

## REASONS FOR PERFORMANCE OF NURSERY PROVISION IN WESTMINSTER

### Poverty, mobility and ethnicity only explain half of the shortfall in Westminster's performance.

According to the Department for Education's latest figures (January 2014) Westminster has the lowest proportion of 3 & 4 year-olds taking up their entitlement to free part-time nursery provision in England. On nearly all statistics that I have seen relating to Westminster early years education the borough has performed disappointingly, usually in the bottom quarter and always in the bottom half.

The Westminster officers have questioned certain details in the Government statistics but the big picture is not in dispute. On any analysis Westminster comes out disappointingly.

Three suggestions have been made as to why Westminster does not do better. However, I have not seen a proper statistical analysis to support or refute these ideas. I have therefore attempted one using the Excel regression tools. My conclusion is that the three suggestions do NOT explain more than half of the disappointment.

The three proposed explanations account for only half of the poor performance relative to other boroughs. The statistically false claims are that the following have had major negative influences on nursery take-up:

1. High numbers of children in poverty.
2. High mobility of Westminster residents
3. High ethnic population

My statistical analysis is summarised below. I would be happy to share the full spread sheets, detailed analysis and source data with anyone who is interested. I give most explanation in connection with poverty because the same broad methodology has been used throughout this report and the principles need not be repeated.

#### 1. High numbers of children in poverty

The percentage of children in poverty in each borough in England is taken from End Child Poverty data published in October 2014 and available at [http://www.endchildpoverty.org.uk/images/ecp/Report\\_on\\_child\\_poverty\\_map\\_2014.pdf](http://www.endchildpoverty.org.uk/images/ecp/Report_on_child_poverty_map_2014.pdf).

The percentage of 3 & 4 year olds taking up their entitlement to free part-time nursery education in each borough is taken from the January 2014 column in Table 2b of the Main Tables from the Department of Education accessible at <https://www.gov.uk/government/statistics/provision-for-children-under-5-years-of-age-january-2014>

A standard statistical test ("regression analysis") was used to explore the relationship between the two sets of data above (take-up against poverty). The regression turns out to show the best straight line linking the two connecting variables to have the formula:

$$Y = 105.1 - 0.320x$$

where x is poverty and y is take up

Westminster has 39% child poverty (5<sup>th</sup> highest in England) and 77% take up (worst in England).

The formula predicts with 39% poverty take-up should be  $105.1 - (0.32 \times 39) = 93\%$ .

This compares with 97% take-up for England as a whole.

### POVERTY THEREFORE ONLY EXPLAINS 4% (97% - 93%) OUT OF 20% (97% - 77%) OF WESTMINSTER'S UNDERPERFORMANCE.

#### 2. High Mobility of Westminster Residents

The mobility of people in a borough is taken as the percentage of the population taking up residence in the borough plus the percentage moving out. Commuters who live outside the borough, tourists and short-term visitors are not included in the figures. Separate analyses have been carried out for people moving between boroughs and persons moving internationally.

The population and migration data necessary to work out percentages is taken from the 2011 Census – see <http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcn%3A77-319259>

Uptake data is as used in the analysis of poverty.

- i) The best fit for domestic mobility is  
 $y = 100.9 - 0.40x$   
 y is take-up x is mobility

This formula predicts a Westminster take-up of 97%, equal to the average for England.  
 THE LOW TAKE-UP IN WESTMINSTER IS NOT CAUSED BY HIGH MOBILITY DOMESTICALLY

- ii) The best fit for international mobility is  
 $y = 98.2 - 0.85x$   
 y is take-up x is mobility

The formula predicts a Westminster take-up of 90%, 7% lower than the England average. This is by far the largest impact studied in this document.

### 3. High ethnic population

The ethnicity information was obtained from the early years foundation stage profile assessments by pupil characteristics in England in the academic year 2012 to 2013, as published by the Department for Education - See <https://www.gov.uk/government/statistics/eyfsp-attainment-by-pupil-characteristics-2013>

Ethnic Minority (x)	Best Fit	Predicted Take-up (y)
Non White (all types)	$y = 99.3 - 0.19x$	93
Asian	$y = 97.5 - 0.07x$	96
Black	$y = 98.6 - 0.28x$	92

The above data tends to suggest that the impact of ethnicity is around 4%, with the effect being most apparent in one ethnic group.

### Conclusion

The largest cause of low take up is international mobility, but this accounts for only about a third of Westminster's shortfall in performance. The second greatest factor in adversely affecting Westminster's performance appears to relate to ethnicity, and in particular one ethnic group (see above). Poverty is also a factor, but there may be double counting owing to overlap with international migrants and ethnicity. Overall, it seems likely that the three factors considered in this report explain around half of Westminster's disappointing performance.