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The balance of care approach to health and social care planning: Lessons from a systematic literature review

Sue Tucker, Christian Brand, Mark Wilberforce
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Abstract

The strategic allocation of resources is one of the most difficult tasks facing health and social care decision makers, with multiple organisations delivering complex services to heterogeneous populations. The enduring appeal of the balance of care approach, a systematic framework for exploring the potential costs and consequences of changing the mix of community and institutional services in a defined geographical area, is thus unsurprising. However, no attempt has previously been made to synthesise or appraise the methodological approaches employed and lessons to inform future applications may go unheard. This paper seeks to address those concerns by reporting the findings of a systematic literature review that identified 33 examples of the model's use spanning 40 years. The majority of studies were undertaken in the UK and explored the services needed by frail older people. There is, however, nothing in the model to restrict it to this context. The paper also details the different ways key elements of the model (information about clients, resources, the appraisal of settings, costs and outcomes) have been operationalised, and considers their strengths and weaknesses. Whilst several studies identified a potential to reduce costs via the use of less institutional care, not all applications predicted cost savings.

Keywords

appropriateness of care, frameworks, health and social care, literature reviews, resource allocation, service planning

Introduction

In the current climate of financial constraint, the projected rising demand for health and social care makes the effective use of resources an ever-increasing imperative. Against this background one longstanding concern has been the desire to provide the most cost-effective mix of health and social services and, to this end, the policies of many developed countries have converged, with each designed to reduce the growth of institutional care and promote the use of community care. However, despite a series of policy initiatives spanning more than half a century, there remains much variation in the balance of resources invested in different services and no optimal mechanism for determining the best distribution of investment. Resource allocation is thus frequently based on historical funding patterns and the piecemeal application of changing local and national priorities.

Although recent decades have seen the emergence of a myriad of literature concerned with the pursuit of

efficiency in healthcare, relatively little of this has addressed the above issue. Cost-effectiveness analyses, for example, whilst widespread, have tended to focus on the evaluation of health interventions, and are of limited value to service planners considering the potential costs and outcomes of change across the spectrum of local health and social care services. Similarly, Programme Budgeting and Marginal Analysis (PBMA), a priority setting and decision-making approach that has gained currency in the UK and Australia,¹ has largely been used to assess the merits of different clinical treatments. Furthermore, neither approach specifically identifies those client groups

Personal Social Services Research Unit, University of Manchester, Manchester, UK

Corresponding author:

Sue Tucker, Personal Social Services Research Unit, University of Manchester, Dover Street Building, Oxford Road, Manchester M13 9PL, UK.

Email: sue.tucker@manchester.ac.uk

likely to be affected by changes in the relative supply of different forms of care, information that may be of considerable value to planners.

By way of contrast, the ‘balance of care approach’ offers service planners a structured framework to consider the wider costs and consequences of changes in the mix of institutional and community resources across health and social care. It also provides guidance on the types of clients most likely to benefit from changed care arrangements. Originally developed as a national policy analysis tool by the British government,² at the core of this approach is the identification of those people whose characteristics are such that their needs could be met in more than one location. Thus, although it is generally accepted that there are some people for whom a particular care setting, say a hospital bed, is the only appropriate location, the approach focuses on identifying those individuals who could be cared for in more than one setting, say a hospital bed or their own home, i.e. people on ‘the margins of care’. It then sets out to assess the costs and consequences of the alternative options. Whilst there is no one rigidly defined way of doing this (the model is pragmatic and enables a mix of locally relevant data, research findings and experienced practitioners’ opinions to be built into the decision-making process), balance of care studies can be characterised by the presence of four key features:

1. the identification and measurement of those client characteristics that affect decisions about the most appropriate setting in which to support them;
2. the specification of available resources;
3. some means of allocating clients to the most appropriate setting; and
4. a determination of the costs (and ideally outcomes) of care in different settings.^{3,4}

Although over the years a number of balance of care studies have been reported in the literature, this work is not easy to access, for projects have been generated by a wide variety of organisations and cover several decades. Moreover, no systematic review of the model’s use has been conducted. An overall picture of past studies that can inform its future application and development by service providers, commissioners and researchers is thus lacking. This paper aims to fill that gap and reports the findings of a systematic literature review that asked ‘How has the balance of care approach been used over the past 40 years?’ Its focus is thus on the methods, rather than the findings, of the studies considered.

Method

A systematic literature review was completed in 2008–2009 following established guidance.^{5,6}

Electronic searches were undertaken in a broad range of databases (Medline, PsychInfo, ASSIA, Embase, HMIC and Web of Science), with no time or geographical limitations applied, although the search terms were in English. The search strategy aimed to capture not only those applications that explicitly identified themselves as balance of care studies, but also any other work that confirmed to the above-specified model (and which may, by these criteria, be considered balance of care studies). Each search thus sought references containing any of the following terms in the title or abstract:

- ‘balance of care’
- ‘margin(s) of care’ or
- ‘marginal analysis/analyses’

as well as work citing references by Mooney, an early architect of this approach.^{3,7,8}

Additional searches were undertaken in the System for Information on Grey Literature and the websites of a number of specialist research centres, whilst a general search using the term ‘balance of care’ was carried out in Google. The reference lists of all relevant publications were scrutinised for further studies, and experts were asked to identify missing studies.

The study selection process had two stages (Box 1). First, one researcher screened the titles and abstracts of all citations to see whether they concerned the prospective strategic planning of health or social care, whilst a second researcher confirmed the exclusion of all screened-out references. Where there was uncertainty, the full article was retrieved. Second, one researcher read the full text of each retained reference and extracted data about the key characteristics of those studies that met the full inclusion criteria (in essence, empirical studies providing data about client characteristics, service use and costs), whilst a second researcher confirmed the inclusion of, and independently extracted data from, approximately a third of the included references. Any inconsistencies/disagreements were resolved by discussion.

Further to the completion of the data extraction process, each study was assessed against 16 features of good practice. These were drawn from established criteria for systematic reviews and economic evaluations, reporting standards for economic submissions to major health and social science journals and expert opinion^{5,9,10} and included questions about studies’ design, conduct and analysis. Copies of the data extraction form, good practice indicators and ratings are available from the authors.

Although this was a comprehensive review, the presented results have been selected to illustrate important points, with example references given to illustrate each element.

Box 1. Inclusion/exclusion criteria.**First screen***Type of literature:*

Include: Peer and non-peer reviewed journal articles, books/book chapters, reports, discussion papers

Exclude: Other grey literature

Study design:

Include: All studies, empirical and non-empirical designs

Focus of intervention:

Include: References focusing on the prospective strategic planning of health and/or social care (including reports of implementation issues)

Exclude: References not concerned with any aspect of health or social care

Descriptive accounts of past or current services

References with a clinical focus

References with a policy focus

References with another (non-planning) managerial/financial focus

Participants:

Include: References concerned with the planning of care for any health or social care client group

Exclude: References concerned with individual care planning for specific patients

Outcomes:

No outcome criteria will be applied

Second screen*Study design:*

Include: Empirical studies and other applications

Exclude: Non-empirical work, including descriptive accounts of planning models, their development, limitations and assumptions

Focus of intervention:

Include: Studies that can contribute to planning decisions by simulating resource allocation options AND

Draw on data about client dependency AND

Draw on data about service receipt AND

Provide information about the relative costs of care in different settings

Exclude:

Studies utilising other approaches to health and social care planning

Results**Studies**

Three hundred and twenty-eight references were identified in the electronic database search, of which 16 met the study inclusion criteria (Figure 1). A further 26 citations were identified by reference tracking and experts and the general picture was suggestive of a steady flow of publications. Of the 42 citations included in the final review, 22 were published in 22 different peer-reviewed journals, whilst the remainder constituted a more disparate mix of monographs, book chapters, discussion papers and reports.

Thirty-three studies were described in this dataset. This is an important distinction, for the search identified both multiple reports of the same study, and single publications describing more than one study. As the review was primarily concerned with the balance of care *methodology*, it was the studies per se that were of interest, and this is the unit of analysis reported hereafter. Of these, 19 explicitly identified themselves with

the balance of care approach, whilst a number of others demonstrated their awareness of the model in the references they cited.

Table 1 highlights both the longevity of the balance of care approach and its limited geographical employment. Thus, not only can the origins of the balance of care model be traced back to the British government,^{2,11} the vast majority of subsequent studies have been undertaken in the British Isles.^{12,14,25,28,44,49} There is, however, nothing in the approach itself to limit it to this particular policy context, as demonstrated by the inclusion of studies from Italy⁴⁰ and Canada,⁴⁸ nor to the national level, with most studies having informed local strategic planning.^{3,13,38,41}

The original model's interest in the provision of services for multiple client groups is similarly not reflected in later work, with all but two of the identified studies having focused on the delivery of services to just one client group – most frequently older people.^{21,33,42,45} Again, however, there seems nothing to restrict the model's use to this particular population

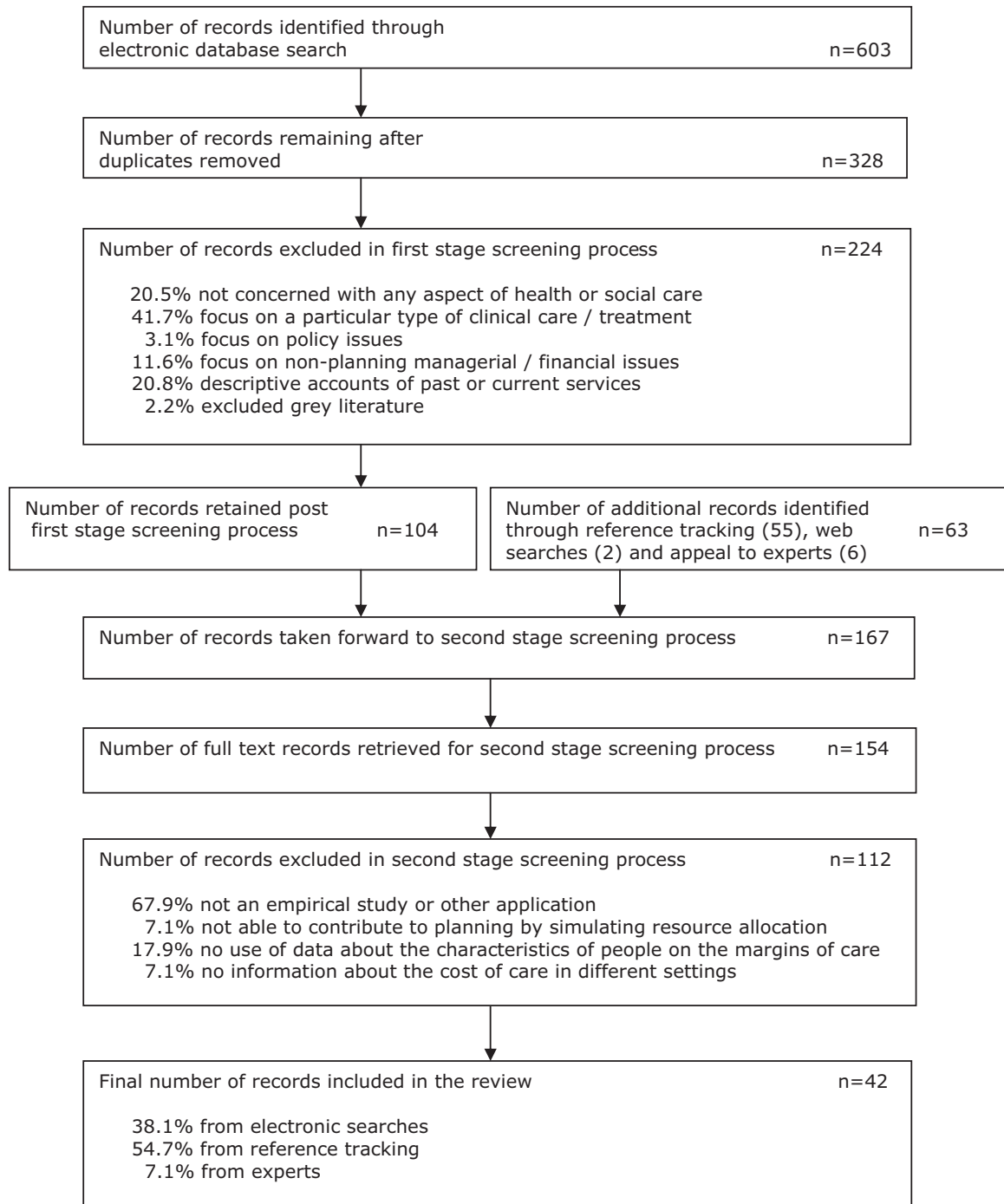


Figure 1. Flow diagram of the study selection process.

(as illustrated by the diversity of client groups represented in Table 1), nor to a specific setting. Thus, although more than half the studies echoed the British government's interest in the potential for shifts between hospital, residential and community services^{24,27,34,37} (i.e. between different forms of health and social care provision), other studies included explorations of the margins between acute psychiatric

inpatient care and supported hostels³⁹ and the potential for locating renal dialysis services in three alternative hospital settings.⁴³ Few considered more than two or three settings, however, and 10 focused solely on the margin between some form of residential care and care at home.^{12,13,44} Furthermore, most studies concentrated solely on the potential for downward shifts from supposedly more costly, institutional settings to

Table 1. Key characteristics of the 33 studies included in the review.

Study	Decade*	Location	Main population of interest	Settings explored	References
1	1970s	UK	Multiple patient groups	Hospital, residential, community	2, 11
2	1970s	Essex, England	Older people	Residential, community	12
3	1970s	London (multiple sites), England	Older people	Residential, community	13
4	1970s	Birmingham, England	Older people	Hospital, residential, community	14
5	1970s	Essex, England	Older people	Residential, community	15
6	1970s	Devon, England	Multiple patient groups	Hospital, residential, community	16–18
7	1970s	Aberdeen, Scotland	Older people	Hospital, residential, community	3, 8, 19, 20
8	1970s	England (multiple sites)	Older people	Hospital, residential, community	21
9	1970s	Devon, England	Older people	Hospital, residential, community	22
10	1970s	Avon, England	Older people	Residential, community	23
11	1980s	East Sussex, England	Older people	Hospital, residential, community	24
12	1980s	Wiltshire, England	Older people	Hospital, residential, community	24
13	1980s	England (multiple sites)	Older people	Hospital, residential, community	49
14	1980s	England & Wales (multiple sites)	Children/adults with learning difficulties	Hospital, residential, community	25
15	1980s	England & Wales (multiple sites)	Children	Residential, community	26
16	1980s	Kent, England	Adults with learning difficulties	Long-term hospital, residential, community	27
17	1980s	Ireland	Older people	Residential × two options	28
18	1980s	Ireland	Older people	Hospital, community	29, 30
19	1980s	London, England	People with HIV/AIDS	Hospital, community	31, 32
20	1990s	Oxfordshire, England	Older people	Residential, community	33
21	1990s	South Belfast, Northern Ireland	Older people	Hospital, residential, community	34
22	1990s	England	Older people with cognitive impairment	Hospital, residential, community	35, 36
23	1990s	North London, England	Older people	Hospital, residential, community	37
24	1990s	Sandwell, England	Older people	Hospital, residential, community	38
25	1990s	North Midlands, England	Older people	Hospital, residential, community	38
26	1990s	England & Wales (multiple sites)	People with functional mental illness	Acute hospital, residential	39
27	1990s	NE Italy	People with HIV/AIDS	Acute hospital, residential, community	40
28	1990s	Gateshead, England	Older people	Residential, community	41, 42
29	2000s	UK, but not clear where	People using dialysis services	Acute hospital × three options	43
30	2000s	England (multiple sites)	Older people	Residential, community	44
31	2000s	England	Older people	Residential, community	45
32	2000s	Cumbria, England	Older people with mental health problems	Acute hospital, residential, community	46, 47
33	2000s	Toronto, Canada	Older people	Residential, community	48

*Whilst the majority of references stated when the study was undertaken, in some studies this was judged from the date of the data sources and/or publication(s).

cheaper, community settings,^{12,27,48} although a handful considered moves in both directions.^{3,29,30}

Client characterisation

As noted above, one of the defining features of balance of care studies is their use of information about the characteristics of clients in each setting of interest, and in the past such information has typically been obtained by some form of survey completed by practitioners,^{3,19,20,23,46,47} researchers,^{16–18} or clients,^{30,40} albeit such exercises often proved time-consuming. Whilst only just over half of studies provided enough detail to judge whether the cases their analyses were based on were sufficient in number to instil confidence in their results and broadly typical of the population of interest, in the vast majority of studies where this information was provided, this was deemed to be the case. Nevertheless, one study sample was considered too small,²⁸ and another failed to address an important sub-section of the target group.¹⁵

Detailing the original balance of care philosophy, Arthur Andersen and Company⁵⁰ state that when it comes to determining appropriate care placements, groups of clients, not individuals, should be considered. In practice, this means dividing the overall population into categories of clients (case types) with similar requirements for care on the basis of those characteristics deemed most significant in determining the appropriate locus of care. Of the 33 studies included in this review, just over two-thirds took this approach^{17,18,22,42,47} and Table 2 details the variables most commonly used in these classifications. Those studies concerned with where a particular form of treatment might be provided (as opposed to where different groups of people might reside) also took into account such factors as the distance a person would have to travel to receive treatment^{40,43} and the severity of their illness.^{31,32,40} However, little evidence was found of studies incorporating those less objectively measurable characteristics which surely affect placement decisions

Table 2. The most common attributes used in the formation of case types.

Attribute	Number of studies employing this attribute (max $n = 23$)	Percentage of studies employing this attribute
Dependency/disability	18	78
Mental state/behaviour	13	57
Informal support	16	70
Housing/place of residence	6	26
Incontinence	7	30

and influence the relationship between resources and outcomes, including clients' and carers' preferences.

As most studies used between three and five attributes, each of which had two or three levels (e.g. the presence or absence of cognitive impairment), this typically resulted in the identification of between 16 and 48 possible case types.

However, the sub-groups used in four studies appeared potentially too broad for this sort of exercise, with one study breaking the population into just three 'standard' groups of children,²⁶ which would not be clinically recognisable groups. Furthermore, the review highlighted a trade-off between the number of characteristics taken into account and the number of people in each case type.

Resources

Although a comparison of the services people currently receive and alternative ways of meeting their needs sits at the very heart of the balance of care approach, in the first government-led balance of care studies the assumption was that the total amount of resources available would be constrained by limits on the overall supply of services.^{11,16} In contrast, later adaptations of the government model ran both with and without resource constraints,⁵¹ whilst other studies tended not to restrict resources to pre-specified levels,^{35,36,48} if sometimes suggesting that account be taken of likely financial constraints.^{41,46} Although the number and type of resources considered varied from study to study (according to their aims, populations and margins of interest), each incorporated those public services most likely to account for a significant proportion of total client group spending. Hospital and care home beds, as well as commonly utilised community services, therefore featured frequently.^{2,22,29,30,45}

The source of service receipt data was generally poorly detailed. However, it would appear that some studies employed aggregate measures of total available resources obtained from routinely collected statistics,^{2,25,49} whilst others undertook individual-level data collections similar to those used in the collection of service user data described above.^{3,13,14} This raises the same issue about the method's demands on data. However, it should be noted that with or without the balance of care approach the same data concerns exist, and that in making the information on which decisions are based explicit, the model simply brings these issues to the fore.

Appraisal of settings

A further defining feature of balance of care studies is their allocation of clients to the most

appropriate setting. In the original balance of care model the alternative care arrangements included in the analysis were identified in consultation with a team of medical, nursing and social work advisors and 'mathematical programming' (employing a then complex computer model) was used to estimate how practitioners might allocate resources based on existing patterns of resource allocation.^{2,24} However, subsequent balance of care studies generally took a simpler approach. Thus, whilst some asked practitioners to identify the most appropriate form of care for particular case types/individuals, facilitating the incorporation of services not currently used,^{25,35,36,41,49} others asked clinicians who in location A could be cared for in location B.^{3,12,29,30} Indeed, the involvement of local staff in generating alternative care options was widely seen as a strength of the balance of care model, although the number and range of practitioners engaged varied greatly.

Costs

Whilst the identification of the costs of support in different settings forms another key element of balance of care studies, detail about this was often lacking (Table 3). As far as could be ascertained, less than a sixth of projects undertook a comprehensive social costings approach encompassing not only those costs incurred by public agencies, but also (where appropriate) the costs of housing, personal consumption/living expenses and informal care,^{14,28,35,36,39} although a further four incorporated some of these elements.^{3,12,23} The remainder considered only public expenditure which, depending on the focus of the study, covered the costs incurred by health and/or social services.^{17,18,27,33,47} Few saw this as ideal, however, acknowledging it significantly underestimated the real burden of community care. Interestingly, there was little evidence that one framework had come to be used more than another over time. There did, nevertheless, appear to be an order in which non-public costs were considered, with more studies including housing than living expenses, and informal care costs least likely to be examined.

In all but one study where it was possible to judge, the data used appeared valid, i.e. related to costs (as opposed to charges or fees) drawn from empirical (not imputed) sources in keeping with the study's coverage (local or national). Whilst the costs of local public services were typically provided by the relevant agencies' finance departments, national costs were calculated from statistics provided by the Chartered Institute of Public Finance and Accountancy and/or the average local costs in the studied sites. Where living costs were used, most studies drew on the Family Expenditure Survey, but housing cost sources varied, and included the estimates of an experienced valuer, national survey data and rateable values. Just two studies described the calculation of informal care costs, with one basing these on the costs of replacement with formal care services,⁴⁵ and the other considering the costs of paid work, non-market work and leisure time foregone by carers.^{29,30}

Where costs were valid and in keeping with studies' aims they were deemed 'fit for purpose' in accordance with the good practice indicators. Thus, studies undertaken from a provider or commissioner perspective (interested in public expenditure) that included the most important health and/or social care costs and used valid data were scored positively, as were those that set out to undertake a comprehensive exercise and included each of the four cost elements detailed above. In almost two-thirds of cases, however, there was not enough information to make this judgement, whilst a significant number of studies also failed to report the year to which costs referred, whether appropriate adjustments had been made for inflation or the extent to which any reallocation of resources would change the distribution of the cost burden between the health and social care (or public and private) sectors.

Outcomes

Although a consideration of the relative benefits of alternative care options is central to the balance of care framework, just four studies reported collecting

Table 3. The number of studies exhibiting various cost criteria.

Criteria	Insufficient data to judge	Yes	No
Was the approach to costing comprehensive?	1	5	27
Were the cost data used valid?	11	21	1
Was the approach to costing fit for purpose?	21	11	1
Were the dates to which resources and prices referred reported?	0	20	13
Were appropriate adjustments made for inflation?	20	13	0
Was there any attempt to investigate cost shifting?	5	4	24

any objective outcome data,^{13,26,40,41} whilst a further four took into account or demonstrated their awareness of existing evidence on the outcomes of care in different settings.^{12,21,35,36,45} Curiously, not all studies described how such outcome data were used, and the study that collected the most information (including the extent to which people's needs were met and how satisfied they were) did so at just one point in time, precluding the exploration of changes in welfare.¹³ This work aside, it seemed most studies assumed practitioners considered clients' best interests in appraising alternative settings, whilst others simply presented decision makers with the relevant cost data alongside a description of the individuals likely to be affected by any reallocation of resources, leaving them to judge the relative benefits of any proposed transition in terms of, say, equity, continuity, normalisation and/or effectiveness.

Studies' results

Lastly in this section, we turn to the studies' conclusions, for whilst this was primarily a methodological review, it is anticipated that service planners and/or decision-makers considering using the balance of care approach will want to know something about the perceived utility (or otherwise) of the model and the results obtained from such studies.

With regard to the first of these issues, it would appear that the impact of the original government approach was limited by planners' reluctance to use a model that was too complex for managers to understand – or therefore trust – and too big to be run on local computers.^{2,24} However, amongst the other studies there was a general consensus that, whatever its faults, the basic balance of care framework had proved of considerable assistance to health and social care decision-makers in making the implications of changes in service provision explicit.^{3,38,24,47}

There was also widespread agreement about the potential to change the mix of services provided, with most studies identifying a significant minority of people for whom there was an appropriate and cheaper care setting.^{15,23,48} As might be expected, such shifts generally involved some form of downward substitution, for on a like-for-like basis, the costs of hospital care were usually found to be more expensive than the costs of residential care, which was in turn more expensive than supporting people in their own homes.^{3,12,21,39} However, at least two studies cautioned that, depending upon which cost elements were measured, domiciliary care could be more costly than residential care,^{14,29} whilst others identified certain people whom it was felt would be more appropriately placed in *more* expensive care settings.^{34,49} The extent to which the employment of the balance of care approach actually led to a

reallocation of resources is not, however, known, for as far as the authors are aware, no follow-up evaluation of the model's impact has been undertaken.

Discussion and conclusions

The strategic allocation of resources is one of the most difficult tasks facing health and social care decision makers. The NHS and local authorities deliver a complex range of services, with benefits that are imperfectly understood, to a population that is heterogeneous in its needs and expectations. In response to this, researchers and statutory agencies (e.g. the National Institute for Clinical Effectiveness) have focused on the development of methods to evaluate the cost-effectiveness of individual health technologies. This has left a notable void in the development of similar approaches for application at a broader service planning level, yet is precisely the area of marginal change where commissioners focus their efforts. Against this background, the balance of care model offers a systematic framework to bridge this gap, and the continuing trickle of studies and publications in the intellectual tradition of the approach may be seen as a testament to its enduring appeal as a pragmatic tool for the optimisation of resources across multiple settings, which, in light of renewed calls to reduce the use of hospital care, appears as relevant now as ever.

It must be acknowledged that this review faced a number of methodological challenges, not least of which was the desire to examine not only that work that explicitly identified with the balance of care model, but also that sharing the same underlying approach. Even amongst the former terminology varied, and the selected search terms may not have captured all past studies. The fact that experts highlighted only a handful of additional publications nevertheless suggests that the final list *was* comprehensive. The lessons that could be drawn from the review were, however, undoubtedly constrained by the lack of detail reported in many publications, whilst other methodological concerns arose from the lack of a suitable validated quality assessment tool. Notwithstanding this, the indicators in the good practice checklist were selected with due consideration for the scope and purpose of the exercise, and served to highlight a number of areas in need of methodological refinement.

First, whilst most past studies focused on movement away from long-stay hospital and residential beds, in light of the increasing development of new forms of support (e.g. intermediate care and very sheltered housing), it is important that future applications are informed by a careful determination of all the choices available and the biggest potential for substitution.⁵² Similarly, several past studies considered the services

Box 2. Key findings and conclusions.

- The balance of care approach offers service providers, commissioners and researchers a systematic framework for exploring the costs and consequences of changing the supply of health and social care services in a defined geographical area.
- Although 33 balance of care studies were identified in the literature, this work is not easy to access, for projects have been generated by a wide variety of organisations, span almost 40 years and have applied the basic methodological framework with varying degrees of rigour.
- Most previous studies were located in the British Isles, focused on the services needed by older people and explored the possibility of substitution between hospital, residential and community care services.
- A number of methodological limitations were identified in the use of the framework to date including a narrow focus on just two or three alternative care settings and public sector costs; and the infrequent use of specific outcome data.
- Key considerations for future applications include expanding the forms of support considered in the model to reflect the full range of alternative provision; the use of a comprehensive social as opposed to a public expenditure costing approach; the identification of primary and/or secondary outcome data for inclusion in the planning framework; and the greater involvement of local citizens in service redesign.

administered by only health *or* social care. However, in today's more complex planning environment the viability of many people's care is dependent on both, such that wider, cross-agency applications may now be indicated.⁵³

In light of the increasing amount of routine electronic data held by health and social care agencies, it may also be possible to reduce the use of costly local data surveys, whilst any additional information collected should be limited to that essential to the planning exercise, including clients' preferences. Careful deliberation must also be given to the nature of the typologies employed, whilst another consideration is the extent to which the selected attributes form single scales, for although some commonly used variables (e.g. physical dependency) lend themselves to this, others (e.g. behavioural difficulties) may encompass a number of different dimensions needing different care.²¹

Whilst the involvement of local staff in generating alternative care options has widely been perceived as a strength of the model, future applications should give thought to the selection of people involved, for it has long been known that different professional groups hold different (and, at times, conflicting) values and opinions. The extent to which staff can think beyond current practice is also fundamental to the method. One way some studies have addressed this is to bring together groups of professionals from a broad range of disciplines,^{40,46,47} encouraging participants to be more explicit about the rationale for their choices, and, through consensus decision-making processes, allowing for peer review. Moreover, this approach could conceivably be widened to incorporate representation from other stakeholder groups, including the public.⁴⁶

Although most past studies supported the idea of comprehensive costing, many saw the measurement of social costs as problematic.^{19,22} As other studies illustrated, however, there are a number of options here. Future studies will also need to give thought to the practical problems of reallocating resources between

care settings/providers, for although it is often assumed the monies released from one service can be used to pay for another, this may not be easy, particularly if it involves a transfer between agencies. Furthermore, given that capacity cannot always be reduced/increased in a linear fashion, there may be a need for services to run in parallel, at least in the short-term, whilst there are also the transaction costs associated with trying to shift resources to be considered.

Lastly, despite widespread support for the inclusion of outcome data, few past studies explicitly attempted this. Ideally, one would want to incorporate robust evidence about the effectiveness of care in different locations. However, in practice this can be difficult, for not only do care services have disparate (frequently ill-specified) objectives, but even where there is agreement on these, they are not necessarily easy to measure, not least because any evaluation is highly dependent upon the length of time over which impact is considered and the matching of client samples. Indeed, this is perhaps the biggest challenge facing future researchers, for without this information the balance of care approach is always likely to be perceived as a cost-minimisation tool, whilst incorporating outcomes would facilitate an efficiency maximisation analysis in which increased costs may be justified by greater benefit.

Subsequent to the completion of this review, a number of further balance of care studies are currently endeavouring to address some of these issues and to investigate the utility of the approach for a number of different client groups across a greater range of boundaries. These include a series of projects investigating the best mix of services to provide for a range of vulnerable adults and children in Ontario, Canada,⁵⁴ and two new studies of the services needed by older and working age people with mental health problems in North-West England. It is important to acknowledge that such work can only fill one piece of the resource allocation jigsaw. In focusing on individuals' needs, however, the balance of care model is arguably less likely to be

dominated by particular providers' agendas than other, related approaches, whilst by involving local staff in deciding studies' scope, suggesting alternatives and choosing solutions, it engages those very people who will ultimately implement change (Box 2).

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Guarantor

Professor David Challis.

Contributorship

DC and ST wrote the grant application and DC was responsible for the broad implementation of the study. All authors helped conceptualise and plan the review. ST and CB undertook the search strategy, screened the literature, extracted the data, and analysed the results. MW helped to screen the literature. All authors were involved in writing the paper and approved the final manuscript.

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