
The Economic Evaluation of Homelessness Programmes

Paul Flatau & Kaylene Zaretsky

Murdoch University
The University of Western Australia

- › **Abstract_** *An economic evaluation of a homeless programme seeks to assess the effectiveness of the programme in improving the outcomes of homeless people over and above what would otherwise have prevailed, estimate the differential cost of the homelessness programme, and draw together the analysis of programme effectiveness and costs in order to evaluate the overall cost-effectiveness of the programme. In this paper, we examine what constitutes a robust economic evaluation of a homelessness programme considering the efficacy of both experimental and non-experimental research designs. The paper also examines issues in the analysis of the costs of homelessness programmes emphasising the need to account for the full range of resources devoted to the delivery of services including capital costs and any associated cost offsets. The significant cost of homelessness, to both the individual and to the community, means that homelessness programmes may not only be cost-effective, but also cost-saving where they can generate positive outcomes for homeless people. Existing studies point to positive client outcomes from participation in homelessness programmes and, generally to their cost-effectiveness; but there remains much more to do in this field.*
- › **Keywords_** *Homelessness programmes; cost-effectiveness; experimental methods; client outcomes; costs of service delivery; cost offsets.*

Introduction

An economic evaluation of a homeless programme seeks to do three things¹. First, assess the effectiveness of the programme in improving the outcomes of homeless people. In an economic evaluation, we are not so much concerned with an absolute measure of client outcomes as with a relative one: *what are the outcomes of the programme relative to those that would have prevailed in the absence of participation in the programme?*² If the client had not participated in the programme, s/he may have not received any support whatsoever from a homelessness agency or received support but under an alternative set of arrangements. An economic evaluation seeks to estimate the difference in client outcomes between the programme in question and the specified counterfactual.

The second objective of an economic evaluation is to estimate the differential cost of the homelessness programme. As in the case of the analysis of programme effectiveness, a cost analysis seeks to evaluate the difference in costs between the programme in question and the specified alternative or counterfactual. In estimating costs, it is important to account for cost offsets associated with the programme. Cost offsets arise when the homelessness programme leads to lower net outlays in non-homelessness programme areas such as in justice or in health as a result of improved client outcomes³.

The third and final aim of an economic evaluation is to draw together the analysis of programme effectiveness and costs in order to evaluate the overall cost-effectiveness of the programme. If the homelessness programme in question produces improved client outcomes per euro spent that exceeds some pre-determined threshold rate, then the programme is said to be cost-effective. A good case can

¹ For the purposes of the paper, a homelessness programme is defined, as a Government-financed and administered activity designed to prevent homelessness or to assist those who are homeless or exiting homelessness. Services of homelessness programmes may be delivered by Government agencies or by not-for profit, non-Government agencies. Homelessness agencies providing support under Government homelessness programmes may supplement Government sources of funds with donations and user charges (such as rent payments). In this case, the total value of resources applied in the homelessness programme exceeds the level of Government funding.

² The effectiveness of a homelessness programme is also a function of the extent to which the programme's target group accesses the programme, but we do not consider this dimension of programme effectiveness in the present paper.

³ It is, of course, possible that the homelessness programme leads to higher, rather than lower, indirect outlays. In this case, the cost 'offset' adds to, rather than reduces, the cost of the homelessness programme.

then be made on efficiency grounds—and doubtless on equity and rights grounds as well—for an expansion of the programme. If the programme results in outright cost savings then the case is stronger still⁴.

In recent years, we have seen a significant growth in the number of studies on the effectiveness of homelessness programmes and the emergence, in the US at least, of a literature on the cost-effectiveness of homelessness programmes⁵. Despite the obvious relevance of economic evaluations to policy formation, there is still a relative paucity of economic evaluations of homelessness programmes outside the US. There is clearly a need for more research on the cost-effectiveness of homelessness programmes; research that is sufficiently robust that it adds to the evidence base on which homelessness policy can be built.

It is to the question of what constitutes a sufficiently robust economic evaluation of a homelessness programme that this paper is first directed. The core methodological issue to address in this context is: *does there exist a 'gold-standard' research design to which all economic evaluations should aspire or does there exist more than one research design that can generate robust findings?* In practical terms, this reduces to a question about the primacy of the experimental research design over alternative possible methodologies.

Having addressed this broad methodological issue, the paper moves to the practical concern of the set of client outcome indicators that should be included in an analysis of programme effectiveness. Homelessness programmes aim to provide safe, adequate and secure shelter. However, they do much more than this. Homelessness is not just the absence of shelter; it is also fundamentally about the impact of long-standing poverty, of domestic violence, mental health conditions, employment barriers, drug and alcohol dependence, self-esteem issues and poor quality of life outcomes. A broad range of outcome indicators should be included in any assessment of the effectiveness of a programme. However, when more than one client outcome indicator is used to measure programme effectiveness, a new methodological issue arises: *how do we bring together in one common denominator (either euro or utility?) potentially disparate outcomes so that an overall assessment of the effectiveness of the programme can be made?*

⁴ See Holtgrave *et al.* (2007) for a specification of relevant cost saving and cost-effectiveness hurdle ratios in the homelessness field.

⁵ Rosenheck (2000) provides a review of cost-effectiveness studies of services for mentally ill homelessness people while Roberts, Cumming and Nelson (2005) provide a systematic review of economic evaluations of community mental health care, which includes studies related to homelessness. Hwang *et al.* (2005) is a systematic review of the effectiveness of homelessness programmes with respect to health outcomes and Coldwell and Bender (2007) is a similarly focussed meta-analysis.

In the second half of the paper, we switch our attention to an examination of the net cost of homelessness programmes. There are two points we wish to make in this context. The first is that the analysis of the cost of homelessness programmes is much more than simply the analysis of the level of recurrent funding applied by Governments to the programme. Rather it involves the estimation of the full range of resources devoted to the delivery of services including capital costs. Failure to include all relevant costs will result in a less than complete picture of the cost-effectiveness of homelessness programmes.

The second point we emphasise in the context of costs is the importance of cost offsets to an analysis of the real cost of a homelessness programme. This is where our own recent work on homelessness has been focused primarily. What arises from this work is the significant cost of homelessness not only to the individual but also to the community and hence the very great potential for homelessness programmes to be cost-effective when they achieve significant improvements in client outcomes (see Flatau *et al.*, 2008 and Zaretsky *et al.*, 2008).

Research Design

An economic evaluation of a programme or intervention attempts to provide robust evidence on the difference the programme makes to the lives of clients and the cost involved in achieving that end. However; *what constitutes robust evidence on programme effectiveness? What is an acceptable evaluation framework to assess the effectiveness of homelessness programmes?*

In answering these questions, we must recognise two important facts. First, that an economic evaluation examines differential client outcomes and costs. This means that any research design we consider must allow for an examination of both the homelessness programme's outcomes and costs as well as those of the specified counterfactual. A research design that examines only outcomes for clients of the homelessness programme in question (referred to as 'the single group comparison case') can generate meaningful evidence on how the programme impacts on those it assists over time, but by definition it cannot provide evidence on differential outcomes and costs.

The second important fact is that we can never observe a person in two states at the same time. The best of all possible imaginable research designs clearly can never generate information on contemporaneous outcomes for a client in the homelessness programme and for the same client in an alternative state. We can never determine for sure what would have happened to the client of the homelessness programme if they had not participated in the programme (or *vice versa*). However, what we can attempt to do is to produce estimates of differential client outcomes

on the basis that the 'treatment group' and the 'control group' are not significantly different from each other. Alternatively, if differences do exist between the two groups, these differences are controlled for by statistical means so only the independent effect of the homelessness programme on client outcomes remains.

In the health sciences, the standard approach to the measurement of differential client outcomes is the Randomised Controlled Trial (RCT); otherwise known as the experimental method. Indeed, health-based systematic reviews of the effectiveness of homelessness programmes often set the adoption of an RCT methodology in a study as one of the criteria for inclusion in the review (see Hwang *et al.*, 2005 and Coldwell and Bender, 2007). By implication, only those studies based on a valid RCT research design approach are accepted as being capable of producing robust evidence on programme effectiveness.

Under the RCT approach, potential clients of the homelessness programme are allocated randomly to the 'treatment' and 'non-treatment' categories. The treatment group comprises those who receive support under the homelessness programme or intervention, while the non-treatment group comprises those who do not receive support or who do so under some alternative arrangement. Under certain conditions (discussed further below), the estimated difference in mean outcomes between the 'treatment' and 'non-treatment' categories represents the differential impact of the programme on client outcomes.

Despite the obvious appeal of the RCT method, an RCT may be difficult to implement successfully in the homelessness setting and can be ethically problematic. Beyond these concerns, a focus on the RCT methodology to the neglect of other possible approaches is restrictive in that quasi-experimental research designs are also capable of producing robust evidence on programme effectiveness. Indeed, in the economics field, the quasi-experimental approach has wider applicability than the experimental approach.

The RCT must comply with a number of conditions if it is to produce an accurate measure of the differential impact of a homelessness programme. The first is that the composition of the treatment and non-treatment groups should be roughly equivalent. Randomisation is likely to achieve this result if the sample is large enough, but may not do so with relatively small samples. The second condition is that the process of randomisation does not introduce an element of bias into the study. One obvious channel through which randomisation may induce potential bias is where some homelessness agencies delivering support under the programme decide not to be part of the trial on ethical or other grounds, while some of their counterparts do decide to participate. If the set of agencies that participate in the trial are different from the set that do not, there is potential for the study's findings to be unrepresentative of clients as a whole. A third major condition that needs to

be fulfilled by an RCT is that non-participants retain their 'non-treatment' status throughout the period of analysis. In other words, they do not participate in close substitutes for the programme in question (see Heckman and Smith, 1995).

Finally, it is important to recognise that the RCT provides evidence on mean differential outcomes but, typically, not for particular client sub-groups. Moreover, the RCT design, by its very nature, does not allow for the modelling of the decision by the potential client (and the relevant homelessness agency) to participate in the homelessness programme. In addition, by following a prospective study design, there are risks that the 'treatment' and 'non-treatment' groups may suffer high attrition rates over time. Obviously, the same point applies to any prospective study and not simply to an RCT prospective study.

In addition to these technical difficulties surrounding the implementation of RCTs, there are likely to be ethical concerns with RCTs in the homelessness field. These concerns relate to the fact that the homelessness programme or intervention in question will generally be *presumed* to be superior to the counterfactual, whether that is explicitly stated or not. That is, after all, why the programme has been implemented. This creates an obvious ethical problem for researchers and service providers alike; those who do not receive treatment are assumed to be at a disadvantage. An allocation of study participants to the 'non-treatment' group is an assignment to a predicted worse outcome for the client. Of course, prior to the completion of a robust economic evaluation we will not know whether the prediction is right or not. Nevertheless, we do have a priori prediction and it is a priori prediction, which is important from an ethical point of view.

The ethical problem remains even in the case of resource constraints. Such constraints mean that not all who are eligible and wish to participate in the homelessness programme can do so. The standard argument is that if not all who wish to participate in a homelessness programme can do so, then diverting some of them to the 'non-treatment' category will not upset the natural order of things. The problem here is that homelessness services are likely to adhere to a needs-based allocation policy. In other words, those with the highest needs are allocated support *first* by homelessness agencies when resource constraints apply. The process of randomisation may interfere with such an allocation system as it replaces a needs-based allocation model with one based on random allocation. The implementation of the RCT means that some potential clients with high needs have missed receiving support under the programme where otherwise they would have received support.

Potential problems with the randomised control trial design do not mean that we must reject such a design in favour of an alternative, such as a quasi-experimental design. A decision in favour of one research methodology over another is not based on the possible problems of one methodology seen in isolation, but because that

method provides more robust evidence than does its close rival for the problem at hand. In the economics literature however, the pre-eminence accorded to the experimental approach is contested and there is extensive use of quasi-experimental methods to assess programme effectiveness (see Burtless, 1995 and Heckman and Smith, 1995).

In a quasi-experimental approach, programme participation is left to follow its normal course. The task facing the researcher is then to estimate the effectiveness of the programme on client outcomes, controlling for confounding influences and in particular differences in the composition of the treatment and comparison groups. Longitudinal survey data (prospective and otherwise) and time series data may be utilised to assess the effectiveness of social programmes. When longitudinal survey data is used, matching techniques may be used to match programme participants with (eligible) non-participants. A 'time series analysis' of programme effectiveness compares outcomes prior to and following the implementation of the programme or the intervention, seeking to determine whether a structural break is evident in the series.

The quasi-experimental design has the obvious advantage that it can be applied to existing rather than custom-built longitudinal survey data. Another advantage is that the decision to participate in the programme can be modelled, as can be outcomes from programme participation conditional upon programme participation. However, the major drawback, in terms of an analysis of homelessness, is that the large-scale social science longitudinal surveys that now exist across Europe, North America and other countries only sample households residing in private residential dwellings⁶. Such a design excludes street-present homeless people and those living in institutions, who may be at risk of homelessness on exit from the relevant institution. Furthermore, existing surveys do not typically include questions relating to participation in homelessness-based programmes. There is surely a pressing need to implement national homelessness longitudinal surveys encompassing those in the population who are homeless or at significant risk of homelessness.

To undertake a quasi-experimental study in the homelessness context, therefore, requires the implementation of a custom built survey. In order to appropriately control for confounding factors, model the decision to participate in the programme and estimate the differential impact of the programme on client outcomes, the survey needs to be relatively large. It is therefore costly, and may be prohibitively so. The researcher may well consider implementing a smaller, well-designed RCT instead.

⁶ Examples include the *Panel Study of Income Dynamics*, the *British Household Panel Survey*, the *German Socio-Economic Panel Study* and the *Australian Household, Income and Labour Dynamics in Australia Survey*)

Despite the obvious difficulties and pitfalls involved in implementing an RCT, the vast majority of existing effectiveness and cost-effectiveness studies of homelessness programmes utilise an RCT research design framework; almost all are US-based⁷. There are a number of examples and we will cite only a few. Wolff *et al.* (1997) compare the cost-effectiveness of three forms of case management: standard assertive community treatment (ACT); community worker based ACT; and brokered case management (purchase of services), for those with severe mental illness and at risk of homelessness. The study found that the ACT options were associated with greater contact with treatment programmes and greater reductions in psychiatric symptoms than was the case with brokered case management, but that community-based ACT had lower overall costs inclusive of hospital costs as compared with the remaining two options.

Lehman *et al.*'s (1999) cost-effectiveness study of ACT relative to standard care indicates that the programme resulted in improved quality of life and clinical outcomes with lower in-patient and emergency room costs and reduced mental health outpatient visits. Rosenheck's (2003) study of a programme of supported housing with integrated clinical services for homeless persons with mental illness finds that the programme resulted in longer stays in housing and shorter spells of homelessness compared with two control groups who received care, but outside of a supported housing environment. No significant differences were found in terms of psychiatric or substance use disorder status between the three groups. The supported housing option was more expensive 'per day housed' than the other options. The incremental cost-effectiveness ratio (differential costs relative to differential benefits) and was found to be US\$59 per day housed for the supported housing programme. As Rosenheck suggests (2007; p. 949), such an incremental cost-effectiveness ratio means that the supported housing option is not an unambiguously cost-effective programme, although the question remains as to whether this value exceeded an appropriately specified threshold value⁸.

⁷ Our reference is to studies that utilise a two-group comparison robust experimental or quasi-experimental research design. There are many more examples of effectiveness studies that utilise a single group research design.

⁸ Additional topics that have been the subject of RCT effectiveness and cost-effectiveness studies include: the *Access to Community Care and Effective Supportive Services Programme* in the United States (ACCESS), which provides integrated service systems for homeless persons with mental illness; an engagement and psychiatric services programme (Choices), for street-dwelling homeless people with psychiatric disabilities; and a *Housing First* model of care. Further examples of effectiveness studies include Morse *et al.*, (1992), (1997); Shern *et al.*, (2000); Tsemberis, Gulcur and Nakae, (2004); and Kidder *et al.*, (2007). Additional cost-effectiveness studies include Jones *et al.*, (2003) and Holtgrave *et al.*, (2007).

The Measurement of Client Needs and Outcomes

Providing immediate shelter and, subsequently, secure, long-term accommodation is a key objective of any homelessness programme. The effectiveness of the homelessness programme or intervention becomes one of assessing the extent to which the programme results in improved access to sustained, secure housing for the client, over and above the counterfactual. However, homelessness is not simply the absence of secure housing. Homelessness is either the consequence or the cause of a range of other life experiences that affect a person's life such as domestic and family violence; drug and alcohol dependence and abuse; poverty; mental and physical health conditions; and poor employment outcomes. Hence, it is important that the examination of the impact of a homelessness programme consider a broad range of outcomes rather than just one indicator. For example, for women escaping domestic violence, a fundamental outcome is that of improved safety. A reduction in drug and alcohol dependence and in gambling addictions will be relevant outcomes for significant numbers of those who are homeless. Securing employment and increasing income are critical to sustained exit from homelessness.

The wider the range of outcomes, the richer the picture of the effectiveness of the programme built up. However, the wider the set of outcomes the more difficult it is to provide a clear and unambiguous determination of the differential impact of the programme or intervention unless for each outcome indicator of interest, the homelessness programme dominates the comparison. The problem is that of the commensurability of disparate outcomes: How do we compare, say, improved housing stability from participation in a programme with increased psychological distress.

The only way to overcome this problem is to use a common denominator or *numeraire* such as euros (or 'quality adjusted life years' as is done in cost-utility analysis) and to convert disparate outcomes into their euro equivalents⁹. This is no easy matter. Many outcomes will not have readily available 'market prices' attached to them (for example, *what is the euro equivalent of improved quality of life?*) and when they do, they may be inappropriate for use as a result of prior market distortions. Euro equivalents will therefore need to be estimated through societal 'willingness to pay' evaluations, which are not without their own problems (see Great Britain H.M. Treasury, 2003). There exist fundamental ethical issues involved in such evaluations. Is shelter so fundamental that we may need to override outcomes from a survey of respondents in the community about their willingness to pay to provide shelter for a previously homeless person? As Rosenheck (2003; p. 949)

⁹ When benefits are converted into the common denominator of euros, the study becomes a cost-benefit study; if the conversion is into utility, the study is a cost-utility study.

suggests such a “line of inquiry moves us from considerations of efficiency to the just distribution of social resources, and from the domain of health economics to law and philosophy”¹⁰.

Beyond issues of scope, there is also the question of the time span over which outcomes are to be measured. Client outcomes can be measured at various points on the continuum of support including on entry, during the support period, on exit and in the post-exit phase. Obtaining post-exit data is a difficult matter, as it requires an ability/right to track clients over time, which can be very difficult to do in the homelessness field. This is particularly the case with respect to short-term clients who may not wish to supply follow-up contact details or with whom it proves impossible to re-establish contact using the information they did provide. However, the effectiveness and cost-effectiveness studies cited in the present paper have shown how intensive tracking management can deliver good follow-up rates over a two-year time horizon. Moreover, linkage across multiple administrative data sets has proved possible and has yielded important relevant data for economic evaluations of homelessness programmes (see Culhane *et al.*, 2002).

Finally, evidence on client outcomes should be framed against the needs and histories of individual clients. Many clients enter homelessness support and prevention programmes with high and complex needs, long-standing histories of homelessness and unsafe living environments, as well as little past engagement with the labour market. What might otherwise appear as limited outcomes may in fact represent critical steps forward for clients with such needs and histories. From a research perspective, it is important to capture these needs at the baseline survey point. At a service delivery and public policy level, it is important to guard against the possibility that an emphasis on measuring the effectiveness of homelessness programmes does not translate into simple unadjusted key performance indicators for services that encourage them to ‘cream-skim’ (or ‘gate-keep’) in terms of clients, simply to improve artificially their own performance outcomes.

Net Costs of Homelessness Programmes

The net cost of a homelessness programme is the gross cost of providing support, net of the value of any cost offsets or the savings to non-homelessness expenditure areas from the provision of support. An estimate of the value of cost offsets requires information on the utilisation of services and the unit costs of providing those services.

¹⁰ The extension of the cost-effectiveness framework to a cost-benefit (benefits measured in terms of euros) or cost-utility framework (benefits measured in terms of utility or quality-adjusted life years) in the homelessness field, is still in its infancy. See Holtgrave *et al.*, (2007).

It is important that the full cost of providing support to a client be evaluated. However, the analysis of costs is often restricted to that of Government recurrent funding per client. Such an approach leaves out the opportunity cost of capital employed in service delivery, which is a critical component of the costs of supported accommodation programmes. The annualised opportunity cost of capital may be as large as the recurrent funding provided to the programme by Government (see Flatau *et al.*, 2008 and Zaretsky *et al.*, 2008). If capital costs are excluded from the study, the cost of service delivery may be underestimated and the cost-effectiveness of the homelessness programme over-estimated.

More broadly, a narrow emphasis on recurrent Government funding as the basis for the estimation of costs will neglect the value of non-Government agency, family and community-based resources taken up by or associated with the delivery of homelessness programmes. Such resources are financed through a range of sources including: donations; user charges applied in the course of service delivery (such as the charging of rents); family time; and volunteer labour. Volunteer hours represent an opportunity cost because that time could be used for other purposes, whether paid work, leisure activities or another volunteer activity. When services in a programme are delivered by non-Government agencies, it is important to capture the resources devoted to service delivery at the agency level (which may well exceed the value of Government funding) through agency-based survey evidence (Flatau *et al.*, 2008).

The cost of homelessness is very high, particularly in the health and justice domains where most research has been concentrated (see Culhane *et al.*, 2002; Flatau *et al.*, 2008; Zaretsky *et al.*, 2008; Kessell *et al.*, 2006 and Martinez & Burt, 2006). The Culhane *et al.* (2002) study (often called the NY/NY Study) is the most famous. Using matched administrative sources from seven service systems, the study found that reductions in service costs offset almost all the costs of providing permanent supportive housing. In our study on the costs of homelessness in Western Australia, we compared the health and justice costs of homelessness programme clients prior to the provision of support, with those of the general population. We also compared those costs with the recurrent and capital costs of providing support under existing homelessness programmes. We found that the annual health and justice costs of the homeless population in the year prior not only exceeded those of the general population by a significant amount, but also were significantly larger than the costs of providing support under a range of existing homelessness programmes. Indeed, we found that homelessness programmes have the *potential* to save over twice the value of the capital and recurrent funding of homelessness programmes if the health and justice costs of the homeless population were to be reduced to those of the general population (Flatau *et al.*, 2008 and Zaretsky *et al.*,

2008). Of course, it is highly unlikely that the full value of such potential cost offsets would be fully realised, but they give an indication of the cost of homelessness as compared with the cost of delivering services for the homeless.

Conclusion

Findings from an economic evaluation of a homelessness programme can play a crucial role in the policy process. If a homelessness programme generates significant positive differential client outcomes per additional net euro spent, it has a strong case on efficiency grounds for continued, if not increased, funding from Governments. If the programme saves the public purse because lower health, justice and other expenditures and higher tax payments exceed the cost of support, its message becomes still more powerful. The economist becomes the natural ally of homelessness services and their homelessness programme administrators where once they may have been met with suspicion.

For an economic evaluation to have a long-standing policy impact, it must generate believable and robust findings. Well-developed experimental and quasi-experimental research designs produce such evidence. A significant body of work on the effectiveness of homelessness programmes that uses the experimental design approach now exists. More studies are emerging on the cost-effectiveness of homelessness programmes. Despite the difficulties involved in implementing the prospective RCT design in the homelessness field, the existing studies indicate that such a design can be implemented in the homelessness field and produce findings of real policy significance.

Most studies, however, have been generated in the North American context and we have yet to see the emergence of cost-effectiveness studies outside the US. Nor have we seen the development of cost-effectiveness studies using a quasi-experimental research design. The latter is important in light of a key limitation of the RCT design, namely, its inability to model the programme participation decision/outcome and to utilise that information in the construction of measures of effectiveness and the clash between randomisation and needs-based agency allocation mechanisms. However, the quasi-experimental research design requires significantly long time series data or a relatively large longitudinal survey that can be analysed in such a way that allows for the estimation of the independent effect of programme participation on outcomes.

In most other areas of economic research, relevant data is available for the economist to exploit through desktop research at very low access costs. This is not the case in the homelessness field. The coverage of client outcome issues in homelessness administrative sources is limited and rich data linkage options are

often not available or under-developed. Furthermore, homelessness is invariably not included as a topic area for questions in general health, housing or social surveys, nor are homeless people captured as lying within the scope of almost all general surveys (being as they are restricted to private residential dwellings).

In terms of the analysis of costs, the key challenge facing researchers is to ensure that the analysis of costs takes in more than simply the level of recurrent funding applied by Governments to the programme. Rather that it involves the estimation of the full range of resources devoted to the delivery of services, most obviously capital costs. Moreover, we have emphasised the importance of cost offsets to an analysis of the real cost of a homelessness programme. The significant cost of homelessness to those concerned and the community more generally means that homelessness programmes have the potential to be not only cost-effective but also cost-saving when they achieve significant improvements in client outcomes.

› References

Burtless, G., (1995) The Case for Randomized Field Trials in Economic and Policy Research, *The Journal of Economic Perspectives*, 9, 2, 63-84.

Clark, C. and Rich, A.R., (2003) Outcomes of Homeless Adults with Mental Illness in a Housing Programme and in Case Management Only, *Psychiatric Services*, 54, 1, 78-83.

Coldwell, C.M. and Bender, W.S., (2007) The Effectiveness of Assertive Community Treatment for Homeless Populations with Severe Mental Illness: a Meta-analysis, *The American Journal of Psychiatry*, 164, 3, 393-399.

Culhane, D.P., Metraux, S., Hadley, T., (2002) Public Service Reductions Associated with Placement of Homeless People with Severe Mental Illness in Supportive Housing, *Housing Policy Debate*, 13, 107-163.

Flatau, P., Zaretsky, K., Brady, M., Haigh, Y. and Martin, R., (2008) *The Cost-Effectiveness of Homelessness Programmes: A First Assessment, Volume 1 – Main Report*, AHURI Final Report No.119, AHURI, Melbourne.

Zaretsky, K., Flatau, P. R., and Brady, M., (2008) 'What is the (Net) Cost to Government of Homelessness Programmes?', *The Australian Journal of Social Issues*, 43, 2, 231-254.

Great Britain H.M. Treasury, (2003) *The Green Book: Appraisal and Evaluation in Central Government*, 3rd Edition, London: The Stationery Office.

Gulcur, L., Stefancic, A., Shinn, M., Tsemberis, S. and Fischer, S.N., (2003) Housing, Hospitalization, and Cost Outcomes for Homeless Individuals with Psychiatric Disabilities Participating in Continuum of Care and Housing First Programmes, *Journal of Community & Applied Social Psychology*, 13, 171-186.

Heckman, J.J., and Smith, J.A., (1995) Assessing the Case for Social Experiments, *The Journal of Economic Perspectives*, 9, 2, 85-110.

Holtgrave, D., Briddell, K., Little, E., Valdivia Bendixen, A., Hooper, M., Kidder, D., Wolitski, R., Harre, D., Royal, S., AidalaCost, A., (2007) Cost and Threshold Analysis of Housing as an HIV Prevention Intervention, *AIDS and Behaviour*, 11, Supplement 2, 162-166.

Hwang, S.W., Tolomiczenko, G., Kouyoumdjian, F.G., Garner, R.E., (2005) Interventions to Improve the Health of the Homeless. A Systematic Review, *American Journal of Preventative Medicine*, 29, 4, 311-319.

Jones, K., Colson, P.W., Holter, M.C., Lin, S., Valencia, E., Susser, E., Wyatt, R.J., (2003) Cost-effectiveness of Critical Time Intervention to Reduce Homelessness among Persons with Mental Illness, *Psychiatric Services*, 54, 6, 884-890.

Kessell, E.R., Bhatia, R., Bamberger, J.D. and Kushel, M.B., (2006) Public Health Care Utilization in a Cohort of Homeless Adult Applicants to a Supportive Housing Programme, *Journal of Urban Health: Bulletin of the New York Academy of Medicine*, 83, 5, 860-873.

Kidder, D.P., Wolitski, R.J., Royal, S., Aidala, A., Courtenay-Quirk, C., Holtgrave, D.R., Harre, D., Sumartojo, E., Stall, R., (2007) Access to Housing as a Structural Intervention for Homeless and Unstably Housed People Living with HIV: Rationale, Methods, and Implementation of the Housing and Health Study, *AIDS and Behaviour*, 11, Supplement 2, 149-161.

Lehman, A.F., Dixon, L, Hoch, J.S., Deforge, B., Kernan, E., Frank, R., (1999) Cost-effectiveness of Assertive Community Treatment for Homeless Persons with Severe Mental Illness, *The British Journal of Psychiatry*, 174, 346-352.

Martinez, T.E. and Burt, M.R., (2006) Impact of Permanent Supportive Housing on the Use of Acute Care Health Services by Homeless Adults, *Psychiatric Services*, 57, 7, 992-999.

Roberts, E., Cumming, J. and Nelson, K., (2005) A Review of Economic Evaluations of Community Mental Health Care, *Medical Care Research and Review*, 62, 5, 503-543.

Rosenheck, R., (2000) Cost-Effectiveness of Services for Mentally Ill Homeless People: The Application of Research to Policy and Practice, *The American Journal of Psychiatry*, 157, 10, 1563-1570.

Rosenheck, R., Kaspro, W., Frisman, L., Liu-Mares, W., (2003) Cost-effectiveness of Supported Housing for Homeless Persons With Mental Illness, *Archives of General Psychiatry*; 60, 940-951.

Shern, D., Tsemberis, S., Anthony, W., Lovell, A., Richmond, L., Felton, C., Winarski, J., and Cohen, M., (2000) Serving Street-Dwelling Individuals with Psychiatric Disabilities: Outcomes of a Psychiatric Rehabilitation Clinical Trial, *American Journal of Public Health*, 90, 12, 1873-1878.

Tsemberis, S., Gulcur, L., and Nakae, M., (2004) Housing First, Consumer Choice, and Harm Reduction for Homeless Individuals With a Dual Diagnosis, *American Journal of Public Health*, 94, 4, 651-656.

Wolff, N., Helminiak, T.W., Morse, G.A., Calsyn, R.J., Klinkenberg, W.D., Trusty, M.L., (1997) Cost-effectiveness Evaluation of Three Approaches to Case Management for Homeless Mentally Ill Clients, *The American Journal of Psychiatry*, 154, 3, 341-348.