Department for Levelling Up,
Housing & Communities

Monetising the Social Benefits of Reducing Rough Sleeping

A Scoping Study for the Department for Levelling Up, Housing and Local Communities (DLUHC)

Brian Titley Consulting Ltd.
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Foreword

This scoping report synthesises the latest available evidence on monetising the social benefits of reducing rough sleeping. It also aims to identify potentially useful areas for new work and examination that could help to improve departmental assessments of the costs and benefits of interventions designed to prevent and/or reduce rough sleeping. To inform this report, Brian Titley Consulting Ltd conducted a rapid literature review of thirteen published cost-benefit studies.

I am most grateful to Brian for the report he produced. DLUHC is committed to continuing to develop its evidence base on the causes of and solutions to homelessness and rough sleeping. Alongside previous cost-benefit publications, the department has published initial findings from the analysis of the Rough Sleeping Questionnaire, and regular statistics on Statutory Homelessness in England.

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Summary

- To support the Government's vision and strategy for ending rough sleeping the Vulnerable People, Data and Evaluation Division within the Department for Levelling Up, Housing and Communities (DLUHC) is seeking to enhance it's evidence base and appraisal tools and processes.

- To this end it has commissioned this short 'scoping' project to conduct a rapid review of existing literature to 'identify possible options for monetising the social benefits of reducing and/or preventing rough sleeping including changes in well-being to better inform the development of economic business cases'.

- The objective of the review is to identify potentially useful areas for further work and examination that could help to improve Departmental assessments of the costs and benefits of interventions designed to prevent and/or reduce rough sleeping.

- A series of online searches of major research databases generated a short-list of 13 studies for review. Methodologies within were assessed for three key characteristics: (i) the presence of monetary values and estimates; (ii) relevance, consistency and robustness of approach and findings; and (iii) potential usefulness and applicability to the DLUHC. However, more forensic assessment of the studies methods, assumptions and values was out of scope.

- Among the studies reviewed were a small number that adopted standard cost-benefit approaches to the appraisal of interventions to reduce or end rough sleeping. The most comprehensive of these was a cost-benefit assessment commissioned by Crisis and undertaken by PriceWaterhouseCoopers in 2018. It estimated the net present value of the benefits of a series of interventions designed to prevent rough sleeping though to 2041.

- The studies revealed a wide range of secondary data from research and official sources that could provide useful baseline values for the DLUHC in future social cost-benefit appraisals of rough sleeping initiatives. Values used could subsequently be validated and updated as new data becomes available. For DLUHC this could include new primary data collections and policy evaluations.

- Recent supplementary guidance from HM Treasury (MacLennan et al, 2021) also advises and demonstrates how Departments can incorporate well-being analysis within a social cost-benefit appraisal framework in a way that is compliant with 'Green Book' principles.

- Based on first principles and the studies reviewed it is possible to identify those elements of social costs and benefits that are likely to be the most significant, relevant and measurable for the practical purposes of

appraising the potential impact of interventions that aim to prevent or reduce rough sleeping.

- These are the impacts on personal well-being and economic output, crime and the criminal justice system and on the 'average' costs of providing homelessness, healthcare and other public services to rough sleepers.

- However, the main challenge of measurement and appraisal is identifying and measuring the private and external costs and benefits associated with the counterfactual scenario in which the homelessness of the rough sleeper had not occurred or is prevented. This requires making assumptions about the well-being of rough sleepers, their employment prospects and their propensity to use healthcare and other public services before they were homeless or after they settled into secure accommodation.

- Standard approaches tend not to take account of the possibility that people may have characteristics that correlate positively with an increased probability of becoming homeless and an enhanced propensity to require public services. As a result such approaches are likely to overstate the potential to save or avoid treatment and other costs by preventing or reversing their homelessness.

- Additionally, rough sleepers may only account for a relatively small proportion of the total population using public services. If so a reduction in their use of these services may only have a marginal impact on total activity and therefore limit the scope to re-deploy resources and/or deliver cuts in staffing and other fixed and quasi-fixed costs.

- Three key recommendations arise from the review. These are that the analytical team within the DLUHC should consider

  (i) Developing a clear and meaningful logic model that connects the desired outputs and outcomes of interventions to prevent or reduce rough sleeping with the Government's vision to 'end rough sleeping for good'.

  (ii) From the logic model, building a robust appraisal framework, 'living' dataset and 'toolkit' for the systematic assessment of the costs and benefits (including impacts on well-being) of policy interventions designed to prevent or reduce homelessness and rough sleeping.

  (iii) Undertaking more routine data collection, evaluations and analysis to update and fill gaps in existing evidence on costs and how service usage, employment prospects and other factors can change over time for different groups of rough sleepers before and after interventions.

- The development of a clear logic model will provide a solid foundation for a standardised methodological framework for the appraisal of policy interventions. This could take the form of a spreadsheet model that can

be used to derive consistent and comparative estimates of their expected costs, benefits and cost effectiveness.

- Taken together the framework, model and dataset could provide a valuable and practical appraisal toolkit that can be enhanced over time as better and more relevant or more robust evidence becomes available.

1 Context and introduction

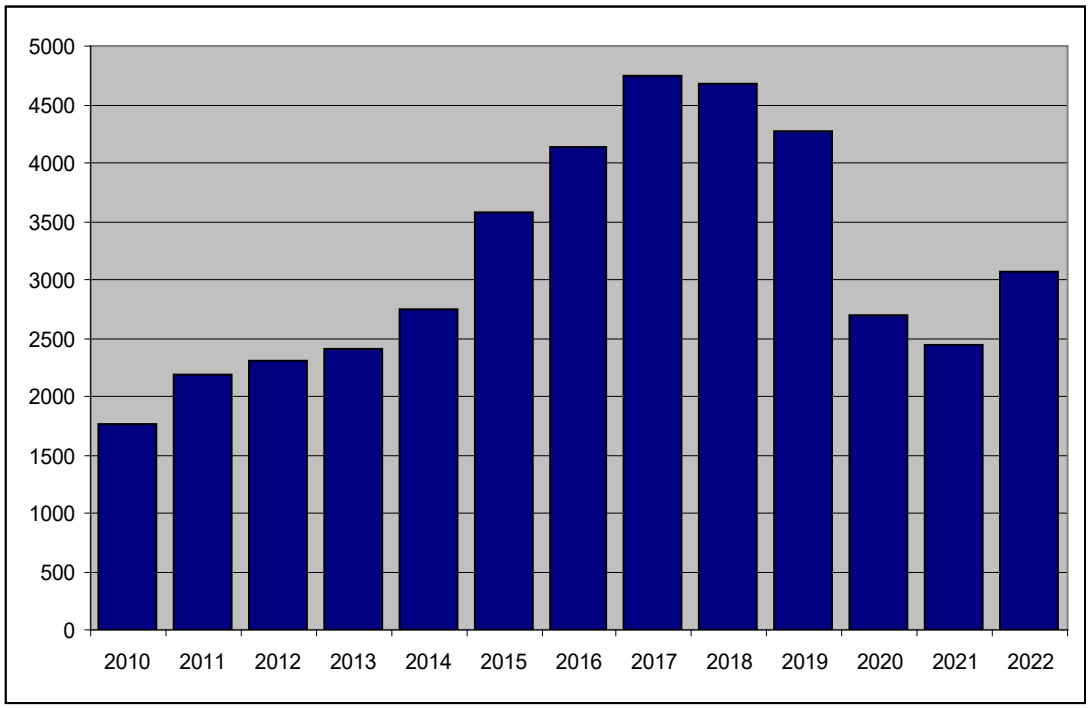
1.1 Rough sleeping is one of the most visible forms of homelessness. It involves people sleeping or bedding down outside without adequate shelter, typically on the streets of a town or city or in places that are not suitable to live in.

1.2 Rough sleeping can be a dangerous and isolating experience. It is well documented that people sleeping rough are more likely to be victims of crime and violence compared to the general population and that prolonged periods of rough sleeping can have a significant detrimental impact on their mental and physical health.

1.3 A 'snapshot' of the number of people sleeping rough on a given night each autumn is published by the Department for Levelling Up, Housing and Communities (DLUHC), as shown in Figure 1. An estimated 3,069 people slept rough on a single night in autumn 2022, down from a peak of over 4,750 in 2017 but an increase of 26% on the number in autumn 2021 and 74% higher than the number in 2010.

1.4 Over a quarter (28%) of rough sleepers in 2022 were recorded in London. The majority of rough sleepers were male (83%), while 15% were female. 82% were aged 26 and over and 6% were aged between 18 and 25.

Figure 1.1: Estimated number of people sleeping rough on a single night in autumn in England, 2010 to 2022



Source: Rough Sleeping Snapshot, DLUHC

1.5 For the purposes of conducting periodic counts of the number of rough sleepers and, from these, producing evidence based estimates, the DLUHC defines people who sleep rough as those:

- Sleeping, bedded down or about to bed down in the open air such as on the street, in tents or doorways, parks, bus shelters or encampments.

- In buildings or other places not designed for habitation such as stairwells, barns, sheds, car parks, cars, derelict boats, stations, or makeshift shelters.

1.6 For some people included in the annual counts rough sleeping will be a transitory state although many are likely to experience repeated and often prolonged periods of rough sleeping moving in and out of various short-term accommodations.

1.7 Research has variously identified some of the most common ‘triggers’ likely to precede rough sleeping as eviction, relationship breakdown, loss of employment and financial problems, leaving prison and bereavement. Underlying factors such as a traumatic childhood, problematic drug or alcohol use, and mental ill health issues were also likely to increase the likelihood of these triggers resulting in a person becoming homeless (see for example, Alma Economics 2019 and St. Mungo's 2013).

1.8 The social and economic consequences of rough sleeping are therefore significant not just for those who experience it but also for affected communities and to the wider economy including the costs of crime, healthcare and other support services for rough sleepers and also lost output. Successive Governments have therefore put in place initiatives to tackle rough sleeping and reduce the human suffering and economic costs it creates.

1.9 Having first committed to ending “the blight of rough sleeping by the end of the next Parliament” the current Government published it’s revised plans to do so in September 2022. The new strategy, “Ending Rough Sleeping for Good” is described as “a cross-government strategy” which sets out how the Government and its partners will work together to deliver the commitment to end rough sleeping in the current Parliament.

1.10 The Government’s vision for ending rough sleeping is defined as ‘preventing it wherever possible', and 'where it does occur ensuring it is rare, brief and non-recurrent'.

1.11 To deliver this vision the strategy adopts a “whole system" four-pronged approach of prevention, intervention, recovery and ‘ensuring a

transparent joined-up approach across Government departments and organisations' supported by a budget of over £2bn up to 2025.

1.12 Thereafter in November 2022 the DLUHC released an evaluation strategy aimed at improving evidence-based policy making within the organisation through the 'systematic assessment of the effectiveness, impact and value for money of departmental interventions'.

1.13 This followed an NAO Report (2022) that concluded the department had not consistently undertaken formal evaluations of the impacts of its past interventions in some areas and therefore lacked evidence to support the design and a-prior assessment of new interventions. The NAO report therefore made a number of recommendations to improve appraisal and evaluation more generally across the Department and to build its capacity and capabilities in these areas.

1.14 As part of a coordinated response to the NAO recommendations and to support the new rough sleeping strategy the Vulnerable People, Data and Evaluation Division within the Analytical Directorate of the DLUHC is seeking to enhance it's evidence base and appraisal tools and processes in a number of key areas. It's initial focus is on gathering some short-term analysis and potentially useful ideas for further work in advance of commissioning more detailed projects in support of the Division's and Department's aims ahead of the next spending review expected in 2024/25.

1.15 The short paper that follows is focused on the first of the areas identified by the Vulnerable People, Data and Evaluation Division. This is to examine possible "options for monetising the social benefits of reducing and/or preventing rough sleeping including changes in well-being to better inform the development of economic business cases".

2 Project scope and aims

2.1 It was agreed that the ‘scoping’ project should begin with a desk-based search for and ‘light –touch' review and synthesis of relevant existing literature. Studies within scope would be those that had explored valuation methodologies and produced estimates of the social benefits of reducing or preventing rough sleeping including the monetisation of changes in well-being and/or life satisfaction scores.

2.2 The aim of the review and synthesis will be to define and identify relevant social benefits and potentially useful values and valuation methodologies, if any, from existing studies.

2.3 Studies selected for review will therefore be those that have attempted to quantify and monetise the social costs of rough sleeping and/or the avoided costs and other social benefits of interventions designed to reduce its prevalence.

2.4 Thereafter and based on the findings of the review the objective of the project is to make recommendations and identify practical next steps on how values and methodologies might be developed and employed by analysts within the DLUHC to inform business cases for new or modified interventions that might be targeted at different groups of rough sleepers.

2.5 A final short report will therefore present the key findings from the literature review and additionally provide:

- A brief introductory section to provide policy context.
- Definitions of social benefits of relevance to the assessment of interventions aimed at reducing rough sleeping.
- Recommendations for developing appraisal methods and tools within the Department and on possible future areas of work.

3 Literature search, review and synthesis

3.1 A set of search terms was compiled and applied sequentially in three 'tiers' to major academic databases and through wider internet searches, as shown in Table 3.1. These included Google, Google Scholar, JSTOR, Social Science Research Network and RePEc (Research Papers in Economics).

Table 3.1: Literature search terms

Tier	Search terms	Search terms
1	Emergency accommodation Homeless Homelessness Life satisfaction	Rough sleeping Supported accommodation Temporary accommodation Well-being
2	Appraisal Assessment Avoided costs Business case Cost benefit analysis (CBA)	Cost effectiveness Estimation Economic value Evaluation Impact assessment
3	Appraisal methods Assessment methods Benefit cost ratio Economic benefits Economic costs Methodology	Monetisation (Net) Present value Social benefits Social costs Social return Valuation methods

3.2 The choice of research databases and the studies derived from their interrogation will not be exhaustive given the limitations of project scope and time.

3.3 A number of the studies identified were common to several of the databases. Thereafter studies published before 2013 were excluded and abstracts or summaries of those remaining screened to exclude those studies that had little or no relevance to the focus of the project.

3.4 Studies selected for further review were those that contained:

(i) Estimates of the monetary value of the social costs of homelessness or rough sleeping and/or the avoided costs and social benefits of interventions designed to reduce their prevalence and impacts.

(ii) Attempts to value the well-being impacts of changes in homelessness or rough sleeping status.

(iii) Developments in relevant cost benefit and well-being valuation methods.

3.5 A number of the studies discarded at this stage while interesting simply involved multiple applications of a 'new' well-being valuation methodology to different survey data and factors that may affect people's life satisfaction. Others studies deleted either lacked technical detail, were too narrowly focused or yielded few additional insights, methodological developments or monetary estimates.

3.6 These sifts reduced a reasonably long list of studies to 13 for further review. Annex 1 briefly summarises the aims, methods and methodological issues, values and data sources where relevant, and the key conclusions of each one.

3.7 Methodologies within the short-listed studies were assessed for three key characteristics: (i) the presence of monetary values and estimates; (ii) relevance, consistency and robustness of approach and findings; and (iii) potential usefulness and applicability to DLUHC. However, more forensic assessment of the methods, assumptions and values reported within the studies was beyond the scope of this short project.

3.8 With regards to (ii) above and based on Berry et al (2003) a consistent study can be defined as “one that systematically applies quantitative indicators or measures in a logical manner to the various cost benefit areas”. A robust study is therefore “one in which the data and approach used are verifiable either through the use of self reported data, confirmed by administrative data or… supported by the literature or prior empirical testing".

3.9 Tables 3.2 and 3.3 below brigade the studies reviewed under two key headings. A crude traffic lighting system is used to highlight those considered to be potentially the most relevant and useful to the aims of this project and the development of appraisal methods and tools within the DLUHC. Almost all the studies rated green drew on and usefully extended the work and findings of those rated amber. Grey is used for those studies that on closer inspection were considered more tangential to the focus and aims of this project and/or were lacking in sufficient detail.

3.10 Of the studies reviewed, OXERA (2013), Witte (2017) and PWC (2018) adopt broadly generic methods to produce estimates of the costs and benefits of reducing homelessness and/or rough sleeping. All offer interesting insights and ideas but of these studies the PWC analysis stands out as the most comprehensive, relevant and potentially useful.

Table 3.2: Literature review selective summary – costs and benefits of tackling rough sleeping

Homelessness/ Rough Sleeping Study	Author /Year	Monetary estimates	Methodology	Assessment
"The impact of Centrepoint's intervention for young homeless people"	OXERA 2013	Annualised values per Centrepoint client of 15 year discounted cash flows for Centrepoint costs plus impacts on public sector spending and receipts (welfare payments, health/addiction treatment, Criminal Justice system, tax)	CBA	Amber
"At What Cost? An estimation of the Financial Costs of Single Homelessness in the UK"	Pleace 2015	Costs of failing to prevent homelessness - illustrative case studies of additional costs of homelessness for a rough sleeper, young female sofa surfer, man with learning difficulties, victim of domestic violence	Vignettes	
"Better than Cure? Testing the case for Enhancing Prevention of Single Homelessness in England"	Pleace & Culhane 2016	Savings in public expenditures only – avoided costs of health/addiction treatment, criminal justice system and homelessness services – based on amount of contact 86 people had with service providers over 90 days of homelessness	Exploratory only using limited interview data	Amber
"The Case for Investing in Last Resort Housing"	Witte 2017	Annualised $AUS values per additional bed space per year of 20 year discounted cash flows for health cost savings, reduced crime, improved human capital and quality of life, economies of scale and scope in housing provision	CBA	
"Assessing the costs and benefits of the Crisis plan to end Homelessness"	PWC 2018	Discounted cash flows for total avoided costs (Local Authorities, Exchequer) from ending rough sleeping by 2041 plus impacts on earnings and well-being	CBA	Green
"Housing for Vulnerable People: Cost-effectiveness analysis of Housing First"	Wright & Peasgood 2018	Unit costs of service provision (housing support, A&E visits, criminal justice) vs change in life satisfaction/well-being	Cost effectiveness study – limited scope and details	

Table 3.3: Literature review selective summary – measuring changes in well-being and life satisfaction

Well-being/life satisfaction Study	Author /Year	Monetary estimates	Methodology	Assessment
"A General Method for Valuing Non-Market Goods using Well-Bering data: Three-stage well-being valuation"	Fujiwara 2013	Additional income required to compensate for loss of utility or well-being due to unemployment	Author develops and demonstrates a new 3-stage multi-model approach to measuring changes in well-being using experimental or observational data	Amber
"Measuring the Social Impact of Community Investment: A guide to using Well-being Valuation …"	Trotter, Vine, Leach & Fujiwara 2014	A range of financial metrics derived using Fujiwara's method to measure the social impact of different interventions on well-being	An application of Fujiwara's 3-stage valuation methodology	
"The Well-being Value of Tackling Homelessness: Identifying the impact on life satisfaction using the Journey's Home dataset"	Fujiwara & Vine 2015	Willingness to pay for improvement s in well-being by moving from rough sleeping to temporary accommodation (TA) and from TA to settled housing	An application of Fujiwara's 3-stage valuation methodology	Amber
"Measuring Well-being and Cost-Effectiveness Analysis using Subjective Well-being…"	Layard 2016	A set of possible 'exchange rates' for converting different measures of well-being into equivalent levels of life-satisfaction	Fixed effects multiple regression analysis	
"How do we value well-being? Combining data to put an economic value on the change in Short Warwick Edinburgh Well-being Scale (SWEMWBS) scores"	Collins 2016	Financial proxies for changes in well-being questionnaire scores of the population of the Wirral	An application of Fujiwara's 3-stage valuation methodology	

Well-being/life satisfaction Study	Author /Year	Monetary estimates	Methodology	Assessment
"Well-being discussion paper: monetisation of life satisfaction effect sizes - A review of approaches and proposed approach"	MacLennan & Stead 2021	Derives a central monetary equivalent value of £13,000 per 'WELLBY' being a one-point change in life satisfaction per year on a 0-10 scale with a low-high range of £10,000 to £16,000 (in 2019 prices/values). Upper end of range is from Fujiwara and Dass (2021) using Fujiwara 3-stage valuation methodology	Recommends use of a linear relationship between income and well-being, based on existing Green Book QALY (quality adjusted life year) value and individuals' willingness to pay for changes in their well-being	Green
"Well-being Guidance for Appraisal: Supplementary Green Book Guidance"	MacLennan, Stead & Little 2021	As above	Provides guidance on using of well-being analysis and values in Green Book compliant social cost-benefit analyses and ongoing policy development	Green

3.11 The objective of the OXERA study is limited to producing estimates of the impact on tax revenues and public sector expenditures of an 'average' young homeless person in receipt of assistance from Centrepoint. It assumes two counterfactuals, one without intervention and the other with delayed intervention.

3.12 The focus of the Witte study is limited to the provision of 'last resort housing' in Melbourne, Australia but expands the scope of costs and benefits of interest beyond those of the OXERA study to include attrition of a person's quality of life due to homelessness and to their human capital due to worklessness. Subsequent improvements in quality of life are valued using a crude willingness to pay proxy equal to the average rental cost of boarding house accommodation. The derived net benefit estimates are presented per additional bed space provided per year.

3.13 The list of cost and benefit variables included in the PWC report is broadly similar to the Witte study in terms of their broad headings but there are some significant differences in their approaches to measurement and estimation.

Table 3.4: Cost and benefit variables within scope (/) of the reviewed CBA studies

Cost / benefit variables	OXERA (2013)	Witte (2017)	PWC (2018)
Welfare payments	/	X	/
Tax revenues	/	X	/
Support services	/	/	/
Crime (victim)	X	X	X
Crime (criminal justice)	/	/	/
Alcohol and substance abuse (treatment)	/	/	/
Mental health (treatment)	/	/	/
Physical health (treatment)	/	/	/
Sexual health (treatment)	X	X	X
Property blight and nuisance	X	X	X
Employment/human capital	X	/	/
Quality of life/well-being	X	/	/

3.14 The PWC report was commissioned by Crisis to appraise the net benefits to society of ending homelessness in the UK by 2041 through a combination of different interventions. Crisis had defined 5 objectives of which one was ending rough sleeping.

3.15 PWC estimate the potential streams of costs and benefits of interventions to end rough sleeping over the 23-year appraisal period to 2041 using homelessness projections from HeriotWatt University (Bramley, 2017). It adjusts the projections of the stock of rough sleepers to produce a time-series for the flow of people into and out of

rough sleeping each year in six different regions/nations. Thereafter it makes assumptions about the intensity and duration of support different cohorts of rough sleepers could require based on the complexity of their needs.

3.16 PWC draws on a wide range of monetary estimates from the research literature, official statistics and other secondary sources to derive the average unit costs per rough sleeper per year of providing different support and accommodation services.

3.17 All the estimates used are re-valued to a common 2017 price base and also adjusted for regional and national differentials based on differences in either regional/national wages for interventions that are service based and labour intensive, or using regional and national differences in private sector rents and local authority housing allowances for accommodation based supports.

3.18 Four broad categories of benefits are captured in the PWC analysis of the 'no one rough sleeping' objective:

- **Avoided costs to local authorities** through the reduced use of homelessness services. For example, reduced need for spending on temporary accommodation and other housing and support based services for homeless people funded by local authorities.

  Average avoided cost per person per year £8,650.

  Source: Adjusted values from the "Evidence review of the costs of homelessness" (DCLG, 2012) in the New Economy database (GMCA, 2015).

- **Avoided costs to the Exchequer** through reduced use of public services as an result of preventing or reducing rough sleeping: Drug/ alcohol treatment services; Mental health services; NHS services (including A&E, GP visits, hospitalisation); Criminal justice services (policing, court costs, institutionalisation, etc.).

  Average avoided cost per person per year:
  Alcohol and drug services £254 - £322
  Mental health services £167 - £512
  NHS - A&E and inpatient care £4,354 - £4,720
  Criminal Justice System £1,658 - £2,439

  Source: Pleace and Culhane (2016) using unit cost data from the New Economy database (GMCA, 2015) assembled from various sources including the Ministry of Justice, NAO, NHS and the Kings Fund. Many of the same sources were used to inform the earlier OXERA (2013) study.

- **Increased economic output** from a proportion (25%) of rough sleepers re-entering the workforce post-intervention measured by an increase in total average earnings net of claims for Job Seekers Allowance. PWC assume 12% of gross earnings will be receipted to the Exchequer in transfers of tax and national insurance contributions.

  Average per workless claimant per year:
  Increase in economic output £14,164
  Cost to DWP of Job Seekers Allowance £3,652

  Source: New Economy database Version 1.4 (GMCA, 2015). This references unpublished modelling work by the Department for Work and Pensions as the source of these values. No further details are provided so it is not clear if the measure is gross earnings as suggested in the PWC report or gross value added. The latter would be more appropriate as a measure of value of additional economic output.

- **Increased well-being** as a result of people being moved from rough sleeping into secure housing.

  Value per single homeless person without dependents per year: £21,401

  Source: Fujiwara and Vine (2015).

3.19 The modelling work undertaken by PWC draws heavily on the New Economy database compiled and maintained by the Greater Manchester Combined Authority (GMCA). The database is a compendium of around 900 unit cost estimates covering the following thematic areas:

- crime
- education and skills
- employment and economy
- environment
- fire
- housing
- health
- social services.

3.20 Detailed unit costs from the database were similarly used by the Ministry of Housing, Communities and Local Government (MHCLG) to derive estimates of the annual 'fiscal' costs of rough sleeping. The unit costs were combined with information on use of public services from the Rough Sleeping Questionnaire completed by 395 respondents across 25 local authority areas in 2019 (MHCLG, 2020).

3.21 Most of the unit costs stored in the database are generic national averages drawn from a wide range of sources including research

papers, government reports and official statistics, all of which have been reviewed, quality assessed and updated using the GDP deflator series to a consistent price base by the GMCA research team. Traffic light ratings are used to indicate the level of confidence in each entry or for each source depending on such factors as age and coverage of the data, sample sizes and 'averaging' methods.

3.22 The database was originally developed in 2012 and continues to be updated by the GMCA Research Team as new data becomes available from recurrent annual publications or new research. The current version was published in October 2022 and incorporates more than 300 revised cost entries that could be used in a consistent way in cost-benefit appraisals.

3.23 Taken together therefore the PWC report and New Economy database help to illustrate how to build, populate and deploy a robust social cost-benefit appraisal framework for the assessment of interventions designed to reduce or prevent homelessness and rough sleeping. Most notably they demonstrate:

- There exists a wide range of secondary data from research and official sources that could provide some useful baseline values for social cost-benefit appraisals. Values used could subsequently be validated and updated as new data becomes available. For DLUHC this could include new primary data collections and ex-post assessments.

- The validity of reflecting and adjusting for, regional or spatial variations in cost and benefit values used in assessments.

- How to incorporate well-being analysis within a social cost-benefit appraisal framework in a way that is compliant with the principles of the HM Treasury 'Green Book'.

3.24 However, notable omissions from the PWC study and the other cost-benefit studies briefly reviewed herein are:

- A clear underlying logic model and theory of change able to explain how each intervention or set of interventions is expected to result in the desired outputs and outcomes and how their attainment will be measured.

- Definitions of the social costs and benefits associated with those outputs and outcomes.

3.25 Although the PWC analysis pre-dates supplementary guidance issued by HM Treasury (2021) on the measurement and estimation of well-being in cost-benefit appraisals, it similarly draws on the work of Daniel

Fujiwara that has informed much of the development of well-being analysis over the past 10 years.

3.26 A number of key papers on well-being analysis are included in the review herein starting with Fujiwara's 2013 paper demonstrating a new valuation methodology and thereafter several applications of his new approach. These include valuing the impact on well-being from the provision of secure housing for rough sleepers and homeless individuals and families in Fujiwara and Vine (2015). The value of £21,401 for the improvement in the well-being of a single homeless person without dependents was used in the PWC analysis.

3.27 Fujiwara's body of work on well-being was subsequently reviewed and incorporated into HM Treasury guidance on where, when and how to include well-being concepts, measurement and estimation in the assessment of social or public value in HM Treasury Green Book compliant appraisals.

3.28 The guidance advises Government departments and officials to use a central monetary equivalent value of £13,000 'per WELLBY' being a one-point change in life satisfaction per year on a 0-10 scale. The central value sits within a low to high range of £10,000 to £16,000, all in 2019 prices and values.

3.29 The lower bound has been set to ensure equivalence with existing Green Book advice on the value of a QALY (Quality Adjusted Life Year) while the upper bound is based on recent academic evidence, again from Fujiwara in Fujiwara and Dass (2021), on the amount of income people are willing to pay for a one-point change their life satisfaction or per WELLBY.

4 The social benefits of preventing and reducing rough sleeping

4.1 The DLUHC lacks workable definitions of the social benefits associated with tackling rough sleeping for the purposes of undertaking robust and consistent appraisals and evaluations of the impacts of interventions designed to reduce its prevalence and effects. Definitions therefore need to be meaningful and measurable for both practitioners and for policy makers.

4.2 In general and relatively simple economic terms the definition of social benefit should be uncontroversial being the total benefit to society of a given action or activity undertaken by one or more economic actors or ‘agents' (the individuals and organisations that participate or engage in economic activities and transactions).

4.3 However, within the total societal benefit of each action or activity it is useful to distinguish between private benefits and external benefits, who is responsible for them and who they effect. Many of these benefits will be the savings or reductions in costs resulting from ending or modifying actions or activities that are socially and economically undesirable. To understand social benefit it is therefore important to begin with an accessible definition of the concept of social cost.

4.4 The social cost of a given action or activity is the sum of the private costs and the external costs it generates.

4.5 The private costs of an action or activity will be incurred directly by those engaged in or responsible for that action or activity, for example, the personal financial cost to an individual of their decision to purchase a new car. However, private costs need not be financial or easily measured. For example, a decision by an individual to buy and consume cigarettes may over time cause irreversible damage to their physical health. However, it may be possible to measure and value the private costs of this damage through any consequential loss of income or what they would be willing to pay to improve their health.

4.6 External costs are therefore the indirect and negative effects or consequences, whether intended or not, that an action or activity imposes on third parties or non-participants. That is, external costs are imposed by one or more economic agents on other people and organisations. They are not incurred by the economic agent(s) responsible for the actions or activities that created them. For example, the decision by a person to consume cigarettes not only risks damaging their own health but also the health of family members and others around them.

4.7 The definition of social benefit is therefore the antithesis of social cost. It is the sum of the private and external benefits generated by a given action or activity.

4.8 For example, the car driver and cigarette smoker will each enjoy a private benefit from their purchase and consumption decisions. In contrast, other road users may enjoy external benefits in the form of reduced congestion and improved journey times from the decisions of private individuals to travel by bus or rail.

4.9 Many actions or activities will of course give rise to both private and external costs and benefits and it is therefore important to measure and account for, as far as practical, their net social impact in appraisals and ex-post assessments. An action or activity will have a net social benefit only if the sum of its private and external benefits exceeds the sum of its private and external costs. In contrast, any action or activity for which the total social cost exceeds its total social benefit will be uneconomic and will reduce economic welfare. This is consistent with the measure of welfare or Net Social Value used in policy and project appraisals in the DLUHC (Para 3.12, Appraisal Guide 2023).

4.10 However, many external costs and benefits can be difficult to quantify and value in monetary terms because they tend not be reflected in market prices and financial metrics. For example, while preventing or reducing rough sleeping can help to create safer and more inclusive communities these external benefits will be difficult to measure. For some interventions non-monetised impacts may be significant. It is important therefore that they are reflected in analysis and their potential significance and scale quantified and/or qualified wherever possible using available evidence.

4.11 However, many of the external benefits from preventing or reducing rough sleeping will involve measurable savings in charitable and public expenditures and resources used up in the provision of emergency accommodation and managing it's worst effects.

4.12 It is perhaps not surprising therefore that the cost-benefit studies reviewed herein tend to focus on the potential impact on public expenditures of interventions designed to reduce rough sleeping. It is no doubt a data driven choice but also a pragmatic one. The approach will likely capture many of the most significant costs and benefits associated with changes in rough sleeping that will be of primary interest to policy makers. Unit cost data, for example on the direct provision of healthcare and from the criminal justice system, are also more readily available. It also reduces the risk of double counting some costs and benefits. For example, detriment to personal health will tend to be reflected in an increase in NHS costs.

4.13 Even in the PWC (2018) study estimates of avoided public sector costs consistently accounted for 62% to 63% of total discounted benefits for all of the Crisis objectives modelled with the exception of assessment of the ending rough sleeping objective (41%). The total benefits estimated for the achievement of this objective were instead

dominated by the estimated value of the improvement in the well-being of rough sleepers moved into stable accommodation (51%).

4.14 Based on first principles and the studies reviewed herein it is possible to identify those elements of social costs and benefits that are likely to be the most significant, relevant and measurable for the practical purposes of appraising the potential impact of interventions that aim to prevent or reduce rough sleeping.

4.15 The first element of social costs and benefits most likely to be relevant and measurable for appraisal are **private costs and external costs. Private costs** are defined by the costs incurred by rough sleepers as a result of their rough sleeping less the costs they would have incurred had they remained in accommodation.

(i) A loss of employment and earnings resulting from their rough sleeping and the detrimental impact it can have on their health and well-being are likely to be the most significant, relevant and measurable for the purposes of policy appraisal.

4.16 **External Costs** are defined by the costs rough sleepers impose on other individuals and organisations as a result of their rough sleeping less the costs they would have imposed on others had they remained in accommodation.

(i) These will include the financial costs to others (individuals, charities, local authorities, other public sector, etc.) of providing or subsiding homelessness services and accommodation and the additional costs of treating or managing the often more complex physical and mental health needs of rough sleepers including counselling and treatment for substance abuse if required.

(ii) To the extent that some rough sleepers may blight certain areas and commit offences and more often as a result of their homelessness, the additional costs their actions will impose on victims and the criminal justice system will also be relevant.

4.17 Other elements found to be the most significant, relevant and measurable for appraisal include **private benefits and external benefits.** Private benefits are defined by the private costs incurred by rough sleepers that they will avoid or save if their homelessness is prevented or if they move into accommodation.

(i) Private benefits will include any improvements in their health and well-being and any resulting restoration or increase in their earnings due to renewed employment.

(ii) External benefits are defined by the external costs rough sleeping imposes on others that will be avoided or saved if their homelessness is prevented or if they move into accommodation.

4.18 The main challenge of the definitions provided and therefore for appraisal is identifying and measuring the costs and benefits associated with the counterfactual scenario in which the homelessness of the rough sleeper had not occurred or is prevented. This requires making assumptions about the well-being of the rough sleeper, their

employment prospects and their propensity to use healthcare and other public services when they are or were not homeless.

4.19 For example, is it appropriate to assume that before they became homeless the employment prospects and propensity to use public services of a rough sleeper would have been the same as those of a non-homeless person of the same age, gender, etc.? For some rough sleepers the answer will be ‘yes’. Clearly not all rough sleepers will develop mental health problems, drug or alcohol addictions or commit offences. Some homeless people may even use less public services than other citizens because they lack information about their availability and eligibility or simply avoid using them.

4.20 This highlights the problem of identifying and specifying the target or treatment group for an intervention and an appropriate comparator group to calculate the ‘average' cost per individual in the each group and the difference between them. This derives the additional or ‘net’ cost per individual resulting from rough sleeping.

4.21 For example, in deriving estimates of the average ‘fiscal’ costs per rough sleeper the MHCLG (2020) take as their ‘benchmark' for comparison the estimated cost per ‘average adult' for the same range of public services from Bramley et al (2015). Both works however accept this comparison will be simplistic.

4.22 A number of references suggest many people who become homeless and are forced to sleep rough are more likely to have characteristics including poor health, worklessness and low educational attainment that will increase their use of public services and reduce their chances of securing long-term employment relative to other people regardless of their accommodation status (see for example, Pleace 2015 and Homeless Link 2022).

4.23 The PWC (2018) analysis uses two comparator groups to calculate the additional or ‘net' cost per year per rough sleeper. Within service providers this represents the value of resources they could re-deploy and/or the costs they could avoid or save per person if their homelessness is prevented or if they are re-homed. These groups are people who are (i) not homeless, or (ii) not homeless but in long-term supported accommodation.

4.24 The average costs of service provision per person per year associated with the target group and comparator groups are taken from a limited ‘exploratory study’ undertaken by Pleace and Culhane (2016). This involved a survey of 86 people who had been homeless for at least 90-days on the services they had used prior to and during this period. The self reported data on service usage was then combined with unit cost data from the New Economy database.

4.25 Table 4.1 reports the average cost values used in the PWC analysis for each group and the implied avoided cost ‘multipliers’ expressed as

a proportion of the average cost estimates for the target group. The additional or 'net' cost of rough sleeping in each cost category is therefore the sum that could be avoided or saved each year by preventing or ending the rough sleeping of the average person in the target group, i.e. the external benefits of successful intervention.

Table 4.1: Average costs per rough sleeper and cost differentials in the PWC analysis

Cost category (services)	Average cost of provision per person in target group and comparator groups, 2017 prices Target Group	Average cost of provision per person in target group and comparator groups, 2017 prices Not Homeless	Average cost of provision per person in target group and comparator groups, 2017 prices In supported accommodation	Additional or 'net' cost per person in target group compared to 'Not Homeless' comparator group	Additional or 'net' cost per person in target group compared to 'In Supported Accommodation' comparator group
Drugs and alcohol	£1,340	£1,020 (0.76)	£1,090 (0.81)	£322 (0.24)	£254 (0.19)
Mental health	£2,135	£1,620 (0.76)	£1,970 (0.92)	£512 (0.24)	£167 (0.08)
NHS	£8,040	£3,220 (0.4)	£3,690 (0.46)	£4,720 (0.60)	£4,354 (0.54)
Criminal Justice	£12,198	£9,759 (0.8)	£10,540 (0.86)	£2,439 (0.20)	£1,658 (0.14)

Source: Table 76 'Benefits accruing from interventions to achieve Objective 1 (no-one rough sleeping)', PWC (2018)

4.26 For example, the estimates in table 6 suggest that 60% of the average cost to the NHS of treating a rough sleeper could be avoided if their homelessness could be prevented.

4.27 In contrast, just 8% of the average cost of providing mental health services and 14% of criminal justice costs could be avoided if rough sleepers in the target group can be moved into long-term supported accommodation. This is because 'many rough sleepers continue to re-offend and require mental health services even after they have been re-housed' (Pleace and Culhane, 2016).

4.28 To calculate potential gains in earnings net of changes in welfare payments PWC assume 25% of the target group will enter work if their homelessness is prevented and a further 25% would begin to claim

Job Seekers Allowance. These assumptions are based on the findings of the evaluation of the Crisis Skylight Intervention completed by Pleace and Bretherton (2014).

4.21 The Peace and Culhane estimates continue to be used in more recent studies of the costs of homelessness, which suggests some updating and re-assessment will be useful. For example, Dellar (2022) draws on their work to derive an estimate of the annual net cost of providing substance support services per homeless person. The study uses a ‘gross to net' multiplier of 0.43, which is described as a “relatively crude estimate calculated by averaging the proportion of gross healthcare costs that were net costs (0.24) and gross criminal justice costs that were net costs (0.62)".

4.22 However, the Pleace and Culhane estimates and any analysis based on comparisons of simple averaged costs per unit of provision may overstate the potential to reduce or avoid many of the fixed costs of delivering services especially if the target group accounts for a relatively small proportion of total provision and costs (see Section 5).

5 Recommendations for further work and analysis

5.1 The ultimate objective of this scoping project is to identify potentially useful areas for further work and examination that could help to improve the assessment of the costs and benefits of interventions that could prevent and/or reduce rough sleeping. Additionally the remit requires some practical recommendations for developing appraisal methods and tools within the Department. The literature review has helped in generating a number of ideas that the Vulnerable People, Data and Evaluation Division may hopefully find of interest and worthy of some further consideration.

Develop a clear and meaningful logic model that connects the desired outputs and outcomes of interventions to prevent or reduce rough sleeping with the overall vision to 'end rough sleeping for good'

5.2 The Government's vision for "ending rough sleeping for good" is necessarily high level but needs to be underpinned by a clear understanding of how change can be achieved and assessed. Critical to this will be a robust logic model that will guide systematic consideration of the key components of any change and the relationships between them and the overall vision.

5.3 A logic model is an important tool for defining in a clear and transparent manner how an intervention can effect subsequent behavioural and other changes that will create or bring forward in time benefits that may not otherwise occur or occur as rapidly. It is usually presented in the form of an accessible and engaging diagram able to be used with different stakeholders. However, a logic model is not just valuable as a presentational device.

5.4 A well-specified logic model will identify the most immediate outputs and subsequent outcomes that can be expected and maps out the necessary preconditions for their realisation. In so doing it illustrates a 'theory of change' that describes all the various relationships and channels of impact or transmission mechanisms that will help facilitate the changes necessary to achieve the desired outputs and outcomes that would not otherwise occur. It also helps to formulate and identify the data, metrics and evidence requirements needed to conduct robust ex ante assessments, ongoing monitoring and ex post evaluations of interventions.

Build a robust appraisal framework, 'living' dataset and 'toolkit' for the systematic assessment of the costs and benefits (including impacts on well-being) of policy interventions designed to prevent or reduce homelessness and rough sleeping

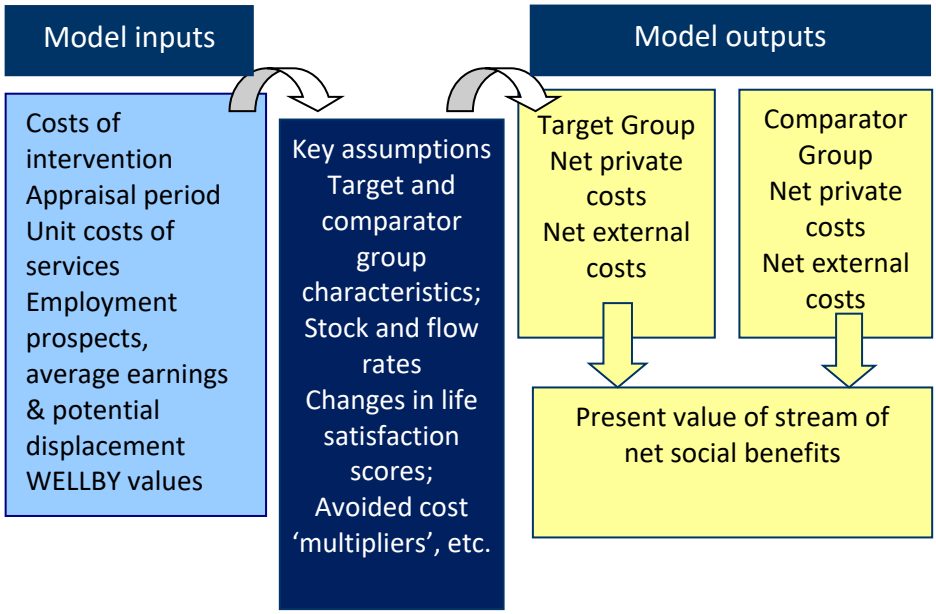
5.5 The development of a clear logic model will provide a solid foundation for a standardised methodological framework for the appraisal of policy interventions. This could take the form of a spreadsheet model that can be used to derive consistent and comparative estimates of their expected costs, benefits and cost effectiveness.

5.6 To operationalise the framework any such model must incorporate best practice including the recent HM Treasury 'Green Book' appraisal guidance on the use of well-being analysis and values (MacLennan et al, 2021).

5.7 The model also needs to be capable of being used to create, contrast and test different 'with intervention' and 'without' scenarios using verified data sources. In addition to pre-defined input values users should therefore be able to select and enter their own key assumptions and choice of modelling parameters including length of appraisal period, price base year, target group size and characteristics as well as costs, benefits and sensitivities of interest.

5.8 The diagram below is a very simple and highly stylised representation of the model concept, namely a flow diagram which outlines appraisal model functionality including model inputs, key assumptions and model outputs. For example, with sufficient in-built functionality and underpinning data the model could be used to estimate the net economic benefits of improvements in well-being combined with savings in physical and mental healthcare costs that could potentially be secured from re-housing up to 500 rough sleepers with specific needs or vulnerabilities in a given region or regions.

Figure 5.1: A flow diagram outlining appraisal model functionality



5.9 Estimates of unit support and service provision costs and other relevant monetary values required for modelling could initially be drawn from key studies reviewed and/or referenced herein and from the New Economy database. Their values could be combined in one or more linked datasets. Thereafter the values can be validated and/or updated, replaced and extended over time with data from newly commissioned research and evaluations.

5.10 Taken together therefore the framework, model and dataset could provide a valuable and practical appraisal toolkit that can be enhanced over time as better and more relevant or more robust evidence becomes available.

Undertake more routine data collection, evaluations and analysis to update and fill gaps in existing evidence on costs and how service usage, employment prospects and other factors can change over time for different groups of rough sleepers before and after interventions

5.11 All of the cost benefit studies reviewed herein experienced similar limitations and challenges most notably access to relevant and up-to date data and the specification of an appropriate counterfactual. These are of course limitations that are encountered more generally in economic analysis.

5.12 The available data on accommodation costs, the costs of delivering public services and the propensity of homeless people and rough sleepers to use them appears to be drawn from a relatively limited number of sources and limited survey data. For example, the Pleace and Culhane (2016) analysis of unit costs and service usage by the homeless is based on “insufficient local authority data” on homelessness support costs and a survey of just 86 homeless people completed in 2015.

5.13 The main methodological problem is a lack of longitudinal data on a statistically representative sample of homeless people that would allow the nature and extent of their service use to be tracked through time and how their employment prospects and well-being change as they move in and out of homelessness or rough sleeping. Such a dataset could potentially be assembled from merging administrative data on homeless and re-homed individuals from the NHS, social services, the criminal justice system and the benefits system.

5.14 Other countries, notably Denmark and the USA, have made extensive use of data merging to explore patterns of service use by homeless people over time pre- and post-interventions. There are however significant technical, legal and cultural barriers to data merging in the UK. Systems, recording protocols and standards vary considerably across Government organisations and there are some clear concerns around how to use and share data safely. Despite these challenges, the NAO (2019) has argued that “a failure to treat data as a strategic asset... has led departments under-prioritising their own efforts to manage and improve data”.

5.15 While data merging remains unachievable there may be merit in assembling and collecting data at regular intervals from a number of small-scale panels of recently re-housed rough sleepers and homeless people with different shared characteristics. Alternatively or in addition, more systematic data collection from extended cross-sectional surveys

should be considered. For example, there are as yet no plans to re-run the 2019 Rough Sleeping Questionnaire (RSQ) developed by the MHCLG to capture more granular data on the backgrounds, characteristics, well-being, support needs and service usage and costs of different cohorts of rough sleepers.

5.16 In the absence of more detailed data the analysis of impacts of interventions tend to be based on simple comparisons of an assumed 'average' individual from a broad heterogeneous target group with an average non-homeless person. This assumes that if their homelessness is prevented or ends, each individual in the target group will have the same propensity to require public services as the non-homeless, the same ability and willingness to work, employment prospects and earnings potential and so on.

5.17 This approach does not account for the possibility that people have characteristics that may correlate positively with an increased probability of becoming homeless and an enhanced propensity to require public services. As a result it is likely to overstate the potential to save or avoid costs by preventing or reversing their homelessness.

5.18 The use of simple average unit costs per contact or per individual may also overstate potential to save or avoid costs following interventions to prevent or reduce rough sleeping. This is because no distinction appears to be made in the data or analyses reviewed herein between the variable costs of service provision and their fixed and quasi-fixed costs including admin, equipment and staffing.

5.19 Some homeless people and rough sleepers especially, may require healthcare and other public services more often than non-homeless people of a similar age, gender, etc. and the cost per contact may also be higher. However, they may only account for a relatively small proportion of the total population that uses these services. If so a reduction in their use of these services may only have a very marginal impact on total activity and therefore limit the scope to re-deploy resources and/or deliver cuts in staffing and other fixed and quasi-fixed costs. This is another area that requires further consideration and assessment.

Annex 1: Literature Review Summaries

Title	“The impact of Centrepoint’s intervention for young homeless people : A cost benefit analysis prepared for Pro Bono Economics"
Author	OXERA
Year	2013
Objective(s)	To analyse the impact of Centrepoint’s interventions within a conventional economic cost-benefit analysis (CBA) against no intervention and delayed intervention counterfactual scenarios
Analysis	Report uses existing data sources and own analysis of those sources to develop estimates of benefits delivered by Centrepoint in the following five ways: by improving education and lowering barriers to securing employment and wages thereby increasing tax revenues; reducing involvement in crime leading to lower costs of the criminal justice system; improving health outcomes reducing the costs of public healthcare system; and savings in welfare benefits.
Methodological issues	Difficulty specifying counterfactuals without intervention and establishing probabilities of re-offending, etc. post intervention; dependencies between different types of problem and risks of double counting (mitigated by assuming treatment costs are 'one-off'); exclusion of other potential benefits due to ‘a lack of reliable data': savings in temporary accommodation costs; reduced treatment costs from improved sexual and physical health; reduction in the costs of victims of crimes; improvements in quality of life of clients
Key estimates	Central estimates of average net benefit per Centrepoint client in constant 2011 prices and values: Avoided welfare payments (1) £6,939 Additional tax and NI revenues (2) £12,232 Avoided costs of Criminal Justice System (3) £2,639 Avoided treatment costs - mental health (4) £46 - class A drugs (5) £188 - cannabis (6) £117 - alcohol (7) (£136)
Key data `sources	(1) (2) ONS ‘ASHE' data; (3) Ministry of Justice (2011) ‘The cost of a cohort of young offenders to the criminal justice system - Technical Paper’; (2012) ‘Youth Justice Statistics 2010/11’; (2013) ‘Story of the prison population 1993 - 2012”; (4) NHS National Treatment Agency for Substance Misuse (2013) ‘Treat Addiction, cut crime’, McCrone et al (2008) ‘Paying the price, the cost of mental health care in England to 2026’; (5) (6) (7) Curtis, L. (2010), ‘Unit Costs of Health and Social Care’, Department for Education, ‘Family Savings Calculator v1.5.8b. Guidance Note’; (1-7) Centrepoint various
Key findings / conclusions	‘Conservative’ analysis suggests that £1 spent by Centrepoint in intervening during the early stages of homelessness, compared with a similar intervention at a later stage, results in potential costs avoided by the public purse of £2.40. This equates to a net benefit of at least £19,900 per young homeless person. Sensitivity analysis indicates the benefits to the public purse could range from £2.21 to £2.48.

Title	“A General Method for Valuing Non-Market Goods using Well Bering data: Three stage Well-being Valuation”
Author	Fujiwara, D.
Year	2013
Objective(s)	To demonstrate an alternative methodological framework for Well-being Valuation using a three-stage modelling approach to estimate monetary equivalent values for non-market goods.
Analysis	The author argues the then current econometric methods used to produce values for changes in subjective well-being (a 'non-market good’) have relied on stated and revealed preference data which tend not be consistent or well-informed and can therefore result in significant bias. The paper presents a new methodological framework for Well-being Valuation that provides robust measures of welfare change and monetary value for use in cost-benefit analysis. The major contribution herein is to move away from single-equation models to estimate separate models for income and the non-market good, which allows values to be estimated using experimental or observational data or a combination of both. The method is called Three-Stage Well-being Valuation and the author uses it to estimate the costs of unemployment as an example. It uses a multivariate regression model to estimate the impact of outcomes on life satisfaction and thereafter an instrumental variable (IV) model to derive a causal estimate of the impact of income on life satisfaction.
Methodological issues	Computational complexity involved in estimating simultaneous equations and choice of instrumental variables. Income variable likely to suffer from simultaneity and endogeneity bias and measurement error. Data on lottery wins is used herein instead to model exogenous changes in income.
Key estimates	Using three-stage well-being valuation, the amount of additional income an individual would require to compensate for their loss of utility being unemployed is estimated at around £10,700 pa – or about £890 per month
Key data sources	Data from the Institute for Social and Economic Research, “British Household Survey Panel Survey" including life satisfaction scores, household income, lottery wins, family characteristics, etc. Involuntary redundancy data from the BHPS is used to estimate the causal effect of unemployment on life satisfaction
Key findings / conclusions	The paper demonstrates a alternative approach to valuation using subjective well-being data that solves for the main technical problems of preference-based valuation methods. The method is considered robust enough to pass technical thresholds for policy appraisal in UK government policy-making.

Title	"Measuring the Social Impact of Community Investment: A Guide to using the Well-being Valuation Approach"
Author	Trotter, E., Vine, J., Leach, M., Fujiwara, D.
Year	2014
Objective(s)	To provide practical guidance on how Fujiwara's 2013 Well-being Valuation methodology can be applied to housing providers' community investment programmes, and to provide robust impact values that can be used to calculate the social returns to their investments.
Analysis	The manual introduces a bank of values relevant to measuring the social impact of interventions using the Well-being Valuation approach. Each value represents the average amount of additional income or money a person would need each year to increase their well-being by the same amount as a specific intervention. The resulting Social Value Bank has been expanded and updated since by the HACT (Housing Association Charitable Trust) including the development of a Social Value Calculator organisations can use to calculate the net social impact of their policy or investment proposals (net of an automatic average deadweight).
Methodological issues	See Fujiwara (2013) summary The manual provides useful guidance on double counting and deadweight issues in social impact / cost benefit analysis.
Key estimates	The Social Value Bank contains a suite of 88 outcomes covering the impact of employment, health, financial inclusion, homelessness, environment, physical activities and other factors on well-being. Each outcome has a defined financial metric, which incorporates a well-being value, a health top up value and, where applicable, an exchequer value. Each value is differentiated by region and the age of the person experiencing it.
Key data sources	The values are calculated through statistical analyses of four large national UK datasets containing self-reported data on well-being and life circumstances: • British Household Panel Survey (ISER University of Essex) • Understanding Society (ESRC, ISER University of Essex) • The Crime Survey for England and Wales (Kantar/ONS) • The Taking Part survey (DCMS)
Key findings / conclusions	The guide introduces a new bank of values related to investment in communities, the Social Value Bank, derived using the Well-being Valuation approach. The document also provides guidelines on how organisations can apply the values using the Value Calculator and to determine the social impact of their community investment activities.

Title	“At What Cost? An estimation of the Financial Costs of Single Homelessness in the UK"
Author	Pleace, N. (Centre for Housing Policy University of York)
Year	2015
Objective(s)	To demonstrate the potential for significant savings in public spending from reducing the prevalence and duration of single homelessness.
Analysis	Four illustrative case studies or ‘vignettes' are used to describe the additional costs of single homeless people with different characteristics and needs. These are for (1) a young homeless woman; (2) a rough sleeper; (3) a person with a learning difficulty; and (4) a woman escaping domestic violence.
Methodological issues	Support and service cost estimates are partial and based on a limited array of qualitative and longitudinal data. Likely to be issues of consistency and sample sizes. Also unclear if cost data adjusted to a common price and value base. Costs at 24 months are assumed to be double those at 12 months. Does not allow for interdependencies or possible deterioration in mental an physical health with increased duration requiring increased service use over time.
Key estimates	Estimated additional costs of failure to prevent homelessness at 24 months: (1) £23,466 (2) £40,256 (3) £25,556 (4) £9,336
Key data sources	Bretherton, J. and Pleace, N. (2015) Housing First in England: An Evaluation of Nine Services”, University of York Pleace, N. and Bretherton, J. (2014) “Crisis Skylight - An Evaluation: Year 1 Interim Report", University of York Acclaim Consulting (undated) “Value for money in housing options and homelessness services" Curtis, L. (2014) “Unit Costs of Health and Social Care” PSSRU New Economy Unit Cost Database, University of Manchester
Key findings / conclusions	There is a clear case for improving understanding of the financial costs of homelessness through focused research. Better data on the costs of homelessness is required to ensure the economic case for homelessness services to prevent and reduce homelessness can be properly assessed.

Title	"The Well-being Value of Tackling Homelessness: Identifying the impact on life satisfaction using the Journey's Home dataset"
Author	Fujiwara, D., Vine, J.
Year	2015
Objective(s)	To demonstrate how Fujiwara's Three Stage Well-being Valuation approach can be used with suitable datasets to establish and value the well-being impacts of tackling homelessness.
Analysis	Longitudinal data from Australia is used to assess the impact of people moving between different housing statuses on life satisfaction and the effect of accessing support services on housing status. The estimated impact on life satisfaction due to a change in housing circumstances is monetised by estimating the amount of money that would have the equivalent impact on well-being.
Methodological issues	Because the longitudinal survey collects data on the same individuals through time it allows the use of fixed effects regression models to analyse the effects of the various housing outcomes on life satisfaction by controlling for unobservable time-invariant factors such as personality traits and any other factor that may change over time. This generally leads to better estimates of cause and effect.
Key estimates	The analysis finds that the average impact of moving from rough sleeping to temporary accommodation has a well-being value of £16,448 per person. The impact of a move from temporary accommodation to settled housing is valued at £8,019 per person. The average value of a move from rough sleeping to settled housing is £24,467 per person (£21,401 for single homeless without dependents).
Key data sources	Longitudinal panel data from the Journey's Home survey, run by the Melbourne Institute of Applied Economic and Social Research at the University of Melbourne and commissioned by the Australian Department of Social Services. The data analysed is from the first four waves collected over the period of September 2011 to May 2013.
Key findings / conclusions	It is possible to establish and derive robust values of the well-being impacts of housing support services through consistent application of the Well-being Valuation approach. The methods involved are consistent with HM Treasury and Organisation for Economic Co-operation (OECD) guidelines for CBA.

Title	"Measuring Well-being and Cost-Effectiveness Analysis using Subjective Well-being: Discussion Paper 1"
Author	Layard, R.
Year	2016
Objective(s)	Part of the "Measuring Well-being Series" of papers published by the 'What Works Centre for Well-being' that aims to encourage discussion among analysts of how different approaches to understanding and measuring well-being might be applied in different situations as well providing practical guidance.
Analysis	Paper considers exchange rates between different domains and measures of well-being and overall well-being (measured by life-satisfaction) and the feasibility of a developing composite measure.
Methodological issues	Converting well-being measures to a 'common currency'; how to allow for and weight inequalities in well-being; what are appropriate discount rates for life satisfaction; how to treat extra years of life.
Key estimates	The paper proposes a set of exchange rates for converting different measures of well-being into equivalent levels of life-satisfaction from the work of the (1) Economic Evaluation Policy Research Unit (EEPRU) in Sheffield and (2) Powdthavee (2012). (1) Examines the relation between life-satisfaction and the ONS4 well-being measures. In each case the dependent variable is life-satisfaction, transformed to a scale of 0-10. Correlations are high, except for the question on anxiety where the responses are highly skewed. The analysis is extended to a series of general health measures from surveys including EQ-5D and the Warwick Edinburgh Mental Well-Being Scale. For these correlations were more variable and somewhat lower. (2) Uses fixed effects analysis multiple regression using data from the BHPS 1996-2009. The resulting coefficients show They show the strong potential effect of satisfaction with different variables (including satisfaction with income, housing amount and use of leisure time, family, job) upon overall life-satisfaction. However, there is some upwards bias in the coefficients since a person who is generally satisfied is likely to be satisfied both with life and with its different domains. There are also issues of reverse causation.
Key data sources	The EEPRU analysis uses: Health improvement and Patient Outcomes (HIPO) dataset; Multi Instrument Comparison (MIC) Survey; South Yorkshire Cohort over 65 (SYC65); UK Household Panel Survey waves 1 and 4. Powdthavee, N. (2009). "Jobless, Friendless and Broke: What Happens to Different Areas of Life Before and After Unemployment?"
Key findings / conclusions	Life-satisfaction provides the best common currency for policy-makers to use when comparing the outcomes of different interventions. Policies should be evaluated in terms of the well-being improvement (weighted for inequality) per unit of net expenditure. More weight should be given to raising life-satisfaction when it is low than when it is high.

Title	"How do we value well-being? Combining data to put an economic value on the change in Short Warwick Edinburgh Well-being Scale (SWEMWBS) scores"
Author	Collins, B. (University of Liverpool and Wirral Council)
Year	2016
Objective(s)	The report applies the Well-being Valuation methodology of Fujiwara to derive financial proxies for changes in well-being in the Wirral population that could be used in Social Return on Investment (SROI) analysis.
Analysis	The analysis combined estimates of the monetary equivalent values for hypothetical well-being impacts with local data from the North West Mental Well-being Survey which included the Short WEMWBS (Warwick Edinburgh Well-being Scale) and the ONS4 questions. SWEMWBS scores were matched to the equivalent life satisfaction scores in the NWMental Well-being Survey dataset for Wirral. These scores were then matched to the average score on the ONS4 questions.
Methodological issues	See Fujiwara (2013) summary. For example, how to control for covariates. Because income is correlated with many other factors such as education, age and health, the analysis looked at the increase in life satisfaction experienced by people who won large amounts of money on the lottery compared to people who had smaller lottery wins. This change was based on life satisfaction scaled from 1-7 from the British Household Panel Survey (BHPS) rescaled to a 1-10 scale as used in the ONS4 questions.
Key estimates	SWEMWBS Score and equivalent 12-month financial value to person on average salary: Minimum score 7: £12,483 Maximum score 35: £115,127
Key data sources	North West Mental Well-being Survey
Key findings / conclusions	Many public health and community and voluntary services collect SWEMWBS data as an outcome measure. The analysis in the paper may be useful in putting a financial proxy on these changes in well-being for SROI analyses. The top values of well-being may seem very high at over £100,000 but the author argues he is not assuming this is the amount that needs to be spent to achieve this level of well-being. It is unlikely that individuals would spend a whole year in a state where they were experiencing such optimal levels of well-being

Title	“Better than Cure? Testing the case for Enhancing Prevention of Single Homelessness in England"
Author	Pleace, N., Culhane, D.P.
Year	2016
Objective(s)	To identify and estimate the costs of single homelessness and the potential savings to the public sector of preventing it.
Analysis	The research was carried out by the University of York and University of Pennsylvania to examine the financial implications of extending homelessness prevention services in England. It draws on interviews with 86 people who had been homeless for at least 90 days to identify the services they had used during this period and the reduction in public spending that could occur if their homelessness had been prevented.
Methodological issues	The research is a limited exploratory study, based partially on estimation from self-reported data from interviews. Small sample size and bias may affect the estimates. The method drew on experience from Australian and American research using administered retrospective questionnaires to determine actual patterns of service use by single homeless people and thereafter to match those patterns of service use to actual service costs.
Key estimates	On average, it was estimated that preventing homelessness for one year would result in a reduction in public expenditure of £9,266 per person. Central estimates of average annual cost per single homeless person: Drug/alcohol services: £1,320 Mental Health: £2,099 NHS: £4,298 Criminal Justice: £11,991 Homeless services: £14,808 Total: £34,518
Key data sources	Questionnaire designed by report authors combined with cost data from various sources collated within the University Manchester New Economy database.
Key findings / conclusions	The study is exploratory and not statistically representative but attempts to include single homeless people with range of patterns of service use. Large scale analysis of the differences that enhanced prevention might make to levels of single homeless, particularly the numbers of long-term and recurrently homeless people in England, is therefore desirable. However, system wide analyses of the costs of homelessness, based on merging large administrative datasets, are not yet possible in the UK.

Title	"The Case for Investing in Last Resort Housing"
Author	Witte, E. (SGS Economics and Planning)
Year	2017
Objective(s)	To assess the costs and benefits of government and community funded last resort housing (legal rooming, boarding houses and emergency accommodation) for homeless persons in the City of Melbourne.
Analysis	Follows a traditional CBA approach to identify, quantify and value potential future streams of financial and non-financial costs and benefits. Present values are derived assuming a discount rate of 4% pa. Sensitivity tests were undertaken but not reported.
Methodological issues	Unable to quantify and monetise all costs and benefits (notably avoided property blight, community pride and social justice); unable to take account of the distribution of assessed costs and benefits; difficulty isolating transfer effects.
Key estimates	Central estimates of average annual value per new bed (Australian dollars: price and value base year unclear): Health cost savings: $8,429 Benefit to the individual: $6,500 Reduced crime: $6,182 Improved human capital: $4,236 Volunteering benefits: $268 Economies of scale and scope: $300
Key data sources	Australian Bureau of Statistics (ABS) - Australian Health Survey; Recorded Crime – Offenders; Employee Earnings and Hours / Australian Council of Social Service / City of Melbourne
Key findings / conclusions	That one last resort bed will generate a net social benefit of AUS$216,000 over 20 years - an average net benefit of AUS$10,800 per year and a benefit to cost ratio of 2.7.

Title	"Assessing the costs and benefits of the Crisis plan to end Homelessness"
Author	PriceWaterhouseCoopers
Year	2018
Objective(s)	To estimate the expected costs and benefits of different combinations of interventions which Crisis identified as necessary to address homelessness.
Analysis	PWC estimate the costs and benefits of the different interventions in six regions/nations using HeriotWatt's homelessness projections.
Methodological issues	Cost and benefit estimates are taken directly from different secondary sources and contain a mixture of regional and national averages. They are adjusted to a common price base using the GDP deflator and to reflect regional/national differences using regional/national wage differentials (for benefits per person from services provided) and regional/national differences in rents or Local Housing Allowances (for financial / rent based supports). Unable to distinguish between flow of newly homeless (who tend to have higher support costs) and those who continue to be homeless in HeriotWatt estimates of the stock of homeless people.
Key estimates	For Objective 1: Total benefit (£m) of no rough sleeping in constant 2017 prices and values: Avoided costs to local authorities: £688 Avoided costs to the Exchequer: £620 Increased economic output (increased earnings): £270 Improved well-being to individuals: £1,629 Total: £3,207
Key data sources	Central estimates of net benefit (cost) per person per year: 1. Average annual local authority expenditure per rough sleeper: £8,650 *Source: New Economy database (2015)* 2. Average annual cost for contact with drug and alcohol services: £322/£254 *Source: Pleace & Culhane (2016) / Crisis (2017)* 3. Average annual cost for contact with mental health services: £512/£167 *Source: Pleace & Culhane (2016) / Crisis (2017)* 4. A&E and inpatient costs: £4,720/£4,354 *Source: Pleace & Culhane (2016) / Crisis (2017)* 5. Average cost of contact with the criminal justice system: £2,439/£4,862 *Source: Pleace & Culhane (2016) / Crisis (2017)* 6. Cost to DWP for new Job Seekers Allowance claimant: (£3,652) *Source: New Economy database (2015)* 7. Increased earnings (new workforce entrant): £14,614 *Source: New Economy database (2015)*
Key findings / conclusions	Approach followed is consistent with HMT Green Book principles including formulation of counterfactual and use of discounting. Estimated benefit to cost ratio for achieving objective 1 is 3.2 and 2.8 for all objectives.

Title	"Housing for Vulnerable People: Cost-effectiveness analysis of Housing First"
Author	Wright, L., Peasgood, T.
Year	2018
Objective(s)	To develop, undertake and present (method, data sources and results only) a cost effectiveness analysis of Housing First.
Analysis	Evidence from international randomised control trials is used to estimate what the well-being and service use consequences might be in the UK were Housing First to be adopted more widely. Multiple sets of published outcome and unit cost data are used to assess cost-effectiveness estimates.
Methodological issues	International data may not be representative of UK costs and outcomes. Substantial uncertainty due to the large range of data available and the lack of information on which sets of data are most appropriate. There are multiple sources available for unit costs and the effectiveness estimates, each of which may not be valid. Due to data availability costs and outcomes are estimated for only two years. Short-term estimates unlikely to reflect longer-term results. Data also likely to be subject to sampling error.
Key estimates	Base case analysis suggests Housing First may cost approximately £4,000 for each extra life satisfaction year point and £9.00 for each extra day in stable accommodation achieved (in 2017 prices and values).
Key data sources	Various : For rough sleeping the cost of contacts with homelessness outreach services are based on Pleace and Culhane's (2016) estimate from interviews with 3 homeless persons who used out-reach services over the previous 90 days. Acknowledged as likely to overestimate average costs. / For life Satisfaction, the At Home/Chez Soi trial using the Quality of Life Interview 20 (QOLI-20) global life satisfaction question was used.
Key findings / conclusions	Housing First has the potential to be cost-effective in the UK. Base case analysis suggests Housing First may cost approximately £4,000 for each extra life satisfaction year point and £9.00 for each extra day in stable accommodation. However, there is significant uncertainty in the results and future research should focus on collecting long-term outcome data and accurate costs for the accommodation and support services provided. Aside from the collection of more accurate cost data from across the UK, further work should be carried out on the long-term and wider effects of Housing First. Changes in engagement with services is likely to have long-term impacts on mortality, morbidity and overall well-being

Title	"Well-being discussion paper: monetisation of life satisfaction effect sizes - A review of approaches and proposed approach"
Author	MacLennan, S., Stead. I.
Year	2021
Objective(s)	To review with a panel of academics a range of approaches for incorporating life satisfaction impacts into economic analysis used to inform policy decision-making. The preferred approach seeks to incorporate robust, causal estimates of well-being (translated into equivalent monetary values) within the existing structures of social cost benefit analysis (SCBA).
Analysis	The paper contrasts three 'headline' options: (1) Using 'off the shelf' monetised values from published studies; (2) Using a log transformation of income and drawing on estimates of the causal, exogenous impact of income on well-being (i.e. 'Three Stage Well-being Valuation'); and (3) Assuming a linear relationship between income and well-being, based on existing Green Book QALY (Quality Adjusted Life Year) value and an individuals' willingness to pay for changes in their well-being.
Methodological issues	Approach (3) linear conversion can be practically applied and is relative easy to adopt. The same WELLBY value can be applied simply and transparently to all individuals regardless of income and represents a population average willingness to pay. However, the approach does not take account of inequality in life satisfaction. Losses and gains are also valued equally. This is inconsistent with behavioural economic theory in which losses are often valued more highly than equivalent gains due to diminishing marginal utility of income.
Key estimates	A central monetary equivalent value of (1) £13,000 per one-point change in life satisfaction per year on a 0-10 scale (i.e. per 'WELLBY'), with a low-high range of (2) £10,000 to (3) £16,000, all in 2019 prices and values.
Key data sources	(1) Based on a Green Book QALY value of £70,158 in 2019 prices and values and the approach used in Frijters and Krekel ("Handbook of Well-being Policy in the UK", 2021) which reported that a score of 1 for a QALY for "no health problems" (on a 1 - 7 scale) could be roughly assigned to a score of 8 for life satisfaction on a 0 –1 0 scale based on ONS data. Hence, one WELLBY would have a value of £70,158/8-1) = £10,023. (2) Mid-point (3) Based on an estimate of what people are willing to pay for a one point change in their life satisfaction based on average annual earnings of £30,673 and a log linear coefficient on income of 1.96 wrt life satisfaction from Fujiwara and Dass ("Incorporating Life Satisfaction in to Discrete Choice Experiments to Estimate Well-being Values for Non-Market Goods ", 2021). Hence the WTP for one WELLBY = (£30,673/1.96)= £15,615, for simplicity rounded up to £16,000.
Key findings / conclusions	The recommended approach is to use a linear conversion from well-being to money using a range of values rather than a single point estimate. The lower bound of this range is set to be as consistent as possible with the existing Green Book recommended QALY value while the upper bound is based on direct academic evidence on the estimated willingness to pay for changes in life satisfaction.

Title	"Well-being Guidance for Appraisal: Supplementary Green Book Guidance"
Author	MacLennan, S., Stead. I. , Little, A.
Year	2021
Objective(s)	To provide practical guidance for analysts on where, when and how well-being concepts, measurement and estimation can contribute to the assessment of social or public value in HM Treasury Green Book compliant appraisals.
Analysis	It provides additional tools and insights to be used with the central Green Book (appraisal), its Business Case Guidance and the Blue (national accounts), Aqua (analysis) and Magenta (evaluation) Books including: • How and where well-being should be considered in the relevant parts of the Green Book methodology. • An overview of the key findings from the current well-being literature. • An overview of how well-being evidence can inform the strategic stages of policymaking as well as 'step by step' guidance for analysts on how well-being impacts can be assessed, and where evidence allows, monetised and included in cost benefit analysis.
Methodological issues	• Risk of selection bias in studies may occur where the policy variable is correlated with unobserved factors about the individual. • Reverse causality (leading to bias) will occur if generally happier people self-select into a policy programme rather than the other way around. • Risk of double counting where there are ongoing effects of an improvement in well-being and interdependencies between factors that can affect well-being. Caution is therefore also needed when using well-being estimates alongside QALY estimates. • How to account for inequality in the distribution of well-being and life satisfaction.
Key estimates	A central monetary equivalent value of (1) £13,000 per one-point change in life satisfaction per year on a 0-10 scale (i.e. per 'WELLBY'), with a low-high range of (2) £10,000 to (3) £16,000, all in 2019 prices and values.
Key data sources	HM Treasury (2020) "The Green Book - Central Government Guidance on Appraisal and Evaluation". MacLennan, S. & Stead, I. (2021) "Well-being discussion paper: monetisation of life satisfaction effect sizes - A review of approaches and proposed approach"
Key findings / conclusions	The guide sets out recommendations on the use of well-being analysis and valuation in policy appraisal stages to inform value for money analysis and options selection (the Economic Case) and it encourages the use of well-being evidence at the strategic stage (the Strategic Case).

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