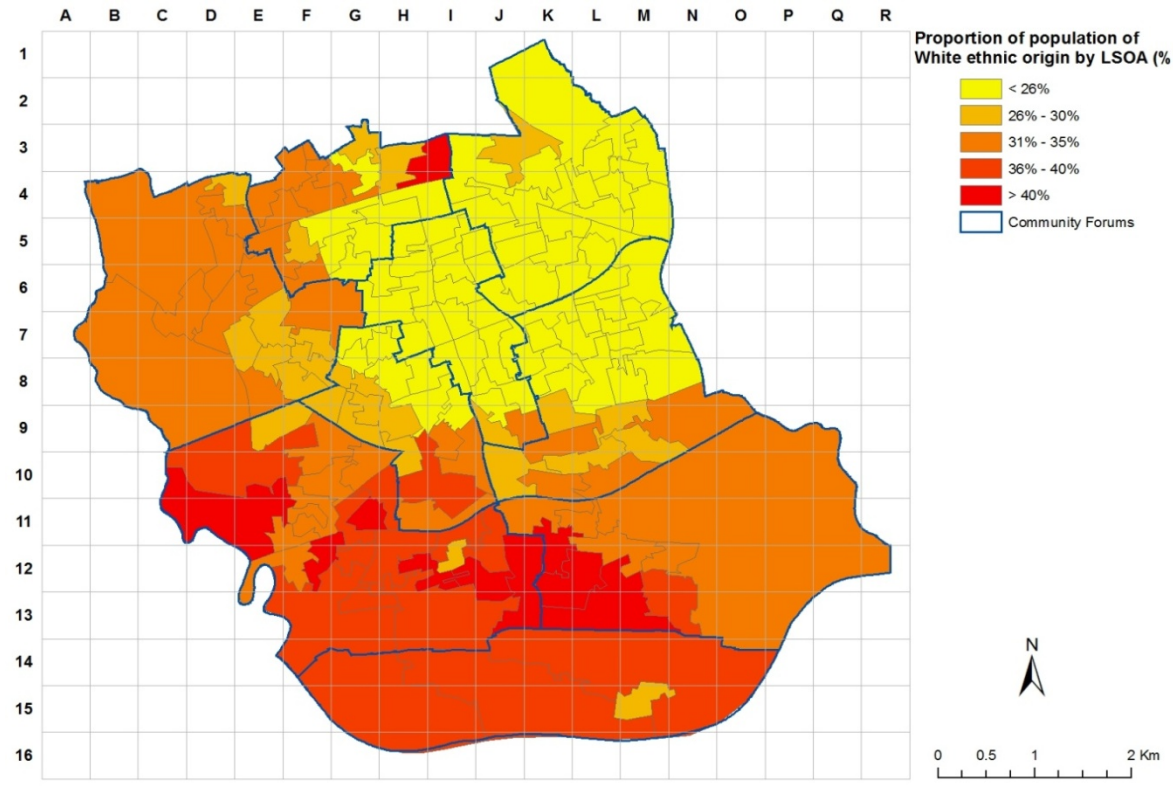


Figure 10(d): Percentage of population that is White by LSOA

7. Flag 4 status

7.1 Definition

Flag 4 status is a system used in the NHS to indicate that someone registering with a GP was previously living overseas. Based on our data, there were 23,151 with this status in the last 12 months of whom 17,288 were aged 18+ and of these 14,762 could be matched to the *nkm* data base therefore regarded as a current resident.

A Flag 4 may be generated when an individual registers with an NHS GP if an individual was born outside the UK and enters England and Wales for the first time and registers with a NHS GP. An individual's registration will also generate a Flag 4 if the previous address of an individual is reported as outside the United Kingdom.

Note that Flag 4 data are not perfect proxies for the number of migrants in an area. For example, Flag 4 records may not be retained if a person subsequently moves within the UK and registers with a new GP. In practical terms, it is likely to underestimate the number of migrants in an area for example those that may register for work but not register with a GP.

Figure 11 is a population pyramid which compares the age structure of the Flag 4 population with the general population, in which Flag 4 status is seen to be much more concentrated in the 20-35 age group than is the general population. Table 21 breaks down the total Flag 4 population by country of origin and separately identifies those on the *nkm* data base as being current.

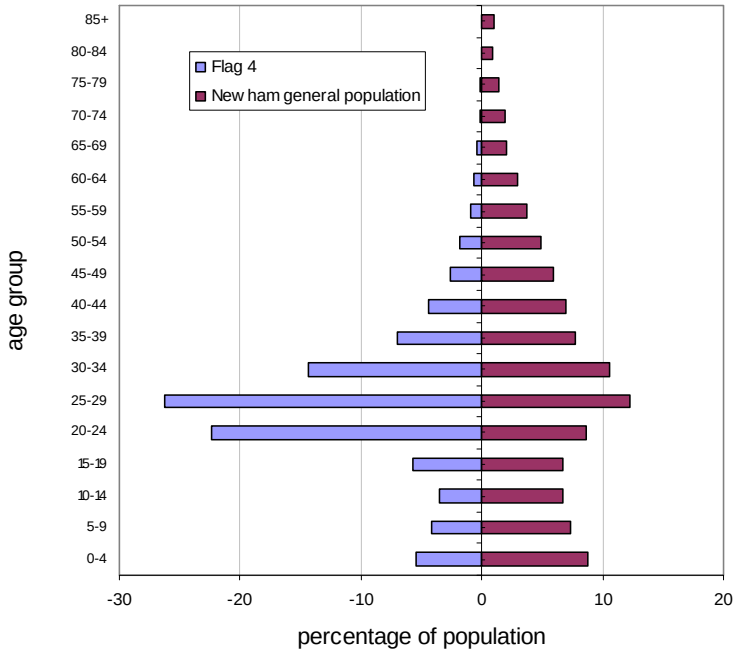


Figure 11: Population pyramid showing the percent of the Flag 4 population by age group compared wit the general population of Newham

Country of origin	All Flag 4s (A)	Flag 4s on *nkm* data base (B)	% of total (col A)	% of total (col B)
India	5,727	4,040	24.7	23.4
Bangladesh	3,218	2,282	13.9	13.2
Pakistan	2,821	1,993	12.2	11.5
Lithuania	1,866	1,517	8.1	8.8
Romania	1,302	1,000	5.6	5.8
Nigeria	766	609	3.3	3.5
Poland	693	549	3.0	3.2
Sri Lanka	605	466	2.6	2.7
Bulgaria	460	352	2.0	2.0
Latvia	453	344	2.0	2.0
Other	5,240	4,136	22.6	23.9
total	23,151	17,288	100	100

Table 21: Breakdown of flag 4s by main countries of origin over last 12 months

The results show that three quarters of Flag 4s arrive from just 10 countries. The remaining quarter comes from at least 164 other countries albeit in much smaller numbers.

Altogether the number with Flag 4 status on the *nkm* data base totalled 36k with an average duration since registration of 15.7 months and an average age at registration of 26 years, and of whom 20% were age under 20 at registration. In all, an estimated 124k Flag 4s have registered since 2000 with 60k registering in the last four years.

People with Flag 4 status may or may not be eligible to vote in some or all elections in the UK depending on which country they originate from and whether they have UK citizenship. If a person is not British and is not a citizen of the Commonwealth, the Irish Republic or a member state of the European Union they cannot vote in any election.

Areas of the world which have no entitlement to vote in any UK election (local, national or European) include numerous African, South American, Asian and central Asian countries. Examples of countries with population representation in Newham include Somalia, Senegal, Morocco, Ukraine, Afghanistan, Columbia, Brazil, Thailand, China and several Middle Eastern countries.

Based on Flag 4 data for the last 4 years, we estimate that countries *without* voting entitlement in any election account for around 10% of all flag 4s. In the next section we use Flag 4 status and other characteristics of the population to analyse voter registration patterns in Newham in more detail.

8. Profiling the registered and unregistered electorate in Newham

7.1 The electoral roll

The electoral register is a list of people and addresses in a local authority that are eligible to vote and which is maintained locally by Electoral Registration Officers (EROs).

The Government is currently considering whether other data held by public authorities will be useful in helping to maintain and improve the electoral registration process and the accuracy of registers.

This is intended to support wider work on ensuring and improving the comprehensiveness and accuracy of the electoral register as part of an overall transition to individual electoral registration rather than household based registration.

In principle, more accurate data would enable EROs to target currently underrepresented groups or for whom the details on the electoral register are inaccurate.

The aim of this section is therefore to undertake a detailed analysis of the electoral register using the *nkm* population data base constructed for this project based on a snapshot of current residents.

The results are intended to show the degree concordance between people on the *nkm* data base and those on the register and of those who are unregistered whether they would be legally entitled to vote based on current rules.

7.2 Maintaining the electoral roll

British citizens are eligible to vote providing that they are 18 years or older on the day of the election. Citizens from Member States of the European Union must register as local government electors, and may register as European electors to allow them to vote in EU elections.

The register of electors is published annually on the 1st of December. In preparation, pre-filled forms are sent out to all addresses in the previous August with reminders issued in September.

The information on the form includes a person's forename, surname, address and nationality. Dates of birth are only requested for people that will turn 18 in the next 12 months. To update the register, each household is asked to add or delete people that are new or have left.

Households that do not reply are visited up to three times, but if there is still no reply then the existing electors registered at that address remain on the register for a further year before being removed.

Where there are new additions to the register, the previous known local authority of residence is notified so that the individual concerned can be deleted from its register. Changes to the register in the period from January to August, average about 12k additions, 6k deletions and 2k amendments.

Monthly updates of the register are issued between January and September on the first day of each month accommodating any additions deletions or amendments arising during the intervening weeks. No new versions of the register are issued in either October or November.

7.3 Method

We compared the names on the electoral roll with the names of people on the *nkm* data base that had been confirmed as living in the borough on the 27/3/2011 (see Section 1) and were aged 18+. Record matching was carried out using a combination of data fields including the UPRN (Unique Property Reference Number), address and full name of each person.

We found that the Electoral roll had 216,684 entries, the vast majority of whom had a current UPRN on the LPG. This was then reduced to 200,674 entries after removing properties with no registrants, those which contained people that were duplicates and those without a UPRN. This reduced list was then compared with the *nkm* data base which contained 210,903 confirmed people aged 18+.

We found that 131,772 or 66% of persons on the electoral roll were also on the *nkm* data base, leaving 68,901 people on the electoral register who could not be accounted for. In addition, we found that of the 13,207 properties on the electoral register with a UPRN where no-one had registered, 10,174 had people living there based on *nkm*.

Reconciling the total number of people on both data bases, the ER consisted of 210,848 people, a figure which we have inflated to include the 10,174 occupied properties on *nkm*. This compares with 210,903 people on *nkm* itself. Whilst therefore the total number of 18+ persons is similar on either data base, it appears that about one-third of the individuals are different people.[7]

The most likely explanation for this is due to a combination of circumstances because of movement on and off the register and in and out of the borough. For example, based on earlier findings, 83k people aged 18+ living in Newham in 2011 were either not based in Newham in 2007 or had moved to their current address from within Newham.

This is over a 4-year period but based on annualised figures from neighbouring Tower Hamlets an annual turnover of 20% external migration and 5% internal migration is probably normal for this area of London. Applying this rate to Newham would equate to approximately 53k different people at addresses each year.

[7] An implication of this finding is as follows. If it is assumed that that one-third of the people on the register no longer live at the given address then maximum turn out at an election would be 66% as compared with the actual turnout of 50.37% which was achieved at the Newham mayoral election in 2010..

Clearly there are timing issues because people leaving the borough may not immediately register in another borough until asked to do so in July each year and similarly people moving into a borough will not register until asked to do so or unless there is a pressing need (e.g. to get a credit rating), so there are inevitable time lags built into the registration system.

In order to understand the characteristics of people least likely to be on the register, we proceeded by hypothesising that non-registration could be linked to one of several risk factors such as age, gender, ethnicity or other socio-demographic factors. Accordingly all people on the *nkm* data base were divided into 32 mutually exclusive risk groups based on whether they were male, aged 18-30, in a household on benefits, live in a household with no children, or had 'Flag 4' status.

7.4 Results

Table 22 is a summary of our analysis based on 5 ethnic groups, with the fifth group consisting of 'other/unknown'. In all we found that of the 210,903 people on *nkm* aged 18+, 78,614 or 37.3% were not registered to vote. This percentage was highest in the other/unknown and Black categories and lowest in the White category.

Ethnic group	total	Unregis tered	% unregist- ered	No Child- ren House hold	Bene- fits House hold	Male	Aged 18-30	Flag 4	odds if all risk factors apply
Black	30,935	12,370	40.0	1.0	1.2	1.6	1.5	3.6	10.1
White	55,956	17,606	31.5	0.7	1.2	1.6	2.3	4.6	14.9
Asian	71,628	24,301	33.9	1.3	0.8	1.5	1.6	4.4	10.8
Mixed	10,999	3,895	35.4	0.9	1.1	1.6	1.9	4.0	11.6
other	41,384	20,442	49.4	1.0	1.0	1.3	1.5	3.2	6.1
total	210,903	78,614	37.3						

Table 22: Table showing the relative odds of key risk factors that affect non-registration

Also shown in Table 22 are influences of each risk factor measured in odds. For example, an Asian is 1.5 times *more* likely to be unregistered if male and 4.4 times more likely if he has Flag 4 status. If all risk factors apply then they are 10.8 times more likely to be unregistered.

In all ethnic categories except Asian, living in a household on benefits is *more* likely to lead to non-registration. In the Asian case, living in a household with children is more likely to lead to non-registration.

However, in other categories this effect is either neutral or works in the opposite direction (i.e. is associated with a greater propensity to register). For example, if a White person lives in a household with children they are 1.4 times more likely to be registered.

The sub-groups *most* likely to be unregistered are therefore male, aged 18-30, have Flag 4 status, or have any combination of these. If all risk factors apply in the White case the odds of being unregistered increase to 14.9 times, the most of any group.

These figures can be broken down to quantify the numbers in each risk group. Table 23 shows an example based on the Asian category (similar tables for other categories are at Annex A). This table ranks the 32 risk groups from the highest risk of being unregistered in row 1 to the lowest risk in row 32.

The numbers at the foot of the columns give the number of people to whom a particular risk factor applies. For example it shows that there are 5,733 Asian people with Flag 4 status out of 71,628 Asian men and women aged 18+. The columns to the right of the table show the percentage of each sub-group that is non-registered together with the 95% confidence intervals.

The average rate of unregistered people in this population is 33.9% ranging from 79.7% in row 1 in which there are 356 males aged 18-30 with Flag 4 status receiving benefits and no children in the household to 18% in row 32 consisting of 2,704 females living in households on benefits with at least one child.

The odds of being unregistered for each risk factor shown in Table 22 above are determined using logistic regression. Figure 12 shows the predicted risk of non-registration based on logistic regression versus the observed percentage.

The model explains nearly 93% the variance in the observed data. It therefore provides a good predictive representation of the size and characteristics of risk groups in the population and their likelihood of non-registration.

Risk group	frequency	no children household	benefits household	male	aged 18-30	Flag 4 status	% not registered	lower CI %	upper CI%
1	356		Y	Y	Y	Y	79.7	75.2	83.8
2	132	Y				Y	75.7	67.4	82.7
3	76	Y	Y		Y	Y	75.1	63.8	84.4
4	135	Y	Y	Y	Y	Y	75.1	66.9	82.1
5	55	Y	Y	Y		Y	74.4	60.8	85.2
6	404	Y		Y		Y	73.9	69.3	78.1
7	958			Y	Y	Y	73.7	70.7	76.4
8	36	Y	Y			Y	73.0	55.5	86.5
9	391			Y		Y	70.6	65.8	75.0
10	227					Y	70.3	63.9	76.1
11	494	Y			Y	Y	70.2	66.0	74.2
12	1,400	Y		Y	Y	Y	69.5	67.0	71.9
13	201		Y		Y	Y	68.9	62.0	75.2
14	559				Y	Y	68.5	64.4	72.3
15	139		Y			Y	64.7	56.2	72.6
16	169		Y	Y		Y	64.6	56.8	71.8
17	3,744	Y		Y	Y		48.3	46.7	49.9
18	4,490	Y		Y			40.6	39.1	42.0
19	4,756			Y	Y		40.3	38.9	41.7
20	1,418	Y	Y	Y	Y		39.6	37.0	42.2
21	1,794	Y			Y		39.1	36.8	41.4
22	3,591		Y	Y	Y		35.4	33.8	37.0
23	2,915	Y	Y	Y			34.8	33.1	36.6
24	956	Y	Y		Y		33.4	30.4	36.4
25	4,521				Y		32.6	31.3	34.0
26	4,095		Y		Y		29.9	28.5	31.4
27	8,224			Y			29.0	28.0	30.0
28	6,402		Y	Y			27.1	26.0	28.2
29	2,991	Y					23.6	22.1	25.2
30	6,680						23.4	22.4	24.4
31	6,613		Y				18.6	17.7	19.6
32	2,704	Y	Y				18.0	16.6	19.5
total	71,628	23,743	29,863	39,410	29,056	5,733	33.9	33.6	34.3

Table 23: Breakdown by risk factor of non-registered Asian population

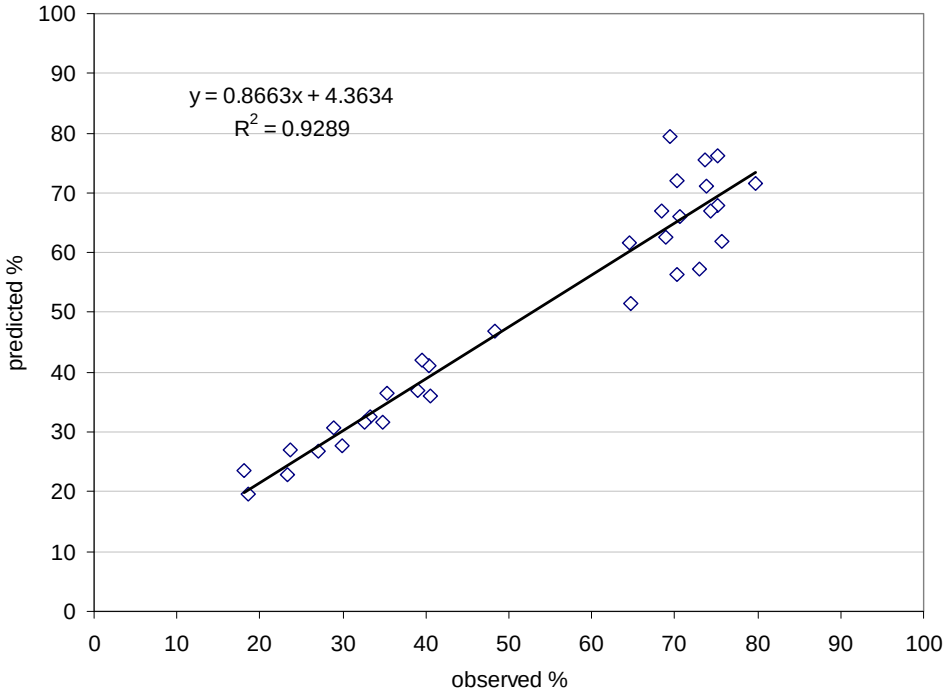


Figure 12: Predicted % versus observed % of unregistered risk groups based on risk factor analysis

Figures 13 and 14 give an alternative picture of risk groups derivable from risk ladder tables. In this approach the population is decomposed in steps according to the risk factor which makes the most difference to non-registration.

Figure 13 considers the Flag 4 element of the 18+ population which account for 14,672 out of 210,903 people on the *nkm* data base. Particular risk groups at higher risk of non-registration are colour-coded for illustration and confirm that Flag 4 status is the main influence in these cases. These show that

- Of the 14,762 Flag 4s identified, 72.5% are unregistered
- Of the 3,026 of Flag 4s that live in benefits households, 75.4% are unregistered
- Of these, 1,764 are aged 18-30 of which 78.4% are unregistered
- Of these, 976 are male of which 79.7% are unregistered

Figure 14 considers the 196,231 persons on the *nkm* data base who are not Flag 4s and are similarly colour coded. Of these 34.6% are unregistered and within this group two distinct risk sub-groups can be identified. The first are males aged over 30 among whom 36% are unregistered, and of those living in a benefits household 37.6% are unregistered.

It shows that the second sub-group are aged 18-30 of which 43.9% are unregistered. This rises to 47.1% if there are no children in the household and to 48.6% if they are

also male. This therefore confirms the influence of age and gender on non-registration in this population.

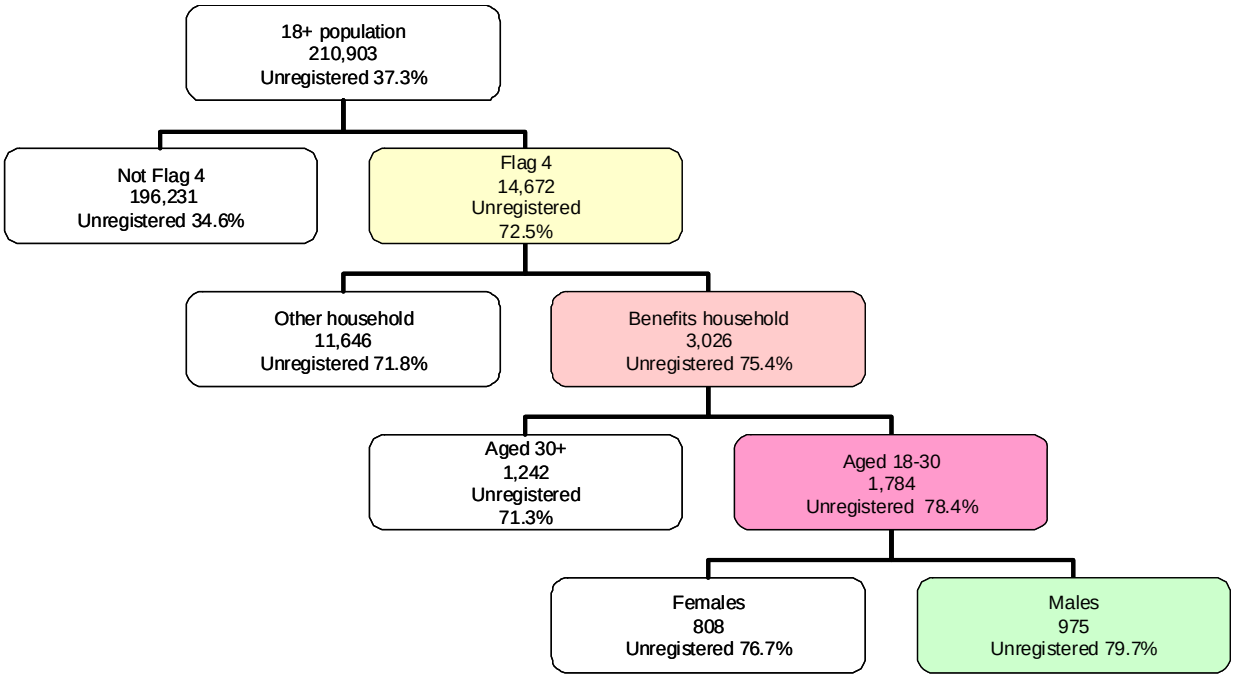


Figure 13: Main Flag 4 risk groups by size and rate of non-registration

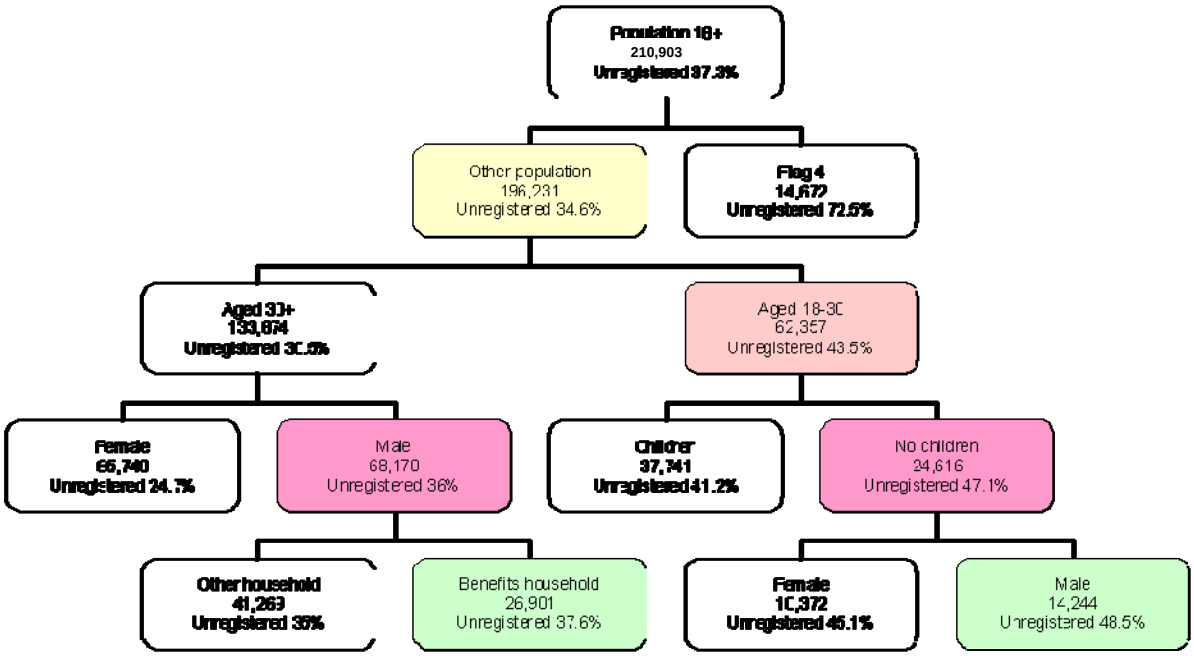
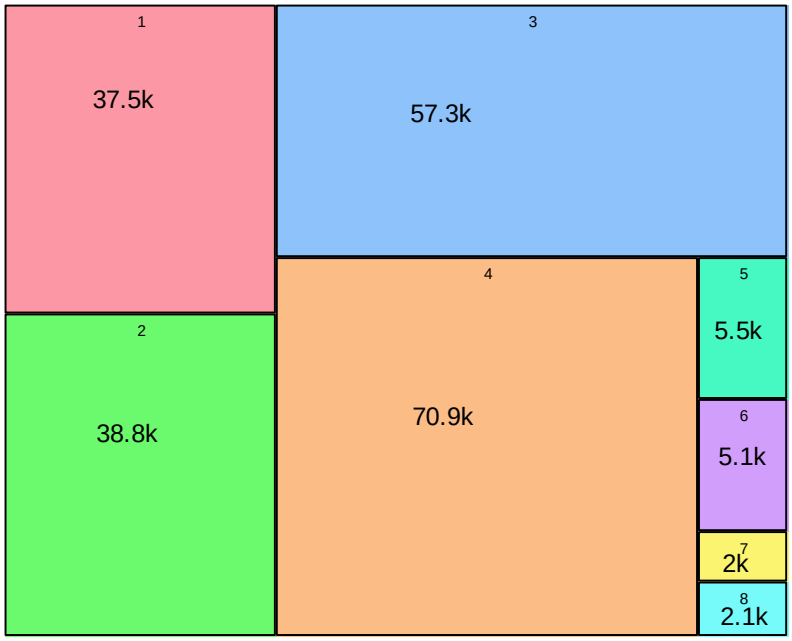


Figure 14: Main risk groups by size and rate of non-registration in the rest of the population

A summary sub-dividing the 18+ population into eight mutually exclusive groups is shown in Figure 15 together with a key below. Each block in the figure represents a different group so that for example block 3 comprises 57.3k persons who are registered to vote and are neither non-White nor flag 4 status, whereas block 6 comprising 2.1k persons are *not* registered to vote, have flag 4 status and are non-White.



Key to Figure 15:

risk group	number (000s)	flag 4 status	registered to vote	non-white
1	32.5			
2	35.4			Y
3	57.3		Y	
4	70.9		Y	Y
5	5.5	Y		
6	5.1	Y		Y
7	2.0	Y	Y	
8	2.1	Y	Y	Y
total	210.9	14.7	132.3	113.6

Figure 15: Breakdown of 18+ confirmed population by given criteria showing number of people in each category. Note: Total includes additional 8.7k ‘ age unknowns’.

7.4 Geographical dispersion of non-registrants

The map in Figure 16 shows the distribution of 18+ population in 0.5 x 0.5 sq km. grid squares. As is seen most people are concentrated in rows 5 to 9 and columns H to L. Figure 17 shows the percentage of the population in each cell that are not registered to vote in which cell values range from 25% to over 45% non-registration.

These percentages do not show especially regular pattern but may be considered a reflection of the underlying risk factors. However, several localities combine a high population with a high non-registration rate. Examples include cells H5 to I6
Green Street Ward or cells E5 to G5 in Forest Gate South.

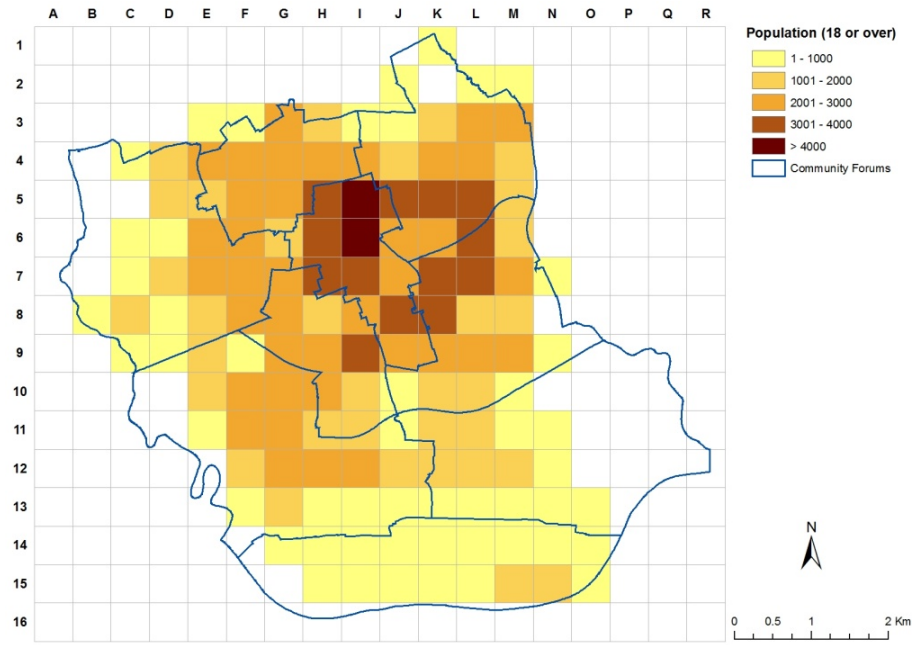


Figure 16: Map showing concentration of 18+ population by 0.5 x 0.5km grid square

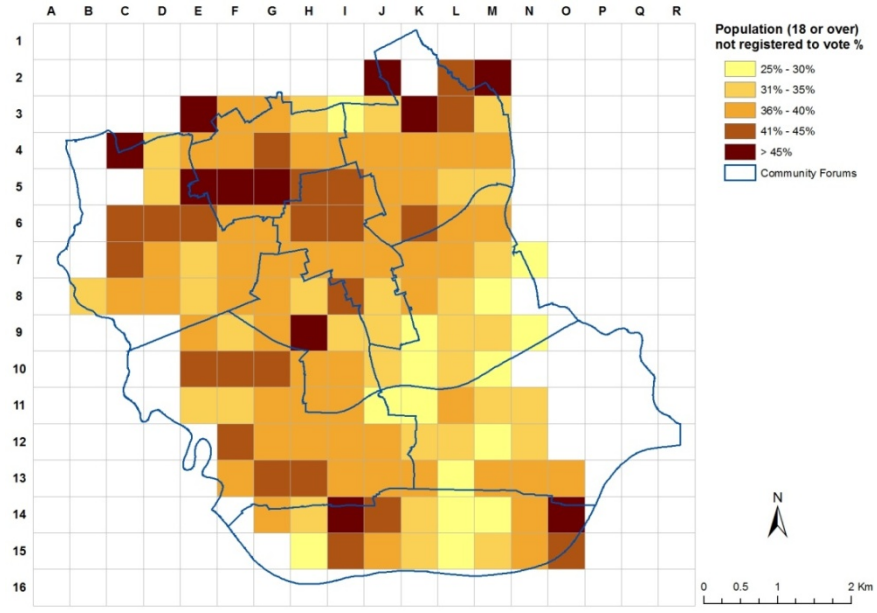


Figure 17: Map showing the percentage of registrants by 0. 5x 0.5 sq km grid cell.

More generally, a west to east population profile in Figure 18 and from North to South in Figure 19 shows a higher concentration of non-registrants between columns F to L and rows 4 to 9.

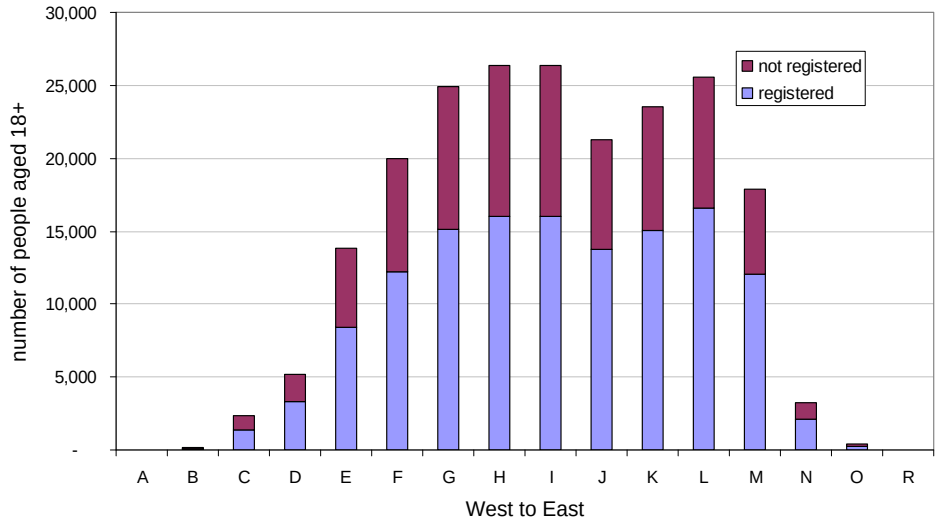


Figure 18: Number of registered and non registered voters from West to East at 0.5km intervals

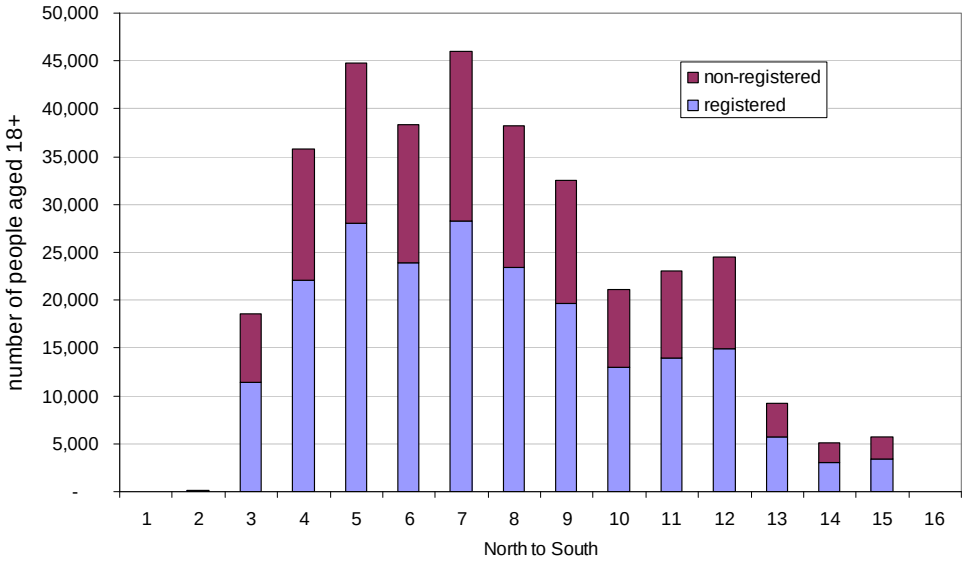


Figure 19: Number of registered and non registered voters from North to South at 0.5km intervals

7.5 Summary

The above fine-grained analysis enables a closer identification and quantification of the unregistered population which could be used to mount awareness campaigns encouraging greater registration rates.

This analysis is based on a comparison of names and addresses on the *nkm* data set versus names and addresses on Electoral Roll. The results indicate a non-registration rate of 37% but this varies from 18% in the lowest risk groups to over 80% non-registration in the highest risk groups.

The Flag 4 population are least likely to register and about a quarter of cases this is because they are ineligible but this does not apply to all countries of origin. Other key risk groups are males aged between 18 and 30 without Flag 4 status, although high rates of non registration are also apparent in some ethnic groups and other risk categories e.g. Asian.

Underlying reasons for non-registration are due to large annual movements in and out of the borough and on and off the register. For example, it was estimated that around 25% of the population were not at the same addresses 12 months before. The effect of these movements, plus lags in the system and the drag effect of some groups who are reluctant to register, means that it is only about 67% of the current 18+ population are registered at any point in time.

9. The unconfirmed population

In any administrative data set, particularly when there is high population turnover, there will be many redundant records of people that have since left an area. The more administrative sets there are, the greater the number of redundant records.

We call these records the ‘residuals’ and they are defined as records that do not meet the confirmation methodology set out in Section 1.

It cannot be established with absolute certainty whether or not these people remain in Newham and so we classify the records concerned as either ‘potentials’, ‘possibles’ or ‘unlikelies’ as follows.

If the names concerned do not fully meet our criteria but are otherwise confirmed they are called ‘potentials’. An example would be two children in the same household born less than 300 days apart. Details of this group were included in Table 1, Section 1, row 6 which identifies 9.6k people in these categories.

If the names concerned are *not* on the GP register or are *not* otherwise confirmed by the methodology, but still appear on 2 or more administrative data sets they are defined as ‘possibles; if they are *not* on the GP register or are *not* otherwise confirmed in the methodology and appear on only one administrative data set they are defined as ‘unlikelies’.

Our analysis identified, 13,355 additional people as ‘possibles’ and 43,071 as ‘unlikelies’. A typical feature of either category is that no date of birth is available for 63% and 49% of cases.

However, because they are not registered with GPs, we know from our experience of many similar projects that this usually signifies that they are adults, most probably aged between 20 and 40 years.

An exception are residual records where date of birth is known are mainly in younger age groups in which data of birth has usually been sourced from the school pupil register.

Table 24 shows the percentage breakdown of the confirmed population, broken donw into 'possibles' and 'unlikelies'. When plotted on map as a ratio of he confirmed population, the 'potentials' tend to be more represented in the north and central community forums as is seen from Figure 20.

Age groups	Persons	'possibles' (Not on GP but on 2+ other datasets)	'unlikelies' (Not on GP but on 1 other dataset)
Under 1	1.8	0.2	0.7
1-4	7.0	3.6	5.1
5-9	7.3	6.9	8.9
10-14	6.7	7.1	6.8
15-19	6.7	5.3	4.9
20-24	8.6	3.4	4.4
25-29	10.6	2.4	4.6
30-34	9.6	1.7	4.0
35-39	7.7	1.5	3.1
40-44	7.0	1.3	2.5
45-49	5.9	1.0	1.8
50-54	4.9	0.6	1.2
55-59	3.7	0.4	0.8
60-64	2.9	0.5	0.6
65-69	2.0	0.3	0.4
70-74	1.9	0.3	0.4
75-79	1.4	0.1	0.3
80-84	0.9	0.0	0.2
85-89	0.5	0.1	0.1
90+	0.2	0.0	0.1
age/unknown	2.8	63.5	49.3
Total %	100	100	100
Total	298,916	13,355	43,071

Table 24: Percentage breakdown of the confirmed and unconfirmed population by age and number

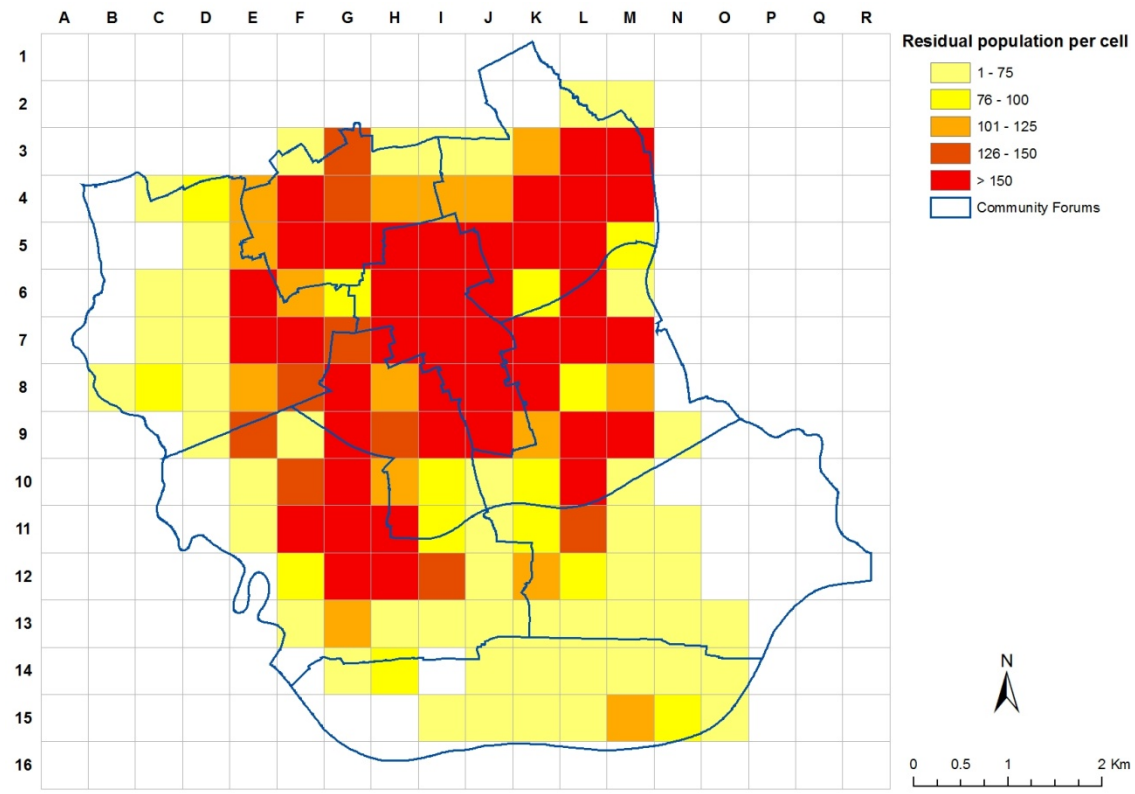


Figure 20: Map showing concentrations of unconfirmed population who have been classed as 'possibles'.

10. Conclusions

This report has estimated the population in the London Borough of Newham using administrative data sources. Employing the same methodology as in a previous exercise in 2007, it finds the population grew by 10.7% from 270,091 in June 2007 to 298,916 by March 2011. Our results identified 30,062 more persons than the GLA estimates, which in turn are 28,654 higher than the ONS 2010 MYEs (Mid-Year Estimates).

Population growth between 2007 and 2011 took place in all age groups except for the 65+ age group which declined by 2.3%. The 0-9 year age range grew by 4,313 or by 9.9%, the 10-19 age group by 2,150 or 5.7%. By far the largest amount of growth was in the 20-64 age group which grew by 22,867 or 13.7%.

For persons whose age is known and who have NHS numbers, the results show 110k newcomers to Newham since 2007 by immigration or birth and 74k leavers by outmigration and death.

Of the total, 53.9% of the population stock is unchanged since 2007; 6.9%of the stock were not born in 2007; 31.6% arrived from outside Newham since 2007; and 7.7% of the stock moved between wards in Newham during the period.

All areas of Newham experienced growth with increases of over 12% in some wards. Some of this growth has been in regenerated areas. For example, both areas of

existing developments, Green Street East and West grew by 17.3% and 15.3% respectively.

It is impossible to put a precise figure on the people on administrative records, who cannot be confirmed as still living in the borough based. However, we found a further 13k people who could be classified as 'possibles' according to the rules of our methodology.

In the analysis from 2007 to 2011, there was an increase of 10,678 in the number of UPRNs (addresses) on the Local Land and Property Gazetteer from 100,403 units to 110,1441 units (a 9.7% increase). As a result there was only a small increase in average occupancy per household.

However, we found an estimated 57,465 people living in 6,813 households with 7+ people (6 persons per address is the maximum allowed on a single 2011 Census form). This compares with 47,962 people in 5,675 households in 2007.

During the period, we also found that there has been a 16% rise in the number of households with children. The significant restructuring that has occurred, coupled with rises in unemployment to around 13%, has resulted in an overall 2.6% rise in the percentage of households on means tested benefits.

In ethnicity terms, the largest group are Asians with 106,184 members accounting for 35.5% of the population. This is followed by the White population with 73,147 members accounting for 24.5% of the population.

The Black population and other/unknown population account for 49,928 and 53,839 persons respectively or 16.7% and 18% of the total. The 'Mixed' population account for 15,817 persons or 5.3%.

The results indicate that people of Black African origin are over 3 times more common than the Black Caribbean community. The Black African group breaks down into three main countries: Nigeria, Somalia and Ghana.

In the Asian community, the Bangladeshi, Indian and Pakistani communities are comparable in size each with between 29k and 33k members. The estimated size of the growing East European community is around 9.5k.

Many other communities are also represented in the data such as Sri Lankan (3.9k), Chinese (2.3k), Turkish (1.2k) and Afghan (1.3k) communities. Also represented are people from a range of countries such as Albania, Kosovo, Vietnam and so on each with between 100 and 900 members.

Information on the country of origin of recent migrants can be elicited using Flag 4 data from GP registers as a proxy. The data show around 25k person on the register of which 17k could be confirmed by our methodology. Of these a quarter came from India and another quarter from Pakistan and Bangladesh and just under a quarter from East Europe. A quarter came from countries with no voting entitlement in any form UK election.

Newham is reviewing its electoral register which is a list of all people along with their addresses eligible to vote in the borough. Because of the high turnover of population in Newham it is a particularly challenging process to maintain its completeness and accuracy at any point in time.

For reasons suggested in the report, we find that a third of the 18+ people on the *nkm* data base are not on the register. Further analysis of the data shows that persons least likely to be registered are those with Flag 4 status, males aged under 30, certain ethnicities and to a lesser extent people living in households on benefits. The size of each of these groups and their geographical dispersion were also analysed.

Annex A: Household composition in 2007by Community Forum

Community forum	population 2007	A	B	C	D	E	F	G	H	% households council stock	% households on benefits
Beckton	13,877	1,313	682	199	287	124	1,033	1,394	71	8.5	35.9
Custom House & Canning Town	40,474	3,512	1,871	1,104	1,207	293	2,952	4,515	226	31.1	39.5
East Ham	40,969	3,990	1,392	1,088	1,046	444	2,521	3,005	196	14.2	34.6
Forest Gate	28,121	2,166	1,076	675	622	348	2,152	3,623	211	12.0	31.1
Green Street	42,032	3,663	1,079	1,004	781	676	2,340	2,895	258	7.9	36.2
Manor Park	41,695	3,636	1,189	993	815	642	2,221	3,179	312	14.0	38.6
Plaistow	27,437	2,473	1,046	715	726	299	1,877	2,661	189	17.8	35.4
Royal Docks	8,453	617	484	148	151	24	743	1,820	67	20.6	25.5
Stratford & West Ham	27,033	2,093	1,039	659	773	244	2,285	3,970	223	26.3	32.8
	270,091	23,463	9,858	6,585	6,408	3,094	18,124	27,062	1,753	17.6	35.3

Annex B: Unregistered voters by ethnic group

(a) Black

No.	frequency	no children household	benefits household	male	aged 18-30	flag 4 status	% not regist-ered	lower CI %	upper CI%
1	26	Y	Y	Y	Y	Y	83.0	62.8	95.1
2	58		Y	Y	Y	Y	81.1	68.6	90.3
3	68	Y				Y	79.8	68.3	88.6
4	54		Y		Y	Y	79.8	66.5	89.6
5	72					Y	76.6	65.1	85.9
6	45		Y	Y		Y	74.1	58.8	86.1
7	29	Y	Y	Y		Y	73.9	54.2	88.4
8	15	Y	Y		Y	Y	71.9	43.6	91.7
9	158	Y		Y	Y	Y	70.2	62.4	77.2
10	89			Y	Y	Y	68.7	58.0	78.1
11	87				Y	Y	68.5	57.6	78.1
12	48		Y			Y	66.9	51.7	79.9
13	101	Y		Y		Y	66.7	56.6	75.8
14	79	Y			Y	Y	65.5	53.9	75.8
15	97			Y		Y	63.0	52.6	72.6
16	22	Y	Y			Y	62.9	39.7	82.4
17	686	Y	Y	Y	Y		52.7	48.9	56.5
18	1,978		Y	Y			49.9	47.6	52.1
19	1,292		Y	Y	Y		48.9	46.1	51.7
20	508	Y	Y		Y		48.6	44.2	53.0
21	1,061	Y		Y	Y		48.1	45.1	51.2
22	2,211	Y	Y	Y			45.6	43.5	47.7
23	858	Y			Y		45.6	42.2	49.0
24	1,640		Y		Y		44.7	42.2	47.1
25	3,149	Y		Y			43.6	41.9	45.4
26	1,320			Y	Y		42.1	39.4	44.8
27	1,538				Y		40.2	37.7	42.7
28	3,126			Y			36.6	34.9	38.3
29	2,869		Y				31.4	29.8	33.2
30	3,446						30.9	29.4	32.5
31	1,764	Y	Y				26.8	24.7	28.9
32	2,441	Y					25.6	23.9	27.4
total	30,935	13,177	13,244	15,426	9,473	1,048	40.0	39.4	40.5

(b) White

No.	frequency	no children household	benefits household	male	aged 18-30	Flag 4 status	% not registered	lower CI %	upper CI%
1	35	Y	Y	Y	Y	Y	83.1	66.3	93.8
2	31	Y	Y		Y	Y	81.1	62.7	93.1
3	75		Y			Y	76.9	65.6	85.9
4	107	Y				Y	76.3	67.1	84.0
5	53		Y	Y	Y	Y	76.3	62.6	86.9
6	181					Y	75.2	68.2	81.3
7	245				Y	Y	74.0	68.0	79.4
8	156			Y	Y	Y	72.8	65.1	79.6
9	20	Y	Y			Y	72.7	48.0	90.4
10	92		Y		Y	Y	71.3	60.9	80.3
11	36	Y	Y	Y		Y	70.0	52.2	84.2
12	292	Y			Y	Y	67.1	61.4	72.5
13	167	Y		Y		Y	66.9	59.2	74.0
14	189			Y		Y	65.6	58.3	72.4
15	253	Y		Y	Y	Y	65.2	59.0	71.0
16	91		Y	Y		Y	63.9	53.1	73.8
17	1,050	Y	Y	Y	Y		54.4	51.3	57.4
18	1,485		Y	Y	Y		53.5	50.9	56.1
19	2,150		Y	Y			50.4	48.2	52.5
20	710	Y	Y		Y		50.0	46.3	53.8
21	2,010		Y		Y		46.5	44.3	48.7
22	2,302	Y		Y	Y		42.4	40.4	44.4
23	2,031				Y		42.3	40.1	44.5
24	2,124	Y			Y		40.5	38.4	42.6
25	1,579			Y	Y		40.0	37.5	42.4
26	5,760	Y	Y	Y			30.9	29.8	32.2
27	3,457			Y			30.8	29.2	32.3
28	8,913	Y		Y			26.6	25.7	27.5
29	3,939						25.6	24.2	27.0
30	3,444		Y				24.4	23.0	25.8
31	7,489	Y					16.9	16.0	17.7
32	5,489	Y	Y				14.4	13.5	15.4
total	55,956	34,778	22,531	27,676	14,447	2,024	31.5	31.1	31.9

(c) Asian

No.	frequency	no children household	benefits household	male	aged 18-30	Flag 4 status	% not registered	lower CI %	upper CI%
1	356		Y	Y	Y	Y	79.7	75.2	83.8
2	132	Y				Y	75.7	67.4	82.7
3	76	Y	Y		Y	Y	75.1	63.8	84.4
4	135	Y	Y	Y	Y	Y	75.1	66.9	82.1
5	55	Y	Y	Y		Y	74.4	60.8	85.2
6	404	Y		Y		Y	73.9	69.3	78.1
7	958			Y	Y	Y	73.7	70.7	76.4
8	36	Y	Y			Y	73.0	55.5	86.5
9	391			Y		Y	70.6	65.8	75.0
10	227					Y	70.3	63.9	76.1
11	494	Y			Y	Y	70.2	66.0	74.2
12	1,400	Y		Y	Y	Y	69.5	67.0	71.9
13	201		Y		Y	Y	68.9	62.0	75.2
14	559				Y	Y	68.5	64.4	72.3
15	139		Y			Y	64.7	56.2	72.6
16	169		Y	Y		Y	64.6	56.8	71.8
17	3,744	Y		Y	Y		48.3	46.7	49.9
18	4,490	Y		Y			40.6	39.1	42.0
19	4,756			Y	Y		40.3	38.9	41.7
20	1,418	Y	Y	Y	Y		39.6	37.0	42.2
21	1,794	Y			Y		39.1	36.8	41.4
22	3,591		Y	Y	Y		35.4	33.8	37.0
23	2,915	Y	Y	Y			34.8	33.1	36.6
24	956	Y	Y		Y		33.4	30.4	36.4
25	4,521				Y		32.6	31.3	34.0
26	4,095		Y		Y		29.9	28.5	31.4
27	8,224			Y			29.0	28.0	30.0
28	6,402		Y	Y			27.1	26.0	28.2
29	2,991	Y					23.6	22.1	25.2
30	6,680						23.4	22.4	24.4
31	6,613		Y				18.6	17.7	19.6
32	2,704	Y	Y				18.0	16.6	19.5
total	71,628	23,743	29,863	39,410	29,056	5,733	33.9	33.6	34.3

(d) Mixed

No.	frequency	no children household	benefits household	male	aged 18-30	Flag 4 status	% not registered	lower CI %	upper CI%
1	17		Y	Y	Y	Y	81.7	55.4	96.0
2	14		Y		Y	Y	81.5	51.8	96.8
3	20	Y				Y	80.9	56.7	95.1
4	9	Y	Y	Y	Y	Y	79.8	41.0	98.5
5	37				Y	Y	78.1	61.4	90.1
6	49			Y	Y	Y	77.5	63.3	88.2
7	22					Y	77.0	54.4	92.1
8	13		Y			Y	75.8	44.4	94.7
9	6	Y	Y		Y	Y	74.6	28.9	98.1
10	83	Y		Y	Y	Y	69.1	58.0	78.8
11	4	Y	Y			Y	68.1	14.4	99.1
12	17		Y	Y		Y	66.3	39.9	87.1
13	45	Y			Y	Y	66.2	50.4	79.6
14	42	Y		Y		Y	64.3	48.1	78.5
15	6	Y	Y	Y		Y	61.9	18.2	94.8
16	33			Y		Y	59.1	40.4	76.1
17	220	Y	Y	Y	Y		53.1	46.3	59.9
18	352		Y	Y	Y		51.9	46.5	57.2
19	547		Y	Y			47.3	43.0	51.6
20	149	Y	Y		Y		46.4	38.2	54.7
21	477	Y		Y	Y		44.6	40.0	49.1
22	463		Y		Y		43.4	38.8	48.1
23	427				Y		43.4	38.6	48.2
24	418			Y	Y		42.8	38.0	47.7
25	354	Y			Y		42.1	36.8	47.4
26	922	Y	Y	Y			36.8	33.6	40.0
27	1,402	Y		Y			33.5	31.0	36.0
28	985			Y			32.7	29.8	35.7
29	1,039						27.6	24.9	30.4
30	846		Y				25.7	22.8	28.8
31	1,190	Y					22.3	20.0	24.8
32	791	Y	Y				18.1	15.5	21.0
total	10,999	5,721	4,377	5,580	3,120	417	35.4	34.5	36.3

(e) Other unknown

No.	frequency	No Children Household	Benefits Household	Male	Aged 18-30	Flag 4 status	% not registered	lower CI %	upper CI%
1	63	Y	Y	Y		Y	88.2	77.3	95.1
2	116	Y	Y		Y	Y	86.8	79.3	92.4
3	66	Y	Y			Y	82.8	71.4	91.1
4	97	Y	Y	Y	Y	Y	81.4	72.2	88.6
5	188		Y	Y	Y	Y	81.4	75.1	86.7
6	323					Y	81.0	76.2	85.1
7	202		Y		Y	Y	80.4	74.3	85.7
8	341	Y				Y	78.6	73.8	82.8
9	602				Y	Y	77.9	74.3	81.1
10	161		Y	Y		Y	76.5	69.2	82.8
11	769	Y			Y	Y	76.4	73.2	79.4
12	353			Y		Y	72.3	67.3	76.9
13	481	Y		Y		Y	71.6	67.4	75.6
14	566			Y	Y	Y	71.0	67.0	74.7
15	973	Y		Y	Y	Y	69.3	66.3	72.2
16	148		Y			Y	67.9	59.7	75.3
17	810	Y	Y	Y	Y		56.5	53.0	59.9
18	1,047		Y	Y	Y		55.2	52.1	58.2
19	2,293	Y			Y		54.8	52.8	56.9
20	2,475	Y		Y	Y		54.4	52.4	56.3
21	626	Y	Y		Y		53.4	49.4	57.3
22	2,202				Y		50.9	48.8	53.0
23	1,497			Y	Y		50.4	47.8	52.9
24	1,475		Y		Y		50.2	47.6	52.8
25	1,879		Y	Y			48.8	46.5	51.1
26	4,344	Y		Y			47.8	46.3	49.3
27	2,137	Y	Y	Y			47.1	45.0	49.2
28	3,178			Y			44.1	42.4	45.9
29	3,599						39.5	37.9	41.1
30	3,811	Y					36.9	35.3	38.4
31	2,602		Y				36.2	34.3	38.1
32	1,958	Y	Y				30.4	28.4	32.5
total	41,384	21,361	13,578	20,250	15,940	5,450	49.4	48.9	49.9