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Do urban regeneration programmes improve public health and reduce health inequalities? A synthesis of the evidence from UK policy and practice (1980-2004)

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Abstract

Objectives: To synthesise data on the impact on health and key socio-economic determinants of health and health inequalities reported in evaluations of national UK regeneration programmes.

Data Sources: Eight electronic databases were searched from 1980-2004 (IBSS, COPAC, HMIC, IDOX, INSIDE, Medline, Urdisc/Accomplish, Web of Knowledge). Bibliographies of located documents and relevant web-sites were searched. Experts and government departmental libraries were also contacted.

Review methods: Evaluations which reported achievements drawing on data from at least two target areas of a national urban regeneration programme in the UK were included. Process evaluations and evaluations reporting only business outcomes were excluded. All methods of evaluation were included. Impact data on direct health outcomes and direct measures of socio-economic determinants of health were narratively synthesised.

Results: 19 evaluations reported impacts on health or socio-economic determinants of health; data from ten evaluations were synthesised. Three evaluations reported health impacts; in one evaluation 3/4 measures of self-reported health deteriorated, typically by around 4%. Two other evaluations reported overall reductions in mortality rates. Most socio-economic outcomes assessed demonstrated an overall improvement following regeneration investment; however, the effect size was often similar to national trends. In addition, some evaluations reported adverse impacts.

Conclusion: There is little evidence of the impact of national urban regeneration investment on socio-economic or health outcomes. Where impacts have been assessed, these are often small and positive but adverse impacts have also occurred. Impact data from future evaluations are required to inform healthy public policy; in the meantime work to exploit and synthesise 'best-available' data is required.

Introduction

Policies and interventions which tackle the root causes of poor health have recently been promoted by the UK and other EU governments as an important component of national strategies to improve health and reduce health inequalities.^{[1][2][3][4][5][6]} The need to ground these strategies on evidence has also been highlighted:^{[2][7][8]} Most recently the Wanless report stated that ‘every opportunity to generate evidence from current policy and practice needs to be realised’, and pointed to the value of systematic review methods in this regard.^[2] National programmes of urban regeneration, or Area Based Initiatives (ABIs), are one example of large-scale investment addressing urban deprivation and the socio-economic determinants of health e.g. employment, education, income and housing; in the UK £11 billion has been spent on these initiatives over the past 20 years. The potential for this significant investment to lead to health improvement may seem obvious and indeed is currently used as a justification of such large-scale investment. (Box I)^{[1][9][10][11]} However a systematic review of the impacts of ABI programmes on health or the socio-economic determinants of health has not yet been done.

The dearth of data validating links between regeneration^[12] or housing investment within regeneration programmes^[13] and subsequent health improvement has already been established in both systematic^[13] and non-systematic reviews.^[12] But these reviews have relied largely on the results of formal research studies. Other relevant data and valuable lessons from previous policy interventions may remain hidden within government reports of policy evaluations. For example, large-scale evaluations of ABIs are commissioned by government departments but their findings are rarely published in academic journals and the public health value of the evaluations’ findings appears to have been overlooked. In addition, evaluations of ABI programmes may be more likely to prioritise assessments of socio-economic outcomes, over health outcomes. Impacts on socio-economic outcomes have been recommended as a pragmatic and more immediate alternative to assessments of health impacts where health impact data are absent or difficult to obtain.^[4] A systematic examination of both the health and the socio-economic impacts reported in national ABI evaluations may therefore allow exactly the type of synthesis called for by Wanless.^[2]

What is the evidence that national programmes of urban regeneration (ABIs) improve health?

We carried out a synthesis of evaluations of national ABI programmes in the UK over 24 years (1980-2004) to examine the evidence that such major investments can impact on population health, the socio-economic determinants of health and health inequalities. We used existing systematic review methods for this synthesis.^[14]

Methods

Search Strategy

We searched for the original reports of national evaluations of all the UK government's nine national ABI programmes since 1980. (A brief description of each ABI programme's activities, focus, years of implementation and level of funding in the UK since 1980 is provided in Table I.) Eight electronic databases were searched (Bath Information and Data Services International Bibliography of the Social Sciences (BIDS IBSS, 1980-2004), COPAC (1980-2004), Health Management Information Consortium (HMIC, 1988-2004), IDOX Information Service (1980-2004), INSIDE (1980-2004), Ovid Medline (1980-2004), Urbanisc/Accompline (1980-2004), Web of Knowledge (1980-2004)). Because of the specific nature of the review topic, the databases were searched for any text containing the programme names or their commonly used abbreviations (e.g. SRB for Single Regeneration Budget). Relevant government departmental libraries were contacted for details of archived reports. Bibliographies of located documents and identified relevant web-sites were also searched (<http://www.odpm.gov.uk/>, <http://www.landecon.cam.ac.uk/urban/urgrsb.html>). Authors of national ABI evaluations and an author's (AK) own experience in this specialist field were drawn on to identify experts; identified experts were contacted to ask about further documentation available which may not have been identified by our search strategy.

Inclusion and exclusion criteria

Evaluations which reported achievements or impacts drawing on data from at least two target areas of a national ABI programme in the UK were included. Evaluations of single target areas or of projects within programme areas were excluded as the review aimed to assess the general impacts of a national programme; we assumed that single-area evaluations may be less able than multi-area evaluations to account for local peculiarities which may influence outcomes. Annual reports and routine audits of programme activity were excluded unless they were presented as an evaluation or assessment of the programme's achievements. Where it was clear that the document reported on a process or strategy for delivering urban regeneration rather than on the outcomes of ABI investment these documents were excluded (for example, the use of inter-agency partnership working in the delivery of ABI programmes). All methods of evaluation were included (e.g. qualitative, quantitative case study, retrospective or prospective studies). Evaluations reporting only business and enterprise outcomes were not included.

Screening & selection

Titles of identified documents were screened by one reviewer to exclude obviously irrelevant or duplicate documents, after which titles and abstracts were screened independently by two reviewers. Where there was disagreement or uncertainty the full document was obtained and screened independently by two reviewers. Data extraction was carried out by RA & HT.

Data extraction

Impact data, defined as a measure of change in a given outcome over time, were extracted for health and selected socio-economic outcomes. Health outcomes were any direct measure of health (quality of life, wellbeing, health, morbidity, mortality) or intermediate measure of health (e.g. registration/use/satisfaction with local health services). Socio-economic outcomes relevant to the determinants of health were defined as outcomes pertaining to housing, education, training, income, or employment. These included both direct measures (e.g. household income, housing quality) and intermediate measures (receipt of welfare, satisfaction with housing). Impacts on crime and neighbourhood outcomes (e.g. satisfaction with local shops) were also extracted. Gross output data (reports of monies spent and investment activity, e.g. number of dwellings built or improved, use of new sports centre) were not extracted.

Data synthesis

Impact data on direct health outcomes and direct measures of socio-economic determinants of health were synthesised. Stakeholders' and evaluators' overall assessment of impacts on direct outcomes were not included in the synthesis. Intermediate outcomes were not included in the data synthesis.

Results

A total of 896 references were identified of which 86 initially appeared relevant; 35 were included in the final review. (Figure I) Sixteen evaluations used gross outputs exclusively to report programme achievement. Nineteen evaluations assessed health and social impacts and were included in the review (Table wi). ^{[15] [16] [17] [18] [19] [20] [21] [22] [23] [24] [25] [26] [27] [28] [29] [30] [31] [32] [33] [34]}

Impact evaluations: methods, data quality and choice of outcome measures

Nine evaluations were carried out prospectively. ^{[26] [23] [24] [27] [28] [30] [31] [34]} All but two ^{[20] [26]} of the impact evaluations used a case study approach, where the evaluators selected a few sites to represent the national programme. Detailed reporting of evaluation methods, data sources, and sample sizes

was poor; in two evaluations some impacts were reported without any supporting data.^{[23] [24]} Furthermore, evaluators frequently reported that data on included outcomes were unavailable, resulting in non-reporting^{[17] [23] [24] [29]} or presentation of incomplete data in the final document.^[16]
^{[19] [28] [34]}

Evaluations assessing impacts relied heavily on routine statistics collected by the UK government as well as stakeholders' perceptions or the evaluators' overall estimates of impacts. Six evaluations included a prospective survey of residents,^{[23] [24] [26] [28] [32] [34]} one of which was a panel survey of the same residents at both time-points.^[32] Ten of the 19 impact evaluations reported impacts on direct health or socio-economic outcomes (Table II).^{[18] [22] [25] [26] [27] [28] [30] [31] [32] [34]}

Data synthesis of direct impacts on health and socio-economic status

Impacts on direct health and socio-economic outcomes reported in the evaluations were self-reported health status, mortality rates, employment (long term unemployment, employment, unemployment), household income, educational attainment, housing quality and housing costs (rent). (Table II) A narrative synthesis of these impacts is presented below.

Impacts on self-reported health and mortality rates

Impacts on self-reported health or mortality rates were reported in three evaluations.^{[26] [31] [32]} In one evaluation which surveyed the same residents before and after the programme, 3 out of 4 measures of self-reported health deteriorated, typically by $\pm 3.8\%$.^[32] Two other evaluations reported overall improvements in mortality rates (standardised mortality rate 131 v 114^[26] & 122 v 118,^[31] crude mortality rate -0.6% ^[31]) although standardised mortality rates increased in some case study areas in one of these evaluations.^[26]

Impacts on employment & unemployment

Employment measures were the most frequently included outcome measure and data were reported in nine evaluations.^{[18] [25] [26] [27] [28] [30] [31] [32] [34]} Improvements were reported in all but one evaluation.^[18] However, this simple tally of positive impacts conceals the specifics of type of outcome assessed, negative effects and missing data.

Three evaluations reported improvements in employment (% working age in employment- $+6\%$ ^[26] $+4\%$ ^[32] and number of households with at least one person economically active $+9\%$ ^[27]), but in one of these evaluations employment rate fell in two of the four case study areas^[26] and in another

evaluation there was no additional improvement when compared to the national trend in employment rates. [32]

Eight evaluations reported impacts on unemployment outcomes; in six of these positive impacts were reported (% unemployed- -1.3%, [31] unemployment rate- -3.8%, [34] -10.8% [30] numbers of unemployment claimants- -32%, [34] -29.5%, [25] and % working age economically inactive- -5.3%, [26] -4%, [32]). In two evaluations overall impact on employment outcomes were negative (unemployment rate- +0.3%, [28] % unemployed- +3.35%^[18]). While improvements in unemployment measures were regularly reported, in two evaluations a mix of negative and positive impacts on unemployment measures were reported across case study areas [26] [28] and in a further three evaluations the improvements reported were similar to national or regional trends over the same time period. [25] [31] [34]

Impact on long term unemployment was reported in three evaluations (% of unemployed who have been unemployed >12 months, [28] [30] and % of [unemployed + employed population] who have been unemployed >12 months [31]). In two evaluations of the SRB long term unemployment fell (-1.6% [31] & -17% [30]), although in one of these evaluations rates of long term unemployment increased relative to standardised English rates. [31] In one evaluation of City Challenge an overall increase in long term unemployment was reported, although both increases and decreases were reported within individual case study areas (range -4.1% to +5.8%). [28]

Impacts on educational attainment

Five evaluations (1988-1999) reported impacts on school achievement. Improvements in proportions of ‘pupils obtaining >4 GCSEs’ or ‘>2 Standard Grades’ (Scotland) were consistently reported in the four evaluations which included this outcome (mean impact +6.25%). [26] [28] [30] [31] However, similar improvements in the proportion of ‘pupils obtaining >4 GCSEs’ were also reported across England over this time and two evaluations reported little or no improvement when the findings were compared to national data. [30] [31] Despite overall improvements, both negative and positive impacts on the proportion of respondents reporting ‘any member of household with CSE/GCSE/O’level’ [32] or ‘school leavers with no GCSEs’ [28] were reported across case study areas in two evaluations.

Impacts on household income

The number of households with incomes below £100 per week was assessed in two evaluations^[26]^[32] and an overall improvement was reported. However, in one of these evaluations a range of negative and positive impacts on this outcome were reported across the four case study areas (-34% to +3%).^[26]

Impacts on housing quality and rent

The proportion of original residents living in improved housing following ABI investment was only reported in one evaluation (42.5%).^[22] Another evaluation assessed changes in housing costs; average social housing rent doubled over the period of investment, 7-8 years.^[25]

Discussion

This review is a direct response to Wanless's call to tap 'every opportunity to generate evidence from current policy and practice'.^[2] The use of conventional systematic review methods to synthesise impact data for both socio-economic outcomes as well as health outcomes is a novel attempt to present evidence tailored to inform healthy public policy. The data synthesis suggests that previous ABIs may have small positive impacts (median size of positive impact reported $\pm 5.5\%$, range 1.0% to 32.0%, e.g. unemployment rate -3.8%,^[34] households with income of less than £100 -4%^[32]) across a range of key socio-economic determinants of health, although these impacts may mirror national trends. Small positive health impacts are also reported, but adverse health impacts remain a real possibility.

However reports of impacts in the evaluations of ABIs are rare. In the UK, evaluation of ABI achievement has relied heavily on reports of gross outputs and monies spent (e.g. number of new houses built), rather than reports of the actual impacts effected by the investment (e.g. change in the proportion of residents living in poor quality housing). Even when an impact evaluation has been attempted this has often been unsuccessful. Evaluators frequently reported difficulties with data collection, preventing clear conclusions around impacts. This made identifying relevant evidence to synthesise for this review difficult. Common problems reported by evaluators included a lack of baseline data, lack of routine data which conform to target area boundaries, incomparable data between case study areas and a limited time-scale in which to observe change in key outcomes.^[19]^[27]^[28]^[29]^[34]^[35]^[36]^[37] Data were often collected at an area level rather than an individual level, and panel surveys to assess impacts on the original residents before and after the ABI investment were

used in only one evaluation.^[32] The potential, therefore, for this significant public investment to ameliorate deprivation and improve health and reduce inequalities remains unknown. Moreover, the possibility of adverse impacts of ABI investment on residents is also largely unknown.

Implications for evidence based healthy public policy

The dearth of health impact data to inform the development of healthy public policy has already been established across a number of policy areas.^{[13] [38] [39] [40]} In this review, the lack of socio-economic impact data questions assumptions that ABI investment will reduce socio-economic deprivation. In addition, the lack of data on both health impacts and socio-economic impacts may undermine the rhetoric which links such investment to health gains and reductions in health inequalities.^{[1] [9] [10] [11] [42] [43]} However, the absence of impact data does not provide grounds for inaction,^{[8] [41]} and it would be wrong to conclude that there is no research evidence to support hypothetical links between ABI investment and health impact. For example, in the UK both the ‘Black Report’ and the ‘Acheson Report’ presented data from a wealth of cross-sectional and longitudinal studies to establish clear links between socio-economic circumstances and poor health.^{[42] [43]}

Improving the evidence base for healthy urban regeneration policy

Evaluations of ABIs need improving if they are to be used to inform the development of healthy public policy or to inform prospective health impact assessments of regeneration programmes. Detailed descriptions of variations in programme delivery and contextual factors which may account for variations in outcomes between areas are essential,^[44] and are already available in most ABI evaluations. In addition, evaluation of complex programmes, like ABIs, requires clear theories or hypotheses specifying pathways through which health and social outcomes might improve.^[45] To date these have been missing from both evaluations and programmes, even where health improvement is a key objective.

While health impact data remain on the public health ‘wish list’, ‘best available’ evidence should be exploited.^[2] This will typically involve rigorous syntheses of socio-economic impact data as a proxy for health impact data (the approach taken by this review). The extreme heterogeneity of interventions, contexts, methods and outcomes is an inherent characteristic of this type of systematic review and synthesis will be methodologically challenging as well as producing findings which may often draw attention to uncertainty rather than offering tangible policy recommendations; however, establishing what is not known is essential to good practice.^[46] In the face of such uncertainty alternative sources of data can also provide evidence to direct policy and practice. Systematic

reviews of cross-sectional research evidence may help prioritise interventions and develop research-informed theories for possible health impacts of policies which can then be tested through evaluation.

Conclusion

Despite significant public investment in national ABI programmes there is still little evidence to demonstrate the impacts on socio-economic or health outcomes. Where impacts have been assessed, a small overall positive impact is suggested though adverse impacts are also possible. The few impacts reported rarely related to the original residents of target areas, thus the potential for ABI investment to improve the health or socio-economic status of individuals or impact on inequalities remains uncertain.

Future evaluations need to incorporate clear theories of change informed by existing research evidence. In addition, an assessment of the actual impacts on original residents of target areas is required if the potential of such programmes to improve health and reduce health inequalities is to be confirmed. In the meantime, evidence syntheses which exploit ‘best available’ data may be the best way to develop healthy public policy which is evidence-informed.

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Box I: The potential for health improvement is currently an important justification for large-scale public investment in ABIs

- “Local neighbourhood renewal and other regeneration initiatives are in a particularly good position to address health inequalities because they have responsibility for dealing with the wider determinants that have impact on people’s physical and mental health.”¹
- “The benefits of including health in the strategy of regeneration strategy are twofold. First there are the direct benefits of improving peoples’ physical and mental health and wellbeing. Second are the indirect benefits for employment, quality of life, levels of stress and the cost of hospital admissions or medicines.”⁹
- “Area regeneration has a key contribution to make to improving health. It tackles the social, economic, and environmental problems of multiple deprivation. And it embodies the concerted approach the government seeks to foster.”¹⁰
- Aims of current national ABI (New Deal for Communities)
“Lower worklessness and crime, and better health, skills, housing and physical environment.
To narrow the gap on these measures between the most deprived neighbourhoods and the rest of the country.”¹¹

A tally of available funding for programmes included in our review produced an estimate that over £11bn (16bn euros) of public money has been spent on ABIs in England alone between 1980-2002.

Table I: Main activities and funding of national ABI programmes in the UK since 1969

ABI programme (ordered by date) estimated expenditure	Main focus of programme
Urban Programme 1969-1980s approx £274m/year	Grant based programme to deal with areas of special social need through supplementation of existing programmes covering economic, environmental, employment and social projects.
Urban Development Corporations (UDC) 1981-1998 £2120m	Property and economic regeneration to attract inward investment.
Estate Action 1985-1995 £1975m	Housing led regeneration, addressing both improvements to physical aspects of housing as well as housing management. ^[47]
New Life for Urban Scotland (New Life) 1988-1998 £485m	Comprehensive multi-agency regeneration programme to improve housing, environment, service provision, training and employment for local people in four areas. ^[48]
Small Urban Renewal Initiatives (SURI) 1990-2003 £160m+	Housing led regeneration to widen housing choice, improve quality of housing quality and the local environment, improve economic prospects and lever public and private funding. ^[27]
City Challenge 1992-1998 £1162.5m	Comprehensive multi-agency regeneration to improve quality of life of residents in run-down areas. ^[35]
Single Regeneration Budget (SRB) 1995-2001 £5703m + £20301m from private sector	Comprehensive multi-agency regeneration through initiatives on employment, training, economic growth, housing, crime, environment, ethnic minorities and quality of life (incl. health, sport and cultural opportunities). ^[32]
Regeneration Partnerships (now known as Social Inclusion Partnerships-SIPs) 1996- £52m	Co-ordinated approach to tackle and prevent social exclusion and demonstrate innovative practices. Main activities focus on education & training, and initiatives to reduce poverty, crime, and promote employment, enterprise, empowerment and health. ^[34]
New Deal for Communities (NDC) £2000m 1998-2008	Neighbourhood based programme delivered through multi-agency partnerships. Aims: to reduce inequalities in crime, worklessness, education, housing and health between the 39 target areas and the rest of England. Key characteristics of this programme are: long-term commitment to deliver real change, communities in partnership with key agencies, community involvement and ownership, joined-up thinking and solutions, and action based on evidence about 'what works' and what doesn't. ^[49]

Table II: Summary of direct impacts on health and socio-economic status reported in evaluations of national (UK) Area Based Initiatives

Programme (dates of data collection) No of case study areas included in evaluation/total no of target areas included in programme	Outcome measure used (no of case study areas where data reported/no of case study areas included in evaluation)	Overall impact & range across case study areas	Direction of overall impact	Range of effects across case study areas includes zero *	Improvement reported over and above national or regional trends over same time period *
Impacts on health outcomes					
SRB ^[32] (1996 v 1999) Panel survey in three target areas	self-reported 'good health'	44% v 40%, -4% (range -6% to +2%)	Deterioration	Yes	
	self-reported 'not good health'	26% v 28%, +2% (range -7% to +8%)	Deterioration	Yes	
	self reported 'health worse in past 3 years'	29% v 35%, +6% (range 0% to +13%)	Deterioration	Yes	
	self-reported 'Health improved in past 3 years'	7% v 10%, +3% (range +2% to +4%)	Improvement	No	
New Life ^[26] (1988 v 1994) All four target areas	standardised mortality (three areas)	131 v 114, -17 (range -29 to +12)	Improvement	Yes	
SRB ^[31] (1994 v 1998) Two case study areas	crude mortality rate (%per 1000) (one area)	12.5% v 13.1%, -0.6% (range -1% to -0.2%)	Improvement	No	
	standardised mortality (England =100) (one area)	122 v 118 (range -7 to -1)	Improvement	No	
Impacts on employment					
New Life ^[26] (1988 v 1998) All four target areas	employment rate (% of working age in employment)	41% v 47%, +6% (range -9% to +20%)	Improvement	Yes	
SRB ^[32] (1996 v 1999) Panel survey in three target areas	employment rate (% of working age in employment)	56% v 60%, +4% (range +3% to +5%) (England data 1996-1999, +4%, 78% v 82%)	Improvement	No	No
	SURI (1993 1998) ^[27]	no of households with at least one person economically active	+9%, compared to non SURI area -5%	Improvement	
Impacts on unemployment					
Urban Programme ^[18] (1981/82 v 1991) Two target areas	% unemployed	+3.25% London data 1981 v 1991 +0.5%	Deterioration		No
SRB ^[31] (1995 v 1997) Two target areas	% of population unemployed (one area)	4.5% v 3.2%, -1.3% (range -1.5% to -1.2%) standardised rate 120 v 133 (range +6 to +23)	Small improvement	No	No
	New Life ^[26] (1988 v 1998) All four target areas	% of working age registered unemployed or economically inactive	58.5% v 53.2%, -5.3% (range -20% to +9%)	Improvement	Yes
SRB ^[32] (1996 v 1999) Panel survey in three target areas	% of working age population economically inactive	29% v 25%, -4% (range -7% to -4%) England data 10% v 10%	Improvement	No	Yes
City challenge ^[28] (1992 v 1994) 14/31 target areas	unemployment rate (seven areas)	21.9% v 21.6%, +0.3% (range -2.4% to +3.0%)	Unclear- mixed impacts	Yes	
SIP ^[34] (1996 v 1999/2000) All nine target areas	unemployment rate (three areas)	10.7% v 6.9% -3.8% (range -4.9% to -1.7%) Scotland data 1996 v 1999, -4.6%	Improvement	No	No
	SRB ^[30] (data collection over four years, dates not specified) 3 target areas	unemployment rate (one area)	15% v 4.2%, -10.8% England data 8.4% v 4.7%, -3.6%	Improvement	
Estate Action ^[25] (1991 v 1997/98) Seven case study areas	% change in number of unemployment claimants over 6 years: in target area v local district	-29.5% (range -11% to -48%) v -36.9% (range -22% to -42.2%)	Improvement	No	No
SIP ^[34] (1996 v 1999/2000) All nine target areas	% change in numbers of unemployment claimants (five areas)	-32% (range -44% to -17%)	Improvement	No	
Impacts on long term unemployment					
City challenge ^[28] (1992 v 1994) 14/31 target areas	% of unemployed who have been unemployed >12 months (five areas)	40.9% v 42.8%, +2.9% (range -4.1% to +5.8)	Deteriorated	Yes	

SRB ^[30] (data collection over four years, dates not specified) 3 target areas	% of unemployed who have been unemployed >12 months (one area)	40% v 23%, -17% England data 38% v 26%, -12%	Improvement		Yes
SRB ^[31] (1995 v 1997) Two target areas	% of unemployed + employed who are unemployed > 12 months (one area)	4.4% v 2.8%, -1.6% (range -2.3% to -1.3%), standardised rates compared to all England increased 129 v 167 (range +15 to +71)	Small improvement	No	No
Impacts on educational attainment					
New Life ^[26] (1988 v 1994) All four target areas	pupils obtaining 1+ highers (two areas)	12.5% v 15%, +2.5% (range +2% & +3%)	Improvement	No	
	pupils obtaining 3+ standard grades (two areas)	69% v 79%, +12% (range +4% & +16%)	Improvement	No	
	attendance rates at secondary school (two areas)	74% v 82.5%, +11.5% (range +9% & +14%)	Improvement	No	
City Challenge ^[28] (1992 v 1994) 14/31 target areas	pupils achieving >4 GCSEs grade A-C	16.3% v 20.8%, +4.5% (range +1.6% to +10.4%)	Improvement	No	
	School leavers with no GCSEs	14.8% v 14.2%, +0.6% (range -8.3% to +3.8%)	Unclear- mixed impacts	Yes	
SRB ^[30] (1994 v 1997) Three target areas	pupils achieving >4 GCSEs grade A-C (one area)	41.6% v 45.8%, +4.2% English data 43.3% v 45.1%, +1.8%	Improvement		Yes
SRB ^[31] (1994 v 1999) Two target areas	pupils achieving >4 GCSEs (one area)	50.3% v 56.1% +5.8% (range +4.3% to +7.3%)	Improvement	No	
	standardised rate where England =100 (one area)	116 v 117 (range -2 to +3)	Little or no improvement	Yes	No
SRB ^[32] (1996 v 1999) Panel survey in three target areas	any member of household with CSE/GCSE/O'level	53% v 54%, +1% (range -10% to +3%)	Small improvement	Yes	
	taken part in training in last 3 years	22% v 29%, +7%	Improvement		
Impacts on household income					
New Life ^[26] (1988 v 1994) All four target areas	households with incomes below £100/week	65.3% v 48.8%, -16.5% (range -34% to +3%)	Improvement	Yes	
SRB ^[32] (1996 v 1999) Panel survey in three target areas	households with incomes below £100/week	30% v 26%, -4% (range -10% to -3%) England data 19% v 16%, -4%	Improvement	No	No
Impacts on housing quality and rent					
UDCs ^[22] 3/11 target areas	% of residents from local target areas now living in new/improved housing (two areas)	42.5%	Improvement		
Estate action ^[25] (1990/91 v 1997/98) Seven case study areas	Average weekly rent in LA housing 1990/1-1997/8 (areas)	+99.3% (range +8.9% to +324%)	Increased housing costs	No	
	Average Housing Association weekly rent compared to previous Local Authority (four areas)	+116.8% (range +83.7% to +162.5%)	Increased housing costs	No	

* where data provided by evaluators

Table wi: Details of specific health or social impacts included and reported in national evaluation

ABI programme Years of programme	Description of evaluation (estimated year(s) of evaluation): methods used to evaluate impacts, data sources and impacts on health and social determinants of health reported
Urban Programme 1969-1980s	<p>174 projects located in 5 areas and representing 6 categories of environmental improvement (1985): retrospective evaluation of impacts based on residents perceptions of impacts of various environmental improvement projects (structured interviews with residents) ^[15]</p> <p>Landscaping projects (n=162, 38/38 projects): 28% residents reported 'increased use of public space', 53.3% residents reported 'improved view of area as a place to live'</p> <p>Improved and new recreational spaces and walkways (18/40 projects): %age of residents reporting 'improved view of area as a place to live' across 3 project categories- (i) improved recreational space 58% (n=59), (ii) new recreational space 68% (n=193), (iii) new walkways 70% (n=27)</p> <p>General environmental improvement (17/17 projects): %age residents reporting 'increased use of public space' 70% (n=36, 9/17 projects), 'improved view of area as a place to live' 52.3% (n=59, 17/17 projects), 'perceived visual improvement' 52.6% (n=59, 17/17 projects)</p> <p>10/212 industrial and commercial improvement areas initiated from 1979 onwards (1983/4): retrospective evaluation of impacts based on local project reports and discussion with key stakeholders. ^[16]</p> <p>Employment: analysis of available documentation from Department of Environment and local authorities found mixed reports of effects, claims around employment gains in half of case study areas outweigh losses in other half. No clear comparison before and after. One survey was carried out but findings were withheld from evaluation consultants.</p> <p>Residents' perceptions of neighbourhood (structured interviews with residents, n=59, 6/10 case study areas): value of improvements 'great' 7 (12%), 'some' 19 (32%), 'none' 30 (51%) (missing=3), area as a place to live and shop 'better' 11 (17%), 'same' 34 (58%), 'worse' 12 (20%) (missing=2)</p> <p>41(16 industrial, 9 business expansion, 16 commercial development)/113 Urban Development Grant funded projects (1986): retrospective evaluation of impacts drawing on project monitoring documentation. ^[17]</p> <p>Employment: Reported modest positive impacts on permanent employment opportunities in the local area but less than expected. No actual impact data available, reported estimates of 1,543 jobs attributable to investment compared to 4,281 attributable jobs originally anticipated by policy makers and funders.</p> <p>2 target areas in inner London (1981-1991): retrospective evaluation of employment impacts of assistance to small businesses drawing on questionnaire to 82 local managers of ABI programmes, examination of project documentation and routine employment data. ^[18]</p> <p>Employment: %age unemployed 1981/82 v 1991 8.25% v 11.5% compared to London 7% v 7.5% and UK 10.5% v 7.5%</p>

<p>Urban Development Corporations 1981-1998</p>	<p>8/11 target areas (1997/8): retrospective evaluation of impacts based on estimates of key outputs e.g. jobs created, routine data and views of stakeholders and community groups. Evaluation authors were unable to draw conclusions about impacts due to limitations of the data. ^[19]</p> <p>Employment: 'UDCs may have reduced local unemployment, but on too small a scale to register given the crude level of analysis and the impact of external factors'. ^[19]</p> <p>11/11 target areas (1988/9): retrospective evaluation of impacts based on routine data and key stakeholder assessments of impacts. ^[20]</p> <p>Employment: mixed impacts reported by local authority stakeholders.</p> <p>2/11 target areas (1988): retrospective evaluation of employment impacts using oral and written evidence presented to House of Commons Employment Committee. ^[21]</p> <p>Employment: unemployment 1986 v 1988 London Docklands 5000 v 4065, Merseyside estimated 1700 jobs created plus 1000 jobs safeguarded, stakeholders perceive increased employment.</p> <p>3/11 target areas (unclear): retrospective evaluation of impacts drawing on house purchase data, programme monitoring data, semi-structured interviews with regeneration policy makers (n=90), and questionnaire survey of local businesses (n=211), employees and householders. Authors report very limited interest from UDC stakeholders in housing, employment or training benefits for residents of deprived areas bordering the commercial UDC areas. ^[22]</p> <p>Employment: new companies supported by UDC investment provide employment for residents in target area assessed by %age of employees drawn from 'local deprived' areas (assessed by post-code district area) amongst new v pre-existing companies in target UDC area 39.7% v 31.9%.</p> <p>Housing: (2/3⁺) 42.5% of residents from local target areas now living in new/improved housing supported by UDC investment.</p>
<p>Estate Action 1985-1995</p>	<p>6/7 target areas (1989-1993): prospective evaluation of impact using routine data, area surveys, resident survey, interviews with residents panels, local authorities, local agencies and government department officials. ^[23] **</p> <p>Crime: (4/6⁺) crime reduction -5.2% (range -8% to 0%) * (estimated from various outcomes, stakeholders and residents views, and routine data)</p> <p>Economic: residents' economic circumstances- improved in 2/6 areas *</p> <p>Housing & neighbourhood: housing satisfaction (5 point scale) (before v after) 3.6 v 3.9, +0.3 (range -0.37 to +0.6), estate satisfaction (5 point scale) 3.3 v 3.8, +0.5 (range +0.2 to +1.2), residential quality- improved (range +7% to +29%) * (estimated from various outcomes, stakeholders and residents views, and routine data)</p> <p>Other: homelessness- reduced in 3/6 areas *, empowerment- improved in 2/6 areas *</p> <p>5/7 target areas (1989-unclear): prospective evaluation of impacts based on various indicators included in residents survey before and 12 months after regeneration activity completed. ^[24] **</p> <p>Health: self-reported health & health service use- no effect.*</p> <p>Crime & incivility: reduced crime- no effect,* fear and incidence of crime and incivilities- partial positive effect.*</p> <p>Social fabric & community control: social control- partial positive effect,* sense of community- partial negative effect.*</p> <p>Upbringing & control of children: parental control & awareness- no effect.*</p> <p>Neighbourhood: neighbourhood satisfaction partial positive effect,* satisfaction with local environment- partial positive effect.*</p> <p>Housing: housing management unimproved,* housing satisfaction partial positive effect. *</p> <p>7 case study areas in north east England (1998): retrospective evaluation of impacts using range of routine data and monitoring data from local housing providers. ^[25]</p> <p>Employment: Change in number of unemployment claimants in target area between v changes in local district areas (1991-1997/98) (6/7⁺), -29.5% (range -11% to -48%) v -36.9% (range -22% to -42.2%)</p> <p>Housing: 1990/91-1997/8 Changes in average weekly rent for Local Authority housing, (6/7⁺) +99.3% (range +8.9% to +324%) Housing association average weekly rent compared to previous LA average weekly rent (4/7⁺) +116.8% (range +83.7% to +162.5%). Various measures reported across case study areas to assess changes in desirability of residential area- typical measures used were requests for transfers, rent arrears, difficult to let houses. However, set in the context of large stock transfer from local authority to housing association it is difficult to interpret these data. Baseline data for the housing association was unavailable and the transfer resulted in substantial change in socio-demographic composition of remaining local authority tenants.</p> <p>Crime: (1/7⁺) 1994-1997 Change in total reported crime (beat area v district) -20% v -28%, change in number of 'other incidents' requiring police involvement (beat area v district) 0% v -6%</p> <p>Other: (1/7⁺) Reports by tenancy enforcement officers of incidents involving vandalism, threatening and anti-social behaviour fell (1995-1997)</p>

<p>New Life for Urban Scotland 1988-1998</p>	<p>All 4 target areas (1988-1998): prospective evaluation of impacts based on routine data (education, health board, police) and before (1988), during (1994) and after (1998) household questionnaire survey (1988 v 1998, n=3400 v 2004).^[26] No indication of response rates, absolute numbers or missing data in findings.</p> <p>Quality of life indicators (as defined by project) 1988 v 1994: Poverty- social tenants receiving housing benefit 63.5% v 57.2%, -6.3% (range -24% to +12%), households with incomes below £100/week 65.3% v 48.8%, -16.5% (range -34% to +3%) Health- working age reported to be permanently sick 10.5% v 8.8%, -1.7% (range -5% to +1%), standardised mortality rates (3/4⁺) 131 v 114, -17 (range -29 to +12), satisfied with health service provision 59% v 85.5%, +26.5% (range +23% to +29%) Education- attendance rates at secondary school (2/4⁺) 74% v 82.5%, +9% & +14%, obtaining 3+ standard grades (2/4⁺) 69% v 79%, (+4% & +16%), obtaining 1+ highers (2/4⁺) 12.5% v 15% (+2% & +3%), school leavers entering employment (1/4⁺) 38% v 42%, +4% Crime- recorded crime per 1000 population (1/4⁺) 118 v 107, -11%, afraid of leaving home at night (3/4⁺) 40.3% v 52.3%, +12% (range +7% to +21%) Shopping- satisfied with local corner shops 48.2% v 54.2%, +6% (range -5% to +23%), satisfied with local shopping centre (3/4⁺) 45.6% v 66.6%, +21% (range -6% to +39%) Transport- using buses 5+ days per week 33.5% v 27.2%, -6.3% (range -13% to +3%) Leisure- residents who go swimming in local area 9.5% v 15.8%, +6.3% (range -3% to +11%) Community- attendance at a community group/meeting 29.5% v 20.5%, -9% (range -13% to -3%), very satisfied with area 10.5% v 24.8%, +14.3% (range +8% to +19%), very dissatisfied with area 18% v 6%, -12% (range -8% to -17%) Employment: % of working age registered unemployed or economically inactive 1988 v 1998, 58.5% v 53.2%, -5.3% (range -20% to +9%), %age of working age in employment 1988 v 1998, 41% v 47%, +6% (range -9% to +20%) Housing: very dissatisfied with housing 1988 v 1998, 11% v 10%, (range -9% to 0%), %age of housing rented from local authority 96.5% v 53%, -43.5% (range -53% to -33%) Population: rate of population change in past 10 years 1988 v 1998, -38% v -23% (range of rate change -17% to -8%)</p>
<p>Small Urban Renewal Initiatives 1990-2003</p>	<p>6/15 target areas included in evaluation (1993-1998) findings of additional data collection in 2003 not yet reported:^[27] prospective evaluation of impacts using routine and housing association data sources</p> <p>Employment (routine data from Scottish Continuous Recording based on housing association data on new tenants): No of households with at least one person economically active (1993/94 v 1997/98), SURI area 23% v 32%, non-SURI area 32% v 27%</p> <p>Income: mean household income of new housing association tenants (1993/4 v 1997/8) SURI area £95 v £120 non-SURI area £89 v £107</p>
<p>City Challenge 1992-1998</p>	<p>14/31 target areas (1993-1995): prospective evaluation of impacts based on changes in routine data before and during programme activity and retrospective evaluation of perceived changes among stakeholders in partner agencies using postal questionnaire. Small number of CC areas conducted residents' survey-range of incomparable measures used prevented presentation of findings.^[28]</p> <p>Quality of life: perceived changes reported by stakeholders in partner agencies- overall 'a lot of improvement' reported across areas including housing, jobs, sports/leisure opportunities, >50% of respondents attributed 'quite a lot' or 'all' improvement to CC investment. Mixed views on amount of improvement in crime/fear of crime, educational provision and attainment, opportunities for young people and health care.</p> <p>Routine data</p> <p>Crime (1991 v 1994): all reported crime range of change (3/14⁺) -36.1% to +28.5%</p> <p>Welfare: children receiving free school meals (2/14⁺) +3%, recipients of housing benefit (1/14⁺) +1.8%, income support data not available.</p> <p>Education (1992 v 1994): (4/14⁺- overlap in data from neighbouring areas) pupils achieving >4 GCSE pass grade A-C 16.3% v 20.8%, +4.5% (range +1.6% to +10.4%), school leavers with no GCSEs 14.8% v 14.2%, +0.6% (range -8.3% to +3.8%)</p> <p>Employment (1992 v 1994): unemployment rates (7/14⁺) 21.9% v 21.6%, -0.3% (range -2.4% to +3.0%), long term unemployed (5/14⁺) 40.9% v 42.8%, +2.9% (range -4.1% to +5.8)</p> <p>Housing: owner occupiers (1/14⁺, unclear if includes new residents) +0.7%</p> <p>16/31 target areas plus 219 individual projects from 31 areas (1997-1998): retrospective evaluation with limited analysis of routine data before and after (1992-1998). Evaluator's assessments of impacts draw on range of data sources, including beneficiaries' perceptions of primary impacts of individual projects, project monitoring data, discussions with key stakeholders- data presented unclear.^[29]</p> <p>Health project: overall assessment one of positive impact *</p> <p>Training & education project: improvement in relations with parents and pupils, confidence in school.</p> <p>Community & Social project: little or no improvement in childcare provision, shops, leisure & community facilities, crime and youth activities</p> <p>Crime project: conflicting assessment of impact on perceptions of crime, recorded burglary and car crime decreased *</p> <p>Environment project: improvements in local area</p> <p>Transport project: improvements in public transport and accessibility</p>

<p>Single Regeneration Budget 1995-2001</p>	<p>Three SRB target areas: ^[30] ** prospective evaluation of impacts on national and local routine data and a survey of local residents before and after.</p> <p>Brent & Harrow Education (1994-1997): pupils achieving >4 GCSEs grade A-C 41.6% v 45.8%, +5% & +3.4%, (English data 43.3% v 45.1%) Limes Farm (baseline v end of scheme of 4 year duration, dates of data collection not stated) Crime & safety: total reported crime 155 v 114, -26.5%, residents views- estate lighting inadequate 49% v 69%, +20%, security inadequate 22% v 62% +40%, feel unsafe in stairwell of multi-storey 74% v 16%, -58% Employment: unemployment rate -10.8%, unemployed >12 months -17% Housing: no of local authority dwelling in need of improvement (absolute numbers) 275 v 94, -65% Northumbria Community Safety Crime (1995-1997): total recorded crime 171.6 v 127.2, -44.4%</p> <p>Two SRB target areas (1994-1999): ^[31] ** prospective evaluation of impacts on national and local routine data.</p> <p>West Cornwall (changes in standardised rates are relative to standardised English rates, unless stated, where England=100 at both points) Health (1994 v 1998): crude mortality rates (%per 1000) 12.5% v 13.1%, -0.6% (range -1% to -0.2%). Standardised rates 122 v 118 (range -7 to -1) compared to all Cornwall 116 v 111 Crime & community safety (1994-1999): total reported crime- figures unclear, reported crime relative to all Cornwall (where Cornwall=100) 127 v 105 (range -15 to -8) Welfare (1993 v 1999): % of total population receiving income support 17% v 10.7%, -6.3% (range -7% to -6%), standardised rates 113 v 118 (range -2 to +17) standardised rates for all Cornwall 116 v 111 Education (1994 v 1999): obtaining 5 GCSEs 50.3% v 56.1%, +5.8% (range +4.3% to +7.3%) standardised rate 116 v 117 (range -2 to +3) standardised rates for all Cornwall 106 v 108 Employment (1995 v 1997): % of population unemployed 4.5% v 3.2%, -1.3% (range -1.5% to -1.2%) standardised rate 120 v 133 (range +6 to +23) standardised rates for all Cornwall 108 v 112, %age of unemployed + employed who are unemployed > 12 months 4.4% v 2.8%, -1.6% (range -2.3% to -1.3%), standardised rate 129 v 167 (range +15 to +71) standardised rates for all Cornwall 112 v 124 Engineering in education Education (1995/6-1997): 16yr olds entering full-time education or training 67% v 73%, +6% (range -1.2% to 18.1%)</p> <p>Three SRB target areas (1996-1999): prospective evaluation using structured interview panel survey of residents before and after investment (n= 1329 v 527). Due to sample attrition at time-point II further recruitment was undertaken to gather additional cross-sectional data- these data did not substantially alter the findings from the panel survey. ^[32]^[33] Data reported below from panel survey, no indication given of missing data for specific variables. Health (1996 v 1999): Self-reported good health 44% v 40%, -4% (range -6% to +2%) (overall fall attributed to ageing) (improvement, +2%, in cross-sectional sample), those reported health 'not good' 26% v 28%, +2% (range -7% to +8%), health improved in past 3 years 7% v 10%, +3% (range +2% to +4%) health worse in past 3 years 29% v 35%, +6% (range 0% to +13%) Community (1996 v 1999): feel closely involved in community 28% v 31%, +3% (range -2% to +8%), satisfied with local area 72% v 70%, +2% (range -4% to +1%, England data 1996-1999 87% v 87%), area a bad place to bring up children (<i>cross sectional data</i>) 30% v 21% -9% (range -19% to -2%, England data 1996-1999 14% v 12%) Crime (1996 v 1999): area safe to walk alone at night 37% v 40%, +3% (range 0% to +7%, England data 1996-1999 68% v 68%), more safe than 3 years ago 16% v 14%, -4% (range -15% to +14%) ** Income & welfare (1996 v 1999): income below £100/wk 30% v 26%, -4% (range -10% to -3%, England data 1996-1999 19% v 16%), receiving income support 26% v 19%, -7% (range -11% to -3%, England data 1996-1999 19% v 17%), Education (1996 v 1999): taken part in training in last 3 years 22% v 29%, +7% (range- not reported), any member of household with CSE/GCSE/O'level 53% v 54%, +1% (range -10% to +3%) Employment (1996 v 1999): working age economically inactive 29% v 25%, -4% (range-7% to -4%, England data 1996-1999 10% v 10%), employment rate 56% v 60%, +4% (range +3% to +5%, England data 1996-1999 78% v 82%)</p>
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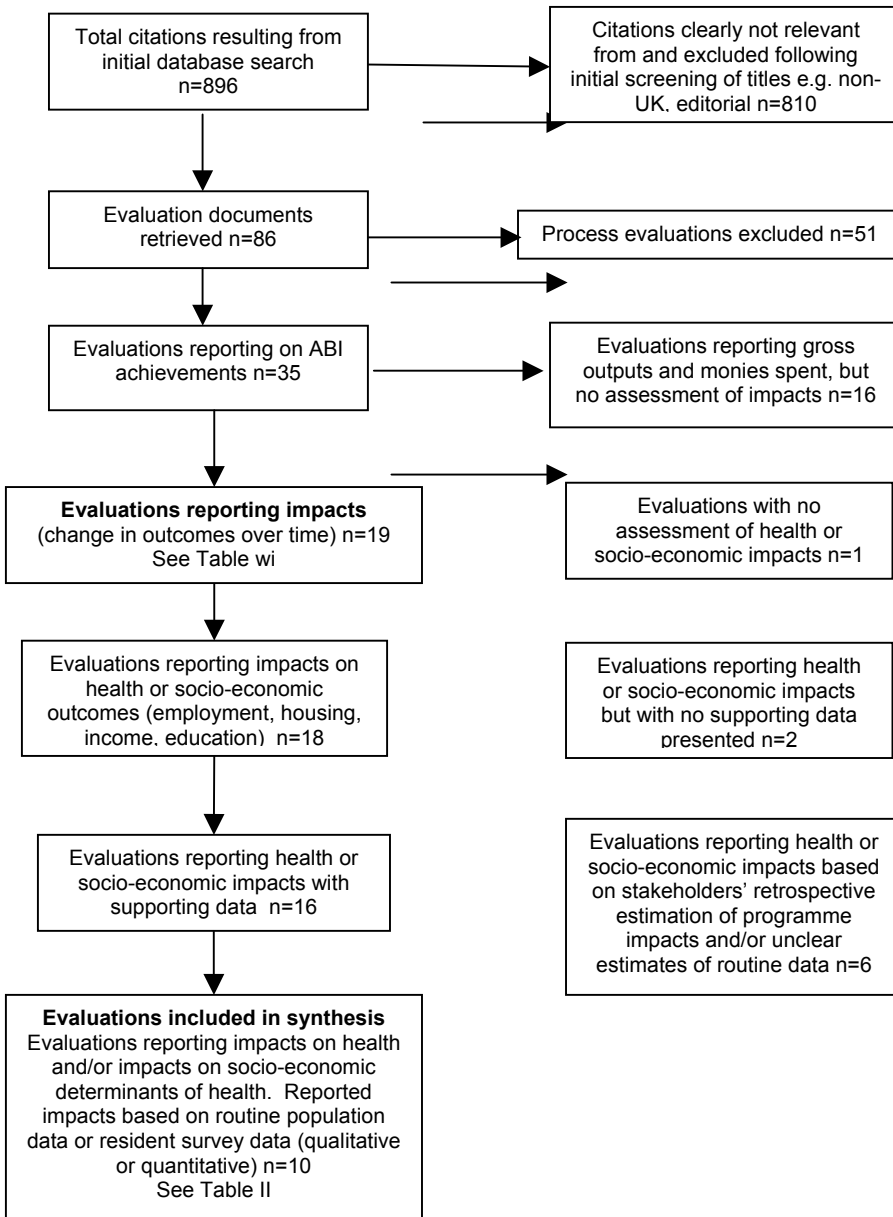
<p>Regeneration Partnerships (now known as Social Inclusion Partnerships-SIPs) 1996-ongoing</p>	<p>All nine target SIP areas: evaluation of impacts drawing on changes in outcomes collected from various sources at two time points (1996 v 1999). Data sources include residents' survey, SIP monitoring data and routine data. ^[34]</p> <p>Overall assessment of impact on key indicators and the contribution of SIP activities on these. Inconsistent data availability and data type presented for each case study area. Final assessment made by authors based on available data (fully detailed in evaluation document) and includes consideration of wider area trends for similar indicators. (1996-1999)</p> <p>Population & households: (6/9⁺) 4 SIP area populations fell relative to wider area. Unable to assess contribution of SIP in context of housing renewal in wider area.</p> <p>Health: (3/9⁺) compulsory health indicators included limiting long term illness, low birth weight babies, coronary heart disease, cancer, stroke, smokers, access to health services but insufficient data available to assess trends. Examples of impacts reported in absolute numbers from individual projects: teenage pregnancies 2 v 2, deaths from coronary heart disease 13 v 10, suicides and self inflicted deaths 3 v 2, babies with mothers who smoke 41 v 16, registered with a GP +8%, limiting long term illness +14% (data from single SIPs). Contribution of SIP judged to be low.</p> <p>Community: community involvement: no quantitative trend data available, but thought to be some improvements in local participation with SIP organisation.</p> <p>Crime: (5/9⁺) in 3 areas where crime reduction prioritised by SIP, crime rates fell faster than in the wider area. SIP activities thought to contribute to this.</p> <p>Poverty: no trend data available.</p> <p>Access to information: no trend data available.</p> <p>Physical transformation: no baseline data available. Minimal contribution by SIP.</p> <p>Employment & training: (6/9⁺) Positive impact on short term and long term unemployment. SIP made important contribution to reduced employment often in context of enhanced economic conditions.</p> <p>Education: (4/9⁺) Some improvements in secondary education attainment, data not reported in comparable format. Unable to assess contribution of SIP due to lack of trend data and other educational initiatives coinciding with SIP activities. SIP activities more likely to impact on lifelong learning but no impact data on this is available.</p> <p>Housing: (6/9⁺) Some improvement in satisfaction. SIPs not directly involved in housing improvement so unlikely to contribute to improvements in housing satisfaction.</p>
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* no data presented to support reported findings

** summary of main impacts reported here, other similar outcomes assessed and reported in evaluation document

* number of areas in evaluation which presented data/total number of case study areas included in evaluation

Figure I: Flow diagram of identifying included evaluations



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What this paper adds

What is already known on this subject?

Strong links between socio-economic circumstances and health are currently used to support large-scale investment in national programmes of urban regeneration. Yet the potential for this investment to contribute to a health improvement strategy remains unknown. Evaluations of national urban regeneration programmes may harbour valuable data of the health and socio-economic impacts of this large-scale investment, but these data have not been systematically reviewed.

What does this study add?

Regeneration programmes may lead to some small positive impacts on health and socio-economic circumstances, but adverse impacts are also a possibility. To date evaluations of national regeneration investment have rarely assessed impacts on health or impacts on the socio-economic determinants of health; far less is reported on the social distribution of these impacts.

Impact evaluations which can be used to inform both public policy and healthy public policy are urgently required. In addition, innovative approaches to exploiting 'best available evidence' can be used to inform the development of healthy public policy now.