Technical Report

NDC National Evaluation
Phase 2

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CRESR
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New Deal for Communities Evaluation: Technical Report

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Preface

The New Deal for Communities (NDC) Evaluation Technical Report accompanies a series of seven volumes of the New Deal for Communities Evaluation Final Report which detail the findings from the National Evaluation of the New Deal for Communities 2001-2010[1]. Each volume addresses particular themes emerging from the evaluation:

- volume 1, **'The New Deal for Communities Programme: Achieving a neighbourhood focus for regeneration'** explores the institutional model underpinning the Programme, based on the creation of semi-autonomous Partnerships, designed to achieve ten year transformational strategies working in co-operation with existing delivery agencies such as the police and Primary Care Trusts (PCTs)
- volume 2, **'Involving local people in regeneration: Evidence from the New Deal for Communities Programme'**, examines the rationale, operation and consequences of the Programme's aim of placing the community 'at its heart'
- volume 3, **'Making deprived areas better places to live: Evidence from the New Deal for Communities Programme'** considers the nature, operation and successes of NDC interventions designed to improve the 39 NDC areas
- volume 4, **'Improving outcomes for people in deprived neighbourhoods: Evidence from the New Deal for Communities Programme'** considers the nature, operation and successes of NDC interventions designed to improve outcomes for residents living in the 39 NDC areas
- volume 5 **'Exploring and explaining change in regeneration schemes: Evidence from the New Deal for Communities Programme'** indentifies factors which help explain why some areas, and some individuals, have seen better outcomes than others
- volume 6 **'The New Deal for Communities Programme: Assessing impact and VFM'** uses all the evidence available to the evaluation in order to identify the impact of, and cost and benefits arising from, the NDC Programme
- volume 7, **'The NDC experience: A final assessment'** considers the degree to which the Programme has achieved its original objectives and sets out the implications of this evidence for policy.

This Technical Report provides a wide range of supporting evidence including details of the design of the NDC Programme and the national evaluation, data sources, statistical methods, analytical tools and outputs from analyses undertaken.

[1] All NDC evaluation reports can be accessed at: http://extra.shu.ac.uk/ndc/ndc_reports.htm

Abbreviations used in NDC reports

ABI	Area-Based Initiative
APS	Annual Population Survey
BCS	British Crime Survey
CLG	Communities and Local Government
CEA	Cambridge Economic Associates
CRESR	Centre for Regional Economic and Social Research
DWP	Department for Work and Pensions
GOR	Government Office in the Regions
ESA	Employment and Support Allowance
ESOL	English for Speakers of Other Languages
HPE	Housing and the Physical Environment
HSE	Health Survey for England
IB	Incapacity Benefit
IBCO	Incapacity Benefits Credits Only
ILM	Intermediate Labour Market
IMD	Index of Multiple Deprivation
JSA	Jobseeker's Allowance
LAA	Local Area Agreement
LFS	Labour Force Survey
LSC	Learning and Skills Council
LSOA	Lower Super Output Area
LSP	Local Strategic Partnership
NDC	New Deal for Communities
NOMIS	National On-Line Manpower Information System (Durham University)
NRU	Neighbourhood Renewal Unit
NVQ	National Vocational Qualification
ODPM	Office of the Deputy Prime Minister
ONS	Office for National Statistics
PLASC	Pupil Level Annual Schools Census
SDA	Severe Disablement Allowance
SDRC	Social Disadvantage Research Centre
SEH	Survey of English Housing
SRB	Single Regeneration Budget
VFM	Value for Money
WPLS	Work and Pensions Longitudinal Study

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1. The New Deal for Communities Programme

1.1. Overview

The New Deal for Communities (NDC) Programme is one of the most important Area Based Initiatives (ABIs) ever launched in England. Announced in 1998 as part of the government's National Strategy for Neighbourhood Renewal[1], the Programme's primary purpose was to 'reduce the gaps between some of the poorest neighbourhoods and the rest of the country'[2]. 17 Round 1 Partnerships were announced in 1998 and a further 22 Round 2 schemes a year later. In these 39 areas, which on average accommodate about 9,800 people a local NDC Partnership implemented an approved 10 year Delivery Plan. Each area received approximately £50m of Government investment.

These 39 areas were announced well before the commissioning of the national evaluation. A 2004 House of Commons Committee of Public Accounts publication, 'An early progress report on the New Deal for Communities programme' Thirty–eighth Report of Session 2003–04' indicated the processes by which these 39 **areas were selected**. The number of communities eligible to pilot the approach was determined by the money allocated to the Programme. Some £2 billion was made available over ten years. The then Office of the Deputy Prime Minister judged that this was sufficient for some 39 communities. The local authority areas eligible for NDC funding were selected using the 1998 Index of Multiple Deprivation (IMD) and a regional quota system. This ensured that eligible areas were chosen on the basis of levels of deprivation, whilst also making sure there were more eligible areas in regions with a heavier concentration of deprived localities. The criteria for selecting neighbourhoods within each eligible area were that:

- one deprived neighbourhood per area should be selected, although Birmingham uniquely was allocated two: Aston and Kings Norton
- the neighbourhood should accommodate between 1,000 to 4,000 households
- the neighbourhood should have the support of all sections of the local community.

Where there was any difficulty in reaching an agreed view within an eligible area, the local authority was asked to summarise options to officials in Government Offices in the Regions (GORs), who then made recommendations to Ministers on how best to proceed.

The Programme is based on a **number of key principles**:

- NDC Partnerships were established to carry out 10 year strategic programmes designed to transform these deprived neighbourhoods and to improve the lives of those living within them
- decision making fell within the remit of 39 Partnership boards, consisting largely of community and agency representatives

[1] HM Government 1998 Bringing Britain together: a national strategy for Neighbourhood Renewal Cm 4045
[2] DETR 2001: New Deal for Communities: Financial Guidance

- communities were to be 'at the heart of the regeneration of their neighbourhoods'[3]
- in order to achieve their outcomes, the 39 Partnerships worked closely with other delivery agencies such as the police and Primary Care Trusts: the notion of working in partnership with other delivery agencies was central to the Programme
- Partnerships were intended to close the gaps between these areas and the rest of the country in relation to:
  - three outcomes designed to improve NDC areas: incidence and fear of crime, housing and the physical environment (HPE), and strengthening local communities
  - and three outcomes intended to improve the lives of residents in the 39 areas: health, education and worklessness.

Between 1999/2000 and 2007/08 some £2.29 billion (current prices) was spent on the 39 schemes, £1.56 billion from the Programme, the rest from other sources.

1.2. Round 1 and Round 2 NDC Partnerships

Table 1 lists all 39 NDC Partnerships, their parent local authority district (LAD), and whether each was a Round 1 or Round 2 NDC Partnership. Some Partnerships changed their names as the NDC Programme drew to an end, as part of the process of amending constitutions in order to continue activities after NDC funding ceased.

Table 1: NDC Partnerships: Name, LAD and Round

Round	Local authority	NDC Partnership Name
1	Birmingham	Kings Norton Three Estates Community Development Trust
1	Bradford	Bradford Trident
1	Brighton and Hove	East Brighton 4 U
1	Bristol	Community @ Heart
1	Hackney	Shoreditch Trust
1	Hull	Preston Road Neighbourhood Development Company
1	Leicester	Braunstone Community Association
1	Liverpool	Kensington Regeneration
1	Manchester	Beacons Partnership
1	Middlesbrough	West Middlesbrough Neighbourhood Trust
1	Newcastle	NDC for Newcastle Ltd
1	Newham	West Ham and Plaistow NDC
1	Norwich	North Earlham, Larkman, Marlpit (NELM) Development Trust
1	Nottingham	Radford and Hyson Green NDC Partnership
1	Sandwell	Greets Green NDC Partnership
1	Southwark	Aylesbury NDC
1	Tower Hamlets	Ocean NDC
2	Birmingham	Aston Pride NDC
2	Brent	South Kilburn NDC
2	Coventry	WEHM (Wood End Henley Manor Farm & Deedmore)
2	Derby	Derwent Community Team
2	Doncaster	Doncaster Central NDC
2	Hammersmith & Fulham	North Fulham NDC

[3] ODPM 2004 Transformation and sustainability: future support, management and monitoring of the New Deal for Communities programme, 11 (commonly known as Programme Note 25)

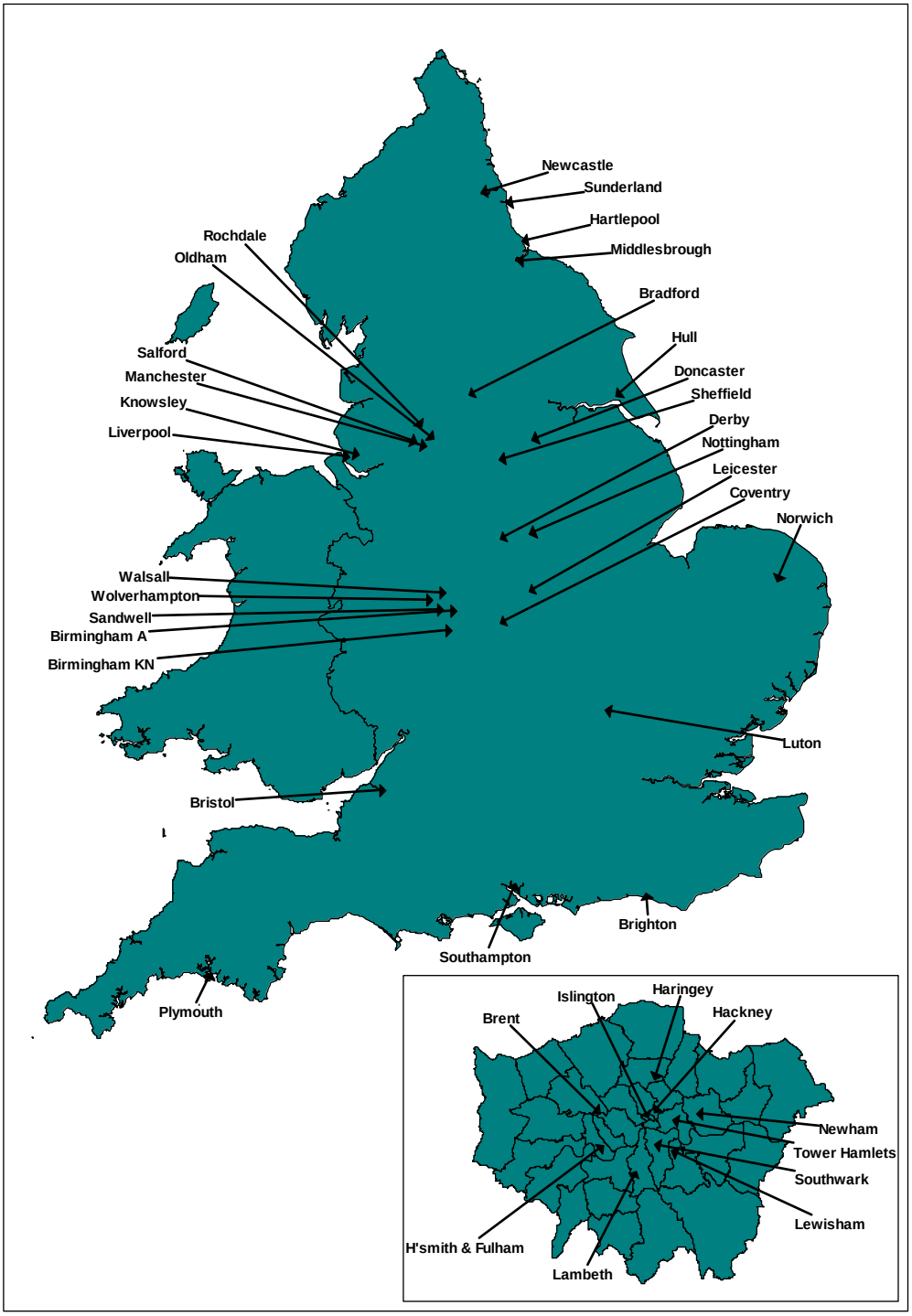
2	Haringey	The Bridge Seven Sisters NDC
2	Hartlepool	West Central Hartlepool NDC
2	Islington	EC1 New Deal for Communities
2	Knowsley	North Huyton New Deal, New Future Partnership
2	Lambeth	Clapham Park Project
2	Lewisham	New Cross Gate NDC
2	Luton	Luton Marsh Farm Community Development Trust
2	Oldham	Hathershaw and Fitton Hill Partnership
2	Plymouth	Devonport Regeneration Company
2	Rochdale	New Heart for Heywood NDC
2	Salford	Charlestown and Lower Kersal Partnership
2	Sheffield	Burngreave NDC
2	Southampton	Thornhill NDC
2	Sunderland	'Back on the Map' NDC Partnership
2	Walsall	Blakenhall, Bloxwich East and Leamore NDC Partnership
2	Wolverhampton	All Saints Blakenhall Community Development (ABCD) Partnership

Web links for each of the Partnerships can be found at: http://extra.shu.ac.uk/ndc/ndc_partnerships.htm

1.3. Location of the 39 NDC areas

The NDC Programme is delivered in 39 defined neighbourhoods. These are located across England with ten in London; six in all in the South East, South West and Eastern regions taken together; and the remaining 23 in the midlands or northern regions.

Figure 1: Location of the 39 NDC areas



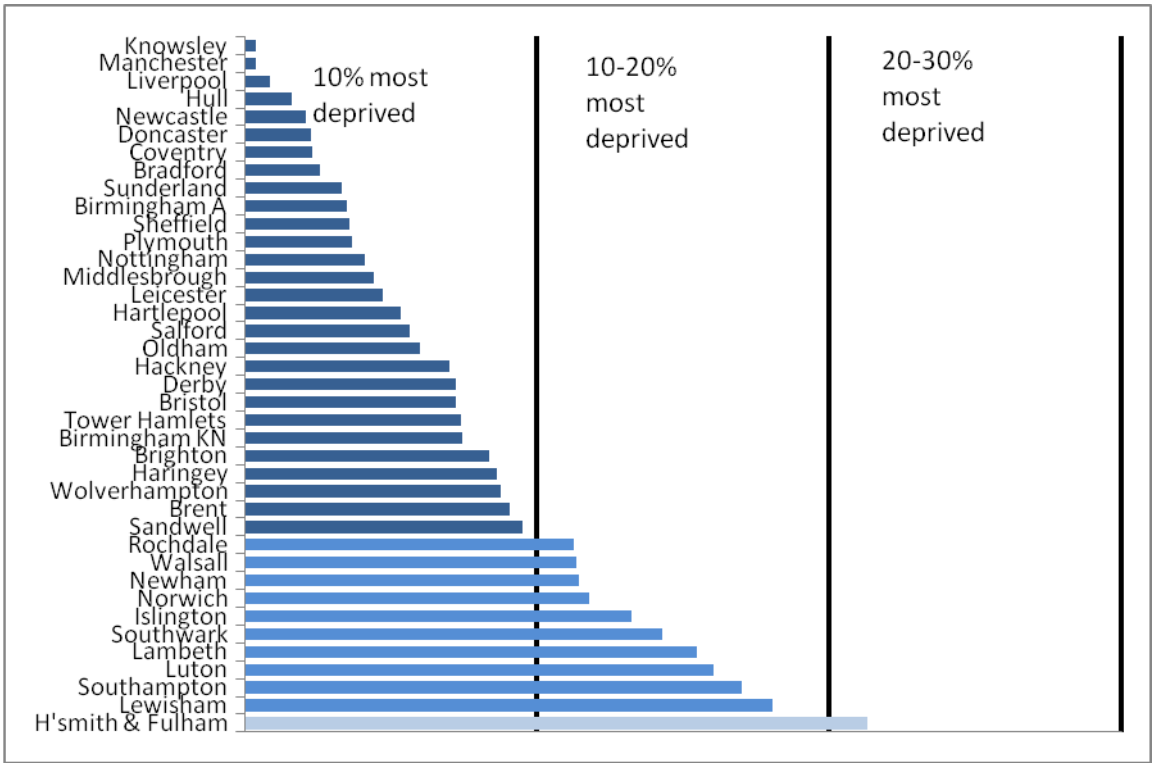
1.4. Pen portraits and key characteristics of NDC Areas

This section provides key facts and figures about each NDC area. Evidence includes levels of deprivation as defined by the IMD, population, key socio-demographic indicators, and short pen portraits. 2002 baseline data for all NDC areas can be found at http://extra.shu.ac.uk/ndc/ndc_data.htm

An overview of the 2001 Census for NDC areas was published in 2005 and can be found at:
http://extra.shu.ac.uk/ndc/downloads/reports/ndc%20programme_overview%20of%202001%20census.pdf

Figure 2 illustrates the **scale of deprivation across NDC areas**. In 2004, the 39 areas were concentrated in the bottom deciles on IMD scores: 28 in the most deprived decile, 10 in the second, and one in the third most deprived. The Knowsley NDC area was ranked equivalent to the 117th most deprived Lower Super Output Area (LSOA) in England out of a total of 32,482. The Hammersmith and Fulham NDC area, the least deprived of the 39, was ranked equivalent to 6,913th.

Figure 2: Ranking on the 2004 Index of Multiple Deprivation for each NDC area



Source: SDRC

Population weighted IMD scores and IMD 'proxy ranks' for NDC areas underpinning this chart are given in Table 2. The higher the IMD score the greater the level of deprivation. An overview of how these IMD scores and 'proxy ranks' are derived is provided later in this report in section 4.2.6. A fuller report explaining the application of IMD 2004 to NDC areas is available:
http://extra.shu.ac.uk/ndc/downloads/reports/multiple%20deprivation%20in%20ndc%20areas.pdf

Table 2: Index of Multiple Deprivation 2004 for each NDC area, ranked by level of deprivation

NDC	IMD score	IMD rank	Decile
Knowsley	75.7	117	1
Manchester	75.3	123	1
Liverpool	70.1	277	1
Hull	65.3	524	1
Newcastle	63.1	680	1
Doncaster	62.3	740	1
Coventry	62.1	754	1
Bradford	61.1	838	1
Sunderland	58.7	1,070	1
Birmingham - Aston	58.1	1,134	1
Sheffield	57.9	1,163	1
Plymouth	57.6	1,196	1
Nottingham	56.4	1,334	1
Middlesbrough	55.6	1,426	1
Leicester	54.5	1,528	1
Hartlepool	53.2	1,736	1
Salford	52.6	1,836	1
Oldham	51.8	1,950	1
Hackney	50.2	2,271	1
Derby	49.8	2,341	1
Bristol	49.8	2,349	1
Tower Hamlets	49.5	2,402	1
Birmingham - Kings Norton	49.4	2,420	1
Brighton	47.8	2,720	1
Haringey	47.3	2,805	1
Wolverhampton	47.0	2,849	1
Brent	46.6	2,948	1
Sandwell	45.9	3,080	1
Rochdale	43.4	3,650	2
Walsall	43.2	3,689	2
Newham	43.1	3,713	2
Norwich	42.8	3,819	2
Islington	41.1	4,289	2
Southwark	39.9	4,633	2
Lambeth	38.7	5,024	2
Luton	38.1	5,207	2
Southampton	37.1	5,524	2
Lewisham	36.0	5,868	2
Fulham	33.2	6,913	3
NDC average	**51.7**	**1,985**	**1**

Source: SDRC

Table 3: Mid-year population estimate for NDC areas, 1999 and 2007

NDC AREA	Population	
	1999	2007
Birmingham - Aston	17,810	17,760
Birmingham - Kings Norton	9,450	9,480
Bradford	11,210	12,300
Brent	6,820	7,210
Brighton	17,340	17,390
Bristol	6,220	7,270
Coventry	7,490	7,250
Derby	9,040	9,150
Doncaster	8,250	8,540
Fulham	8,750	9,710
Hackney	19,700	21,440
Haringey	10,420	10,240
Hartlepool	9,240	8,190
Hull	6,410	6,490
Islington	8,710	10,370
Knowsley	9,900	8,460
Lambeth	7,250	7,980
Leicester	12,810	13,080
Lewisham	8,270	8,760
Liverpool	11,140	10,070
Luton	7,860	7,790
Manchester	9,700	10,190
Middlesbrough	8,560	7,380
Newcastle	11,000	10,790
Newham	9,440	9,210
Norwich	8,260	8,760
Nottingham	8,450	9,630
Oldham	9,380	8,960
Plymouth	5,080	4,790
Rochdale	7,760	7,350
Salford	9,660	9,810
Sandwell	12,170	11,710
Sheffield	9,180	10,400
Southampton	10,070	10,190
Southwark	7,960	8,660
Sunderland	9,460	9,400
Tower Hamlets	6,990	7,080
Walsall	11,820	11,500
Wolverhampton	11,190	11,080
All NDC areas	**380,200**	**385,800**
Average NDC area	**9,700**	**9,900**

Source: Office for National Statistics © Crown Copyright 2008

Table 3 provides mid-year population estimates for each NDC area. These vary considerably. In 1999, there were just over 5,000 residents in Plymouth NDC area, compared with nearly 20,000 in Hackney. By 2007, the last period for which population estimates were available, the average population was 9,900. These data are created by the Office for National Statistics (ONS), based on re-apportioning mid year-population estimates to NDC postcodes.

A full set of population estimates can be found at: http://extra.shu.ac.uk/ndc/ndc_data.htm

Table 4 provides key socio-demographic characteristics for each NDC area drawn from the 2002 baseline NDC household survey. Table 5 provides these same indicators for 2008.

Table 6 provides short 'pen portraits' of each of the NDC areas, as they were characterised around the time of the start of the NDC Programme.

Table 4: Socio-demographic indicators for NDC areas: 2002

	Per cent 2002				
	White	In employment (working age)	No qualifications (working age)	Social housing	Health not good
Birmingham Aston	22	36	45	46	23
Birmingham Kings Norton	93	51	31	66	26
Bradford	39	36	41	36	27
Brent	46	54	24	78	26
Brighton	97	61	35	61	21
Bristol	87	68	27	48	21
Coventry	90	38	48	82	28
Derby	98	62	35	46	23
Doncaster	87	52	38	37	29
Fulham	69	64	20	60	17
Hackney	63	50	31	77	22
Haringey	46	56	28	55	17
Hartlepool	97	55	31	27	24
Hull	99	41	54	82	28
Islington	71	58	27	75	16
Knowsley	100	33	45	73	32
Lambeth	61	62	21	57	16
Leicester	96	54	47	67	22
Lewisham	54	58	21	59	18
Liverpool	85	34	27	40	24
Luton	69	63	29	54	19
Manchester	89	45	40	63	26
Middlesbrough	96	55	33	43	25
Newcastle	73	37	33	62	26
Newham	52	55	28	57	24
Norwich	97	53	39	65	24
Nottingham	72	32	22	64	19
Oldham	90	58	36	44	24
Plymouth	98	53	30	74	26
Rochdale	98	68	27	45	23
Salford	90	59	27	48	21
Sandwell	67	54	42	39	26
Sheffield	49	49	39	55	24
Southampton	97	65	29	55	18
Southwark	39	49	28	90	14
Sunderland	90	47	38	49	23
Tower Hamlets	33	39	36	68	21
Walsall	98	50	45	50	26
Wolverhampton	45	55	31	35	24
NDC aggregate	**75**	**51**	**33**	**57**	**23**

Source: Ipsos MORI NDC household survey

Table 5: Socio-demographic indicators for NDC area: 2008

	Per cent 2008				
	White	In employment (working age)	No qualifications (working age)	Social housing	Health not good
Birmingham Aston	16	48	34	37	16
Birmingham Kings Norton	93	46	31	63	24
Bradford	34	55	36	39	21
Brent	31	51	25	79	20
Brighton	90	53	24	62	20
Bristol	79	68	23	43	17
Coventry	81	46	36	80	23
Derby	96	60	22	40	16
Doncaster	83	57	36	44	20
Fulham	60	57	25	64	13
Hackney	56	58	26	69	19
Haringey	50	53	33	60	18
Hartlepool	96	53	31	30	25
Hull	98	49	34	74	28
Islington	59	57	22	75	14
Knowsley	99	45	37	62	25
Lambeth	56	67	22	60	13
Leicester	89	57	38	61	19
Lewisham	48	58	18	55	14
Liverpool	81	50	31	35	18
Luton	61	59	18	51	17
Manchester	76	58	29	65	18
Middlesbrough	96	59	28	36	20
Newcastle	62	42	27	60	22
Newham	49	58	24	54	15
Norwich	94	55	26	61	19
Nottingham	60	43	24	52	12
Oldham	81	56	33	43	25
Plymouth	96	53	20	69	23
Rochdale	96	69	26	44	21
Salford	91	59	27	48	19
Sandwell	61	57	33	35	18
Sheffield	46	47	25	47	17
Southampton	95	68	21	51	17
Southwark	37	52	36	82	12
Sunderland	90	50	32	49	23
Tower Hamlets	23	37	41	67	20
Walsall	97	56	28	48	19
Wolverhampton	42	59	34	33	18
NDC aggregate	**70**	**54**	**29**	**55**	**19**

Source: Ipsos MORI NDC household survey

Table 6: Pen portraits for each NDC area: 2005

NDC name	Area description
Birmingham Aston: Aston Pride NDC	The Aston Pride NDC area is on the northwest side of Birmingham City Centre. There is a mixture of residential and industrial areas with a large number of older pre-1914 terraced housing, as well as more recent Council housing. The area has an ethnic majority population and a relatively high proportion of young people.
Birmingham Kings Norton: 3 Estates Community Development Trust	Located to the southeast outer ring of the city, the NDC area consists of three estates built by the City Council between the 1950s and 1970s. There are few local facilities or employers on the estates and the city centre is a couple of bus rides away. The population is predominantly white, with a high proportion of homes in the social rented sector.
Bradford: Bradford Trident	Bradford Trident NDC is located in an area of approximately one square mile on the outskirts of Bradford city centre, made up of three of the most disadvantaged neighbourhoods in Bradford: Little Horton, Marshfields and West Bowling. Over 50 per cent of the population from these distinct communities are of South Asian heritage. Housing stock dates from the Victorian and Edwardian areas, but also includes newer properties. More than a third of residents live in social rented accommodation.
Brent: South Kilburn NDC	The Brent NDC area consists of social housing estates lying to the west of Kilburn High Road, constructed in the 1950s and 1960s. The remainder of the NDC area extends as a long arm along Kilburn Lane and mostly comprises late Victorian and Edwardian terrace housing. There are retail and commercial premises scattered throughout the area, but local transport is good, and only a minority of people work in the immediate vicinity. The area has a non-white population of 57 per cent.
Brighton and Hove: East Brighton 4 U	East Brighton NDC area covers a population of over 16,000 residents, most of whom live in the two communities of Moulescomb and Whitehawk. These are located in two of Brighton's valleys which are physically separated from, and with few natural links to, the rest of the town. There is a high proportion of social housing and the area is predominantly white.
Bristol: Community @ Heart	The Bristol Community at Heart NDC area stretches eastwards from the city centre at Temple Meads through an area of mixed industrial and residential land uses. Crossed by major rail, road and waterways, the area offers a mix of housing tenures. Traditionally a white working class area, it has become more mixed with a black and minority ethnic (particularly Somali) community presence.
Coventry: the WEHM (Wood End Henley Manor Farm and Deedmore) Partnership	The NDC area is located on the north-eastern edge of Coventry, approximately four miles from the city centre and consists of four residential estates dating back to the 1950s. 88 per cent of the population is white, and 77 per cent of housing is social rented.
Derby: Derwent Community Team	The Derwent NDC area is mainly residential, comprising part of the Breadsall and Derwent wards, approximately 3 miles north-east of Derby city centre. 50 per cent of housing is owner-occupied. There are limited shopping and other facilities in the area. The neighbourhood is bounded by busy ring roads. Several major employers are located nearby.

Table 6 Continued

NDC name	Area description
Doncaster: Doncaster Central NDC	Doncaster Central NDC area is an amalgam of five distinct neighbourhoods: Blaby Bridge (mainly consisting of high-rise flats and maisonettes), Hexthorpe (private houses rented stock), Hyde Park (early 1900s terraced properties), Nether Hall (bed-sits and flats), and Woodfield. The area is characterised by a lack of social facilities, falling house prices, deteriorating housing stock, poor environmental conditions, and high levels of crime and anti-social behaviour.
Hackney: Shoreditch Trust	The NDC area contains three distinct neighbourhoods: Wenlock Barn, Hoxton and Haggerston. The area consists of residential, commercial and growing arts, leisure, and retail sectors. Private housing is increasing in value because of the marked gentrification of the area.
Hammersmith and Fulham: North Fulham NDC	Hammersmith and Fulham NDC area houses a population which combines a traditional white working class community with sizeable black and minority ethnic communities, including a growing number of refugees and asylum seekers. Although the bulk of housing locally is either council or housing association-owned, house prices in the owner-occupied sector are high, reflecting affluence in surrounding areas. The North End Road market represents an important element in the local economy and local culture.
Haringey: The Bridge Seven Sisters NDC	The Haringey NDC area combines late 19th century terraced housing with a series of council estates, and contains Seven Sisters tube station, which provides links to Central London and, via Tottenham Hale, Stansted Airport. Just over 50 per cent of households are local authority accommodation, 30 per cent in owner occupation, and 11 per cent in private rented, many of which are now in poor condition and in use as short-let accommodation for refugees and asylum seekers. Although predominantly residential, the area includes a small industrial estate and run-down retail centres along Seven Sisters and St Ann's roads, and is above all characterised by its diversity, with only 30 per cent of the population claiming white British origin.
Hartlepool: West Central Hartlepool NDC	The Hartlepool NDC area is located in the centre of town and comprises a large commercial zone, including a shopping mall with several high street names. Residential areas are laid out in a high-density grid pattern of Victorian terraced housing containing little open space. There is a small black and minority ethnic community in Hartlepool as a whole, most of which is located within the NDC area.
Hull: Preston Road Neighbourhood Development Company	Preston Road NDC area lies three miles to the east of Hull City centre and has traditionally had a poor image. Most of the area, which is divided into four parts by a dual carriageway and a waterway, contains pre-war, low-rise council housing with approximately 21 per cent in owner occupation, and relatively few commercial or other facilities. The population is predominantly white.
Islington: EC1 New Deal for Communities	The EC1 New Deal area is in the South of Islington, bordering the City of London, close to the Barbican Centre. The neighbourhood is dominated by municipal housing estates, although it also includes a number of commercial areas, with an estimated 200 companies in the area. Compared to other London NDC areas, the EC1 area has a relatively small minority ethnic population: around 20 per cent. Many local residents have lived in the area for many years.

Table 6 Continued

NDC name	Area description
Knowsley: North Huyton New Deal, New Future Partnership	The North Huyton NDC area is located in the centre of the Borough of Knowsley and is made up of three large social housing estates. The area's present form can be traced back to the 1930s and slum clearance programmes in Liverpool. Its population of around 9,500 is predominately white with just over one per cent from black and minority ethnic backgrounds.
Lambeth: Clapham Park Project	Clapham Park NDC area sits at the intersection of Clapham, Streatham and Balham, a short bus ride from the centre of Brixton, which has overshadowed the estate as a regeneration priority in the past. The area is bisected by the South Circular and includes the largest council estate in the borough. The area contains two local shopping areas and is close to centres of commercial activity and employment opportunities. Almost 70 per cent of the population are from black and minortiy ethnic groups.
Leicester: Braunstone Community Association	The Braunstone estate is located on the periphery of Leicester within easy reach of M1 Junction 21. Housing on the south of the estate dates back to the 1930s, while the north was developed later for families evacuated from city slums. It consists of 63 per cent social housing. There are relatively few services and facilities on the estate. Only a few employers are located within the NDC area, although several are sited nearby. It is a predominantly 'white' estate within an ethnically diverse city.
Lewisham: New Cross Gate NDC	The NDC area, in New Cross Gate, consists largely of local authority flats, in four and five storey blocks and three high rise towers, built between the 1950s and 1970s. The area is surrounded by main roads, including the busy A2 and A20, which cut through the area and form part of the one-way gyratory system that defines the heart of the NDC area. Although traffic congestion is a major issue, there are reasonably good transport links to the centre of London. The population is ethnically diverse.
Liverpool: Kensington Regeneration	Kensington is a long, wedge shaped area in inner Liverpool, immediately east of the city centre, which has seen rapid economic and social decline in recent decades. It is primarily residential, in mixed ownership, mainly developed between 1830 and 1914 with over 80 per cent of the stock consisting of terraced housing in dense blocks sandwiched between three arterial routes linking the city centre with the motorway network. Although it is still an 80 per cent ethnically white area, over the past few years private landlords have used homes previously occupied by students to house asylum seekers and refugees.
Luton: Luton Marsh Farm Community Development Trust	Marsh Farm NDC area straddles the two wards of Northwell and Sundon Park, three miles north of Luton town centre. Developed in the 1960s, Marsh Farm is a mixture of private and public sector housing based on the Radburn layout, in which vehicles and pedestrians are separated. About a third of residents are from black and minority ethnic communities.

Table 6 Continued

NDC name	Area description
Manchester: Beacons Partnership	The Manchester NDC area comprises two neighbourhoods, Beswick and Openshaw in East Manchester, hard hit by long-term economic restructuring. Sandwiched between two major roads and separated from each other by the Intermediate Ring Road, both have a patchwork of pre-1919 terraces, social housing dating from the 1960s and 1970s, and more recent social and private housing. There are problems in relation to housing quality and voided properties. Although a predominantly white area compared with other parts of the city, some asylum seekers were accommodated in the area and the black and minority ethnic population has increased to approximately 11 per cent.
Middlesbrough: West Middlesbrough Neighbourhood Trust	West Middlesbrough Neighbourhood Trust covers an area on the western fringe of Middlesbrough. It consists of three distinct areas, Newport, West Lane and Whinney Banks. The area's housing is made up of 1890s/1900s terraced properties, 1920s/1930s estates, 1970s houses and flats, and infill 1990s new-build properties. Nearly half of households are in the social rented sector, and just over a third, owner occupied. The NDC area has a small black and minority ethnic community.
Newcastle: NDC for Newcastle Ltd	Newcastle NDC area is situated in a predominantly residential area west of the city centre. It consists of homes of various types and tenures in the Arthur's Hill, Cruddas Park, Elswick and Rye Hill neighbourhoods. The NDC area has a relatively high proportion of black and minority ethnic communities (compared to other areas of the city), which are spatially concentrated towards the north of the area.
Newham: West Ham and Plaistow NDC	West Ham and Plaistow NDC area is situated along the western boundary of Newham, bordered by Stratford to the north and Canning Town and the Royal Docks to the south. The area divides into three distinct neighbourhoods, each with its own identity, and combines terraced and interwar housing with blocks of social housing flats. All three areas are predominantly residential with few commercial or community facilities. The area is ethnically diverse.
Norwich: North Earlham, Larkman, Marlpit (NELM) Development Trust	The North Earlham, Larkman and Marlpit housing estates are situated 2-3 miles west of Norwich city centre, separated from it by two ring roads. Approximately two thirds of the housing stock, which is mostly pre-war, is social rented. The area has a small black and minority ethnic population, as does Norwich as a whole.
Nottingham: Radford and Hyson Green NDC Partnership	The Nottingham NDC area is located between two arterial routes into the city centre and consists of Victorian and 1970s properties. More than a third of the population is of black and minority ethnic origin and there is a significant student population. Over half of properties are social rented, while a quarter are private rented, many being of a poor standard.
Oldham: Hathershaw and Fitton Hill Partnership	The Oldham NDC area covers the distinct, but contiguous, neighbourhoods of Hathershaw and Fitton Hill, and is bisected by a major arterial road. The area accommodates a mix of shops and services, many in long-term decline. Hathershaw, approximately one mile from the southern edge of Oldham town centre, is an ethnically diverse neighbourhood which consists predominantly of relatively high-density owner-occupied and private rented pre-1914 terraced housing interspersed with some 1930s council housing. Fitton Hill is an ex-local authority overspill estate dating from the 1950s and 1960s, characterised by significant proportions of difficult to-let and void properties, and with an inadequate range of services and an array of attendant social problems.

Table 6 Continued

NDC name	Area description
Plymouth: Devonport Regeneration Company	Devonport is located a couple of miles to the west of Plymouth city centre, with the NDC area sited principally in the St Peter ward. Hitherto dominated, and divided, by the naval dockyard, the release of Ministry of Defence land will allow for the major redevelopment and regeneration of an area characterised by high density post war social housing.
Rochdale: New Heart for Heywood NDC	Heywood NDC area comprises the town centre and inner residential areas of Heywood, a freestanding town located mid-way between Rochdale and Bury to the north of the M60. The town has struggled to adjust to the decline of once staple textile and engineering industries and its economy is now dominated by transport and distribution activities and microenterprises. Heywood has a largely white population and comprises inter-war and post-war social housing and older private terraced accommodation in equal measures.
Salford: Charlestown and Lower Kersal Partnership	Charlestown and Lower Kersal NDC area includes distinct communities, smaller pockets of housing as well as an industrial area, the student village of Salford University, and large areas of green land including Littleton Road playing fields. Most people have lived in the area for more than ten years and, like other parts of Salford, the NDC area has a small black and minority ethnic population compared with Greater Manchester, although this is rising as a result of the housing of asylum seekers locally.
Sandwell: Greets Green NDC Partnership	Greets Green NDC area lies to the south and west of the town centre of West Bromwich and covers parts of three wards. The area combines residential, industrial and commercial uses, with a housing mix including much pre-1919 public and private, owner-occupied and rented stock. Greets Green has a 63 per cent white population and is ethnically diverse with Pakistani, Indian, Yemeni, Bangladeshi and African-Caribbean communities.
Sheffield: Burngreave NDC	Burngreave lies to the north east of Sheffield city centre, and is situated on the 'edges' of several hills. Around half of the housing is in the public rented sector. There is also a relatively large private rented sector. The area is ethnically very diverse, with well-established Caribbean and Pakistani communities, as well as significant Yemeni and Somali groups.
Southampton: Thornhill NDC	The Thornhill estate of some 4000 households was constructed in the 1950s and 1960s, on a peripheral location 5 miles east of Southampton city centre. Its geography divides the neighbourhood into three areas characterised by, respectively, three high-rise blocks of flats, ninety four floor walk-up blocks and a range of owner-occupied bungalows mainly inhabited by retired residents.
Southwark: Aylesbury NDC	The Southwark NDC area consists of an estate of about 2,800 dwellings, largely built in the 1960s and a mix of high and low rise concrete buildings in deteriorating condition. Communal open space is limited and unattractive, and there are few shops or facilities on the estate itself. It is characterised by a high proportion of social housing, black and minority ethnic communities and worklessness.
Sunderland: 'Back on the Map' NDC Partnership	The Back on the Map NDC area is located in the east of Sunderland and comprises three distinct sub-areas: the East End, Central Hendon and South Hendon. Over a half of the properties are in the social rented sector and just over a third are owner-occupied. The area accommodates a range of services, and there are employment and educational opportunities, health services, retail outlets, restaurants and arts and cultural facilities nearby in the centre of Sunderland. The NDC area has a higher black and minority ethnic population than the city as a whole.

Table 6 Continued

NDC name	Area description
Tower Hamlets: Ocean NDC	The main focus of the NDC area is the large, run down and overcrowded post-1945 Ocean Estate, owned by the local authority, but aiming for stock transfer. Ocean Estate is situated in the Bethnal Green and Bow constituency in Tower Hamlets, just south of Mile End Road. Most residents are from Bangladesh, with significant white and Somali communities.
Walsall: Blakenhall, Bloxwich East and Leamore NDC Partnership	The NDC area covers the Blakenall, Bloxwich East and Leamore areas in north Walsall, characterised by low-density local authority and former local authority ('Right to Buy') housing stock in varying states of disrepair. The NDC area is overwhelmingly white and has strong familial links, with many residents having extended family in the immediate vicinity. The economy of the area has suffered from a decline in traditional manufacturing industry, although there are employment opportunities within, and adjacent to, the NDC area.
Wolverhampton: All Saints Blakenhall Community Development (ABCD) Partnership	The ABCD area lies adjacent to Wolverhampton city centre, being separated from it by the ring road. The area once hosted significant industrial activity, notably in the motor industry, but has suffered major economic decline in the past 30 to 40 years. More than half the population is from black and minority ethnic groups and there is a more or less even split between home ownership and renting.

2

2. The Design of the NDC Evaluation

2.1. An Overview: Theory of Change and Evaluation Objectives

In 2001, the then Department of Environment, Transport and the Regions (DETR) published a 'Review of the Evidence base for Regeneration Policy and Practice' which concluded that much of the then existing evidence base with regard to regeneration policy lacked rigour especially in relation to the longer term impacts of Area Based Initiatives (ABIs). The NDC Programme, and its evaluation, thus provided a laboratory within which to help identify change through time to areas, and their residents, as a result of area-based interventions. These 39 areas represented only a very small proportion of the total number of 'deprived neighbourhoods' in England. The national evaluation would therefore use evidence from these locations to inform wider policy debate.

The NDC Programme falls into a long tradition of English urban regeneration initiatives. Since the mid 1960s, central governments have instigated ABIs designed to address social, economic and physical problems evident in particularly deprived neighbourhoods of larger towns and cities. Flag-ship ABIs have included the Urban Programme, Urban Development Corporations., City Challenge and the Single Regeneration Budget. Although there are similarities between the NDC Programme and previous ABIs, there are differences too:

- few previous ABIs had been granted ten-year time horizons
- the £50m available to each Partnership was generous when compared with many previous initiatives
- the community dimension was probably given greater emphasis than hitherto
- NDC Partnerships were designed to achieve change in relation to the six outcomes alluded to above (1.1).

The Programme was premised on, and the evaluation therefore informed by, a particular **theory of change**. Problems affecting cites and larger towns were seen as being especially evident in specific areas. As is made clear in Section 1, these 39 NDC areas accommodated large proportions of deprived people, who had endured market and policy weaknesses and failures such as poor public services, weak labour markets, high rates of crime, environmental degradation, and so on. This disadvantage was, apparently, further accentuated because of specifically 'area-based' factors. These included, for example, the cumulative effect of poor services on environmental standards and house prices; post-code 'addressism' impacting on the labour market opportunities available to residents in NDC areas; limited social horizons and networks curtailing the ambitions of young people; a cycle of decline impacting on private sector investment in retail and service sectors; difficulties in recruiting good teachers, doctors and other public sector workers into deprived areas; and so on. In order to moderate these cumulative, inter-related, problems NDC Partnerships were therefore set up to:

- design and implement strategies to help regenerate these areas over ten year
- achieve change across the Programme's six outcomes, three primarily relating to place (crime, community and housing and the physical environment) and three people (education, health and worklessness)
- maximise the positive synergies across outcomes, which might, for example, arise for worklessness and crime as a result of major housing refurbishment schemes
- work with other delivery agencies to fund projects, the more successful of which might be sustained after NDC funding finished
- engage intensively with local residents in order to improve the quality of decision making
- through collaborations between local residents and agencies, help sustain activity after NDC funding ceased.

This theory of change, combined with the overall architecture of the Programme, had implications for the design of the national evaluation. In order to assess the success of the Programme, the evaluation needed to analyse change data across these 39 areas and to benchmark that change against what was happening elsewhere. Moreover, in order to highlight and explain change across the Programme, it was also important to ensure that consistent data was obtained from each, of what was a relatively small 'population', of 39 neighbourhoods. In addition as the Programme was seeking to create change in relation to six defined outcomes, the evaluation would need to explore, and help explain, change with regard to each of these and also to identify inter-relationships across outcomes. And finally the design of the Programme meant that the evaluation would need to examine the effectiveness of a delivery model based on close partnership working with other agencies, and a strong commitment to community engagement.

In order to meet these requirements, three **over-arching objectives** were assumed of the evaluation:

- identifying the Programme's impact and its Value for Money
- supporting the 39 NDC Partnerships in helping them to deliver their local strategies
- highlighting what was working, and why.

2.2. Assessing ABIs: conceptual considerations

A number of **conceptual problems**, first laid out in the Department of the Environment's 1994 report '*Assessing the impact of urban policy*', have implications for all ABI evaluations. These include:

- the counterfactual: what would have happened to the area in the absence of intervention: if it is not possible to identify a plausible counterfactual, it becomes difficult, if not impossible, to establish that proportion of change occurring in any intervention area which can reasonably be attributed to the ABI in question
- the confounding problem: outcomes in deprived neighbourhoods can be affected by many policies, some of which may reflect activity undertaken by the relevant ABI, others wider market and government forces and the impact of other ABIs
- the contextual problem: deprived areas operate within different social and economic conditions; hence relatively modest changes in outcomes achieved

by an ABI in more disadvantaged regions of the country might actually be 'worth more' than larger changes in more prosperous localities

- the contiguity problem: benefits arising from interventions in any ABI can spill-over into adjacent neighbourhoods
- the combinatorial issue: assistance is often delivered in different packages of interventions.

2.3. Research Design

In line with HM Treasury advice, and in the context of ***'Assessing the Impact of Spatial Interventions'***,[2] the evaluation was premised on the assumption that 'the generation of alternatives/ comparators lies at the heart of the assessment activity'. In other words what happens in NDC areas has to be **benchmarked** against what happens elsewhere, an approach which anyway reflects one of the key objectives of the Programme: 'closing the gaps' with other areas. It is not appropriate simply to identify changes occurring to NDC areas and assume that this represents net impact. Even had the NDC Programme not been commissioned, change would have occurred in these areas. This is because nationally there were marked changes in many indicators in the 2000s. For example, between 2002 and 2008, there was a 10 percentage point increase in NDC residents 'feeling part of their local community'; however, this is only one percentage point more than occurred nationally.

A critical initial issue which the evaluation had therefore to resolve, was to establish the types of benchmarks against which change in NDC areas would be assessed. The outcomes to this debate were influenced by, and in turn affected, the nature and scale of data collation and analysis. Existing administrative, or secondary, data, covering say worklessness benefits or educational attainment rates per pupil could be used to benchmark change in NDC areas against what was happening both nationally, and also in the 38 parent local authority districts (LADs) (Birmingham accommodates two NDC areas). However, NDC Partnerships operate in contrasting contexts, making national benchmarks a very 'blunt' instrument. This problem is relatively less acute if parent LADs are used, an approach laid out in Volume 6 of the Final Reports (Section 6.18)[3]. However there are drawbacks to using LADs as a benchmark:

- local authority districts are large and heterogeneous entities against which to assess change in what are relatively small, deprived, NDC neighbourhoods
- administrative data is not available for 'LADs, less NDC areas': local authority benchmarks therefore include changes achieved by NDCs themselves
- administrative data in any event does not cover many outcome changes which Partnerships sought to achieve.

Partly because of inherent problems associated with national and LAD benchmarks, the decision was taken to adopt a **'quasi-experimental'** design based on identifying change across NDC areas against that occurring in similarly deprived comparator-areas.

[2] HM Treasury 2003 The Green Book: appraisal and evaluation in central government; ODPM 2004 Assessing the impacts of spatial interventions: regeneration, renewal and regional development, 'The 3Rs guidance'

[3] The New Deal for Communities Programme: The New Deal for Communities national evaluation: Final; report Volume 6: http://extra.shu.ac.uk/ndc/downloads/general/Volume%20six%20-%20Assessing%20impact%20and%20value%20for%20money%20.pdf

Comparator areas are discussed in detail in Section 3 of this Report. But in brief, these were located in the same parent LADs as NDC areas so that they shared background characteristics and local policy contexts. To avoid problems of possible 'contamination', comparator areas do not have common boundaries with NDC areas. And as far as possible, comparator areas were as equivalently deprived as were NDC areas in order to benchmark change in the latter against that occurring in broadly similar neighbourhoods. In essence therefore the impact of the Programme was based on assessing NDC areas against other similarly deprived neighbourhoods: net impact was that change in NDC areas over and above that occurring in similar neighbourhoods.

This approach had implications for the collation of both administrative and survey data, fuller details of which are explored in Sections 3 and 4. In the case of the former, it was possible to collate data both for NDC, and for bespoke comparator, areas with regard to a limited range of indicators (See 4.2). However, it was always apparent that evidence with regard to most indicators of change could not be obtained via existing administrative data. It could only be secured through the biennial household surveys, the first of which was undertaken in 2002. And if NDC areas were to be assessed against comparator areas, then the survey would have to occur in both. However, cost implications meant that it was never the intention that sample sizes would be adequate to create individual comparator areas for each of the 39 NDC areas. The comparator-areas' survey was to provide a benchmark against which to assess NDC Programme-wide change, and also for that occurring across five groupings of NDC areas, which are laid out in Section 7 below.

2.4. Strengths and weaknesses in the overall design

The overall design of the evaluation has a number of **strengths** of which four merit particular comment. First, the evaluation was commissioned in 2001. One of its first tasks was to establish a Programme-wide baseline, informed by the 2002 household survey and then available administrative data. The evaluation is thus in a position to assess change from a comprehensive, and consistent, Programme-wide baseline which covers each of the 39 areas.

Second, the NDC evaluation is different from most, if not all, previous ABI evaluations in having outcome change data for all schemes: in this case all 39 areas. This made it possible to address issues requiring evidence from all intervention areas. For instance, Volume 5 of the Final Reports, explored factors which help explain why some NDC areas saw more change than others[4] . It has also meant that, in general, it has not been necessary to depend on evidence from a number of 'case studies', which has then been 'grossed up' to create programme-wide estimates. One potential disadvantage inherent to that process is over-optimism: key observers, project managers and beneficiaries can be overly optimistic about 'outcomes' associated with their own initiative. Here outcome change data is based on evidence for all 39 areas. However, 'grossing up' has had to be adopted in a few particular instances. For example, outputs validated in five case study NDC areas have been used to assess Programme wide outputs (See Volume 6 Final Report). But to a large extent, this evaluation has had access to change data for all 39 schemes from a common baseline.

Third, the use of comparator areas, although not without problems, nevertheless represents the most plausible and realistic mechanism through which to assess the counterfactual: these are also deprived neighbourhoods, located within the same

[4] See Exploring and explaining change in regeneration schemes: Evidence from the New Deal for Communities Programme: Final Report Vol 5.
http://extra.shu.ac.uk/ndc/downloads/general/Volume%20five%20-%20Exploring%20and%20explaining%20change%20in%20regeneration%20schemes.pdf

local authority context. And finally, because the household survey is based in part on returning to respondents interviewed two years previously, the evaluation has had access to both cross-sectional change data (i.e. change across the 39 areas through time), but also change for those who remained within an NDC, or a comparator, area, for at least two years, a theme explored in more detail in Section 4 below.

Nevertheless, despite inherent strengths to the overall design of the evaluation, **difficulties** remain which fall into three categories: problems inherent to all ABI evaluations; issues surrounding the use of comparator areas; and defining boundaries.

First, when compared with many previous ABI evaluations, the national evaluation team has access to a strong evidence base. However, problems remain, intrinsic to the nature of evaluating all ABIs:

- this is not a 'policy off/on' evaluation; most of these 39 NDC areas will have received some regeneration funding prior to NDC designation; 'NDC outcomes' may, at least in part, reflect pre-NDC funding regimes
- the confounding problem identified above remains; change in the 39 NDC areas will reflect a range of forces including the impact of other ABIs, past regeneration programmes, modifications to the delivery of mainstream services, the changing composition of the local population, the impact of policies and market trends operating at wider spatial scales, and so on; the Final Report Volume 5 (chapter 2) attempts to explain why some of the 39 NDC areas have seen more change than have others[5]; the key headline there is that many factors associated with change such as population composition, and the location of NDC areas within wider city-regions are not directly within the control of NDC Partnerships
- there is a combinatorial problem: NDCs developed different packages of interventions; there is no one definitive 'NDC model'; rather Partnerships supported different suites of interventions to meet the particular problems faced by, and circumstances prevailing within, each of these 39 neighbourhoods
- the Programme impacted on areas and individuals in ways which cannot all be measured in terms of 'hard' indicators of change.

Second, there are shortcomings in relation to the use of comparator areas as the key benchmark. These are not 'regeneration-free controls': the comparator areas will have received regeneration funding during the life-time of the NDC Programme. In addition, and as is developed in Section 3 of this Report, NDC areas are somewhat more deprived than comparator areas. It was always the intention that NDCs should be designated in more deprived localities. It is not therefore surprising to find that is exactly what happened. Moreover, if the argument is that comparator areas are not deprived enough to be an appropriate benchmark for the NDC Programme, then parent LADs, even more so national, data provide a far worse match. Whatever their shortcomings, the comparator areas are the best possible benchmark against which to assess change.

Finally it is worth flagging up that, there were operational boundaries to the evaluation of which the most important proved to be:

[5] See Exploring and explaining change in regeneration schemes: Evidence from the New Deal for Communities Programme: Final Report Vol 5.
http://extra.shu.ac.uk/ndc/downloads/general/Volume%20five%20-%20Exploring%20and%20explaining%20change%20in%20regeneration%20schemes.pdf

- although the Programme was announced in 1998, the full evaluation was only commissioned in 2001, and the first 'baseline' household survey carried out in 2002; the evaluation team therefore had no influence on the designation of the 39 areas; it is also possible that some changes took place in the very early years of the Programme before the 2002 survey, an assertion which the evaluation is unable to confirm or otherwise, since most indicators of change are not available for the pre 2002 period
- change data drawn from the four household surveys covers a six year period 2002 to 2008; change may well have occurred after that period
- the evaluation was always designed to address change at the level of the Programme and across the 39 areas; it was never the intention that it would examine individual projects of which Partnerships implemented over 6,000 by 2007/08; however, some limited, generally positive, evidence about relationships between specific projects and individual level outcomes did emerge[6].

Despite drawbacks inherent to the design of the research, it needs to be stressed that this was a genuinely groundbreaking evaluation. No previous ABI evaluation had been in a position to trace change across all schemes (the 39 NDC areas), from a common and consistent baselines, and be in a position to benchmark change in intervention areas against what was happening in other deprived localities. Because too of the nature of data available to the evaluation, it was possible to explore change both for areas, and for residents who stayed within these localities for that six year period, 2002 to 2008. In addition, evidence of change emerging from both the household surveys and administrative data sources, provided the context within which qualitative work in NDC case-study areas could explore questions surrounding the 'hows' and 'whys' of local interventions, thus in turn highlighting good practice.

2.5. Alternative approaches: design; valuation; and selection of comparator areas

Alternative approaches to various aspects of the evaluation were assessed and either rejected or used selectively. Three in particular should be mentioned relating to the overall research design; and alternative approaches to both valuing benefits, and to selecting comparators.

First, in conjunction with CLG and its predecessor departments, the national evaluation team explored alternative research designs. One initial comment to make here is that operational constraints inevitably impacted on the evaluation, and hence on the number of methodologies which could reasonably be pursued. Although well-resourced compared with previous ABI evaluations, there were not limitless resources to explore every possible methodological avenue. Moreover, time-horizons imposed their own constraints. For instance, the seven final reports had to be completed in what amounted to around seven months. Decisions therefore had to be based, not on what in an ideal world might be useful, but on what was the **best overall research design** which could be undertaken within financial and time constraints. There was a strong view from the evaluation team and from CLG, in turn supported by peer review, that the quasi-experimental approach based on comparator areas detailed above, was the best, and most cost-effective, approach. However, one other overarching potential research design was considered: Random Control Trials (RCTs). However, it is clear that the Programme could not be

[6] Four Years of change? Understanding the experiences of the 2002-2006 New Deal for Communities Panel: Chapter 8
http://extra.shu.ac.uk/ndc/downloads/reports/Four%20years%20of%20change%20main%20report.pdf

evaluated using these methods which are often employed in medical research. In those circumstances, allocation to control or treatment groups can be done on a random basis and the 'treatment' is the same for every subject or individual within the treatment group. This approach is not practical for evaluating an applied area-based policy such as the NDC Programme:

- whereas in a RCT, allocation to treatment or control has to be random to remove any potential selection bias, NDC areas were not designated randomly
- similarly it is not possible to define, and then randomly allocate, 'control' areas
- in reality the 'subject' involved in the NDC policy experiment is the 39 areas rather than the individuals within them; this represents a relatively small number of cases
- a standard 'treatment' is not applied to each of the 39 areas: each has an individually tailored packaged of multiple interventions
- in the real world there are not likely to be any true strictly 'non-treatment' controls; the majority of deprived neighbourhoods (including NDC areas) have been subject to other funding initiatives
- the logic of ‘controls’ is clear in an experimental design where those receiving or not receiving the treatment are otherwise the same; this is not the case with NDC areas where the nature of underlying deprivation differs enormously
- in RCTS ideally change is measured before, and after, treatment (pre and post); in the case of the NDC Programme, only the latter is available for most indicators.

Second, the evaluation team explored using alternative approaches to **valuing the benefits arising from the Programme**. Hedonic pricing can be used to 'value' intangible perception indicators such as satisfaction with an area. This is a revealed preference method which attempts to link 'quality' to price, and is typically used to explore the effect of property and area characteristics on house prices. These methods were employed as a subsidiary method in establishing the benefit-costs ratio to the Programme as is laid out in Appendix 1 to Volume 6 of the Final reports. However, there are major problems in using hedonic pricing methods to assess the value for money (VFM) in an ABI such as this. For example, there is a debate as to whether increased net prices for NDC owner-occupied accommodation is an anticipated or desirable outcome for each and every one of the 39 areas which constitute the Programme; the technique has problems in contexts where over 50 per cent of NDC residents live in socially rented accommodation; and change data was 'bumpy' because throughout the 2000s there was considerable volatility in relation to house prices through time, and across, even within, NDC areas.

Third, an alternative method for **identifying the net impact on NDC residents** compared with those who have not been subject to the NDC Programme, is to use propensity score matching (PSM) to identify a comparator group. PSM seeks to reduce discrepancies observed in the characteristics of individuals both in treatment, and comparator, groups, thereby reducing the bias in the estimation of the treatment effects with observational data sets. However, this method is problematic to implement for this evaluation when measuring outcomes using household survey data. This is primarily because of the relatively small sample size for those who remained in comparator areas over all four waves of the survey: 2002 to 2008 (n=297). For PSM to be a worthwhile exercise, by for example further reducing any potential bias in the comparator group, there would need to be a matching of individuals in NDC areas with 'similar' individuals in comparator areas. However, such matching would need to take on board, at least, three sets of factors:

- individual-level socio-demographic indicators such as age, sex, household composition, ethnicity and tenure
- local authority area within which an individual lives: the Programme is based on 39 separate packages tailored to meet local circumstances
- an individual's initial (2002) state an any given indicator.

Because the comparator-areas longitudinal sample is small, this is likely to lead to a major loss in the sample size of the NDC panel which can be analysed, and in turn a dramatic impact on its representativeness. One way around this might be for individuals within the comparator-areas sample to be used to provide multiple matches to individuals within the NDC sample. However, this would result in a significant weighting of outcomes based on a limited number of individuals in the comparator-areas' sample. Even then it is unlikely to result in a sample which would be representative of the relevant NDC population. Currently the pooled NDC longitudinal panel, and the pooled comparator longitudinal panel, provide representative samples across these two sets of areas. Longitudinal modelling used to inform the 2010 final evaluation reports therefore takes a consistent approach by utilising household survey data for 33 core indicators where comparator-areas' data is also available. This has been done whilst controlling for differences between NDC-area, and comparator-area respondents and also key socio-demographic variables such as age, sex, ethnicity household composition and tenure. This approach maximises sample sizes by using the pooled 2002-2008 comparator-areas' longitudinal sample as a whole, against the pooled 2002-2008 NDC longitudinal sample. In essence PSM is useful when the treatment group is a relatively small subset of the overall records and when the objective is to select the best possible subset of cases to form the control group.

2.6. Phasing

The NDC evaluation has been conducted in a number of phases:

- an initial scoping phase was carried out between September and early October 2001; this set the parameters for data collection and analysis for the evaluation
- the first full phase of the evaluation commenced in October 2001 and ran until March 2005, culminating in the interim evaluation published in 2005 (as NRU Research Report 17)
- an 'inception' report for the second phase of the evaluation was produced in September 2005 which set out the agreed framework for the second phase of the evaluation
- a second phase of the evaluation ran from September 2005 to March 2009
- an extension to the second phase of the evaluation was agreed in January 2009 to run from April 2009 to September 2010; this contract extension covered final data collection and analysis tasks contributing to the final evaluation reports (published in March 2010), and provision for disseminating the evaluation findings.

Over the course of the evaluation there have been changes in relation to government departments overseeing the research:

- the evaluation was commissioned in 2001 via the Neighbourhood Renewal Unit (NRU) in what was then the Department of Transport, Local Government and the Regions (DTLR)

- in 2002 the DTLR was reorganised to become the Office of the Deputy Prime Minister (ODPM); the NRU became part of that department
- thus the second phase of the evaluation was commissioned by the NRU within ODPM in 2005
- the OPDM was reorganised to become Communities and Local Government (CLG) in 2006 and the final evaluation reports are published by CLG.

Phase 1 of the evaluation

CRESR, heading up a consortium of 16 organisations (see 2.7) was commissioned by DETR to undertake the first phase of the evaluation: 2001-2005. During this period:

- 39 'NDC research teams were created as part of the national evaluation; working to a standard template, each team produced an annual report for all 39 Partnerships in each of the three years 2002/03, 2003/04 and 2004/05; an overarching 2002-2005 report was also produced for all NDC Partnerships
- each of these 39 teams engaged with their NDC Partnership to help in a range of tasks such as pointing out the existing evidence base, interpreting data from the national evaluation, informally assessing initial Delivery Plans, and so on
- six 'outcome' teams were established, one for each of the Programme's six outcome areas; these teams produced a range of outputs, largely based on qualitative work in a small number of case-study NDC areas
- evidence from the national evaluation was used to inform the Performance Management Framework system created by DETR (and subsequently ODPM).

Data collection tasks included:

- a biennial household survey of residents in all NDC areas undertaken by Ipsos MORI (see section 4.1)
- the collation of a range of secondary and administrative indicators for bespoke NDC areas, by the SDRC at Oxford University (see section 4.2)
- financial expenditure and output data collected through System K developed by Hanlon Software Solutions and subsequently analysed by CEA, a member of the evaluation consortium
- 2001 Census data was compiled for NDC areas; where possible comparable indicators were collated from the 1991 Census (see section 4.8)
- Ipsos MORI also conducted a number of one-off surveys including an NDC Business Survey (see section 4.4), an NDC Beneficiaries Survey (see section 4.5), and an NDC Movers Survey (see section 4.10)
- household survey data and secondary and administrative data were also collated for comparator areas.

Findings from the first Phase of the evaluation are available in an interim report: http://extra.shu.ac.uk/ndc/downloads/reports/New_Deal_for_Communities_2001-2005_An_Interim_Evaluation.pdf

Research reports from the first phase of the evaluation can be found in at:http://extra.shu.ac.uk/ndc/ndc_reports_01.htm

Phase 2 of the evaluation

The second phase of the evaluation was carried out between 2006 and 2010. CRESR again headed up a consortium of organisations, albeit a smaller group than had been involved in Phase 1. A smaller consortium was commissioned because of factors such as:

- a sense that as Partnerships had matured: there was therefore no longer an imperative for the national evaluation team to provide annual reports for each of the 39
- the decision to 'mainstream' work on each of the Programme's six outcomes, by pulling together Programme-wide data supplemented by local research in a small number of NDC case study areas; this meant there was no longer any justification for six specific outcome teams.

Two further waves of the NDC household survey were carried out during this second phase of the evaluation (in 2006 and 2008), although sample sizes were reduced slightly. Secondary and administrative indicators, System K data and comparator-areas' data also continued to be collated. An NDC Partnership survey was developed and administered by CRESR in order to continue the collection of information in relation to the organisational characteristics of the individual Partnerships. Ipsos MORI in partnership with CRESR also carried out an NDC Resident Board Members Survey during the second phase of the evaluation (see section 4.6).

Fuller details of the framework for the second phase of the evaluation are available at:
http://extra.shu.ac.uk/ndc/downloads/reports/Inception%20Report%20Nov%202006.pdf

Research reports from the second phase of the evaluation can be found in at:
http://extra.shu.ac.uk/ndc/ndc_reports_02.htm

2.7. Consortium members

National Evaluation: Phase 1 2001-2005

- Centre for Regional Economic and Social Research (CRESR), Sheffield Hallam University
- Cambridge Economic Associates (CEA)
- Centre for Research in European Urban Environments (CREUE), University of Newcastle
- Centre for Urban Policy Studies (CUPS), Manchester University
- Cities Research Centre (CRC), University of the West of England
- European Institute of Urban Affairs (EIUA), Liverpool John Moores University
- GFA Consulting
- Global Urban Research Unit, University of Newcastle upon Tyne
- Institute of Education (IoE), University of London
- Local Government Centre & Institute for Employment Research (LGC), University of Warwick
- MORI/NOP

- Northern Crime Consortium, University of Huddersfield/University of Liverpool/University of Hull
- Policy Research Institute (PRI), Leeds Metropolitan University
- School of Health and Related Research (ScHarr), University of Sheffield
- Social Disadvantage Research Centre (SDRC), University of Oxford
- Segal Quince Wicksteed (SQW)
- Sustainable Cities Research Institute, University of Northumbria.

National Evaluation: Phase 2 2006-2010

- Centre for Regional Economic and Social Research (CRESR), Sheffield Hallam University
- Cambridge Economic Associates (CEA)
- European Institute of Urban Affairs (EIUA), Liverpool John Moores University
- Geoff Fordham Associates
- Ipsos MORI
- Local Government Centre, University of Warwick;
- Social Disadvantage Research Centre (SDRC), University of Oxford
- Shared Intelligence
- Segal Quince Wicksteed (SQW).

2.8. Dissemination and Learning

Throughout the evaluation there was an emphasis on engaging with a range of stakeholders in order to ensure shared learning and review. Stakeholders included:

- NDC Partnerships
- Government Offices in the Regions (GORs)
- Whitehall
- other regeneration practitioners
- academics.

Key mechanisms for dissemination and learning included:

- reference groups comprising (at various stages of the evaluation) NDC employees and GOR officers, which provided forums for practitioners to feed into the evaluation design and to act as a 'sounding board' for the evaluation team
- engagement with NDC Partnerships through attendance, and presentations at NDC network meetings, NDC conferences, chairs and chief executive's meetings, etc
- organising and supporting a programme of training and dissemination events, open to NDC Partnerships and others
- Whitehall seminars
- presentations at conferences and events

- publication of reports, papers and articles
- guidance on the scope and outputs of the evaluation through steering and advisory groups, and via several peer reviews
- the evaluation has also supported a website hosting publications and other information on the evaluation: (http://extra.shu.ac.uk/ndc/).

3

3. Comparator Areas

3.1. Overview

At an early stage in setting the design to the evaluation it was decided that the collection of data for comparator areas would provide a useful counterfactual or benchmarking tool against which to assess outcome change occurring in NDC areas. In line with ***'Assessing the Impact of Spatial Interventions'***, the evaluation has been based on the premise that 'the generation of alternatives/ comparators lies at the heart of the assessment activity' (p43)[7]. In other words what happens in NDC areas needed to be **benchmarked** against what happened elsewhere.

Comparator areas are located within the same local authorities as are NDC areas so that they share broadly similar economic and background characteristics, as well as local policy contexts. Given that the NDC Programme attempts to tackle many different aspects of deprivation, the IMD provided the best overall guide for identifying similarly matched deprived areas. However, the different nature of primary and secondary data meant that two different methodologies were required: one for household survey data, the other for secondary and administrative data.

3.2. Household survey comparator areas

The sample for comparator areas household survey is based on 'virtual' comparator areas made up of three separate sampling points within each NDC parent local authority. These were designed in the early stages of the evaluation, alongside the initial baseline survey (see section 4.1).

The IMD 2000 provided the best available small area data for matching areas at the time. It gave robust evidence with regard to levels of deprivation in NDC areas, and in other deprived areas, within each local authority. 2001 Census data was not available until 2003.

The most detailed geography available from the IMD 2000 was ward level, a higher spatial scale than NDC areas which are based on bespoke neighbourhood boundaries. The decision was therefore taken to create more than one comparator area for each NDC area in order to reduce risks from unobserved variability on measures other than IMD 2000, and to cover for the possibility of potential interventions in comparator areas between survey waves. This had implications for the design and costs of the survey: the more areas selected, the less clustered the sample, and the higher the fieldwork costs. MORI therefore suggested a model with three wards per NDC area. These were non-contiguous with NDC areas in order to reduce any spill-over of potential NDC impacts. In total 117 sampling points were used across the 38 local authorities (there were two NDC areas in Birmingham). A full list of comparator wards is contained in Appendix Nine to the Technical Report accompanying the household survey, and can be found at http://www.esds.ac.uk/doc/5299/mrdoc/pdf/5299ndc2008.pdf

[7] CLG 2003 Assessing the Impacts of Spatial Interventions - Regeneration, Renewal and Regional Development - Main Guidance. http://www.communities.gov.uk/publications/citiesandregions/assessingimpact

A comparison of NDC, with comparator, areas shows that the former tend to be slightly more deprived (Table 7). This is not entirely surprising given that the NDC Programme was specifically designed to address problems in some of the most deprived areas of the country. Inevitably therefore it is difficult to obtain a sample of three other areas, within the same local authority, which are both as deprived as NDC areas and which do not share boundaries with them.

Due to the cost implications involved with primary data collection, it was not feasible to obtain sample sizes large enough to provide individual Partnership level comparator data. Instead between 50 and 100 interviews were carried out in three deprived areas, within each local authority, at each wave of the survey. Full details of the comparator areas household survey sample sizes are contained in section 4.1.1 below. The comparator-areas' survey therefore provides Programme wide comparator data rather than benchmarks for individual Partnerships[8]. This type of primary data is useful because, unlike secondary and administrative data, it can provide evidence of change with regard to place-related outcomes such as fear of crime, and attitudes towards the area, the Partnership and the local community. The comparator-areas' survey therefore provides a valuable benchmarking tool.

Table 7: Key characteristics of residents in NDC areas, comparator areas and nationally

	NDC		Comparator		National	
	2002	2008	2002	2008	2002	2008
Age[9]						
under 16	24	23	22	22	20	19
65 and over	11	12	14	14	16	16
Ethnicity						
white[10]	75	70	77	74	90	88
English first language[11]	84	78	86	82	94	88
Sex[12]						
male	49	49	48	48	49	49
female	51	51	52	52	51	51
Household composition[13]						
couple no dependent children	20	19	25	25	37	35
couple with dependent	17	18	20	19	22	22
single parent family	16	15	13	13	7	7
single person household	34	33	30	30	28	29
multi-person household	13	15	12	13	7	7
Tenure[14]						
owner occupier	32	33	47	47	70	69
social sector renter	57	55	42	42	20	19
Other						
in paid work[15]	42	44	47	48	60	60
health not good[16]	23	19	21	18	13	12
no quals. (working age)[17]	33	29	28	25	16	13
feel very/fairly safe after dark[18]	43	54	50	57	66	70
feel part of the community[19]	35	45	38	49	51	60

Source: Ipsos MORI NDC household survey and comparator areas survey

[8] The data can however be combined to provide pooled comparator areas at sub-programme wide level.
[9] ONS Mid-year population estimates, 2002 and 2008
[10] ONS Population Estimates by Ethnic Group, 2002 and 2007
[11] MORI Omnibus 2002 and Ipsos MORI Public Affairs Monitor 2008
[12] ONS Mid-year population estimates, 2002 and 2008
[13] Survey of English Housing 2001/02 and 2006/07
[14] Survey of English Housing 2001/02 and 2006/07
[15] Labour Force Survey Spring 2002 and Quarter 2 (April-June) 2008
[16] General Household Survey 2000/01 and 2006
[17] Labour Force Survey Summer 2002 and Quarter 2 (April-June) 2008
[18] British Crime Survey 2001 and 2007/08
[19] MORI Omnibus 2002 and Ipsos MORI Public Affairs Monitor 2008

See footnotes for National Benchmark sources

3.3. Secondary and admin comparator areas

In addition to the Ipsos MORI household survey of comparator areas, the SDRC established specifically designed comparator areas for Phase Two of the evaluation. The nature of secondary and administrative datasets means that it is possible to create geo-coded data for all individuals with regard to indicators such as being on benefits, and Key Stage educational attainment rates. Sampling considerations are not an issue for secondary and administrative data. Therefore, as well as a Programme-wide comparators, it is also possible to construct bespoke comparator-areas for each NDC area.

The method to match each NDC area with another deprived area follows the same principles as for the comparator-areas' household survey. The aim was to find a non-contiguous area, with similar levels of deprivation as the NDC area, within the same geographic context. Access to fully geo-coded datasets, allows Geographic Information System (GIS) applications to be used to calculate a best match on the basis of a number of variables.

The final agreed set of comparator areas for the collation of time series data from secondary and administrative sources was derived using 2004 IMD scores. This provided a finer grained measure of deprivation for Output Areas (OAs) than was possible with the IMD 2000. A bespoke GIS application was developed using the MapInfo/MapBasic software package. This operated by selecting 2001 Census OAs and 'growing' comparator areas by adding adjacent OAs one-by one until the combined total population of the selected OAs met a pre-defined population threshold. A number of rules helped ensure the component OAs were of a similar nature to their matched NDC in terms of IMD 2004: size of area, percentage of social housing, parent local authority, and not being immediately adjacent to the NDC area. In a small number of cases it was not possible to obtain a match on this basis entirely within the same local authority boundaries. In these instances, the match was included even if it spilled into a neighbouring authority. A consultation process was also undertaken with the NDC Reference Group and NRU before the methodology was finalised. Table 8 indicates that a good match was achieved on the basis of this methodology.

Comparator-areas data was compiled for each of the secondary and administrative indicators used by the evaluation. These were made available to Partnerships and have been in the public domain since 2008 at: http://extra.shu.ac.uk/ndc/ndc_data.htm

Table 8: IMD 2004 scores for NDC areas and matched comparator areas

	IMD 2004		Population	
	NDC	Comparator	NDC	Comparator
Knowsley	75.7	72.5	9,700	10,600
Manchester	75.3	66.5	8,700	7,900
Liverpool	70.1	72.3	11,800	12,700
Hull	65.3	60.3	6,100	7,500
Newcastle	63.1	63.2	9,600	9,600
Doncaster	62.3	55.7	9,700	8,000
Coventry	62.1	57.5	7,300	6,400
Bradford	61.1	63.4	11,500	13,000
Sunderland	58.7	57.7	9,500	9,200
Birmingham Aston	58.1	57.7	17,500	18,100
Sheffield	57.9	55.3	8,800	9,300
Plymouth	57.6	54.6	5,000	4,600
Nottingham	56.4	62.0	8,500	9,000
Middlesbrough	55.6	56.3	8,100	7,800
Leicester	54.5	54.5	12,700	11,500
Hartlepool	53.2	56.3	9,300	8,500
Salford	52.6	49.1	9,600	12,200
Oldham	51.8	46.5	9,400	10,100
Hackney	50.2	47.3	20,700	23,300
Derby	49.8	52.7	8,700	10,900
Bristol	49.8	48.2	5,600	6,800
Tower Hamlets	49.5	49.5	7,500	7,200
Birmingham Kings Norton	49.4	49.4	9,400	9,100
Brighton	47.8	43.7	17,500	16,700
Haringey	47.3	47.5	10,600	11,900
Wolverhampton	47.0	50.7	11,000	12,400
Brent	46.6	42.7	7,400	7,600
Sandwell	45.9	45.9	11,800	10,900
Rochdale	43.4	42.7	8,400	8,600
Walsall	43.2	46.9	12,000	13,100
Newham	43.1	43.1	10,000	9,300
Norwich	42.8	41.6	8,300	6,100
Islington	41.1	45.6	9,400	8,500
Southwark	39.9	39.9	7,600	7,300
Lambeth	38.7	38.4	7,300	8,000
Luton	38.1	37.2	8,100	8,100
Southampton	37.1	38.0	9,600	10,500
Lewisham	36.0	34.0	8,600	9,800
Fulham	33.2	34.3	9,700	10,600
Aggregate	**51.6**	**50.8**	**381,800**	**392,900**

Source: SDRC

4. Data sources

4.1. NDC Household Survey, 2002-2008

From 2002 to 2008 four waves of a biennial household survey were undertaken by Ipsos MORI of residents aged 16 and over in all 39 NDC areas. 2002 is treated as the baseline for the evaluation, although the 17 Round One 'pathfinder' Partnerships commenced in 1999/2000 and the 22 Round Two Partnerships one year later. The survey sample was 500 face-to-face interviews at residents' homes in each area in 2002 and 2004 and 400 per area in 2006 and 2008. In total this provided a substantial sample of 19,574 residents in 2002, 19,633 in 2004, 15,792 in 2006 and 15,840 in 2008. Sample sizes for subgroups of the population are outlined in Table 9.

The survey was replicated in a sample of similarly deprived neighbourhoods in the same local authorities as NDC areas in order to provide a comparator areas survey. Fuller details of the design of the comparator areas are outlined in section 3.1 above. The comparator areas survey consisted of a smaller sample size within each of the 38 parent local authorities and varied in size over time. For this reason the comparator survey provided a useful benchmark for the Programme as a whole, but was not designed to provide individual benchmarks for each local NDC area. The sample sizes for each wave of the comparator survey were 2,014 in 2002, 4,048 in 2004, 3,062 in 2006 and 3,100 in 2008.

The core questionnaire for each survey consisted of a wide range of questions on each of the following subject areas:

- housing
- quality of life and area
- community
- crime
- household demographic information
- work
- education
- health
- finance.

The NDC household survey was based on a multi-stage stratified random sample involving a combined panel and cross-sectional “top-up” design. This model aimed to complete as many interviews as possible at those *addresses* where an original interview was achieved in the previous wave (i.e. either with the original respondent or someone else if they have moved/died), and then “topped up” with new cross-sectional sample. This results in both a cross-sectional sample at each of four times, and also a longitudinal data set which tracks the trajectory of individuals who stayed in the areas over time. The sample size for the pure panel of residents interviewed at all four time periods is 3,554 across NDC areas and 297 for the comparator areas.

A full technical report on the design of the NDC household Survey can be found at: http://www.data-archive.ac.uk/doc/5299/mrdoc/pdf/5299ndc2008.pdf

This data has also been deposited at the UK Data Archive and can be found at: http://www.data-archive.ac.uk/findingData/snDescription.asp?sn=5299&key=5299

4.1.1 Reconciling cross-sectional area-level, with panel, data

As identified above, the national evaluation had access to cross-sectional area-level, but also panel, data. The former in essence identifies change by amalgamating the views of all of those interviewed in each of the 39 neighbourhoods in 2002 and compares that evidence with findings from the three subsequent surveys in 2004, 2006 and 2008. This cross-sectional evidence from each of the 39 areas can then be summed to identify Programme-wide trends. However, because the design of the survey also involved returning, as far as possible, to those interviewed two years previously, it was also possible to identify change through time for those individuals who stayed in an NDC area for at least two years. By 2008 there were in effect six panels. These were made up of those staying in an NDC area for the periods: 2002-2004; 2004-2006; 2006-2008; 2002-2006; 2004-2008; and 2002-2008. Because it was not possible to analyse all of these different panels within time frames available, and because there is an argument that the last of these panels is the most interesting, analyses informing the final set of reports published in 2010 were based on the those staying in an NDC area for that full six year period 2002 to 2008[20].

It should be stressed that these two types of data provide complementary perspectives on change. As this is an area-based initiative, there is an argument that change should largely be calculated using cross-sectional area-based data. This is based on responses from residents 'currently' within NDC areas at one of the four points of data collection: 2002, 2004, 2006 or 2008. This is the basis upon which Volume 6 of the 2010 Final Reports assesses Value for Money. But there is one obvious problem with this type of data: it will include responses from those recently moving into an NDC area, changes for whom it would be difficult to ascribe to NDC interventions.

Longitudinal panel data, on the other hand, provides a slightly different perspective in that it captures change occurring to individuals who stayed in one of these areas over time and will therefore have been exposed to NDC activity for at least two, and up to six, years. This data is not therefore 'contaminated' by the complexities of people moving into, and out of, these areas. However, those who stayed in these areas for six years and who thus constitute the panel, represent a particular, and increasingly unrepresentative group. By definition they will be older than the cross-sectional sample and there is also an over-representation of women. In addition by 2008, when compared with the NDC aggregate, those constituting the panel were more likely to be in owner-occupation (43 per cent compared with 33 per cent), and less likely to be in paid work, possibly because they were older (39 per cent compared with 46 per cent). Interestingly however, the two samples showed similarly positive attitudes in relation to being satisfied with the area (76 per cent and 74 per cent).

Ultimately there is no definitive answer as to which of these data sources is 'better' than the other. The use of one, rather than the other, needs to reflect the nature of the question being asked.

[20] However the evaluation team did assess change for different panels using survey data covering that period 2002 to 2006: CLG 2009 Four years of Change? Understanding the experiences of the 2002-2006 New Deal for Communities panel http://extra.shu.ac.uk/ndc/downloads/reports/Four%20years%20of%20change%20main%20report.pdf

4.1.2 Cross-sectional sample sizes for sub groups

Tables 9 and 10 list the sample sizes in relation to sub-groups for both the NDC, and the comparator, areas' surveys.

Table 9: Sample sizes for NDC household survey

	NDC			
	2002	**2004**	**2006**	**2008**
All respondents	**19,574**	**19,633**	**15,792**	**15,838**
aged 16-24	2,726	2,265	1,653	1,561
aged 25-49	9,442	9,436	7,513	7,434
aged 50-59/64	2,990	3,157	2,545	2,707
aged 60/65+	4,416	4,775	4,081	4,136
male	8,033	7,868	6,367	6,426
female	11,541	11,765	9,425	9,412
White	15,227	14,957	11,772	11,596
Asian	1,664	1,854	1,567	1,579
Black	2,408	2,477	2,136	2,307
in employment	7,561	7,581	6,095	6,269
not in employment	12,013	12,052	9,697	9,569
qualified to NVQ level 1 or below	2,301	2,205	1,532	1,565
qualified to NVQ level 2	2,959	2,906	2,790	2,962
qualified to NVQ level 3	2,307	2,334	1,759	1,719
qualified to NVQ level 4	2,428	2,501	2,057	2,136
qualified to NVQ level 5	598	603	585	633
no qualifications	8,981	9,084	7,069	6,823
All working age respondents	**15,158**	**14,858**	**11,711**	**11,702**
not currently in full time education	14,219	13,965	10,991	10,978
All working age households	**15,821**	**15,677**	**12,398**	**12,456**
All lived in the area two or more years	**16,665**	**16,175**	**13,209**	**13,095**
All heard of local NDC	**12,661**	**15,749**	**13,008**	**12,698**
All involved in activities organised by their local NDC in the last two years	**2,050**	**3,162**	**2,932**	**2,775**
and lived in the area two or more years	1,886	2,834	2,711	2,531
All not involved / don't know	**17,524**	**16,471**	**12,860**	**13,063**
and lived in the area for two or more years	14,779	13,341	10,498	10,564
and heard of local NDC	10,611	12,587	10,076	9,923
All seen GP in last year	**15,795**	**15,694**	**13,045**	**13,315**
All with valid SF36 mental health score (missing values not coded)	**19,326**	**19,386**	**15,586**	**15,579**
All receiving income from work	**7,589**	**7,600**	**6,026**	**6,208**

Source: Ipsos MORI NDC household survey

Table 10: Sample sizes for comparator areas household survey

	Comparator			
	2002	2004	2006	2008
All respondents	**2,014**	**4,048**	**3,062**	**3,100**
All working age respondents	**1,508**	**2,986**	**2,197**	**2,174**
not currently in full time education	1,413	2,788	2,094	2,073
All working age households	**1,582**	**3,169**	**2,343**	**2,360**
All lived in the area two or more years	**1,732**	**3,316**	**2,571**	**2,650**
All seen GP in last year	**1,608**	**3,221**	**2,482**	**2,646**
All with valid SF36 mental health score (missing values not coded)	**1,993**	**3,980**	**3,030**	**3,069**

Source: Ipsos MORI comparator areas household survey

4.1.3 Composite indices

In a number of instances, issues raised in the questionnaire were combined to create derived pseudo-continuous composite indices. These combine multiple components on questions typically calculated on three-, four- or five-, point scales with regard to respondents' perceptions. Those most commonly used are measures for fear of crime, lawlessness and dereliction, problems with the environment, problems with social relations, vertical trust, and the SF36 mental health index. Details as to how these indices are derived are presented below.

Table 11: Composite score for fear of crime

Ipsos MORI NDC household survey question QCR3: Most of us worry at some time or other about being the victim of a crime. Using one of the phrases on this card, could you tell me how worried are you about the following happening to you?	
Nine components included within composite score: A Having your home broken into and something stolen B Being mugged and robbed E Being sexually assaulted F Being physically attacked by strangers G Being insulted or pestered by anyone while in the street or any other public place H Being subject to a physical attack because of your skin colour, ethnic origin or religion I Vandalism to your home or car J Having somebody distract you or pose as an official (e.g. a meter reader) and steal from your home K Being physically attacked by someone you know	
Responses:	**Contribution towards composite score**
Very worried	4
Fairly worried	3
Not very worried	2
Not at all worried	1
Don't know/Not applicable	1

Note: QCR3C is not included as it relates to having your car stolen which is not applicable to all residents, only those who own a car. QCR3D is also not included: This question relates to having things stolen from your car which is not applicable to all residents, only those who own a car. It was only asked in the 2002 and 2004 surveys.

Table 12: Composite scores for problems in the area: lawlessness and dereliction; problems with the environment; and problems with social relations

Ipsos MORI NDC household survey Question QQL3:

I am going to read out a list of things that can cause problems for people in their area. I would like you to tell me whether each of them is a problem in this area?

Ten components included within lawlessness and dereliction composite score:

D	Run down or boarded up properties
E	Abandoned or burnt out cars
I	Vandalism, graffiti and other deliberate damage to property
K	People being attacked or harassed
L	Household burglary
M	Car crime (e.g. damage, theft and joyriding)
N	Teenagers hanging around on the streets
O	Drug dealing and use
P	Property being set on fire
Q	Disturbance from crowds or hooliganism

Two components included within the social relations composite score:

C	Problems with neighbours
J	Racial harassment

Five components included within the local environment composite score:

A	Dogs causing nuisance or mess
B	Litter and rubbish in the streets
F	The speed and volume of road traffic
G	Poor quality or lack of parks or open spaces
H	Poor public transport

Responses:	**Contribution towards composite score**
A serious problem in this area	3
A problem in this area, but not serious	2
Not a problem in area	1
Don't know	1

Table 13: Composite score for vertical trust

Ipsos MORI NDC household survey question QCO11: How much trust would you say you have in each of the following organisations?	
Four components included within composite score: A The local council B Local police C Local health services D Local schools	
Responses:	**Contribution towards composite score**
A great deal	5
A fair amount	4
Not very much	2
None at all	1
Don't know	3

Table 14: Composite score forSF36 mental health

Ipsos MORI NDC household survey question QHE5: These questions are about how you feel and how things have been with you during the past four weeks. For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the past four weeks...		
Five components included within SF36 mental health score: A Have you been a very nervous person B Have you felt so down in the dumps that nothing could cheer you up C Have you felt calm and peaceful D Have you felt downhearted and low E Have you been a happy person		
Responses:	**Contribution towards composite score**	
	Components A, B & D	**Components C & E**
All of the time	1	5
Most of the time	2	4
Some of the time	3	3
A little of the time	4	2
None of the time	5	1

4.1.4 A guide to significance testing

Respondents to the NDC household survey are only a sample of the total "population" in each NDC area. It is not therefore certain that the figures obtained are exactly those which would have arisen if everybody had been interviewed (the "true" values). However, the variation between the survey results and the "true" values can be predicted from the size of samples on which results are based and on the number of times a particular answer is given. The ideal level of confidence with which this prediction can be made is usually chosen to be 95 per cent: the chances are 95 in 100 that the "true" value will fall within a specified range.

When results are compared across survey waves or across individual NDC areas, observed differences may be real or may occur by chance (because not everyone in the population has been interviewed). To test if the difference is a real one – i.e. if it

is **"statistically significant"** – it is again necessary to know the total population, the size of the samples, the percentage giving a certain answer, and the degree of confidence chosen – again usually 95 per cent.

Below we provide a rule of thumb indicator of the percentage point change required to say that an observed difference is "real" for the NDC household survey data on a number of levels – aggregate, NDC area, comparator, and longitudinal.

It is important to note that the effect of weighting applied to the household survey data needs to be taken into account when considering statistical reliability. A sample which is weighted is less accurate. It therefore has a larger standard error, or design effect, i.e. the chance of a difference between the measured (survey) and true (real world) result is greater, than an unweighted sample of the same size. These design effects basically make our confidence intervals bigger and mean that we need bigger differences between any two percentages for that difference to be ***statistically significant***. For questions based on individual respondents, such as personal or attitudinal variables, the combined effect of the weights is to reduce the effective sample size to around 70 per cent of the actual sample size. For questions based on household information, such as tenure or household income, the effective sample size is around 90 per cent of the actual sample. The figures shown below take account of these design effects.

Aggregate level data

For **aggregate level data** where *everyone has been asked a question* (base=all) (c.19,500 in 02/04 and c.15,600 in 06/08), it will be necessary to be looking for differences of around one to two percentage points. As a rule of thumb:

- where findings are around 10/90% a 0.8% shift or more can be considered statistically significant
- but where findings are around 30/70% a 1.2% shift or more is needed for it to be statistically significant
- and where findings are around 50% a 1.3% shift or more is statistically significant.

NDC area-level data

For **NDC area-level data** where *everyone has been asked a question* (base=all) (c.500 in 02/04 and c.400 in 06/08), it will be necessary to look for differences of between five and eight percentage points. As a rule of thumb:

- where findings are around 10/90% a 5% shift or more can be considered statistically significant
- but where findings are around 30/70% an 8% shift or more is statistically significant
- and where findings are around 50% an 8% shift or more is statistically significant.

Comparator areas data

For **comparator areas data** where *everyone has been asked a question* (base all) (c.2,000 in 02, 4,000 in 04 and c.3,000 in 06/08), it will be necessary to look for differences of between two and four percentage points:

- where findings are around 10/90% a 2.0% shift or more can be considered statistically significant
- but where findings are around 30/70% a 3.1% shift or more is statistically significant
- and where findings are around 50% a 3.4% shift or more is statistically significant.

Differences in rates of change between NDC, and Comparator, areas

If the differences in rates of change between NDC, and comparator, areas are statistically significant at the 95 per cent level of confidence, then there is a 95 out of 100 chance that the observed differences are true rather than due to sampling variability. A difference of two or three percentage points will be significant in some instances. However, in the main a difference of four percentage points is required to say that the observed difference is statistically significant at the 95 per cent level.

Longitudinal data

Due to the interdependence of samples over time for longitudinal panels, another approach to significance testing is employed when differences in the proportion of the NDC panel making a transition over time are compared with those for the comparator area panel. A McNemar test statistic indicates whether the change between one time point and another is significant for each panel. Where either, or both, the NDC or comparator McNemar test statistics are significant, a z-test for proportions is used to compare the net proportions showing an 'improvement' (percentage reporting a positive transition minus the percentage reporting a negate transition). If this test is significant we can assume a significant difference.

4.2. Secondary and administrative data sources

The SDRC at the University of Oxford compiled a range of indicators derived from secondary and administrative data sources for national evaluation. This data was also provided to each of the NDC Partnerships throughout the lifetime of the evaluation. These indicators were created to capture consistent data for specific postcodes within each bespoke NDC area boundary over time. The same indicators were also compiled for national, regional, local authority and local comparator area benchmarks. These indicators cover worklessness, education, house prices, health and crime.

A number of unforeseen complications arose during the course of the evaluation. First, in August 2007, ONS made a number of revisions to the Mid Year Population Estimates to adjust for international migration and to correct for under-, and over-, enumeration in the 2001 Census at the small area level. This resulted in a need to revise the denominators for rates in relation to all NDC secondary and administrative indicators for the entire time series to ensure consistency through time. Second, the availability of more accurate and up to date postcode lookup files, meant that it was also possible to update the entire series at the same time. Third, improvements to the underlying administrative data sets were included at the same point of time.

Fuller details of these revisions can be found in '*Admin Data Revisions July 2008*' available at: http://extra.shu.ac.uk/ndc/ndc_data.htm

Alongside these technical changes, issues also emerged with regard to access to data. In November 2008 the Government announced that there had been the loss of data in respect to all Child Benefit claims. One consequence of this was that access to certain administrative data was either severely disrupted or in some cases withdrawn entirely. As a consequence, a major effort was required to resolve data access issues and this resulted in a significant delay in the release of DWP benefits data to the evaluation. Restrictions to access for health data (see 4.2.4 below), meant that collection of these indicators had to be abandoned by 2005. Some Police Forces across the country also rescinded access to their geo-coded recorded crime statistics. This meant crime data for all the NDC areas was not available and that therefore Programme wide data could not be compiled. Police recorded crime data are only available for the period 2000 to 2005.

Secondary and administrative data indicators are publically available on the National Evaluation website at: http://extra.shu.ac.uk/ndc/ndc_data.htm

The following sections 4.2.1-4.2.5 provide details of each of the secondary and administrative indicators produced as part of the evaluation.

4.2.1 Worklessness and finance indicators

A series of indicators based on **DWP Benefits data** capture different aspects of worklessness. These are sourced from the DWP 'Work and Pensions Longitudinal Study' (WPLS) which provides a quarterly snapshot of benefit claimants at particular points in time. These data are based on 100% of claimants, and cover information such as age and gender of claimant, duration on benefit, and geographical locations of claimants. With the exception of the Low Income Data indicator (see below), each of the following indicators relate to benefit claimants people aged 16-59/64 living within relevant areas.

Unemployment data: August 1999 - August 2008

Unemployment is defined here as being out of work and in receipt of **Jobseeker's Allowance (JSA)**. **JSA** can be claimed by working age individuals who are out of work or working less than 16 hours a week on average. Claimants must be able to demonstrate that they are available for and actively seeking work. After the initial six months of a claim this benefit is means tested.

Work-Limiting Illness data: August 1999 - August 2008

Work-limiting illness or disability is defined here as being out of work and in receipt of one of two benefits: **Severe Disablement Allowance (SDA), or Incapacity Benefit (IB)**. **IB** can be claimed by non-employed men and women who are deemed to have a sufficient level of ill health or disability to not be required to look for work. This judgment is in the first instance made by the claimants own GP. If the duration of claim goes beyond six months, doctors working on behalf of Jobcentre Plus, via the Personal Capability Assessment, then act as gatekeepers to the benefit. The benefit is not means-tested, except in the case of post-2001 claimants with significant income from a personal or company pension. Just over half of those with a successful claim for Incapacity Benefit actually receive it. Other sick and disabled claimants with insufficient National Insurance (NI) contributions, claim IB and are included within the data but actually receive Income Support with a disability premium. This group is often referred to as **'NI credits only' IB claimants (IBCO)**. IB was closed to new claimants from October 2008 (after the period that this data

series covers) when the new **Employment and Support Allowance (ESA)** was introduced for new claimants. **SDA** was available before April 2001 for individuals with a high level of disability and poor NI contributions. Claimants who were getting the allowance before April 2001 will have continued to receive it but no new claims have been accepted since 2001.

Worklessness data: August 1999 - August 2008

Worklessness is defined here as being out of work and in receipt of either JSA, IB or SDA. Hence this measure combines the two indicators above.

Unemployment Exit Rates: 1999 - 2007

As the WPLS provides data at the individual level, it enables people to be tracked anonymously over time as they move into, out of and between benefits and/or employment over time. In addition to the counts and rates for each of the benefit groups above, the WLPS data also allows the calculation of exit rates from each of the benefits. This unemployment exit rate indicator provides the percentage of those who were claiming JSA at the first time point who were no longer workless at the second time point (i.e. not receiving JSA, IB, or SDA).

Work Limiting Illness Exit Rates: 1999 - 2007

The percentage of those who were claiming IB/SDA at the first time point who were no longer workless at the second time point (i.e. not receiving JSA, IB, or SDA).

Worklessness Exit Rates: 1999 - 2007

The percentage of those who were claiming JSA/IB/SDA at the first time point who were no longer workless at the second time point (i.e. not receiving JSA, IB, or SDA)

Low Income Data: August 1999 - August 2005

'Low income' is defined here as being in receipt of one of two benefits: Income-Based Job Seekers Allowance (JSA-IB) or Income Support (IS). The data enable counts of claimants plus any dependent partners and/or dependent children to be constructed. Due to the introduction of Pension Credit for low income people aged 60 and over, data relates only to those under 60. Because of issues around access to DWP data, the evaluation team was unable to update this indicator for the later part of the evaluation.

4.2.2 Education indicators

Key Stage 2, 3, and 4 Indicators: 2002-2008

Data are supplied by the Department for Children, Schools and Families (DCSF) and cover the period 2002 to 2008. The results refer to all pupils eligible for assessment who were resident in the NDC area in January in the year of the assessment. NDC pupils are identified by the pupil's residential postcode which is matched with individual pupil level attainment data from the Pupil Level Annual Schools Census (PLASC).

At Key Stages 2 and 3, pupil attainment is assessed in relation to National Curriculum programmes of study in English, Maths and Science and pupils are awarded a level on the National Curriculum scale to reflect their attainment. Measures are taken to ensure that standards in tests remain consistent from year to year. There are no quotas set for each level or underlying assumptions about the proportions of pupils who should be at any particular level. Proportions at each level

are decided entirely by how pupils' attainments measure up to the standards of the National Curriculum. Key Stage 2 and 3 tests are marked externally by agencies contracted by the National Assessment Agency (NAA). For Key Stages 2 and 3, the number of eligible pupils for each subject includes those who were absent at the time of the tests, but excludes those who were working at the level of the tests but unable to access them or who had lost exam scripts.

Targets set by the DCSF are that 85% of 11 year-olds achieve at least a level 4 at Key Stage 2 by 2006 and 85% achieve at least a level 5 at Key Stage 3 (age 14) in English and maths, and 80% achieve a level 5 in science.

Key Stage 4 GCSE/GNVQ exams are marked externally by independent awarding bodies. The grade awarded for each exam is equivalent to a points score. Where pupils re-sit certain exams or take more than one exam in the same subject, the DCSF's contractors carry out discounting, such that only the best result is accepted.

The following qualifications are covered within the dataset Key Stage 4 data set:

- GCSEs; GCSE short courses; Part 1 and Full Foundation and Intermediate GNVQs
- if any pupils had taken GCSE/GNVQ exams in previous years, results are included in the dataset, although only pupils who were 15 at the start of the academic year are included in the indicator. The target set by the DCSF at Key Stage 4 is for 60% of pupils to achieve at least 5 A*-C GCSE or equivalents grades by 2008
- the following indicators are available:
  - proportion of pupils in the NDC area, comparator area, parent local authority, region and England achieving level 4 or above in English, maths and science respectively at Key Stage 2
  - proportion of pupils in the NDC area, comparator area, parent local authority, region and England achieving level 5 or above in English, maths and science respectively at Key Stage 3
  - proportion of pupils in the NDC area, comparator area, parent local authority, region and England achieving at least 5 GCSEs or equivalents A*-C grades at Key Stage 4
- more information on these indicators is available at:

SDRC 2005 National Evaluation of the New Deal for Communities Programme: Education and Skills

http://extra.shu.ac.uk/ndc/downloads/reports/Education&skills.pdf

4.2.3 Housing indicators

Only one set of secondary and administrative data in relation to housing and the physical environment is collected at a small enough geographic level for collation at the level of individual NDC areas: house price data.

House Prices, 2001-2008

Five sets of indicators are available on the price of different types of property in NDC areas. The average house prices and numbers of properties sold in NDC, and comparator, areas are available separately for flats, terraced, semi-detached, detached and all properties. In addition district, regional and national average house

prices are provided. House prices provide a general indicator of both the desirability of a neighbourhood and the robustness of the local housing market. House price data are obtained from the Land Registry for all dwellings sold in England and Wales. Data are allocated to NDC areas by postcode and averaged both by dwelling type and for all dwellings. House price data are not given where two or fewer houses or flats are sold in any one year to preserve confidentiality.

4.2.4 Health indicators

Four separate secondary and administrative health indicators were compiled by the SDRC on behalf of the evaluation team. However, due to problems with access it was not possible to update the series beyond the release made to Partnerships in November 2006 for indicators covering the period 2001 to 2005.

Standardised Illness Ratio: 2001 to 2005

An age and sex standardised morbidity/disability rate was derived from a non-overlapping count of individuals receiving any one of the following benefits: Disability Living Allowance (DLA), Attendance Allowance (AA), Incapacity Benefit (IB), Severe Disablement Allowance (SDA), and the disability premium of Income Support (IS). This was achieved by matching individuals using encrypted national insurance numbers, thus producing a count of individuals receiving at least one of the specified benefits.

The data represents a 'standardised measure' of illness and disability, rather than an absolute count or percentage. It is assumed that a figure of 1 is the expected value given the age and sex distribution within the area. A figure of less than 1 shows a lower prevalence of illness and disability compared with the expected figure given the age/sex distribution in the area, and greater than 1 a higher prevalence. Presenting data in this way provides a consistent basis for comparison between areas.

Data are drawn from administrative sources relating to a range of benefits collected by DWP and are collated from 100% administrative scans. Age and sex distribution in an area was derived from population estimates constructed by SDRC.

Standardised Mortality Ratio: 1998-2001 to 2002-2005

The Standardised Mortality Ratio (SMR) is a measure of the number of deaths in the NDC area compared with the expected level given the area's age and gender structure. The age/sex structure of an area is accounted for by using an age/sex standardised measure of mortality, in this case, the SMR.

The SMR is a relative measure and takes the age/sex standardised mortality rate of England to be 'average' with a score of 1. An SMR score greater than 1 should be interpreted as indicating that the area has a higher than expected mortality rate after taking into account the age and sex profile of the area's population, a score less than 1 a lower than expected mortality rate.

The SMR is calculated for the under 75 population using data over a four year period. Combining this number of years is necessary in order to avoid rendering the SMR unreliable due to small 'at risk of death' populations for any one year. Mortality data were provided to SDRC by the Office for National Statistics.

Mental Illness Rate: 2001 - 2005

This indicator reflects the proportion of adults under 60 suffering from mood or anxiety disorders in each area. This group represents a large proportion of the total population suffering from mental ill health. Data represent derived scores based on prescribing data rather than actual counts.

This indicator uses information on drug prescribing to estimate levels of mental health. As information is known on the conditions for which various types of drugs are prescribed as well as typical dosages, it is possible to estimate the number of patients within a particular GP practice suffering from mental health problems. This is achieved by using the Average Daily Quantity figure produced by the Prescribing Support Unit in conjunction with the Prescribing Pricing Authority. Mental health problems examined here are depression and anxiety. An assumption is made that those with mental ill health take the national average daily quantity of a specific drug on every day of the year. This estimate is then expressed as a proportion of the practice list size. This rate is geographically attributed to NDC areas depending on the proportion of an NDC population belonging to a particular GP practice.

Low Birth Weight Rate: 1997-2001 to 2001-2005

This indicator gives the percentage of single live births classed as low birth weight in a five year time period. Low birth weight is linked to both increased mortality and morbidity in infancy and an increased risk of cardio-vascular disease in later life. It is therefore a measure not only of immediate health risk, but also of future health problems that may not surface until later life. Indicators relate to births which were less than 2500g during the periods 1997-2001 through to 2001-2005. It is necessary to use five-year periods to increase the robustness of data by addressing the problem of small numbers in any one year. Data on birth weights were provided to SDRC by the Office for National Statistics.

4.2.5 Crime indicators

Recorded crime rates were compiled by SDRC on behalf of the evaluation team. However, due to problems with access to data, it was not possible to update the series beyond the release made available to Partnerships in July 2008 of indicators covering the 2000/01 to 2004/05 period.

Crime Rates: 2000-01 to 2004-05

Crime rates are constructed using individual level recorded crime data sourced from all 39 police forces in England. Crimes are geo-coded with eastings-northings and/or full postcodes enabling counts of crimes to be constructed for any given geography. Rates are based on the number of crimes per area, per year, per total 'at-risk' population (i.e. resident population + workplace population), or total 'at-risk' properties (total residential properties from the 2001 Census + total business properties from OS AddressPoint). Crime rates are expressed as the number of crimes per 1000 'at-risk' population or properties. Rates are available in relation to violent crime, burglary, theft, criminal damage and total crime combining all four categories.

4.2.6 Index of Multiple Deprivation

SDRC calculated NDC specific IMD scores for both the IMD 2004 and IMD 2007 based on population weighted synthetic scores and rank. These provide evidence with regard to levels of deprivation across NDC areas when compared with the rest of the country.

IMD scores in NDC areas

Lower Layer Super Output Areas (LSOAs), a geography used for the IMD, do not exactly fit NDC boundaries: all NDC areas are larger than a single LSOA. It was therefore necessary to create new scores for each NDC area. The NDC score was calculated as the population weighted average of the scores of the overlapping LSOAs. The following example demonstrates the method used.

NDC X has a population of 3,000 residents. 1,200 of these residents live within SOA1, which itself has a population of 2,000. The remaining 1,800 residents of NDC X live within SOA2, which itself has a population of 2,100. SOA1 has an IMD score of 87.3 and SOA2 has an IMD score of 73.2. The NDC's IMD score is calculated as follows:

NDC IMD score = ((1,200/3,000)*87.3) + ((1,800/3,000)*73.2)
= 34.92 + 43.92
= 78.84

IMD ranks in NDC areas

Scores of NDC areas on the IMD and component domains are helpful in comparing levels of deprivation across NDC areas. Assigning a rank to each NDC area allows comparisons to be made with other areas in the parent local authority district. Looking at ranks rather than scores also allows for comparisons across different domains of deprivation. There are 32,482 LSOAs in England. When the LSOAs are ranked so that the most deprived has a rank of 1, it is easy to see that an area ranking 15 on the Crime domain and 15,000 on the Education, training and skills domain is considerably more deprived on the former domain than the latter. This also means that an area with a rank or proxy rank in the 'top' 10%, between 1 and 3,248, falls within the most deprived 10% of areas in England. An area ranking (or assigned a proxy rank) between 3,248 and 6,496 falls within the 20% most deprived of areas in England, and so forth. A proxy rank for the NDC areas taken as a whole on the IMD 2004 was 1,985 so equivalent to being in the top 10% of deprived area in England (see Figure 2 and Table 2, earlier).

4.2.7 Mid-year population estimates

Population estimates were provided to SDRC by the Office for National Statistics (ONS). The following provides details of the methodology used.

Mid-2001 to mid-2007 Population Estimates

Population estimates were produced using a Postcode Best Fit methodology. This methodology uses the population estimates for the 34,378 LSOAs in England and Wales by age and sex and apportions these to around 1.6m residential and communal establishment postcodes in England and Wales based on the counts of persons by age and sex included on the patient registers.

These postcode level estimates can then be aggregated (or 'best fitted') to a range of higher geographies using a suitable postcode look-up file eg the National Statistics Postcode Directory (NSPD) or a Geographical Information System (GIS). A special allowance is made for population sub-groups not included on the patient registers, covering prisoners, UK armed forces, and foreign armed forces and dependants. The LSOA counts for this special population are removed from the apportioning process and then added back in at unit postcode level, based on postcode information for the special population.

No prison populations were identified in the NDC or comparator areas. Digitised boundary files were used to identify the component postcodes and associated population counts within NDC, and comparator, areas. These postcode population estimates were then aggregated to produce aggregated counts for NDC, and comparator, areas.

Figures are consistent with the published mid-2005 local authority population estimates (August 2007 revisions) and mid-2005 LSOA estimates. These estimates are provided by ONS but are not classified as National Statistics.

4.3. NDC Partnership Survey

The 2008 NDC Partnership Survey was designed to gather information about the organisational characteristics and operational features of NDC Partnerships. A questionnaire was sent out to all NDCs in July 2008 and all 39 responses had been received by November 2008. The survey was completed by NDCs staff teams, most frequently by chief executives. Comparison is sometimes possible with similar evidence obtained from NDC Partnerships in 2004 and 2006. However caution should be employed in comparing trends through time:

- in 2004 returns to these questionnaires were made by members of the national evaluation team drawing on evidence gained from a series of interviews with NDC staff, Board members and agency representatives
- responses to the 2006 and 2008 surveys were not necessarily completed by the same individuals
- some questions are retrospective (for instance those which relate to turnover of chair or chief executive); the NDC Programme is approaching its tenth year and there has been a degree of personnel change in all Partnerships: the 'institutional memory' is not always reliable.

A full report detailing the results of the 2008 NDC Partnership Survey can be found at:

http://www.communities.gov.uk/documents/communities/pdf/1344781.pdf

A number of questions explored in these surveys have been combined into a 'board effectiveness' score for each NDC Partnership. This index is used as a potential explanatory variable for explaining change achieved by NDC Partnerships areas in Volume 5 of the final reports.

Table 15: Partnership Survey board effectiveness score

NDC Partnership survey question: Please indicate the extent to which you agree with the following statements concerning NDC board operation over the past 12 months?	
Eight components included within composite score: ▪ Board members are clear about their roles and responsibilities ▪ members have skills needed to carry out their roles effectively ▪ adequate training and support are provided for members ▪ Board members take a strategic and long term view ▪ members are happy with time commitments required of them ▪ membership is stable ▪ relationships within the Board are harmonious ▪ relationships between the Board and NDC staff are harmonious.	
Responses:	**Contribution towards composite score**
Strongly agree	1
Agree	1
Neutral / Don't know	0
Disagree	-1
Strongly disagree	-1

4.4. NDC Business Survey

MORI surveyed 2,000 businesses in and around 19 NDC areas across the country between January and March 2005. The purpose of the survey was to examine the impact of NDC Partnerships on local businesses and to find out the perceptions of businesses towards the NDC area and the local workforce. Interviews were conducted over the telephone, using Computer Assisted Telephone Interviewing (CATI).

Full details of the survey and the findings can be found in:

MORI 2005 New Deal for Communities National Evaluation: Survey of Businesses

http://extra.shu.ac.uk/ndc/downloads/reports/business%20survey.pdf

4.5. NDC Beneficiaries Survey

MORI interviewed a total of 1,008 beneficiaries of 23 projects funded by the NDC Programme between February and April 2005. The main objective was to add quantitative data about project beneficiaries to information collected by CEA in project-level workbooks designed to assist value for money calculations. Specifically, the research aimed to assess the impact on individual beneficiaries of projects undertaken in NDC areas. This evidence also allowed for an assessment of differences in impact across projects and themes.

Key findings from the survey can be found in:

CEA 2005 National Evaluation of New Deal for Communities: Key findings from the survey of beneficiaries

http://extra.shu.ac.uk/ndc/downloads/reports/NDC%20key%20findings%20for%20the%20survey%20of%20beneficiaries.pdf

4.6. NDC Resident Board Member Survey

Ipsos MORI undertook a survey of resident representatives on NDC Partnership boards between February and March 2009. 'Resident representative' referred to those living within an NDC area and representing their fellow residents or a local resident-based organisation on an NDC board. Other board members who happened to live within an NDC area, such as representatives of statutory agencies, were not included. The survey provides evidence on:

- who has been involved with NDC boards and the extent to which engagement is concentrated amongst different elements of the community
- how resident representatives come to be involved in NDC boards
- the nature of involvement, including levels of responsibility and commitment
- perceptions of experiences, including the degree to which board members feel able to influence the work of the NDC and any impact on their own lives
- contrasting experiences across different groups.

The survey sampling frame was provided by NDC Partnerships, with each giving details of as many past and/or current resident board members as possible. Each potential respondent was contacted by letter and invited to take part in the research. A freephone number was provided for those who wished to opt out of the survey. The rest were contacted by interviewers, who then conducted the questionnaire-based interviews by telephone. The achieved sample was therefore self-selecting: it included those willing to take part and who could be reached by telephone during the period of fieldwork.

In total 301, telephone interviews were completed, 218 with current, 83 with past, resident representatives. Interviews lasted a little over 20 minutes and used a survey tool designed by the research team and CLG.

Findings are contained in:

CLG 2010 Running a regeneration programme: The experiences of resident representatives on the boards of New Deal for Communities Partnerships

http://www.communities.gov.uk/documents/communities/pdf/1462952.pdf

4.7. System K expenditure and project data

ODPM commissioned Hanlon Software Solutions to provide System K to NDC Partnerships. This ensured a centralised project monitoring and output measurement information system was in place across all 39 Partnerships. The system required individual Partnerships to record data on expenditure of monies received directly from the NDC Programme and also from other public, private or voluntary sector funding sources. Data were recorded on a project by project basis for each financial year. The system enabled Partnerships to allocate project expenditure to the Programme's six outcomes. A seventh category recorded

management and administration costs. It was also possible to record each project under a specified list of project types. CEA allocated codes to project types to assist the sytematic analysis of project level data (see Table 16). This evidence informed Volume 6 of the 2010 Final reports which examined impact and Value for money.

Table 16: CEA codes for System K project types

Code	Project Type
1	**Community development**
101	Capacity building NDC governance
102	Capacity building youth
103	Capacity building BME
104	Capacity building women
105	Capacity building elderly
106	Capacity building general
107	Youth support/services provision
108	Promotion/communications/mktg /raising public awareness
109	Improved community services/equipment
110	New/improved use/access to community facility
111	Community radio
112	Community Chest - general/youth
113	Community Development Workers/Officers
114	Community events/activities
2	**Crime and community safety**
201	CCTV
202	Crime prevention /safety - physical
203	Victim Support Officers
204	Victim support - other
205	Drugs/alcohol related
206	Youth diversionary projects
207	Neighbourhood Wardens
208	Neighbourhood policing
209	Other crime prevention - non physical
210	Targeted policing
211	Community Chest – crime & community safety
212	Other community safety posts
213	Crime and safety events
3	**Education**
301	Extra curricula activities/pupil development/transition
302	Self improvement/learning activities (pre vocational)
303	New/improved educational facs - school
304	New/improved educational facs - pre-school
305	New/improved educational facs - adult learning
306	Other childcare support
307	Access to internet/ICT training/www networks
308	Arts/music/dance/creative/music
309	Educational enhancement - equipment
310	Community Chest - Education
311	Educational posts/support
312	Educational trips/activities/events

Table 16 Continued

4	**Employment and business**
401	Business start-up/self employment - social enterprise
402	Business start-up/self employment - private enterprise
403	Workspace/incubator provision
404	Training/apprenticeships/accredited qualifications
405	Job search/careers guidance/jobs skills
406	Credit union/financial counselling/benefit advice
407	Community Chest - training/emp/business
408	Employment and business posts
409	Employment events
410	Business advice/support
5	**Health**
501	New/improved use/access to health facilities
502	Targeted health - Elderly health
503	Targeted health - Teenage health/young people
504	Targeted health - Drugs/alcohol related
505	Healthy living initiatives
506	New/improved health services
507	Family support
508	Community Chest - health
509	Health posts
510	Health events
511	Targeted health - other
6	**Housing and the Physical Environment**
601	Recycling/waste collection/management
602	Environmental improvements - infrastructure/buildings/landscaping
603	Environmental enhancement - eg litter
604	Community Chest – housing & environment
605	Housing/Environmental posts
606	Housing/Environmental events
607	Homes built/improved/maintenance
608	Land/asset acquisition/demolitions/stock transfer
609	Housing advice/tenant/RSLs support/management
610	Energy efficiency/energy advice
7	**Cross-cutting**
701	Reports /research/studies/professional fees
702	Community Chest - other
703	Other NDC Posts
704	Misc project management/theme development

Full details of expenditure and outputs are included at Appendix One to this report.

4.8. Census data

The beginning of the NDC evaluation coincided with results being made available from the 2001 Census of Population. The Census provides a count of all people and households in the UK and is a particulary useful source of data for small areas. Data cover a range of topics including population structure, employment status, qualifications, housing, tenure and amenities. The evaluation team undertook an exercise to collate a range of Census data for each NDC area based on a population weighted best-fit LSOA definition of NDC areas. Where possible, data from the 1991 Census was also collected.

Census data are helpful in providing a baseline position from which to consider the extent of change and improvement in NDC areas over time. In addition, comparable data from the 2011 Census will eventually become available to provide a long-term view of change in these areas. Census data was also helpful to local practitioners in understanding the nature of deprivation in their areas.

As part of Phase 1 of the evaluation, each Partnership was provided with a 'Census module' detailing Census data for their particular area. In addition a Programme wide overview was undertaken and can be found in:

CRESR 2005 The NDC Programme: An Overview of the 2001 Census

http://extra.shu.ac.uk/ndc/downloads/reports/ndc%20programme_overview%20of%202001%20census.pdf

The Census data for each individual Partnership can be found at:

http://extra.shu.ac.uk/ndc/ndc_reports_01.htm#data

4.9. National benchmark data

Large scale government surveys, and other data sets, have been drawn upon as appropriate to provide national benchmarking data.

The following section provides a brief overview of main sources drawn upon. These benchmarks are used in the Ipsos MORI NDC household survey 'topline' document for NDC Programme-wide results which can be found at:

http://www.dataarchive.ac.uk/findingdata/snDescription.asp?sn=5299&key=New+Deal+for+communities

An overview of all major government surveys can be found at:

http://www.esds.ac.uk/government/

Labour Force Survey (LFS)

LFS data on key labour market trends is utilised as a national benchmark. The LFS is a quarterly sample survey of approximately 60,000 households in Great Britain. Its purpose is to provide detailed information on the UK labour market to inform labour market policies.

http://www.statistics.gov.uk/statbase/Source.asp?vlnk=358&More=Y

General Household Survey (GHS)

The Office for National Statistics carries out the General Household Survey (GHS), a multi-purpose sample survey of approximately 9,000 private households and about 16,000 adults aged 16 and over. The aim of the survey is to collect data on a range of core topics covering household, family and individual information. Data are collected on five core topics: education, employment, health, housing, and population and family information. Other areas such as leisure, household burglary, smoking and drinking are covered periodically. This information is used by government departments and other organizations for planning, policy and monitoring purposes and to present a picture of households, family and people in Great Britain.

http://www.statistics.gov.uk/StatBase/Source.asp?vlnk=263&More=Y

Survey of English Housing (SEH)

The Survey of English Housing (SEH) is a household interview survey with a sample of 20,000 responding households each year. It is a multi-purpose survey providing a comprehensive range of basic information on households and their housing, and full information on the private rented sector. Results are grossed to give estimates for all households. The Survey covers England and data are available for standard and Government Office regions. Data are collected on the type of accommodation, household and personal characteristics, tenure, second homes, moves, repossessions, satisfaction with the accommodation and area, waiting lists for council or housing association housing, owner occupation, social sector tenants, and private renters. In April 2008 the Survey of English Housing was merged with the English House Condition Survey to form the new English Housing Survey.

http://www.statistics.gov.uk/StatBase/Source.asp?vlnk=326&More=Y

Health Survey for England (HSE)

The Health Survey for England (HSE) is a series of annual surveys about the health of people living in England. Since 1994 the survey has been carried out by the Joint Health Surveys Unit of the National Centre for Social Research and the Department of Epidemiology and Public Health, Royal Free and University College Medical School, London. The survey is sponsored by the Department of Health to provide better and more reliable information about various aspects of people's health and to monitor selected health targets. The survey combines questionnaire-based answers with physical measurements and the analysis of blood samples. Blood pressure, height and weight, smoking, drinking and general health are covered every year. An interview with each eligible person in the household is followed by a nurse visit. The 'core' includes questions on general health and psycho-social indicators, smoking, alcohol, demographic and socio-economic indicators, questions about use of health services and prescribed medicines and measurements of height, weight and blood pressure.

http://www.ic.nhs.uk/statistics-and-data-collections/health-and-lifestyles-related-surveys/health-survey-for-england

British Crime Survey (BCS)

The Home Office compiles results from the annual British Crime Survey based on a sample of about 40,000 people living in private households in England and Wales. Data cover numbers of crimes by offence type and type of victim, fear of crime, crime prevention measures, contact with and attitudes to the police, drug use, and household fires. Because members of the public are asked directly about victimisation, the BCS provides a record of the experience of crime which is unaffected by variations in the behaviour of victims about reporting the incident to the police and variations over time and place in police practices regarding the recording of crime.

http://www.statistics.gov.uk/StatBase/Source.asp?vlnk=1397&More=Y

Ipsos MORI Omnibus surveys

For a number of indicators where national benchmarks from government surveys were not readily available, existing questions from national Omnibus surveys carried out by Ipsos MORI were used, or additional questions incorporated into the Omnibus, in order to provide relevant benchmarks. Omnibuses used included:

MORI Omnibus 2002 (n=2,068 adults aged 16+)

MORI Omnibus 2004 (n=2032 adults aged 16+)

Ipsos MORI Social Issues Omnibus 2006 (n=1989 adults aged 16+)

Ipsos MORI Public Affairs Monitor 2008 (n=2,032 adults aged 16+)

4.10. NDC Movers survey

The NDC Movers Survey was conducted by MORI as a follow-up survey to the 2004 NDC Household Survey. The aim was to carry out interviews with NDC residents who had moved out of the area since 2002. MORI interviewed a total of 473 movers, i.e. residents who were interviewed in the 2002 household survey, and who had then moved from that address by 2004. Interviews were conducted face-to-face and in-home, using Computer Assisted Personal Interviewing (CAPI) between July 2004 and April 2005. All movers were offered a £10 incentive for participating in the survey. Information was collected on why residents moved out of NDC areas and details of their current situation. The aim was to help determine the extent to which those who moved out had improved their situation, and the impact the NDC Programme had had on them.

Key findings from the survey can be found in:

CLG 2007 The Moving Escalator? Patterns of Residential Mobility in New Deal for Communities areas

http://extra.shu.ac.uk/ndc/downloads/reports/The%20NDC%20moving%20escalator[1].pdf

5. 36 Core Indicators

The NDC evaluation collected data across an extremely wide range of indicators via the household surveys and administrative data. Because of the scale of this information and to ensure consistency through time, 36 core indicators were selected to form the basis for much of the analysis of change in the evaluation. These core indicators are evenly spread across the Programme's six outcomes and reflect outcomes which Partnerships might plausibly impact upon during the life of the Programme. They were chosen in consultation with CLG and the NDC Partnership Reference Group. Indicators are primarily taken from the four Ipsos MORI household surveys, but also include a smaller number from administrative data sources.

Table 17: 36 Core indicators

Indicators	Time period	Source
Education		
Key Stage 2 English % reaching level 4	2002-2008	SDRC
Key Stage 3 English % reaching level 5	2002-2008	SDRC
Key Stage 4 - % with 5 or more GCSE's at A*-C level	2002-2008	SDRC
% of working age respondents with no qualifications	2002-2008	Ipsos MORI
% taking part in education/training in past year (exc. in f-t edu.)	2002-2008	Ipsos MORI
% who need to improve basic skills	2002-2008	Ipsos MORI
Worklessness and finance		
% unemployed	1999-2008	SDRC
% work limiting illness	1999-2008	SDRC
% of households with income less than £200 per week	2002-2008	Ipsos MORI
Employment rate (working age)	2002-2008	Ipsos MORI
% receiving benefits	2002-2008	Ipsos MORI
% workless households (working age)	2002-2008	Ipsos MORI
Health		
% no physical activity for at least 20 minutes at a time	2002-2008	Ipsos MORI
% residents who smoke	2002-2008	Ipsos MORI
% residents feel own health not good	2002-2008	Ipsos MORI
SF36 mental health well-being score	2002-2008	Ipsos MORI
% health worse over past year	2002-2008	Ipsos MORI
% satisfied with doctor	2002-2008	Ipsos MORI
Crime		
Burglary rate per 1,000	2002-2008	Ipsos MORI
Criminal damage rate per 1,000	2002-2008	Ipsos MORI
Crime rate per 1,000	2002-2008	Ipsos MORI
Lawlessness and dereliction score	2002-2008	Ipsos MORI
% feel a bit/very unsafe after dark	2002-2008	Ipsos MORI
Fear of crime score	2002-2008	Ipsos MORI
Housing and physical environment		
% satisfied with area as a place to live	2002-2008	Ipsos MORI
% 'trapped'	2002-2008	Ipsos MORI
% want to move	2002-2008	Ipsos MORI
% satisfied with accommodation	2002-2008	Ipsos MORI
% think area has improved over past two years	2002-2008	Ipsos MORI
Local environment score	2002-2008	Ipsos MORI

Community		
% feel part of the community	2002-2008	Ipsos MORI
% feel it is a place where neighbours look out for each other	2002-2008	Ipsos MORI
% think NDC has improved the area	2002-2008	Ipsos MORI
% feel good quality of life	2002-2008	Ipsos MORI
% feel can influence decisions that affect the area	2002-2008	Ipsos MORI
% involved with activities organised by NDC	2002-2008	Ipsos MORI

Data tables containing core indicators for each NDC Partnership, and across the Programme, for the years 2002, 2004, 2006 and 2008 can be found at http://extra.shu.ac.uk/ndc/ndc_data.htm

6. Composite Index of Relative Change (CIRC): Methodological Overview

In order to understand patterns of change across the 39 NDC areas, a **Composite Index of Relative Change (CIRC)** has been devised to combine systematically a range of outcome data. CIRC allows areas to be compared with each other on a like-for-like basis incorporating a basket of indicators which capture change across all six of the Programme's outcomes. It is important to be able to do this because:

- large gains in specific outcomes achieved in some NDC areas can be averaged out by lesser gains in others, leading to relatively small changes at the Programme wide level: considerable changes at the level of the individual NDC area, can be lost within the wider Programme-wide picture
- unlike previous ABI evaluations, the NDC evaluation has had access to change data for **all schemes from a common baseline**: this evidence can be used to help **explain** why some areas have seen more change than others, full results from which analyses are available in Volume 5 of the final evaluation reports published in 2010[21].

The **CIRC** standardises and combines change data for the 36 core indicators listed at the end of Section 5. These indicators are evenly spread across the Programme's six core outcomes. Three of these six focus on aspects of **'place'**: crime, community, and housing and the physical environment, and three on **'people'**: worklessness, education and health. Each outcome contributes an equal weighting towards the final overall score on the Index. The 36 indicators reflect changes which might plausibly be achieved during a six year period (2002-2008). The biennial household survey is the primary source for most of these indicators. The four surveys, the first of which was carried out in 2002, thus provide consistent data for 31 indicators across all NDC areas from 2002-2008. The remaining five indicators are drawn from administrative data sources: DWP data on those claiming key worklessness benefits (1999 to 2008), and Key Stage education data from 2002 to 2007.

The CIRC measures, standardises and compiles change data on each of these 36 indicators for all 39 NDC areas. There are two ways to compare change across the 39 areas. First, change in any NDC area can be assessed against that apparent in the other 38 areas. This can be seen as **unbenchmarked relative change**. However, the problem here is how valid is it directly to compare change in, say, the Hartlepool NDC area, with that occurring in Plymouth?

Second, in order to overcome this problem, CIRC is therefore based on **benchmarked change data**, rather than absolute change across each of the 39 areas. In essence the Index takes into account prevailing circumstances in the wider geographical area within which each NDC area is located. This makes it possible to

[21] NDC Final Evaluation Reports: The NDC Programme Volume 5: Exploring and explaining change in regeneration schemes: http://extra.shu.ac.uk/ndc/downloads/general/Volume%20five%20-%20Exploring%20and%20explaining%20change%20in%20regeneration%20schemes.pdf

measure the extent to which change in any NDC area is on a par with, less than, or exceeds, that occurring in other deprived areas located in the same geographic context. Ultimately, it may be easier to make progress on some outcomes in certain contexts, than is the case in others. For example, an area located in a more buoyant city-region economy may find it easier to get unemployed people back into work, than would be the case for an area within a weaker wider labour market.

In an ideal world the best approach here would have been to assess each NDC area against its own bespoke comparator areas (see Chapter 3 for details of comparator areas). This would then have allowed each of the 39 areas to be assessed in a consistent manner: change relative to that occurring in other similarly deprived areas in the same local authority district. For the five core indicators based on administrative data this is possible since comparable indicators can be collected for specifically designed comparator areas: non-contiguous areas of similar population size and comparable IMD scores, within the same local authority. However, for the 31 core indicators drawn from the four household surveys, the situation is more complex. A comparator-areas household survey was carried out across a sample of similarly deprived areas within each of the 38 local authority areas containing an NDC. Again these areas were non-contiguous with, but displayed similar levels of deprivation to, NDC areas. However, although this provides a sample[22] sufficient for Programme-wide comparisons, sample sizes are not large enough to provide comparator-areas data for each individual NDC-area.

It is not possible therefore to use household survey data to assess the degree to which each of the 39 NDC areas has changed against other deprived areas in the same locality. However, a typology of NDC areas has been devised, which allows for the use of pooled benchmark data. The five groupings emerging from this exercise were determined by a typology which created clusters of NDC areas on the basis of how similar they were to each other at the beginning of the Programme (see Chapter 7 for more details). Having classifications of similar NDC areas means it is then possible to use **the comparator-areas household survey data by pooling it into these five groups**. Benchmarked household survey data is thus based on the degree to which any NDC area saw change over and above that occurring across a pooled group of comparator-areas; this pooling into five groups being based on similarities across NDC areas at the outset of the Programme[23]. Comparing change across similar NDC areas with that occurring in groupings of similarly deprived localities in similar contexts, helps identify a 'net' NDC effect: change over and above that occurring as a consequence of national, regional or local authority trends. The Index relates the 'net' change occurring in each NDC area to that occurring in the other 38.

This benchmarked version of the CIRC might appear as a more complex methodology through which to assess relative change than does the unbenchmarked version outlined earlier. However, a version of the Index based on absolute unbenchmarked change in each NDC area relative to the other 38 areas results in very similar findings to the benchmarked version (correlation 0.87).

To calculate CIRC scores, net change achieved after benchmarking is standardised for each of the 36 indicators using Z-scores. This technique is used because it places all indicators on the same metric, ensures equal weighting for each, and allows summations across indicators. All standardised indicators have a mean of zero and a standard deviation of one. The Z-scores relate the benchmarked change achieved in each NDC area to the average achieved across all Partnerships.

[22] The comparator survey sample consisted of 2,014 respondents in 2002, 4,048 in 2004, 3,062 in 2006, and 3,100 in 2008.

[23] For two NDC specific indicators benchmarks do not exist and straightforward levels of change are used: % residents think NDC has improved the area, % of residents involved in NDC activities.

These standardised scores **can be combined** to assess:

- how each of the NDC areas has changed overall (i.e. across all 36 indicators)
- by any one of the Programme's six core outcomes
- and by either people- (worklessness, education and health), or place-(crime, community, and housing and the physical environment), related, deprivation.

7. A typology of NDC areas

The national evaluation team developed a typology of NDC areas which aimed to group NDC areas on the basis of how similar local circumstances were at the beginning of the Programme.

The exercise was driven by the **baseline situation on the 36 core indicators in the 39 local areas at the start of the Programme**. This approach is similar to that used by Barnes et al (2005)[24] for a classification of Sure Start areas. The 36 core indicators cover the full range of policy areas and outcomes that the Programme would hope to impact upon. In addition a derived variable[25] from the household survey is also included in the cluster analysis to reflect population mobility. Population churning is sometimes seen as potentially influencing the scale of change in relation to people-related outcomes.

Wider area 'contextual information' has been excluded from factors determining group membership. This is because many of these variables would need to be considered at a higher geographical scale than that of the parent local authority. For example, the health of the local economy given by employment rates would need to be considered at travel-to-work or NUTS three levels to reflect the reality of how labour markets operate. This would, however, lead to all NDCs located within these larger areas being given the same measure, thereby inherently creating a degree of clustering. Measures of the characteristics of the local area, such as the concentration of social housing or black and minority ethnic populations, were tested during the development of the typology, but were excluded as they led to unclear cluster structures. Therefore both 'local characteristics' and 'wider contextual' measures are used to help describe and explain differences between the groupings rather than as part of the cluster analysis used to derive them.

7.1. Methodology for typology

The analysis is based on a Wards hierarchical cluster analysis using 37 variables from the 2002 household survey and administrative data from the start of the Programme. The clearest structure, after attempting raw data, principal components input and non-hierarchical cluster analyses, is a five cluster structure using Z-score input. A Principal Component Analysis was then used to identify a smaller number of underlying factors in the data. The results from this stage of the analysis were used to carry out a Discriminant Analysis to validate the allocation of Partnerships to each cluster. In **three cases** (Birmingham Kings Norton, Luton, Tower Hamlets) the allocation to groups generated by the initial cluster analysis was uncertain. Drawing on the Posterior Probabilities generated by the Discriminant Analysis and knowledge of the individual Partnerships these three cases were then reallocated to the most appropriate group.

[24] Barnes J, Belsky J, Broomfield K, Dave S, Frost M, Melhuish E. Disadvantaged but different: variation among deprived communities in relation to child and family well-being. *Journal of Child Psychology and Psychiatry* 46:9 (2005), pp 952–962

[25] This 'churning' variable is based on the number of times an individual moved within the previous 5 years. This variable cannot be included in the core 36 indicators and CIRC analysis over time due to the nature of the longitudinal design effect of the survey: although a relevant indicator at wave 1 of the survey in 2002 it increasingly becomes biased towards longer term residents as subsequent waves of the survey occur.

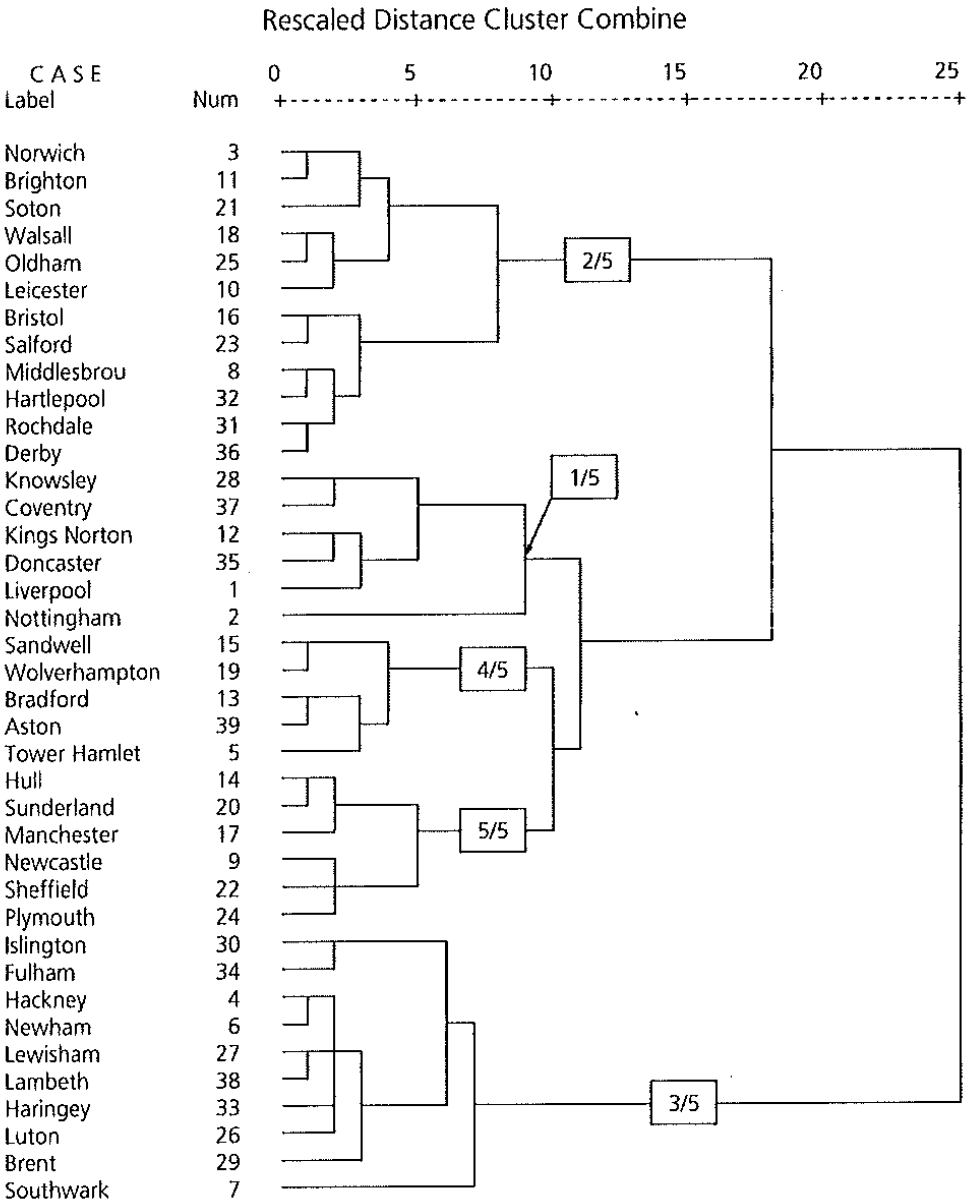
Step 1 - Wards Cluster Analysis

The clearest cluster structure, as indicated by the dendogram in Figure 3, was obtained using Ward's agglomerative hierarchical algorithm on Z-score input. The five cluster solution is presented in Table 18. This was selected on the basis of differences in fusion levels, reasonable cluster size and evidence-based, but inevitably somewhat subjective, judgement.

Table 18: Initial 5 cluster solution for typology using Wards Cluster Analysis

Cluster membership: Ward method [36 core + churn Z score input] five Cluster solution				
Cluster 1 (N = 6)	Cluster 2 (N = 12)	Cluster 3 (N = 10)	Cluster 4 (N = 5)	Cluster 5 (N = 6)
Liverpool Nottingham Kings Norton Knowsley Doncaster Coventry	Norwich Middlesbrough Leicester Brighton Bristol Walsall Southampton Salford Oldham Rochdale Hartlepool Derby	Hackney Newham Southwark Luton Lewisham Brent Islington Haringey Fulham Lambeth	Tower Hamlets Bradford Sandwell Wolverhampton Aston	Newcastle Hull Manchester Sunderland Sheffield Plymouth

Figure 3: Dendogram of initial allocation to clusters for typology

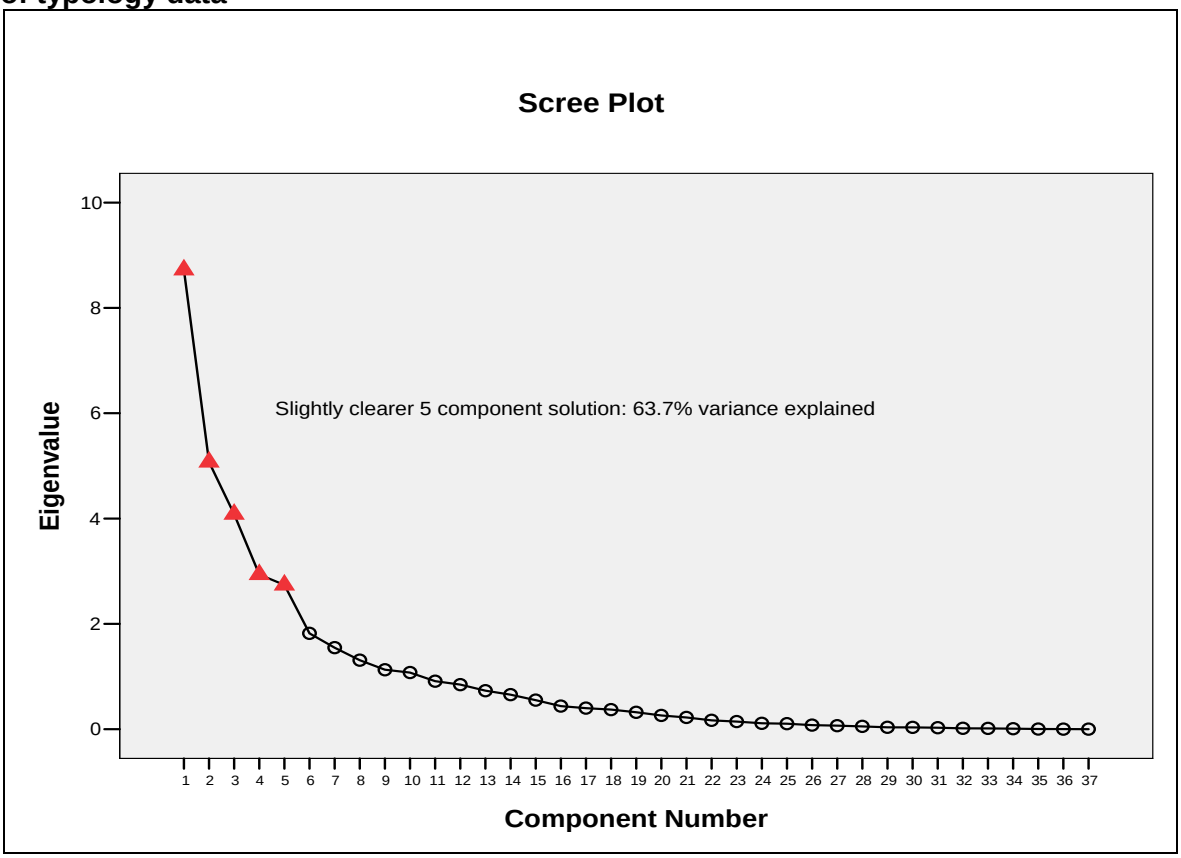


Step 2 - Principal Component Analysis

A Principal Component Analysis (PCA) was carried out, both to aid interpretation of the cluster structure and to ensure groupings proved 'sensible'. This method explores the underlying dimensions in the data determining the membership of each cluster. Therefore, rather than having to characterise each group of areas in terms of each of the 37 individual indicators, information can be condensed into a smaller number of factors.

The PCA clearly identified five components in the data explaining 63.7 per cent of the variance (Figure 4).

Figure 4: Principal Component Analysis - scree plot of five main components of typology data



The components are then orthogonally rotated to provide a clearer indication of factors underpinning the data. The five main factors or dimensions of the data can be characterised as follows.

Factor 1:Low human capital

- high levels of worklessness
- poor skills and qualifications amongst working age population
- poor general and mental health
- high levels of deprivation in terms of low incomes and high benefit dependency
- however, area is improving, and NDC is perceived to have improved the area, residents have taken part in NDC activities and they feel part of the community.

Factor 2: Stability

- residents do not want to leave the area and do not feel 'trapped'
- quality of life good, satisfied with accommodation, satisfied with doctor, neighbours look out for each other
- low levels of physical activity
- burglary and total crime rates are an issue.

Factor 3:High fear of crime and problems with the area

- high fear of crime, feel unsafe after dark, poor mental health
- perceived problems with lawlessness and dereliction and the local environment
- not satisfied with place to live, quality of life poor, area not improving and NDC not improving the area.

Factor 4:Relatively thriving

- comparatively good school results (relative to NDC areas)
- working age population has good qualifications (relative to NDC areas)
- low rates of smoking
- feel part of the community and can influence decisions in the area.

Factor 5:Transient, younger population in area with high crime rates

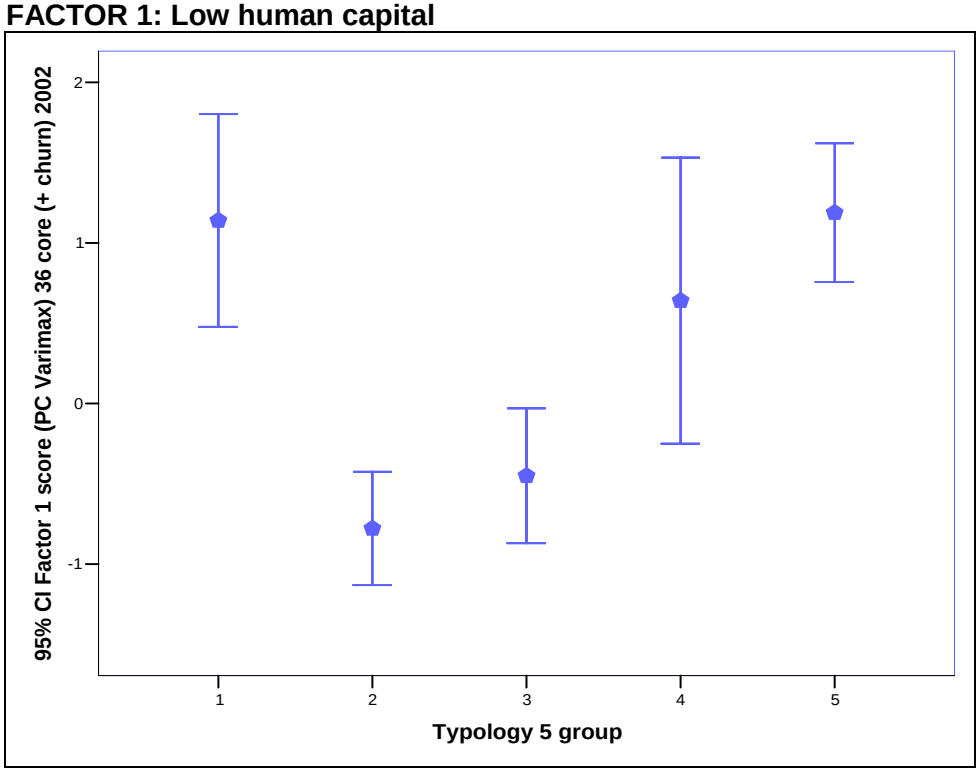
- highly transient population
- comparatively better qualified working age population who have recently taken part in full time education
- high theft and total crime rate.

It should be remembered that these factors are not the same as the clusters themselves: this information helps to understand the nature of the areas within each cluster.

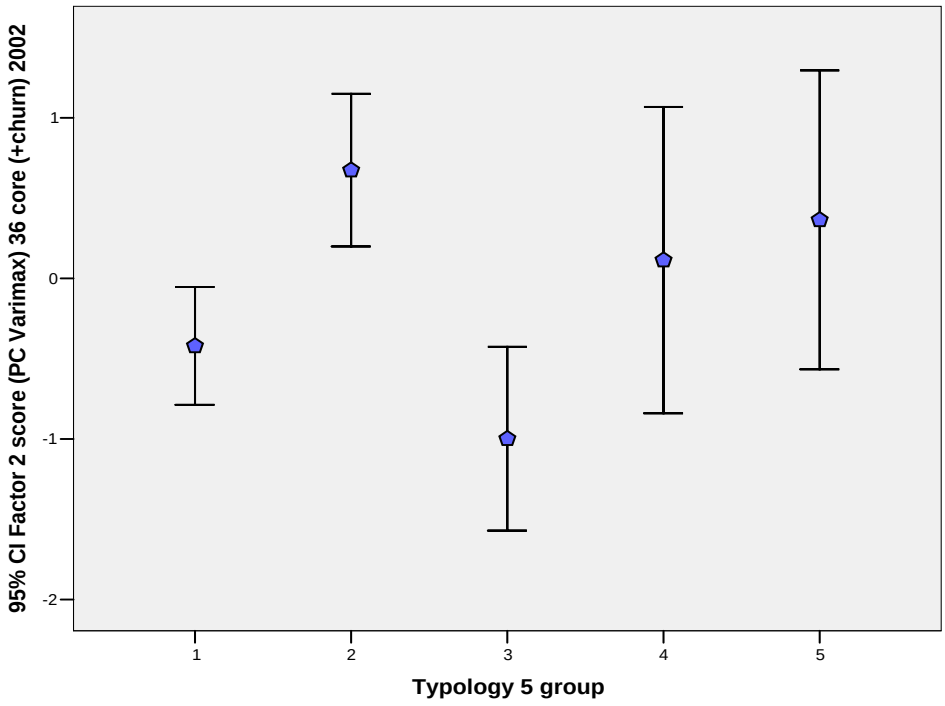
Error bar plots for each of the factor scores are presented for the final clusters (Figure 5). These aid interpretation of the characteristics of each of the 5 groups relative to each other.

Figure 5: Error bars for Principal Component Factor scores for each cluster in typology

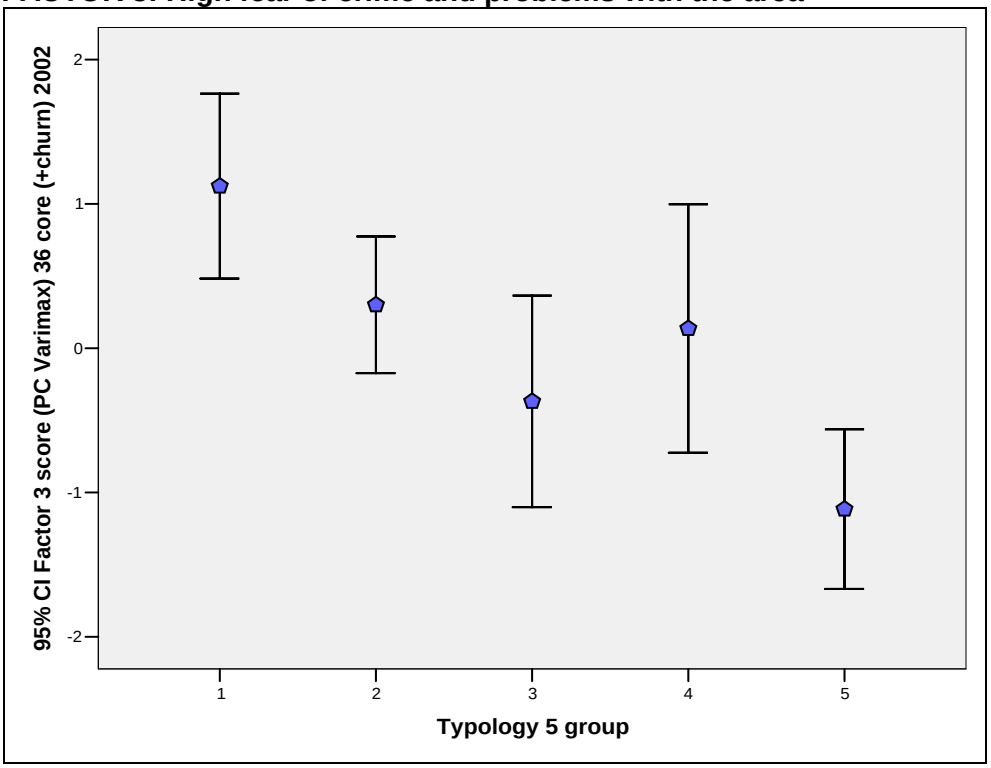
FACTOR 1: Low human capital



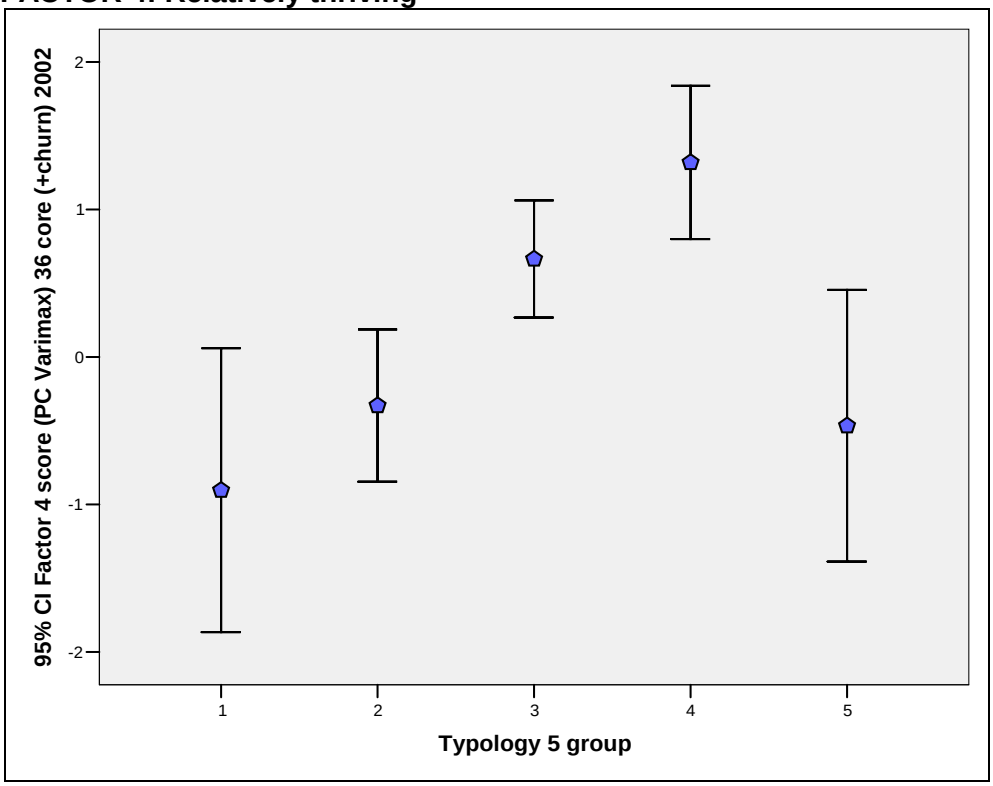
FACTOR 2: Stability



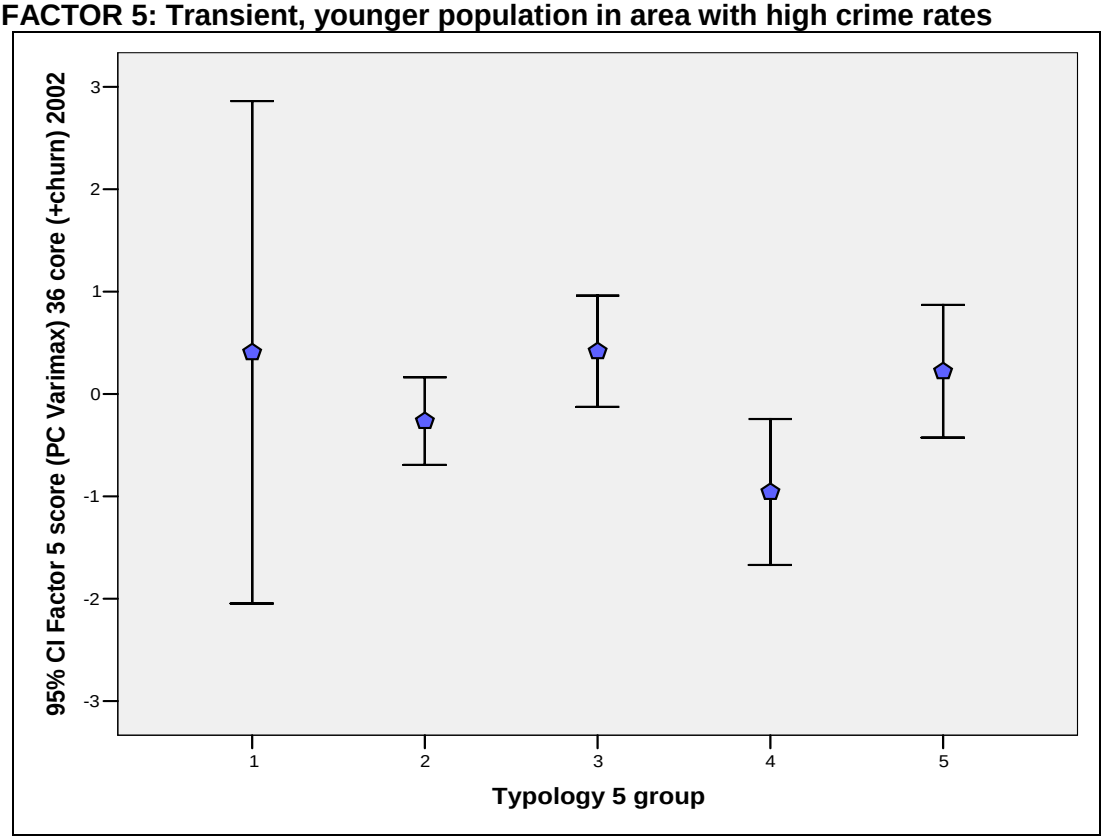
FACTOR 3: High fear of crime and problems with the area



FACTOR 4: Relatively thriving



FACTOR 5: Transient, younger population in area with high crime rates



Step 3 - Discriminant Analysis for validation of the group membership

The "reality" of the five cluster structure was then tested via one way Multivariate Analysis of Variance (MANOVA), using the five principal component scores as inputs, and using stepwise Discriminant Analysis to assess predictive power. Results indicated that the first three principal components (PCs) were significant discriminators. The correct allocation to clusters in 84.6% of the cross-validated cases gives confidence to the 5 cluster structure decided upon.

However, further examination of the posterior probabilities generated by the Discriminant Analysis indicates that for three areas the allocation to groups is not clear cut. Given what we know of the underlying dimensions in the data, the Discriminant Analysis suggests that both Kings Norton and Luton are more likely to be members of cluster 2 rather than cluster 1 and 3 respectively. Furthermore Tower Hamlets is only fractionally less likely to be a member of group 3 than group 4. This validating process and reallocation to these groups makes sense given knowledge of the individual Partnerships and the final membership of groups, not least because Cluster 3 now consists of all the London Partnerships. The final typology groupings are presented in Table 19.

Table 19: Final validated group membership for typology of NDC areas

Cluster 1 (N = 5)	Cluster 2 (N = 14)	Cluster 3 (N = 10)	Cluster 4 (N = 4)	Cluster 5 (N = 6)
Liverpool	Norwich	Hackney	Bradford	Newcastle
Nottingham	Middlesbrough	Newham	Sandwell	Hull
Knowsley	Leicester	Southwark	Wolverhampton	Manchester
Doncaster	Brighton	Lewisham	Birmingham A	Sunderland
Coventry	Bristol	Brent		Sheffield
	Walsall	Islington		Plymouth
	Southampton	Haringey		
	Salford	Fulham		
	Oldham	Lambeth		
	Rochdale	Tower		
	Hartlepool	Hamlets		
	Derby			
	Birmingham KN			
	Luton			

Key dimensions in the data identified by the Principal Components Analysis allow consideration of how areas within each of the five clusters are similar to each other or differentiated from other groups. This aids interpretation as to how best to describe each of the five groups. In addition key socio demographic variables such as ethnicity and concentrations of social housing are useful in differentiating amongst groups. It should be stressed that comments on each cluster reflect relative positioning versus other NDC clusters, not against national benchmarks. For example, thriving means relative to other NDC clusters.

Cluster 1: 'Entrenched Disadvantage'

- low on human capital (worst of 5 together with cluster 5)
- relatively unstable (not as marked as cluster 3)
- high fear of crime and problems with the area (the worst of all 5 clusters)
- not thriving
- quite varied in terms of population churn and high crime rates (has slightly the highest score but with big spread).

Cluster 2: 'Stable and Homogenous'

- lack of human capital is less of a problem in these areas compared with other clusters (though score is better than London NDCs it is not significantly so)
- most stable of all clusters
- fear of crime and problems with the area are an issue
- less thriving than clusters 3 and 4
- transient population and recorded crime less of an issue than in most of the other groups except cluster 4
- least ethnically diverse of clusters.

Cluster 3: 'London NDCs'

- lack of human capital is less of a problem compared with most other clusters
- least stable of all clusters
- fear of crime and problems with the area less of an issue than for clusters 1,2 and 4
- significantly more thriving than clusters 1,2 and 5 though not quite as much as cluster 4
- more transient with higher crime than clusters 2 and 4
- ethnically diverse.

Cluster 4: 'Diverse and Relatively Thriving'

- human capital an issue
- middle ranking on both stability and fear of crime and problems with the area
- the most thriving of all the clusters (significantly more so than all other clusters bar London)
- middling in terms of transience and recorded crime
- most ethnically diverse of all clusters, though not significantly different from London.

Cluster 5: 'Disadvantaged and Socialised'

- low on human capital (worst of 5 together with cluster 1)
- relatively stable
- this cluster reveals least fear of crime and problems in the area of all the groups
- not thriving locally
- relatively transient population and recorded crime.

This typology formed the basis for combining comparator-areas household survey data into pooled comparators for benchmarking purposes. This pooled comparator data for core indicators is available at: http://extra.shu.ac.uk/ndc/ndc_data.htm

8. Statistical methods

A range of bi-variate and multi-variate methods are used throughout the final reports. These range from relatively straight-forward descriptive statistics to more complex longitudinal modelling based on the individual-level panel data. Following sections provide an overview of key methods used. In each case a broad description of the modelling procedure is outlined. In reality the evaluation team ran and analysed a large number of statistical models. For instance, in the case of the Final Report Volume 5 alone, some 75 fixed, and 75 random, effects, logit models were assessed. It is not therefore practical to display each of these in this report, although a small number of models are included here for illustrative purposes.

8.1. Pearson Correlation Coefficients

In brief, this statistical technique assesses whether a **linear relationship exists between two variables** and quantifies how strong that relationship is. Coefficients range from +1 to -1. A coefficient of +1 indicates a very strong positive relationship - i.e. for all observed cases as one factor increases by a given amount so does the other. A coefficient of -1 indicates a very strong negative relationship - i.e. for all observed cases, as one factor increases by a given amount the other factor decreases to the same extent. A coefficient of zero indicates no consistent linear relationship exists across all the cases. Scatter diagrams are used visually to represent the strength of observed relationships.

Correlation coefficients are useful as they can be used to examine the strength of association between observed outcomes in individual NDC areas and factors which may be associated with change. In these instances, there are 39 NDC areas across which to observe any such relationships. The coefficients need to be at least +/- 0.32 to be considered statistically significant at the 5% level of confidence: that is in 95 out of 100 cases this observed relationship is likely to be true. The closer the coefficient is to +/-0.32, although still significant, the weaker, or less consistent the relationship is across all observed cases. The closer the coefficient is to +/-1 the stronger and more consistent the observed relationship is across all cases.

8.2. Multiple Regression

In brief, this method quantifies the extent to which **a number of explanatory factors** are related to, and thus help explain, variation across NDC areas in change achieved in any given outcome variable. These models help in understanding, and to a certain extent in predicting, the extent to which an NDC area with given characteristics might be on average more likely to achieve greater change than another which does not have said characteristics.

Simple regression builds upon correlation coefficients by presenting the relationship between two variables as an equation. This equation can be used to predict the value of one variable if we know the value of the other. Multiple regression takes this analysis another step further by allowing several predictors to be explored at once. For example, it would be possible to see if the unemployment rate of an NDC area (the dependent variable) is associated with the proportion or residents with no qualifications, the health of the wider economy as measured by jobs growth in the

local authority, and the proportion of non-white residents in the area (the independent or explanatory variables).

Given the observed dependent and explanatory variable values, then the unknown parameters (coefficients) in the equations can be calculated. This is done by fitting a model such that the sum of squared differences between the line and actual data points is minimised: the method of least squares. The regression coefficients represent the average change in the outcome variable associated with a one unit change in the explanatory variable. A positive coefficient indicates a positive association between the explanatory and the outcome variable implying a higher explanatory value is on average associated with a higher outcome value; vice versa for a negative coefficient. A t-test calculates if the coefficients are statistically significant and that the relationship identified is unlikely to be spurious or have occurred due to chance. **It should be emphasised that a significant association does not imply causation.**

The degree of fit of each of the models is discussed by referring to the **R^2 statistic**. This indicates how well the model predicts the value of the variable it is trying to explain compared with the observed value. So given a set of known characteristics for each NDC area, the model fits a regression line: the closer to the line observations fall the better the fit of the model. If R^2 =1 this indicates a perfect fit and all the observations fall exactly on the line. If R^2 =0 then no linear relationship is apparent between the dependent and independent variables. It should be appreciated that the latter would not necessarily mean there was no association between factors being considered and the variable being 'explained', but rather that there was no linear relationship. Another way to consider the R^2 statistic is that it indicates the proportion of variation in the dependent variable that is explained by the factors included in the model. Hence an R^2 of 0.5 indicates that 50% of the variation has been explained by the factors included in the model. 50% is therefore still unaccounted for by factors not included in the model.

8.3. Logistic Regression

Logistic regression is used in the modelling of dichotomous (binary) rather than continuous outcome variables: for example, whether an individual is in employment or not. Logistic regression modelling attempts to predict the probability of an outcome occurring given some known explanatory values. This means that the expected outcome from the final model equation is a probability value varying between 0 (extremely unlikely to have occurred) and 1 (extremely likely to have occurred). An attractive property of logistic regression is that the coefficient attached to explanatory variables can be expressed as an odds ratio (OR). ORs reflect the probability of a given outcome occurring given the respondent has a given characteristic compared to if they did not, all other things being equal. An OR value greater than 1 indicates having the given characteristic is associated with on average a greater likelihood of the outcome occurring compared to the base group; vice versa for a ratio less than 1. For example, an OR of two implies that a person with a known attribute, say being male, is on average twice as likely to be in employment compared with females, after all other factors have been taken into account. The Wald statistic indicates if the explanatory coefficient is significantly different from zero so as not to have occurred due to chance.

8.4. Longitudinal modelling techniques

Individual-level data available from the longitudinal panels helps in understanding and explaining change to individuals over time. This is a powerful data set which enables sophisticated multivariate modelling methods to be used. The changing responses for individuals can be tracked over time and models can control for

differences in the composition of populations in areas. A number of modelling methods are used.

Fixed and Random effects linear models have been used to model (pseudo) continuous variables where data has been collected on the same individuals at repeated points in time. These outcome variables often relate to derived indices which combine a number of items from the NDC household survey questionnaire and include for example, SF36 mental health well-being, fear of crime and lawlessness and dereliction scores. As with linear regression, fixed and random effects linear models attempt to predict the amount of outcome change occurring given some known explanatory values. This is done by assessing within-individual variation in the case of the fixed effects model, and both within-, and between-, variation in the case of the random effects model. A Hausman Test has been used to assess appropriateness of the random effects specification over fixed effects. This form of modelling has been undertaken to identify the estimated 'treatment effect' of the Programme over time. These models help disentangle whether the predicted expected outcome for an NDC area resident is significantly greater than for a comparator area resident, holding all other things constant. These models estimate coefficients by using variation both between, and within, individuals over time.

Fixed and Random effects logit models are used to model dichotomous (binary) outcome variables where data has been collected on the same individuals at repeated points in tim. One example (which is presented in tables 19 and 20) would be the likelihood of a resident who had not good health at the beginning of the Programme, making a transition tonot having good health by the end. As with logistic regression, fixed and random effects logit models attempt to predict the probability of an outcome occurring given a range of known explanatory values. This form of modelling has been undertaken to identify the estimated 'treatment effect' of the Programme over time: does the likelihood of having the outcome characteristic change for residents within NDC areas by a significantly greater amount than for those in comparator areas. Again, these models estimate coefficients by assessing within-individual variation in the case of the fixed effects model, and both within-, and between-, variation in the case of the random effects model. A Hausman Test has been used to assess appropriateness of the random effects specification over fixed effects.

Generalised linear latent and mixed models (GLLAMM): have been used to model ordinal choice variables where data has been collected on the same individuals at repeated points in time. These outcome variables include questions on the household survey that are based on a five point Likert scale, for example satisfaction with the area (presented in tables 21 and 22) or quality of life. As with previous modelling methods outlined immediately above, estimates of coefficients are created by using variation both between individuals, and within individuals, over time.

Multi-level modelling (MLM): is a complementary modelling technique to those listed above. MLM takes account of the hierarchical nature of data and the fact that there are 39 clusters of observations, one for each NDC area. In addition the comparator areas can be included in these models as a 40th cluster. This method helps to highlight the degree to which the variation observed amongst respondents can be explained by individual-level characteristics or if significant area effects (where an individual lives) exist. The method also helps illustrate differences in outcomes across individual NDC areas. Models which compare outcomes amongst NDC residents against those for comparator area residents control for a consistent set of individual level socio-demographic factors, including age, sex, ethnicity, household type and tenure. A range of software has been used to undertake these methods such as SPSS, STATA and MLWIN.

Table 19: Health not good longitudinal logit models

	Cond. Fixed Effects			Random Effects		
	Coef.	Std. Err	P>|z|	Coef.	Std. Err	P>|z|
Female				0.273	0.156	0.079
Wave	-0.183	0.220	0.404	-0.313	0.211	0.138
Female x Wave	-0.059	0.049	0.230	-0.058	0.048	0.229
Asian				0.606	0.275	0.027
Black				0.183	0.246	0.456
Other ethnic				0.039	0.879	0.965
Asian x Wave	0.021	0.084	0.800	0.047	0.084	0.575
Black x Wave	-0.224	0.077	0.004	-0.200	0.077	0.009
Other ethnic x Wave	-0.024	0.238	0.918	0.022	0.265	0.934
Couple, with dependent children	-0.476	0.312	0.127	-1.059	0.260	0.000
Lone Parent Family	-0.756	0.336	0.025	-1.201	0.283	0.000
Single person family	-0.182	0.237	0.443	0.079	0.186	0.671
Large adult household	-0.254	0.284	0.370	-0.448	0.249	0.072
Couple, with dependent children x Wave	0.189	0.096	0.050	0.217	0.091	0.017
Lone Parent Family x Wave	0.335	0.103	0.001	0.352	0.098	0.000
Single person family x Wave	0.043	0.063	0.492	0.067	0.060	0.267
Large adult household x Wave	0.196	0.089	0.027	0.213	0.084	0.011
Social sector renter	-0.053	0.262	0.839	0.931	0.154	0.000
Private renter	-0.863	0.523	0.099	-0.117	0.435	0.788
Social sector renter x Wave	0.026	0.049	0.599	0.025	0.048	0.609
Private renter x Wave	0.334	0.155	0.031	0.302	0.145	0.037
Age 25 - 49	-0.570	0.447	0.202	0.398	0.406	0.327
Age 50 - 59	-0.920	0.521	0.077	1.186	0.433	0.006
Age 60+	-1.922	0.524	0.000	0.301	0.426	0.480
Age 25 - 49 x Wave	0.151	0.194	0.436	0.173	0.187	0.354
Age 50 - 59 x Wave	0.258	0.205	0.207	0.213	0.194	0.272
Age 60+ x Wave	0.491	0.199	0.014	0.557	0.191	0.004
NDC				0.471	0.280	0.093
NDC x Wave	-0.214	0.088	0.015	-0.190	0.085	0.024
Constant				-2.978	0.514	0.000
Number of observations	5,973			15,273		
Number of groups	1,502			3,842		
Hausman	103.8	0.000				

Source: NDC and Comparator longitudinal survey (wave 1 to wave 4 panel)

Table 20: Health not good longitudinal logit models; using time dummies

	Cond. Fixed Effects			Random Effects		
	Coef	Std. Err	P>|z|	Coef	Std. Err	P>|z|
Female				0.139	0.136	0.306
Wave 2	-0.663	0.573	0.247	-0.838	0.556	0.132
Wave 3	-0.471	0.604	0.436	-0.738	0.577	0.201
Wave 4	-0.427	0.761	0.574	-0.823	0.726	0.257
Female x Wave 2	0.059	0.155	0.706	0.076	0.151	0.615
Female x Wave 3	0.084	0.156	0.590	0.089	0.151	0.559
Female x Wave 4	-0.215	0.156	0.170	-0.201	0.151	0.185
Asian				0.627	0.241	0.009
Black				0.016	0.214	0.941
Other ethnic				-0.446	0.814	0.583
Asian x Wave 2	0.032	0.265	0.904	0.112	0.265	0.674
Asian x Wave 3	0.029	0.266	0.914	0.116	0.268	0.666
Asian x Wave 4	0.086	0.269	0.749	0.161	0.267	0.547
Black x Wave 2	-0.406	0.239	0.089	-0.313	0.238	0.188
Black x Wave 3	-0.477	0.242	0.049	-0.409	0.242	0.091
Black x Wave 4	-0.712	0.244	0.004	-0.620	0.243	0.011
Other ethnic x Wave 2	0.742	0.790	0.348	1.036	0.862	0.229
Other ethnic x Wave 3	0.688	0.791	0.384	0.885	0.856	0.301
Other ethnic x Wave 4	-0.035	0.824	0.966	0.112	0.899	0.901
Couple, with dependent children	-0.176	0.269	0.514	-0.726	0.216	0.001
Lone Parent Family	-0.386	0.290	0.183	-0.826	0.234	0.000
Single person family	0.022	0.216	0.919	0.297	0.158	0.061
Large adult household	0.050	0.245	0.837	-0.099	0.210	0.637
Couple, with dependent children x Wave 2	-0.167	0.281	0.551	-0.177	0.271	0.513
Couple, with dependent children x Wave 3	0.449	0.294	0.127	0.521	0.283	0.065
Couple, with dependent children x Wave 4	0.431	0.305	0.159	0.501	0.289	0.083
Lone Parent Family x Wave 2	0.305	0.301	0.311	0.316	0.293	0.281
Lone Parent Family x Wave 3	0.687	0.317	0.030	0.691	0.305	0.023
Lone Parent Family x Wave 4	1.006	0.329	0.002	1.061	0.314	0.001
Single person family x Wave 2	-0.359	0.193	0.063	-0.333	0.189	0.077
Single person family x Wave 3	-0.055	0.196	0.778	0.015	0.191	0.938
Single person family x Wave 4	0.043	0.198	0.826	0.112	0.191	0.556
Large adult household x Wave 2	-0.030	0.271	0.913	-0.087	0.263	0.741
Large adult household x Wave 3	0.116	0.285	0.683	0.144	0.270	0.595
Large adult household x Wave 4	0.601	0.280	0.032	0.628	0.265	0.018
Social sector renter	0.021	0.252	0.933	1.014	0.134	0.000
Private renter	-0.896	0.475	0.060	-0.106	0.384	0.783
Social sector renter x Wave 2	-0.091	0.155	0.560	-0.110	0.153	0.471
Social sector renter x Wave 3	-0.036	0.156	0.817	-0.029	0.154	0.848
Social sector renter x Wave 4	0.076	0.157	0.626	0.061	0.154	0.693
Private renter x Wave 2	1.060	0.479	0.027	0.855	0.456	0.061
Private renter x Wave 3	1.361	0.491	0.006	1.154	0.463	0.013
Private renter x Wave 4	1.039	0.507	0.041	0.946	0.472	0.045
Age 25 - 49	-0.677	0.366	0.064	0.322	0.291	0.269
Age 50 - 59	-0.863	0.431	0.045	1.202	0.317	0.000
Age 60+	-1.623	0.451	0.000	0.695	0.313	0.026
Age 25 - 49 x Wave 2	1.133	0.479	0.018	1.210	0.465	0.009
Age 25 - 49 x Wave 3	0.131	0.508	0.797	0.176	0.485	0.717
Age 25 - 49 x Wave 4	0.614	0.687	0.371	0.666	0.658	0.311
Age 50 - 59 x Wave 2	0.980	0.502	0.051	1.060	0.487	0.029
Age 50 - 59 x Wave 3	0.353	0.534	0.509	0.350	0.508	0.490
Age 50 - 59 x Wave 4	0.883	0.717	0.218	0.701	0.676	0.300
Age 60+ x Wave 2	1.179	0.493	0.017	1.317	0.480	0.006
Age 60+ x Wave 3	0.886	0.523	0.091	1.025	0.501	0.041
Age 60+ x Wave 4	1.511	0.699	0.031	1.705	0.668	0.011
NDC				0.292	0.247	0.238
NDC x Wave 2	-0.305	0.276	0.268	-0.278	0.270	0.304
NDC x Wave 3	-0.264	0.276	0.338	-0.209	0.272	0.442
NDC x Wave 4	-0.767	0.280	0.006	-0.674	0.268	0.012
Constant				-3.184	0.402	0.000
Number of observations	5,973			15,273		
Number of groups	1,502			3,842		
Hausman	35.2	0.978				

Source: NDC and Comparator longitudinal survey (wave 1 to wave 4 panel)

Table 21: Satisfied with area as a place to live GLLAMM model

	Coef	GLLAMM Std. Err	P>|z|
Female	-0.062	0.106	0.560
Wave	0.154	0.113	0.173
Female x Wave	0.024	0.032	0.444
Asian	0.442	0.187	0.018
Black	0.100	0.168	0.551
Other ethnic	-0.979	0.618	0.113
Asian x Wave	-0.021	0.056	0.710
Black x Wave	0.074	0.050	0.134
Other ethnic x Wave	0.297	0.185	0.108
Couple, with dependent children	0.076	0.163	0.639
Lone Parent Family	0.200	0.184	0.276
Single person family	0.288	0.130	0.027
Large adult household	0.155	0.169	0.360
Couple, with dependent children x Wave	-0.063	0.055	0.250
Lone Parent Family x Wave	-0.125	0.063	0.047
Single person family x Wave	-0.056	0.042	0.181
Large adult household x Wave	-0.040	0.056	0.471
Social sector renter	0.201	0.103	0.050
Private renter	0.029	0.284	0.919
Social sector renter x Wave	-0.015	0.032	0.634
Private renter x Wave	0.030	0.096	0.751
Age 25 - 49	0.220	0.218	0.313
Age 50 - 59	0.318	0.245	0.193
Age 60+	0.559	0.239	0.020
Age 25 - 49 x Wave	-0.021	0.094	0.820
Age 50 - 59 x Wave	-0.001	0.101	0.994
Age 60+ x Wave	0.023	0.099	0.817
NDC	-0.680	0.187	0.000
NDC x Wave	0.121	0.056	0.030
Cons 1	-2.882	0.302	0.000
Cons 2	-1.477	0.301	0.000
Cons 3	-0.816	0.301	0.007
Cons 4	2.356	0.301	0.000
Number of observations	15,273		
Number of groups	3,842		

Source: NDC and Comparator longitudinal survey (wave 1 to wave 4 panel)

Table 22: Satisfied with area as a place to live GLLAMM model; using time dummies

	Coef	GLLAMM Std. Err	P>|z|
Female	-0.002	0.093	0.986
Wave 2	0.399	0.301	0.185
Wave 3	0.309	0.322	0.337
Wave 4	0.386	0.379	0.308
Female x Wave 2	-0.022	0.099	0.825
Female x Wave 3	-0.067	0.099	0.502
Female x Wave 4	0.095	0.100	0.341
Asian	0.398	0.166	0.016
Black	0.142	0.148	0.337
Other ethnic	-0.191	0.544	0.725
Asian x Wave 2	0.125	0.176	0.476
Asian x Wave 3	-0.174	0.174	0.320
Asian x Wave 4	0.032	0.176	0.856
Black x Wave 2	0.264	0.157	0.093
Black x Wave 3	-0.018	0.156	0.907
Black x Wave 4	0.345	0.157	0.028
Other ethnic x Wave 2	-0.875	0.572	0.126
Other ethnic x Wave 3	-0.058	0.558	0.917
Other ethnic x Wave 4	0.802	0.595	0.178
Couple, with dependent children	0.128	0.136	0.346
Lone Parent Family	0.174	0.153	0.256
Single person family	0.256	0.110	0.021
Large adult household	0.167	0.144	0.244
Couple, with dependent children x Wave 2	-0.490	0.166	0.003
Couple, with dependent children x Wave 3	0.007	0.171	0.968
Couple, with dependent children x Wave 4	-0.361	0.174	0.037
Lone Parent Family x Wave 2	-0.490	0.190	0.010
Lone Parent Family x Wave 3	-0.192	0.192	0.319
Lone Parent Family x Wave 4	-0.497	0.199	0.012
Single person family x Wave 2	-0.205	0.130	0.115
Single person family x Wave 3	0.025	0.131	0.850
Single person family x Wave 4	-0.261	0.132	0.048
Large adult household x Wave 2	-0.309	0.176	0.079
Large adult household x Wave 3	0.058	0.178	0.745
Large adult household x Wave 4	-0.225	0.178	0.206
Social sector renter	0.251	0.090	0.005
Private renter	0.065	0.241	0.788
Social sector renter x Wave 2	-0.151	0.100	0.132
Social sector renter x Wave 3	-0.110	0.100	0.275
Social sector renter x Wave 4	-0.072	0.101	0.472
Private renter x Wave 2	-0.030	0.292	0.919
Private renter x Wave 3	0.159	0.299	0.596
Private renter x Wave 4	0.026	0.301	0.932
Age 25 - 49	0.254	0.168	0.130
Age 50 - 59	0.333	0.192	0.082
Age 60+	0.613	0.189	0.001
Age 25 - 49 x Wave 2	-0.187	0.230	0.418
Age 25 - 49 x Wave 3	-0.201	0.256	0.433
Age 25 - 49 x Wave 4	0.076	0.323	0.813
Age 50 - 59 x Wave 2	-0.089	0.254	0.727
Age 50 - 59 x Wave 3	-0.048	0.279	0.863
Age 50 - 59 x Wave 4	0.126	0.342	0.712
Age 60+ x Wave 2	-0.146	0.248	0.557
Age 60+ x Wave 3	-0.008	0.273	0.977
Age 60+ x Wave 4	0.204	0.336	0.544
NDC	-0.712	0.166	0.000
NDC x Wave 2	0.447	0.175	0.010
NDC x Wave 3	0.471	0.174	0.007
NDC x Wave 4	0.399	0.177	0.024
Cons 1	-2.993	0.250	0.000
Cons 2	-1.585	0.249	0.000
Cons 3	-0.923	0.248	0.000
Cons 4	2.258	0.249	0.000
Number of observations	15,273		
Number of groups	3,842		

Source: NDC and Comparator longitudinal survey (wave 1 to wave 4 panel)

A1

Appendix 1: Expenditure and Output Analysis Methodology

Introduction

This Appendix describes the approaches used to: a) analyse how NDC expenditure has been used; b) estimate the outputs generated from that expenditure; and c) estimate the additionality of NDC, i.e. assessing the extent to which outputs would not have been generated in the absence of the programme.

Improving our understanding of how NDC funding has been used

System K

Within Phase 2 of the NDC three measures were taken to improve the quality of the information held on the System K database. The first was to re-code the projects on the databank so that it was possible to understand more about what NDCs had done. Hitherto the only disaggregation possible was by theme and this was too aggregative. CEA developed a categorisation that produced 70 project types within 7 activity categories. The recoding was achieved successfully and implemented across all projects (numbering several thousand) within System K.

The second was a validation exercise designed to test the quality of the output data on System K in order to increase the accuracy of programme-wide output estimates. Analysis of the output data recorded on System K had revealed that when some of the output fields were summarised for the NDC programme as a whole they produced implausible results. With Phase 2 of the evaluation focusing on five case study NDCs, there was both a need and an opportunity to look more closely at the quality of output and expenditure data that available from System K for these areas: Clapham, Knowsley, Newcastle, Walsall and West Ham. The case study work required a detailed examination at the project level of the data held on System K and discussions with the NDC Partnerships. This revealed a number of measurement problems. One significant issue was that some projects had not recorded NDC core outputs. In some cases these were new projects that had not yet produced outputs. In other cases the projects had clearly been incurring spend over a number of years and there should thus be outputs. In a number of cases NDCs had relied on their own non core outputs to record progress but in others no outputs of any kind have been recorded.

A further problem was the sheer diversity of output indicators being used by NDCs. There were some 700 non-core outputs across the five case study partnerships alone. To capture some of this additional information, CEA carried out a matching exercise of some of the more ‘standard’ non core outputs that have been used and where it was possible CEA have matched non-core outputs to:

- the NDC 34 core outputs
- four general CEA additional outputs that were used in the early ‘Value for Money’ reports
- twelve SRB outputs where these have been used by NDCs.

Following the matching exercise extensive work was undertaken to examine aggregate spend and output data at the project level for all five case studies (around 900 projects in total) and a series of project related queries were raised. These were explored with the individual NDCs.

In order to keep the queries with NDCs down to a minimum, information was only sought on actual spend and outputs (not forecasts). Detail on actual outputs was sought for both total outputs and those ethnic minority outputs. The 'To date' spend and output figures were verified, rather than 'Year on Year' figures. Additional output and spend data was generated to supplement the System K data. The data validation exercise was completed by the mid part of 2006. Since then further additions to the System K database for the five case study NDCs has been examined on a regular basis in order to ensure that the data remains valid.

The third exercise was to examine the extent to which expenditure data recorded on System K for all 39 NDCs could be considered robust. This involved checking the NDC expenditure information available from System K with that provided through the standard NRU quarterly monitoring returns held by CLG and sorting out problems with NDCs as they arose.

Estimating the Programme-wide outputs generated by NDC project expenditure

When the work described above had been completed the evaluation had at its disposal a detailed analysis of how expenditure had been used across the NDC programme according to the new activity classification and validated information from five case study NDCs on the expenditure and total outputs generated by their expenditure within the same classification.

Data from the case study NDCs on outputs per £1 of NDC funding within each Activity Category was then applied to NDC funding at the Activity Category level for the 39 NDCs as a whole. This "grossing up" enabled an estimate to be made of the output contribution for the whole NDC programme.

Grossing up at the Activity Category level was just one of seven different grossing-up methods tested in order to assess the sensitivity of the approach. The seven approaches examined included grossing up:

- by NDC expenditure at the level of the 70 project type codes, with empty codes or zero spend adopting the activity category average
- by NDC expenditure at the level of the 70 project type codes, with empty codes or zero spend given zero outputs
- by total expenditure (i.e. NDC and other sources of expenditure) at the level of the 70 project type codes, with empty codes or zero spend based on the activity category average
- by total expenditure (i.e. NDC and other sources of expenditure) at the level of the 70 project type codes, with empty codes or zero spend given zero outputs
- by NDC expenditure at the level of the 7 Activity Categories
- by total expenditure (i.e. NDC and other sources of expenditure) at the level of the 7 Activity Categories
- by population, based on outputs per capita overall

Having considered the different approaches available, **grossing up by total expenditure at the Activity Category level was adopted as the preferred method**. A key choice was whether to adopt a very fine grained approach at the level of the 70 project types or an approach that used data at the broader Activity Category level. In principle, estimation based on the finer grained classification would be more desirable, provided that there were

sufficient data observations to ensure its reliability. However, at this very fine grained level there were blank expenditure and/or output cells for some project types, i.e. the five case study NDCs had not incurred expenditure against all project types or, in some cases, had incurred expenditure but recorded no outputs. At the level of the 39 NDCs as a whole there was expenditure for all project types. Thus, where there were empty cells for the five NDCs, grossing up at this level required the assumption of either zero outputs or average outputs based on the activity category average. While both approaches provided results close to the method adopted, they tended to produce some extreme outliers for some types of output. These outliers were not present in the preferred method adopted.

Estimating the additionality associated with the NDC programme

The Green Book (HM Treasury, 2003) defines additionality in the following way: *"An impact arising from an intervention is additional if it would not have occurred in the absence of the intervention."*

The Green Book goes on to note that additionality adjustments must *"be calculated with consideration of 'leakage', 'deadweight', 'displacement' and 'substitution' effects."* The bullet points below summarise how we have applied these adjustments in the context of NDC:

- deadweight is the proportion of total outputs that would have been secured anyway without the NDC-funded activity
- leakage is the proportion of outputs that benefit those outside of the NDC area
- two displacement adjustments have been made: a) the extent to which NDC funded projects have displaced activity from other regeneration projects; and b) the proportion of employment outputs from worklessness projects which are reduced elsewhere in the NDC area through "product market" displacement
- substitution arises where a firm substitutes a jobless person to replace an existing worker to take advantage of public sector assistance. In the NDC analysis this concept has been applied only to employment outputs from worklessness projects.

A **combined supply and income multiplier** effect has also been applied to all jobs created and safeguarded by projects, whatever their activity category. This multiplier effect takes account of the supply chain effect of purchases of goods and services by projects and firms employing staff; and the effect of spending of wages and salaries in supporting wider employment.

The remainder of this annex provides a detailed explanation of how these concepts have been applied to the NDC analysis the sources of data used and how uncertainty in the estimates has been taken into account.

Deadweight

Concept and approach

The analysis of deadweight has been undertaken in two stages:

- an assessment of **funding deadweight**, i.e. the extent to which projects would have gone ahead anyway, or later, or on a lower scale, or to a lower quality, in the absence of NDC funding
- an assessment of **beneficiary deadweight**, i.e. the extent to which beneficiaries could have accessed similar or less suitable services in the NDC area in the absence of the NDC-funded project.

Thus, if we take a hypothetical example, if it was established that 50 per cent of all projects could have happened anyway, in exactly the same form and at the same time, then funding deadweight would be 50 Per cent. If we then established that 50 per cent of beneficiaries of all projects could have accessed the same services anyway in the absence of the NDC-funded projects then beneficiary deadweight would be 50 per cent. Overall, then, only 25 per cent of the total (gross) outputs claimed by could be judged additional to the intervention (0.5 x 0.5) and thus, for this hypothetical example, the overall level of deadweight would be 75 per cent. The inverse, 25 per cent, is known as the gross additionality of the intervention.

Data sources

Two sources of data have been used for this analysis. As part of the national evaluation a sample of 193 NDC-funded projects was subject to local evaluation. These responses, which incorporate the views of project managers and other stakeholders associated with the design and delivery of the projects, cover issues to do with funding deadweight, beneficiary deadweight, leakage and displacement of activity from other projects. The second source of data, which has been used to augment the assessment of beneficiary deadweight, is a survey undertaken in 2005 by Ipsos MORI of 1008 beneficiaries of 23 NDC-funded projects.

Application of method

Funding deadweight

The local project evaluations asked *"what do you think would have happened to the project in the absence of NDC funding"*. The gross funding additionality estimates shown in Table A2.1 below were applied according to the response achieved for each project:

Table A2.1: Gross funding additionality applied to responses on what would have happened to projects in the absence of NDC funding

Possible response	Gross funding additionality applied (per cent)
Project would not have gone ahead at all	100
Project would have been of a lower scale	50
Project would have been of a lower quality	33
Project would have gone ahead at a later date	25
Project would have gone ahead entirely unchanged	0
Project would have gone ahead elsewhere outside the NDC area	0

Source: CEA

Table A2.2 shows the number of evaluation responses achieved for this question by Activity Category. Having applied the gross additionality rates above to each project, the arrays of results were then used to calculate a mean, standard deviation and, based on the number of responses, a 95 per cent Confidence Interval. This figure, which is indicated in the table below as plus or minus a given percentage, gives an indication of the spread of the observations and can be interpreted as follows: 95 per cent of results are expected to fall within + or – x per cent of the stated mean. We have used the Confidence Interval to express the results as a range.

Table A2.2: Gross additionality of NDC funding

Activity Category	N	Mean per cent	95 per cent Confidence Interval +/- per cent	Range (based on 95per cent CI) per cent	
				Low	High
1. Community	29	94.8	5.6	89.2	100*
2. Crime	51	88.4	7.2	81.2	95.6
3. Education	25	74.0	11.1	62.8	85.1
4. Worklessness	44	91.3	6.6	84.7	97.9
5. Health	24	74.3	14.0	60.3	88.3
6. Housing and the Physical Environment	13	79.8	16.2	63.6	96.0
7. Cross-cutting	6	94.3	7.0	87.3	100.0*

Source: CEA analysis of NDC evaluation workbooks
Note: * upper end of range capped at 100 per cent, irrespective of the upper bound of the Confidence Interval when added to the mean

Beneficiary deadweight

Two sources of data were used for this adjustment. The first is the local project evaluations. These invited project managers and other interviewed stakeholders to estimate the proportion of beneficiaries falling into each of the categories shown in Table A2.3 below.

Table A2.3: Gross beneficiary additionality applied to local evaluation responses on what beneficiaries could have done in the absence of NDC-funded projects

Possible response	Gross beneficiary additionality applied to proportion of beneficiaries falling into each response category (per cent)
Accessed no services/other projects at all	100
Accessed similar services/projects, but outside the NDC area	75
Accessed less suitable services/projects in the NDC area or outside it	67
Accessed similar services/projects elsewhere within the NDC area	0

Source: CEA

Without substantial information on the alternative choices available to beneficiaries in each area there is inevitably a large degree of subjectivity around what weights should be attached to different beneficiary additionality responses. However, the weights above were felt by the evaluators to strike the right balance given that many NDC projects have focussed on targeting, whether geographically through making their services easy to access in physical terms, or in customising them to the needs to residents. The weights above reflect our view that similar services outside the area or less suitable services within the NDC area or outside were still unlikely to rival the NDC project in terms of take-up, and thus that relatively high levels of gross beneficiary additionality should be applied for these categories.

The second source for beneficiary additionality was the Ipsos MORI beneficiary survey. This asked beneficiaries about the extent to which they could have accessed similar services or less suitable services in or outside the NDC area. Table A2.4 below shows the responses that beneficiaries could have provided and the weights applied to the proportion of beneficiaries responding to each. The weights for quality and delay are consistent with those applied to funding additionality as set out at Table A2.1.

Table A2.4: Gross beneficiary additionality applied to beneficiary survey responses on what beneficiaries could have done in the absence of NDC-funded projects

Possible response	Gross beneficiary additionality applied to proportion of beneficiaries falling into each response category (per cent)
Would not have accessed any services/projects at all	100
The help would have been of a lower quality	33
It would have taken longer to access services/projects	25

Source: CEA

Having applied these weights, the results for gross beneficiary additionality are shown in Table A2.5 below by Activity Category.

The local evaluation data provided arrays of results within each Activity Category that could be used to calculate Confidence Intervals at the 95 per cent level, which have then been applied to the means to generate ranges. The level of analysis provided by the beneficiary survey allowed a single result to be generated for each Activity Category, which is shown in the final column.

Table A2.5: Beneficiary additionality – estimates from local project evaluations and the beneficiaries survey

	RESULTS FROM LOCAL EVALUATIONS					BENEFICIARY SURVEY RESULTS
Activity Category	N	Mean	95 per cent Confidence Interval	Range based on 95per cent Confidence Interval		
				Low	High	
1. Community	24	76.2	10.3	65.9	86.5	88
2. Crime	43	68.0	10.3	57.7	78.3	75
3. Education	24	82.3	10.4	71.9	92.7	98
4. Worklessness	35	56.6	10.7	45.9	67.3	75
5. Health	19	69.6	14.8	54.8	84.4	97
6. Housing and the Physical Environment	8	53.4	20.6	32.9	74.0	No data
7. Cross-cutting	5	100.0	-	-	-	No data

Source: CEA analysis of local project evaluations and Ipsos MORI beneficiary survey results

The beneficiary survey results are typically higher than the upper end of the range established from the local evaluation survey results. The upper end of the range has therefore been calculated as the arithmetic mid point between the high end of the range from the project evaluations and the beneficiary survey results. The low end of the range is taken from the local evaluation results.

Table A2.6 sets out the final ranges derived for beneficiary additionality by Activity Category.

Table A2.6: Beneficiary additionality – final estimates applied (per cent)

Activity Category	Range	
	Low	High
1. Community	65.9	87.2
2. Crime	57.7	76.6
3. Education	71.9	95.4
4. Worklessness	45.9	71.1
5. Health	54.8	90.7
6. Housing and the Physical Environment	32.9	74.0
7. Cross-cutting	-	-

Source: CEA

Towards a final estimate of deadweight

As noted earlier, we now need to bring the estimates of funding and beneficiary additionality together. This has been done by multiplying the funding additionality by the beneficiary additionality (low x low, and high x high). Table A2.7 shows the overall "gross additionality" results.

Table A2.7: Overall gross additionality of NDC (per cent)

Activity Category	Range on gross additionality	
	Low	High
1. Community	58.8	87.2
2. Crime	46.8	73.2
3. Education	45.2	81.2
4. Worklessness	38.9	69.6
5. Health	33.1	80.1
6. Housing and the Physical Environment	20.9	71.0
7. Cross-cutting	87.3	100.0

Source: CEA

In order to arrive at the final estimates of deadweight, we have deducted the figures above from 100. The only exception we have made to this approach is for the Cross-cutting Activity Category. Because the high end of the range on gross additionality is 100 per cent, the low end of the range on deadweight would therefore be zero. This is felt to be unreasonably low, and so the mean result has been used to set the low end of this range.

Table A2.8 below shows the final estimates of deadweight derived. These represent the evaluation's estimate of the proportion of outputs which would have resulted anyway in NDC areas in the absence of the NDC programme.

Table A2.8: Deadweight of NDC (per cent)

Activity Category	Range on deadweight	
	Low	High
1. Community	12.8	41.2
2. Crime	26.8	53.2
3. Education	18.8	54.8
4. Worklessness	30.4	61.1
5. Health	19.9	66.9
6. Housing and the Physical Environment	29.0	79.1
7. Cross-cutting	5.7	12.7

Source: CEA analysis of 193 local evaluation workbooks and of Ipsos MORI survey of 1008 beneficiaries

Leakage

Concept and approach

Leakage is the proportion of outputs that benefit those outside the NDC area. For area based initiatives such as NDC, leakage is a key concern and is intimately linked to how well projects are designed to target key beneficiary groups.

In our analysis of the additionality of the NDC programme, leakage estimates have been applied in the following ways:

- leakage of employment opportunity outside of the NDC area, for those employed in delivering NDC-funded projects

- leakage of employment opportunity outside of the NDC area, for those in jobs created or safeguarded by NDC worklessness interventions, whether these are interventions to improve business start-up or growth or those designed to get people back into work
- leakage of other outputs to those living outside of the NDC area.

Leakage is applied as the proportion of outputs taken by those living outside of the NDC area. The residual are those outputs that benefit residents of the NDC area.

Data sources

Two data sources have been used.

The 193 local project evaluations provide data that can inform the first and third of the leakage assumptions set out above, i.e. on leakage of employment opportunity for project delivery posts, and wider leakage of outputs.

Recent research on additionality for BIS, led by a steering group involving BIS, CLG, HM Treasury, HCA and the RDAs, has captured data on leakage at the sub-regional level for interventions related to supporting individual enterprises and matching people to jobs. These have been applied to the second adjustment above, namely those in jobs created or safeguarded by interventions in the Worklessness Activity Category.

Application of method

Leakage of employment – project delivery posts

The local project evaluations asked project managers and other stakeholders to estimate the proportion of delivery staff living outside of the NDC area. Given the nature of these roles, and the relatively narrow geography of many NDC areas, it is not surprising to find that leakage is high as shown in Table A2.9.

Table A2.9: Leakage of employment from NDC areas – project delivery posts only

Activity Category	Per cent of project delivery posts taken by those living outside the NDC area
1. Community	55
2. Crime	83
3. Education	62
4. Worklessness	76
5. Health	73
6. Housing and the Physical Environment	76
7. Cross-cutting	71

Source: CEA analysis of local project evaluations

Leakage of employment – jobs created or safeguarded by Worklessness projects

Other employment created or safeguarded in the Worklessness Activity Category is recorded in System K as jobs created or jobs safeguarded. The definition of this output means that it cannot be assumed that all job opportunities are taken by beneficiaries living within the NDC area. Once again, there is leakage of opportunity to those living outside the NDC area.

We have applied leakage benchmark data recently published by BIS, which provides evidence at both the regional and sub-regional level. The sub-regional data covers interventions from neighbourhood up to county or genuine sub-regions, and in applying it we are aware of the level of uncertainty involved. Leakage decreases the larger the area and will be at its highest for small areas like neighbourhoods. For that reason we have taken the mean sub-regional leakage from the benchmark data as the low end of the range, and

added the published 95 per cent Confidence Interval to provide an upper end of the range on this form of leakage.

Benchmark data exists for "individual enterprise support" and for "matching people to jobs". The employment outputs from worklessness interventions were analysed at the project type level so that these could be apportioned between the two broad categories. Approximately 85 per cent of recorded System K jobs created or safeguarded in the Worklessness Activity Category are linked to business interventions and 14 per cent to worklessness interventions targeted at individuals (the final 1 per cent are project delivery posts, discussed above). Table A2.10 shows the leakage rates applied to these job outputs in the analysis.

Table A2.10: Leakage of jobs created/safeguarded by NDC Worklessness Activity Category (per cent)

Activity Category	Range on deadweight	
	Low	High
4a. Worklessness – business (Individual enterprise support benchmark)	16.1	35.2
4b. Worklessness – individuals (Matching people to jobs benchmark)	18.1	39.2

Source: CEA assumptions based on
BIS Research to improve the assessment of additionality, October 2008

Leakage of non-employment outputs

In order to generate an estimate of leakage for other outputs, we have drawn on data from the local project evaluations regarding opinions on the extent to which the project has been successful in engaging with its main target group and then applied a series of leakage rates depending on the response.

In doing so we have taken as our starting assumption that leakage should be low, because NDC interventions will, by dint of funding conditions applied by many NDCs, be directly if not solely targeted on residents living within the NDC area. A maximum leakage rate for projects judged to have been poor in terms of their engagement with the target group has been set at 25 per cent, falling on a sliding scale to 10 per cent where the project was judged successful in these terms.

Table A2.11 shows the response categories and the leakage rates applied. As the results are only available at Theme level, the cross-cutting activity category has been taken as a simple average of the results for all themes.

Table A2.11: Derivation of leakage assumptions for non-employment outputs

Theme	Per cent of project evaluations reporting engagement with target group as:				Total responses	Derived leakage of outputs to residents outside NDC area (per cent)
	Very good	Good	Average	Poor		
	Leakage rate applied (per cent):					
	10	15	20	25		
1. Community	13	16	1	2	32	14
2. Crime	25	20	7	1	53	13
3. Education	12	8	0	0	20	12
4. Worklessness	23	11	3	2	39	13
5. Health	8	12	1	0	21	13
6. Housing	11	3	3	0	17	13
Overall average/ 7. Cross-cutting	**92**	**70**	**15**	**5**	**182**	**13**

Source: CEA analysis of local project evaluations

Leakage summary

The table below summarises the leakage rates applied as part of the additionality adjustment.

Table A2.12: Summary of leakage rates applied to the additionality adjustment (per cent)

Different forms of leakage	By Activity Category						
	Community	Crime	Education	Worklessness	Health	HPE	Cross-cutting
Leakage of employment – project delivery posts	55	83	62	76	73	76	71
Leakage of jobs created/safeguarded by business interventions	N/A	N/A	N/A	16-35	N/A	N/A	N/A
Leakage of jobs created/safeguarded by individual worklessness interventions	N/A	N/A	N/A	18-39	N/A	N/A	N/A
Leakage of all other outputs	14	13	12	13	13	13	13

Source: CEA

Displacement

Concept and approach

As noted earlier, two displacement adjustments have been made:

- the extent to which NDC funded projects have displaced activity from other regeneration projects
- the proportion of employment outputs from worklessness projects which are reduced elsewhere in the NDC area through "product market" displacement.

The extent of such displacement reduces the overall level of additional activity created by the programme.

Data sources

The local project evaluations provided information to inform the displacement of activity from other regeneration projects in or outside the NDC area. Benchmark data on product market displacement has been drawn from the BIS additionality research referred to above.

Application of method

Displacement of other project activity

The local project evaluations were asked whether *"this project had the effect of causing other similar projects in the target area to be cancelled or close down or other less serious effects"* as shown in Table A2.13 below. The table shows the displacement rates applied to each category of response.

Table A2.13: Displacement rates applied to local evaluation responses on the effect of NDC-funded projects on other similar projects

Possible effect on other projects, causing them:	Displacement rates applied (per cent)
To be cancelled or closed down	100
To reduce the scale or quality of the services offered	50
To become less viable	50
To lose more than 50 per cent of their participants to the project	40
To lose less than 50 per cent of their participants to the project	30
No displacement effects	0

Source: CEA

Having applied these displacement rates to each project, depending on the response provided, the arrays of results were then used to calculate a mean, standard deviation and, based on the number of responses, a 95 per cent Confidence Interval as shown in Table A2.14 below. From this we have derived a range with low and high estimates of displacement. For those Activity Categories where the low end of the range would be zero or negative by deducting the Confidence Interval from the mean, we have re-set the low end of the range as the mean. On this basis the low end of the range is somewhat pessimistic, but given the very low levels of displacement presented by the projects we believe it sensible to include some displacement even at the low end of the range for those Activity Categories where there is evidence of displacement occurring.

Table A2.14: Displacement of activity from other projects

Activity Category	N	Mean	95 per cent Confidence Interval	Range on displacement used in additionality adjustment (per cent)	
				Low	High
1. Community	25	2.4	3.3	2.4	5.7
2. Crime	49	4.9	5.8	4.9	10.7
3. Education	21	0.0	-	-	-
4. Worklessness	41	1.5	2.0	1.5	3.5
5. Health	20	0.0	-	-	-
6. Housing and the Physical Environment	10	4.0	7.8	4.0	11.8
7. Cross-cutting	5	0.0	-	-	-

Source: CEA analysis of local project evaluations

Product market displacement (employment outputs from worklessness activities only)

As noted above, it is appropriate to apply estimates of product market displacement to those jobs created or safeguarded in the private sector as a result of NDC intervention.

As with the leakage estimates above, we have drawn on the BIS additionality benchmark material to inform these estimates.

We noted earlier how NDC projects have worked with businesses and with individuals to try and achieve employment outputs. We have therefore applied sub-regional benchmark data on displacement for “individual enterprise support” and for “matching people to jobs” to correspond to our own broad classification. Table A2.15 shows the leakage rates applied to these job outputs in the analysis.

Table A2.15: Product market displacement – assumptions used in the additionality adjustment

Activity Category	Mean	95 per cent Confidence Interval	Range (based on 95 per cent CI)	
			Low	High
4a. Worklessness – business (Individual enterprise support benchmark)	16.5	5.4	11.1	21.9
4b. Worklessness – individuals (Matching people to jobs benchmark)	27.5	22.9	4.6	50.4

Source: Sub-regional benchmarks drawn from BIS Research to improve the assessment of additionality, October 2008

Displacement summary

Table A2.16 summarises the displacement rates which were applied as part of the additionality adjustment.

Table A2.16: Summary of displacement types and rates applied to the additionality adjustment (per cent)

	Community	Crime	Education	Worklessness (range)	Health	HPE	Cross-cutting
Displacement of other regeneration project activity	2-6	5-11	0	2-4	0	4-12	0
Product market displacement - jobs created/safeguarded by business interventions	N/A	N/A	N/A	11-22	N/A	N/A	N/A
Product market displacement - jobs created/safeguarded by individual worklessness interventions	N/A	N/A	N/A	5-50	N/A	N/A	N/A

Source: CEA analysis of local project evaluations (displacement from other projects) and sub-regional benchmarks drawn from BIS (2008) Research to improve the assessment of additionality

Substitution

Concept and approach

Substitution is a negative effect that arises when a firm substitutes a jobless person to replace an existing worker to take advantage of public sector assistance.

Data sources

We have no sources of data from within the national NDC evaluation to directly inform estimates of substitution. Instead we have applied sub-regional benchmark evidence from the recent BIS additionality study referred to above.

Application of method

Table A2.17 shows the benchmark evidence that we have applied to employment outputs from business interventions in the Worklessness Activity Category and to interventions targeted at individuals. These have been drawn from benchmarks for the “individual enterprise support” and “matching people to jobs” categories in the BIS classification.

Table A2.17: Substitution – assumptions used in the additionality adjustment

Activity Category	Mean	95 per cent Confidence Interval	Substitution range adopted for the NDC additionality adjustment (per cent)	
			Low	High
4a. Worklessness – business (Individual enterprise support benchmark)	2.7	5.4	2.7	8.1
4b. Worklessness – individuals (Matching people to jobs benchmark)	7.6	11	7.6	18.6

Source: CEA application of sub-regional benchmarks from BIS Research to improve the assessment of additionality, October 2008
Note: Low end of range taken as mean, because mean minus Confidence Interval would be negative or zero which is judged to be overly optimistic.

Table A2.18 summarises the substitution assumptions that have been applied in the additionality adjustment.

Table A2.18: Summary of substitution rates applied to the additionality adjustment (per cent)

	Community	Crime	Education	Worklessness (range)	Health	HPE	Cross-cutting
Substitution - jobs created/safeguarded by business interventions	N/A	N/A	N/A	3-8	N/A	N/A	N/A
Substitution - jobs created/safeguarded by individual worklessness interventions	N/A	N/A	N/A	8-19	N/A	N/A	N/A

Source: CEA application of sub-regional benchmarks drawn from BIS (2008) Research to improve the assessment of additionality

Multiplier effect

Concept and approach

Multipliers quantify the further economic activity (in this case jobs) stimulated by the direct effects of an intervention. They take two principle forms: an income ("induced") multiplier which is associated with the spending of additional incomes by those employed directly by projects or as a result of them, and a supply ("indirect") multiplier associated with the purchase of goods and services by organisations employing these direct beneficiaries. The multiplier effect here is a short-run multiplier – it does not take account of longer term dynamic effects such as induced inward migration.

Data sources

We have drawn on the most recent version (Version 3, 2008) of the Additionality Guide produced by English Partnerships, a predecessor to the Homes and Communities Agency.

Application of method

The EP Additionality Guide recommends a combined multiplier range of 1.05 to 1.15 for the neighbourhood level, with 1.05 recommended where the potential for multiplier effects is limited. We judge that NDC areas, which are predominantly residential in character, will offer limited potential for stimulating multiplier effects and that most of these effects will take place outside the areas concerned.

A combined supply/income multiplier of 1.05 has therefore been applied to all additional jobs created or safeguarded by NDC. It is not applied to any other outputs.

Towards an estimate of net additionality - bringing the adjustments together

Having derived estimates (in some cases in ranges) for deadweight, leakage, displacement, substitution and multiplier effects, these now need to be applied in an appropriate manner to the gross outputs generated by NDC.

The analysis was carried out on gross outputs generated by projects in each Activity Category. Two calculations were performed. One was on an "optimistic" basis, adopting the most positive evidence available from within the ranges set out above (i.e. with the lowest deadweight, lowest displacement, lowest leakage etc). A pessimistic result was also generated (i.e. with the highest deadweight, highest leakage, highest displacement etc.).

The equation adopted was: G*(1-DWT)*(1-L)*(1-PMD)*(1-PJD)*(1-S)*M

Where G = gross outputs; DWT = deadweight; L = leakage; PMD = product market displacement; PJD = displacement from other projects; S = substitution; and M = the multiplier.

As noted above, not all of these adjustments were applied to every Activity Category or, within Activity Categories, to every type of gross output. Thus, Product Market Displacement and Substitution were only applied to non-delivery jobs within the Worklessness Activity Category; the Multiplier effect was only applied to jobs created and safeguarded, not other outputs.

The application of the estimates above generated an array of net additional outputs for each Activity Category.

When these are expressed as a percentage of their corresponding gross outputs, the result is called a "net additionality ratio". The analysis presented in this Annex allowed a range to be placed on the additionality of outputs by activity category. In the analysis presented in Chapter 3 we have adopted a mid-point estimate in order to translate gross outputs into net outputs. The total net outputs estimated by applying the net additionality ratios are presented in Table A2.19 below.

Table A2.19 Estimates of net additional outputs for the NDC Programme as a whole: 1999/2000 to 2007/08

Activity categories and output codes	Total net outputs	
	Net additional outputs	Net additional outputs per 1000 population
Community outputs		
No. community/voluntary groups supported	9,843	26.2
No. community chest type grants awarded	2,531	6.7
No. people employed in voluntary work	18,535	49.4
No. new or improved community facilities	320	0.9
No. people using new or improved community facilities	84,069	224.1
Crime outputs		
No. additional police	29	0.1
No. additional wardens	109	0.3
No. victims of crime supported	42,394	113.0
No. young people benefiting from youth inclusion/ diversionary projects	302,508	806.3
No. homes or businesses with improved security	18,822	50.2
Education outputs		
No. pupils benefiting from projects designed to improve attainment	562,671	1,499.7
No. schools physically improved	104	0.3
No. adults obtaining qualifications through NDC projects (accredited)	20,421	54.4
Worklessness outputs		
No. jobs created	1,089	2.9
No. jobs safeguarded	4,916	13.1
No. people receiving job training	32,834	87.5
No. people trained entering work	2,246	6.0
No. new childcare places provided	3,004	8.0
No. people accessing improved careers advice	174,976	466.4
No. businesses receiving advice/support	1,411	3.8
No. people becoming self employed	306	0.8
No. new business start ups surviving 52 weeks	1,085	2.9
No. community enterprise start ups	56	0.2
Health outputs		
No. new or improved health facilities	221	0.6
No. people benefiting from new or improved health facilities	88,794	236.7
No. people benefiting from healthy lifestyle projects	175,954	469.0
Housing and physical environment outputs		
No. homes improved or built	13,012	34.7
No. buildings improved & brought back into use	65	0.2
No. traffic calming schemes	12	0.03

Source: Cambridge Economic Associates analysis of validated System K data for five case studies, grossed up to expenditure for the 39 NDCs and translated to net additional outputs.