

Assessments and Reviews in Adult Social Care

Methodology Briefing Note

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This briefing note describes the approach used for the secondary analysis of quantitative data in the Commission's report *Reducing the cost of assessments and reviews: An adult social care briefing*, published in 2012.

1 The analysis underpinning this report is based on a calculation of the unit costs of conducting assessments and reviews across a sample of councils returning reliable data between 2005/06 and 2010/11. The sample was chosen to exclude councils with changes in data that were outside the range we would expect by chance.

2 The variable of interest is cost per assessment and review, defined as spending on assessment and care management (ACM) in any year divided by the number of assessments completed and the number of reviews carried out during the year. Spending figures are deflated using the GDP deflator (reference HMT here?) to a 2010/11 price base to allow comparison over time.

3 This briefing note contains information about the data sources used in the analysis, the selection of councils in the analysis, the approach used to develop the levelling exercise in the analytical model, and steps taken to mitigate the risks involved. The appendices contain detail about the indicators used to identify variation between councils, and the financial impact of the levelling at a council level.

Data sources

4 Three main sources of data provided the foundation for this analysis. All derive from annual returns completed by councils with social services responsibilities.

- Personal Social Services Expenditure (PSSEX1) data for information about costs of, and spending on, assessments and reviews.
- Referrals, Assessments and Packages of Care (RAP) data for information about activities carried out in assessments and reviews.
- SSD001 for information about staffing profile and numbers, excluding agency workers.

5 This note focuses on the analysis of data sources in paragraph 2. Other data sources contributed findings to the report.

- The National Minimum Dataset – Social Care (NMDS-SC) provided information about salary levels of social care staff across a majority of councils.
- Service quality ratings published by the Care Quality Commission (CQC) provided information about the overall quality of social care in each council in the analysis.

- Information from a CQC ‘mystery shopper’ research project that tested councils’ response to first contact and enabled CQC to assess councils on 19 indicators of service quality in:
 - access and facilitation (for example, how easy it was to get through to the right person);
 - exploring and assessing needs (for example, whether callers received an offer of further discussion); and
 - provision of information, advice and support (for example, how well the assessment process was explained to callers).

Selecting councils for inclusion in the analysis

6 In 2012, there were 152 councils in England with social care responsibilities. The following councils were not considered for inclusion.

- The Isles of Scilly and the City of London, because they are atypical in size and structure.
- The four unitary councils created from the reorganisation of Bedfordshire and Cheshire County Councils on 1 April 2009. Their results were treated as coming from the original two councils to ensure consistency over the analysis period.

7 The potential number of councils for inclusion in the dataset for analysis was therefore 148. But to ensure a robust analysis, data provided by councils in relation to their spending, activity and staffing needed to meet basic quality requirements. The following indicators provided key measures supporting the analysis.

- Number of clients of community and residential services.
- Number of assessments and reviews.
- Number of staff (WTE).
- Spending on assessment and care management at 2010/11 prices.

8 The next stage was to assess the quality of the data returns for these key indicators and to exclude any councils that returned at least one extreme or missing result for the change in one or more of these variables.

9 We excluded councils from the dataset on the basis of the ratio of the change for each indicator between 2010/11 and each of the five preceding years. Where data showed extreme or missing values for one or more variables, we have excluded the council from the analysis. This process removed 73 councils from the analysis.

10 Following the selection process, 75 councils remained in the analysis for this report. In effect, therefore, the analysis is based on a sample of all councils for whom data met quality criteria: see the *Mitigating risks* section later for a discussion about sampling.

Developing the analytical model

11 The analysis aimed to identify the factors within and outside the control of councils that explained variation in costs. The steps within the analysis were to:

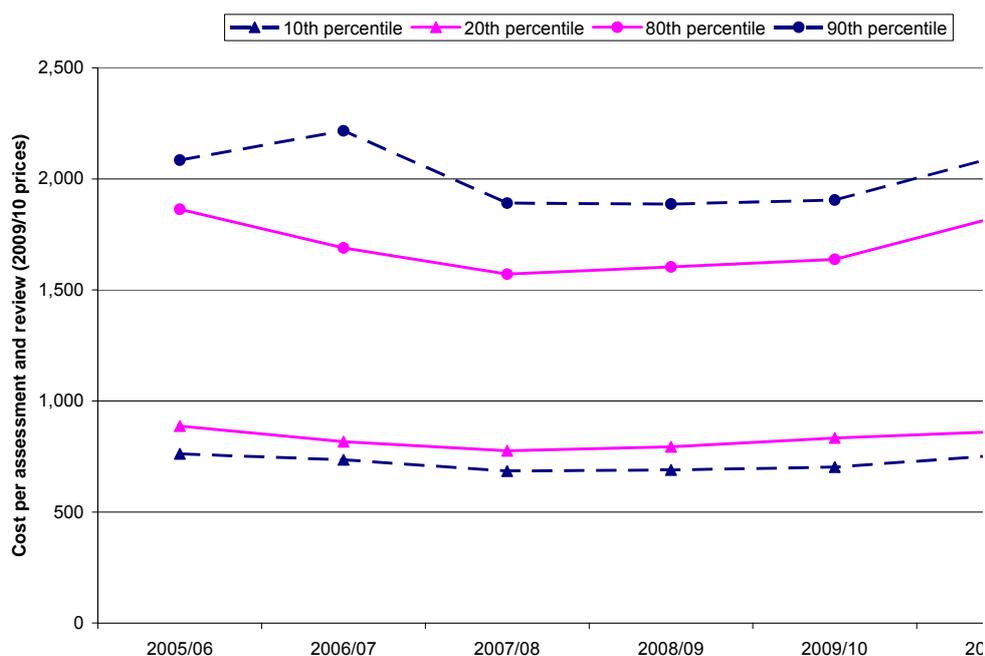
- identify indicators that explain variation in councils' cost for each assessment and review;
- build families of councils with similar results for the indicators that explain variation; and
- calculate the impact on total expenditure of reducing spending of each council to a given level, based on the spending of the councils most similar to it (levelling).

Understanding causes of variation and building family groups

12 The variations in councils' cost per assessment and review are substantial. Figure 1 compares the range of results for the sample from 2005/06 to 2010/11. There are a variety of causes for variation. As well as causes within the control of the authority, variation will arise from differences among councils in the populations that they serve (such as numbers of older people, levels of deprivation and local economic factors, as reflected in the area cost adjustment), the costs of providing services in their area and errors in data.

Figure 1: **Cost per assessment and review (2010/11 price base)**

The twenty per cent of councils with the highest cost per assessment and review cost double those of the 20 per cent of councils with the lowest costs.



Source: Audit Commission

13 We modelled this variation using regression analysis. We initially compiled a panel of 29 different indicators of councils' populations and service delivery, shown in appendix 1. The list of indicators excludes information about how much councils spend or how they organise ACM services. These are factors that are substantially under local control.

14 Figure 2 sets out the indicators that best explain variation in cost for each assessment and review over the period for councils in the sample. This set of indicators, together with dummies for time periods, explains 57 per cent of the variation among councils and over time. All of these indicators make a statistically significant contribution to the model. The remaining proportion of variation will be accounted for by factors that are not included in the model and by random variation.

Figure 2: **Predicting variation in cost per assessment and review**

Indicator	Coefficient Standardised
(Constant)	
IND36.00 Community and Residential services - Clients as percentage of population aged 18 and over	-.275
IND20.00 Number of assessments per 1,000 population aged 18 and over	-.159
Percentage of households made up of one pensioner	-.128
IND01.02 Grouped Area cost adjustment factor (Older people services)	-.012
Percentage of households made up of one non-pensioner	.373

Source: *Audit Commission*

15 Three indicators lower costs per assessment and review:

- the number of service users and assessment relative to population;
- the number of lone pensioners in the population; and
- whether the council receives a below average area cost adjustment.

16 The number of non-pensioners living alone is associated with higher costs per assessment and review. London boroughs have higher proportions of non-pensioners living alone and lower proportions of their populations receiving services. Together all five of these indicators suggest that costs will tend to be higher in London.

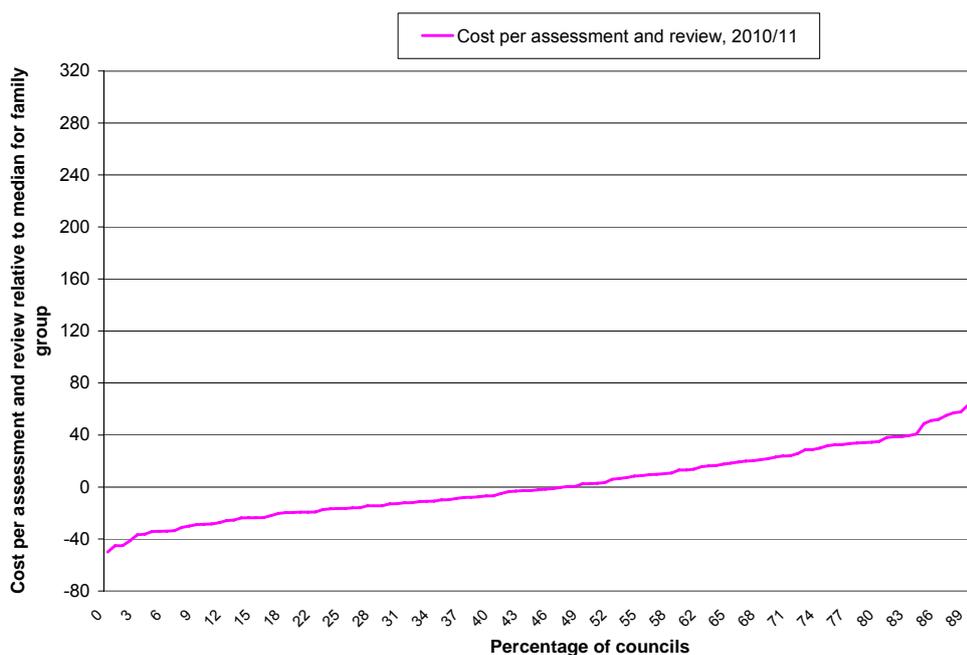
17 Two of the four indicators associated with lower costs reflect the scale of council operations. Completing more assessments and providing services to more people, relative to population, both lower costs for each assessment and review. These indicators are under the control of the council to some extent. We included them because they are outcomes of councils' model of service. The locus of this analysis is on helping councils control the costs of delivering their model of service.

18 In 2010/11, there were 131 councils returning valid results about staffing, spending and activity. We used the indicators listed in figure 2 to create a family group for each of these councils. Each family group contains 15 councils, chosen as the most similar in terms of the five indicators in the regression model. The family groups are not unique. Each council will be part of the family group of one or more other councils and some may be part of the families of many other councils.

19 Councils will tend to have costs for each assessment and review that are closer to those of their family group than to those of councils outside their family. This is because the family members are alike in terms of the indicators that predict variation in spending. Figure 3 compares the results for each council to those of their family group. It shows that, except the highest and lowest 5 per cent of councils, the results for each council are distributed evenly across the range for their family groups.

Figure 3: Cost per assessment and review to councils' family group, 2010/11

Except the highest and lowest 5 per cent of councils, the results for each council are distributed evenly across the range for their family groups.



Source: Audit Commission

Using levelling to estimate indicative savings

20 Figure 4 summarises the impact on spending on assessment and care management of reducing the spending of councils where they are above selected thresholds for their family groups. This analysis is based on information of 131 councils with valid results for information about staffing, spending and activity for 2010/11.

21 The table shows the financial impact relative to the spending on ACM for the sample as a whole. The levelling exercise does not reduce the spending of all councils. Therefore, the changes shown in Figure 4 understate the reductions faced by councils currently spending above the threshold (Figure 5 shows the average reductions in spending for councils currently spending above the threshold.).

Figure 4: Impact of levelling cost per assessment and review, 2010/11		
The table shows the financial impact relative to the spending on ACM for the sample as a whole. It is expressed as a percentage of the spending by all the councils on ACM.		
Spending on assessment and care management	Councils in sample	
	Per cent change	£M
75 th percentile	-9.6%	£-104m
Median	-16.8%	£-182m
25 th percentile	-26.5%	£-286m

Source: Audit Commission

22 The overall impact represents the total value of reducing the spending of all councils above the threshold to the value of the threshold. It is expressed as a percentage of the spending on ACM by councils in the sample. This presentation hides the fact that spending only changes for councils above the threshold. The percentage changes for these councils are larger than the overall change (see appendix 2).

23 Figure 5 shows the financial impact of taking the average size of the reductions for councils where spending is reduced and applying that average change to all the councils where spending is reduced. The financial impact is quoted as a range because it relates to a subset of the data. The impacts in Figure 5 are higher than those in Figure 4 because, unlike those in Figure 4, they show the average change only for those councils that are above the threshold.

Figure 5: Impact of levelling cost per assessment and review, 2010/11

The table shows the average financial impact relative to spending on ACM for councils where spending is above the threshold. It is expressed as a percentage of the spending by the councils above the threshold.

Spending on assessment and care management	Councils above threshold		
	Per cent change Confidence Interval (CI)	Lower CI	Upper CI
75 th percentile	(-18.1% to -30.5%)	£-103m	£-159m
Median	-22.0% to -31.4%	£-208m	£-280m
25 th percentile	-26.1% to -34.5%	£-337m	£-425m

Source: Audit Commission

Mitigating risks

24 There are limitations to the uses that can be made of the analysis, arising from:

- using data from a subset of the population;
- the timeliness of data;
- building families of most similar councils; and
- the nature of the levelling approach.

Sample

25 There are three limitations arising from the fact we are working with data for a sample of councils, selected because their data met basic plausibility checks.

26 The sample may not fully represent the diversity of councils. The data cleaning excluded almost half councils. The final selection included more metropolitan districts and councils in the eastern and west midland regions than would be expected by chance. These gaps in the sample mean we cannot attribute results to individual councils, to authority types or to parts of the country. We can mitigate this risk in part by calculating the savings achieved from levelling in relation to all the councils with valid data for 2010/11.

27 We cannot control for errors in data collection that are stable over time. Our approach assumes that very large reported changes are more likely to arise through error than reflect real events. This is the most likely cause, but it is an important limitation in a levelling exercise because councils with the highest results will contribute more to the reductions achieved by levelling. If there are problems with the data for some of the councils with higher results the levelling will overstate the effect of constraining the spending. We can mitigate this risk by putting confidence intervals around the size of change for the sample.

28 The financial impact from the levelling exercise applies to the sample and not all councils. We can extrapolate from the sample, but the extrapolation will include a measure of uncertainty, in addition to that already included in the original estimate. Again, using confidence intervals will mitigate this risk.

Timeliness of data

29 The most up to date data used in this analysis relates to 2010/11, so the cash value of the financial impact will not be prices current at the time of publication (2012). In addition, if there has been a clear trend in changes by councils since 2010/11, the financial impact may differ substantially from what we would find using more up to date information.

Building families of similar councils

30 Each council belongs to a family of 15 others, with which it has most in common in the results for a set of indicators. Some councils have fewer than 15 others in their families, because they are more heterogeneous than those of most councils. We can mitigate this risk by inflating the threshold value used in the levelling calculation to reflect the higher than expected diversity within the family group.

Levelling

31 We calculate the financial impact by levelling the spending of councils above a threshold to the value of that threshold. It takes no account of the ability of councils below the threshold to achieve savings. It also assumes that councils above the thresholds can all move to the threshold. There will be reasonable explanations for some spending differences. Not all of them will be controlled for in the indicators that explain variation. We can mitigate this risk by using higher rather than lower threshold values in the levelling calculation.

32 The financial impact is not a total figure. We create it by taking each council, levelling its spending relative to a set of other authorities and summing any reductions. In practice some councils where spending is levelled will also be part of the set of authorities that other councils are compared with. These subsequent calculations will use the council's unlevelled spending. Therefore there is potential for double counting the saving achieved by the first council.

33 We can partly mitigate this risk by using data for all councils with valid data for 2010/11 when calculating the potential impact of reductions in unit costs. This reduces the level of uncertainty associated with the value of savings associated with councils reducing their unit costs. The larger group of councils is used to create family groups and calculate cost savings.

Appendix 1 Indicators used in the model of variation

Figure 6 lists the indicators initially included in the analysis. The list excludes information about how much councils spend or how they organise ACM services. These are factors that are substantially under local control. The list does include information about the delivery of assessments, for example how long it takes to carry out assessments. This information reflects any differences between councils in the service that clients experience.

Figure 6: **Indicators used in the model of variation**

Subject	Indicator
Authority type	Council is London Borough (Yes, No)
	Council is metropolitan council (Yes, No)
	Council is county council (Yes, No)
Age groups	Percent of population aged 75 to 84
	Percent of population aged 85 and over
Households	Percentage of households made up of all pensioners
	Percentage of households made up of one non pensioner
	Percentage of households made up of one pensioner
Deprivation	Indices of deprivation 2011 Average score
	Indices of deprivation 2011 Extent score
Rurality	Percentage of population living in rural areas (villages, hamlets and isolated dwellings)
	Percentage of population living in rural areas (towns)
	Percentage of population living in urban areas (excluding large market towns)
Area cost	IND01.02 Area cost adjustment factor 2009/10 Older people services
ACM coverage and delivery	IND05.00 Percent of referrals dealt with at point of contact
	IND20.00 Number of assessments per 1,000 population aged 18 and over
	IND23.00 Assessments and reviews of carers as a percentage of assessments and reviews
	IND28.00 Assessments and reviews of carers completed per 1,000 population aged 18 and over
	IND29.00 Assessments where services are declined as a percentage of those where services are identified as required
	IND29.00 Assessments where services are declined as a percentage of those where services are identified as required
	IND30.00 Assessments where services are identified as required as a percentage of assessments
	IND31.00 Percentage of assessments completed within 4 weeks
Service coverage	IND34.00 Community based services - Clients as percentage of population aged 18 and over

Subject	Indicator
and intensity	IND35.00 Residential and nursing care - Residents per 1,000 population aged 18 and over
	IND36.00 Community and Residential services - Clients as percentage of population aged 18 and over
	IND37.00 Residential and nursing care - Nursing residents as percentage of residents
	IND38.00 Clients receiving intensive home care as percentage of clients receiving community based services
	IND039.00 Reviews per 100k population - All ages
	IND040.00 Reviews per assessment and care management FTE - All ages
	IND041.00 Assistant workers (FTE) as percentage of ACM workers (FTE) - All ages

Appendix 2 Financial impact at council level

Figure 7 shows the financial impact for individual council of levelling costs per assessment and review to that of a specific threshold for their family of most similar councils.

Figure 7a: **Impact of levelling cost per assessment and review to 75th percentile, 2010/11**

Levelling cost per assessment and review to the 75th percentile of the most similar councils results in a reduction of £104m. On average, the councils affected make a reduction of 24 per cent.

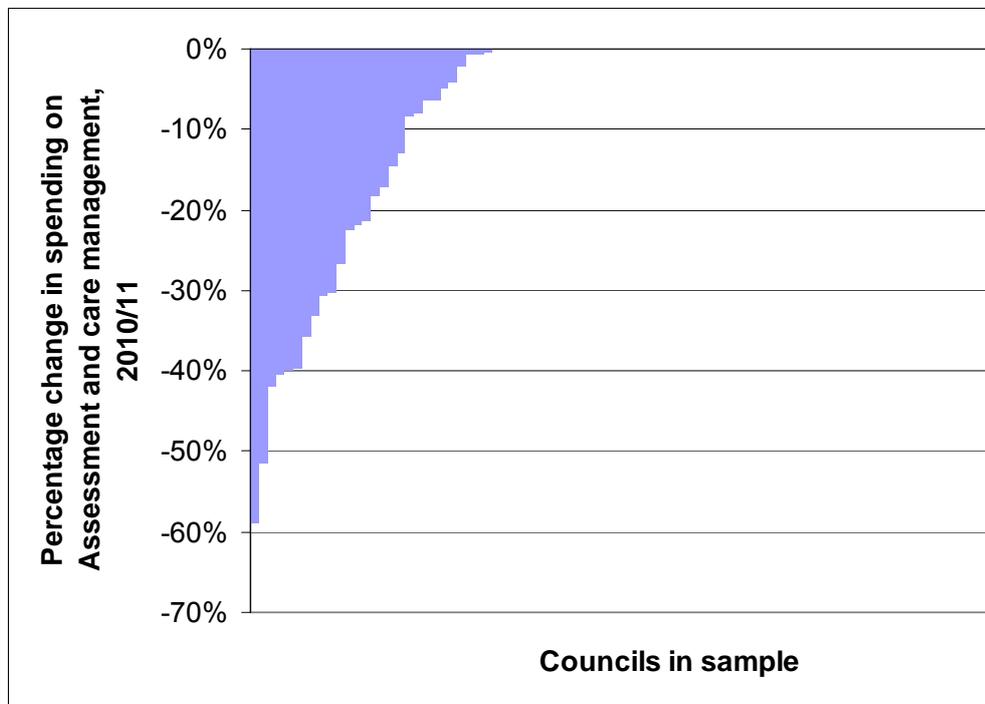


Figure 7b: Impact of levelling cost per assessment and review to 50th percentile, 2010/11

Levelling cost per assessment and review to the 50th percentile of the most similar councils results in a reduction of £182m. On average the councils affected make reduction of 27 per cent.

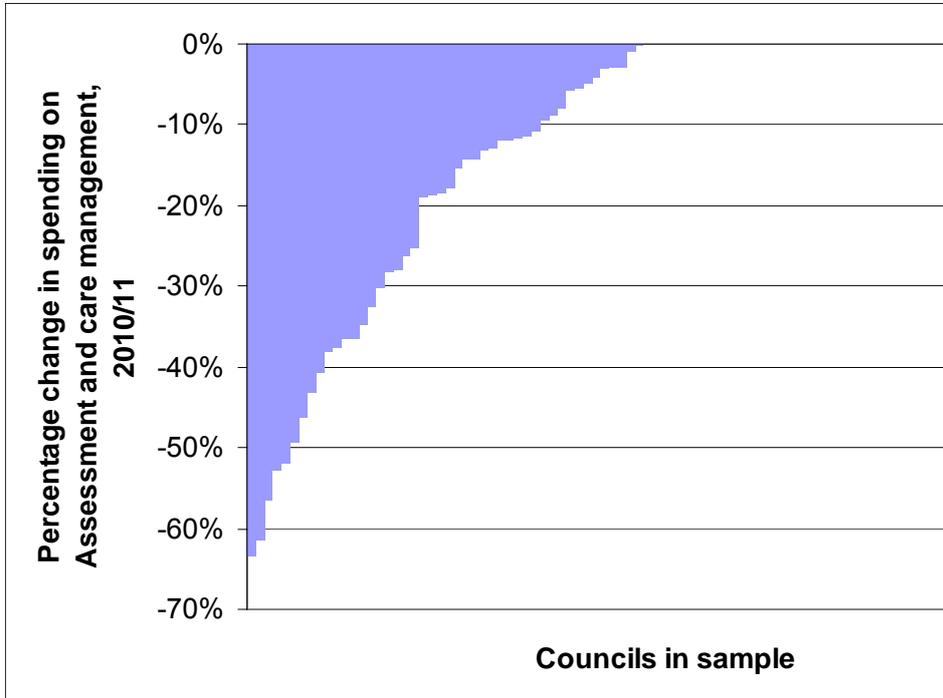
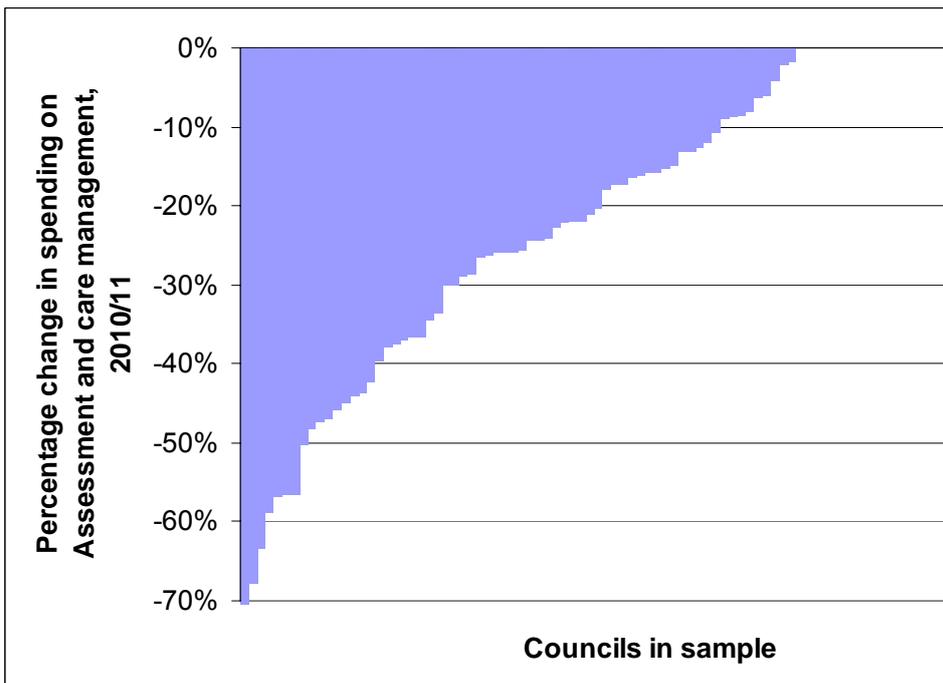


Figure 7c: Impact of levelling cost per assessment and review to 25th percentile, 2010/11

Levelling cost per assessment and review to the 25th percentile of the most similar councils results in a reduction of £286m. On average the councils affected make reduction of 30 per cent.



Source: Audit Commission

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