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Needs based planning for community care

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Needs Based Planning for Community Care

A Department of Health funded project

Andrew Bebbington and Karen Turvey, with Karin Janzon

PSSRU, University of Kent at Canterbury
Discussion Paper 1206/2

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Contents:

Synopsis

Part I: Principles and Practice

1. Introduction
2. Background: Needs based planning and population needs assessment
3. Results of Local Authority Review of Needs Based Planning
4. Models of Population Needs Assessment
5. Conclusion

Tables for Part I

Part II: Exemplification of Population Needs Assessment in Surrey

1. Introduction
2. Needs Based Planning
3. Methodology I: Target Groups
4. Methodology II: Population Needs Assessment
5. Methodology III: Resources, Priorities, Services, Costs
6. Applications of the model

Tables for part II

Appendix

Acknowledgements

References

Synopsis

This is the report of a project which has been concerned

- To develop principles for needs based planning for social services departments following the requirements and subsequent guidance of the NHS & Community Care Act;
- To review progress in the application of needs based planning in local authorities, and tools for population needs assessment;
- To undertake a demonstration project which would illustrate an application of these ideas, by the development of a population needs assessment model in one local authority and its application to several policy issues.

The report is in two parts.

Part I.

Section 1 is introductory. It describes the main purpose of this report is to introduce the reader to needs based planning methods; to outline the desirable features that such systems might be expected to incorporate, to acquaint him/her with the steps involved and the sources of information, and to illustrate various applications.

Section 2 presents the background. It is argued that the new emphasis on consumerism and the purchaser-provider split following implementation of the NHS and Community Care Act, 1991, have radically changed the planning task for social services departments. Concerns with capital planning and labour management have reduced. Instead, planning concerns balancing resources with the emerging pattern of client contracts that are negotiated by care managers, and managing the market by providing incentives to providers. This planning requires information about needs. Population needs assessment concerns estimating levels of need in the community; individual needs assessment concerns the practice of care management with clients. Needs based planning is the process of using information from both these sources as part of strategic planning. It involves the integration of information about the states of welfare of people in the community, prices of services, resources, availability of substitutes, priorities and preferences about appropriate interventions.

Section 3 contains a survey of needs based planning in eight local authorities during 1995. All have applied population needs assessment methods, often for geographical distribution of STG. However the methods used are ad-hoc. Most are interested in the development of better methods, but the principal obstacles are the difficulty of population needs assessment and the insufficient development of IT systems for client needs assessment data. Scepticism remains and good demonstrations are needed.

Section 4 reviews six methods of population needs assessment that are being developed in conjunction with a number of social services departments, and lays out the desirable features that such methods should incorporate. These include the range of policy issues covered, the definition of target groups, the method of predicting them in the population, the treatment of supply including informal care, the treatment of resource use assumptions.

Part II

Section 1 is introductory. This part deals with the demonstration project for elderly care groups, which was undertaken in conjunction with Surrey SSD.

Section 2 introduces the PSSRU population needs assessment approach. Features of this approach are the tailoring of target group definitions to local assumptions and evidence from assessments, refinement in the use of sources of evidence and synthetic estimation methods for prediction, evidence based treatment of takeup, use of local evidence about service allocations, and a full treatment of supply including health and social services, service substitution, prices. The context in Surrey is described.

Section 3 describes the method of deriving target groups. This involved a survey of 319 recently assessed clients, for whom dependency and other information about state of welfare was available. These were divided into 14 target groups, defined by these welfare domains. This subdivision was partly guided by similarity in actual resource allocation, and partly on the basis of discussion with Surrey staff to reflect future priorities. Typical cases in each group are described.

Section 4 describes the method of population needs assessment. Because the local survey was rather small for accurate estimation, all individuals in the UK Disability Survey were classified according to target group. This allows estimates of the prevalence of each group at a national level, among both people living in private households and those in communal establishments. From this analysis synthetic estimators were prepared to enable local estimates to be prepared reflecting Census variations among elderly people. These were used to estimate numbers among the population of Surrey, both now and in future, and between Surrey's 24 localities. The Disability Survey also provides information about take-up, and this is used similarly to estimate local demand levels.

Section 5 describes the translation of numbers to their cost implications. The basis for this is the average service allocations in the assessment survey, though with some modifications to exemplify a slightly more targeted approach. Prices are taken from average cost estimates. Price variations were explored and could have been incorporated, but this is not currently an issue.

Section 6 applies the approach. There are four applications.

- Balance of care. Estimates of the predicted demand for services of different types, which can be compared with the actual service distribution.
- Geographic equity within Surrey. The method produces estimates of expenditure need for each locality.
- Unmet need. The model predicts a resource level considerably higher than actual spending, which implies unmet need. However, it does so for all shire authorities, and Surrey is not exceptional. The reasons why the model may produce high estimates are explained.
- Future projections. The model predicts increases in resource needs by 2001.

The Appendix contains a short literature review describing the main welfare characteristics that are relevant to resource allocation decisions.

Part I. Principles and Practice of Needs Based Planning.

1. Introduction

This report builds on the guidance offered by Price Waterhouse/Department of Health (1992) in *Population Needs Assessment Good Practice Guidance*. It develops principles for needs based planning in social services departments, and exemplifies these through a demonstration project in one such department. The approach emphasises firstly the integration of "top down" evidence of population needs with "bottom-up" information from client assessment and care management, about service allocation practice and costs; and secondly presentation in a way that facilitates local discussion about priorities.

The report describes a fully developed approach to population needs assessment. Although this method could be applied as it stands to other social services departments, it is not intended for this purpose. Some of the assumptions that are contained will not be acceptable elsewhere or the emphasis will be wrong. Rather this should be seen as a demonstration project.

We consider that these systems are best developed to reflect local assumptions and local concerns, but they are complex and require technical expertise, and we do not recommend that individual departments should consider developing them, except to fairly specific and limited problems such as the illustrations in the recent Scottish SWSI Handbook *Population Needs Assessment in Community Care*. However, an increasing number of management consultants are now offering to implement such systems, of varying degrees of sophistication (some are briefly reviewed). The main purpose of this report is to introduce the reader to these methods; to outline the desirable features that such a system might be expected to incorporate, to acquaint him/her with the steps involved and the sources of information, and to illustrate various applications.

Section 2 describes the policy background and the new planning agenda, defines population needs assessment and needs based planning, and discusses what is meant by need particularly for elderly people.

Section 3 contains a review of the extent to which needs based planning has been taking place in eight social services departments, based on a survey in 1995.

Section 4 describes the desirable features of a population needs assessment model if it is to be used for needs based planning. Six methods for population needs assessment that are currently under development, are briefly reviewed.

2. Needs Based Planning

2.1 The policy context

There has always been a requirement on local authorities to allocate resources in relation to an assessment of the needs of their community. However, in practice in the past budgeting has been on an historical basis whereby spending is adjusted incrementally year by year, with occasional shifts resulting from local political concerns or in response to some short-term problem, or as a result of spending constraints. Needs analysis has had limited impact on policy or strategic planning, but the NHS and

Community Care Act of 1991 has brought it new salience, not only because it places a duty on social services departments to assess the needs of their populations, but because planning models tie in to other essential elements of the new policy.

The policies underlying this Act have been to make greater use of community care, to increase responsiveness to client needs, and to reaffirm the responsibility of social services departments as enablers of community care. It has had a major impact on purchasers, providers and clients alike. For purchasers in social services departments, this meant a new emphasis on matching resources to needs: "needs-led" assessment taking account of client preferences, and widening the service supply through contracting. For providers, increasingly outside local authorities, the challenge has been to develop a flexible and varied response, exploiting what help is available locally, which will enable people to remain at home, or in partly sheltered settings. For clients, the promotion of greater choice with an emphasis on independence is coupled with the recognition of the obligation of individuals to bear responsibility for care decisions made about them and to contribute to their cost. There is an increasing recognition of the role of informal carers and the support which they provide; and the support which they will require to enable them continue in their caring role.

A fundamental shift in the planning task has been taking place. On the one hand, the separation of purchasing and providing, combined with an increase in the diversity of the range of services and suppliers, and the reduction of local authorities' role in the latter, means that the traditional concern with capital planning has almost gone and there will be progressively less involvement in labour management.

On the other hand, needs-led assessment, consumerism, client brokerage, greater freedom in the range of services that can be purchased, and local variations in supply, have been bringing about a new complexity of service allocations. In the past, service allocation was constrained by the availability of the local authorities' own services, and resource use was largely controlled in this way. With contracting, increasingly decisions taken at field level are no longer so constrained and it has therefore become more crucial to authorities to find new ways to control resource use. Many authorities have responded by increased budgetary devolution, which brings closer together at field level spending decisions and financial control, and serves to raise financial awareness¹. However, devolution itself raises questions of equity between the spending decisions of devolved units.

The systematisation and maintenance of up-to-date client information systems, together with close control over care planning in part through eligibility criteria, are seen by many local authorities as the way forward to enable monitoring and controlling expenditure. These systems themselves provide a valuable resource for needs based planning.

So the new planning task concerns balancing resources with the emerging pattern of client contracts that are negotiated by care managers, and in providing incentives to providers to ensure the most efficient balance of services is available to meet the needs of their resident population.

2.2 Population needs assessment, individual needs assessment, and needs based planning.

¹ In practice care managers in most authorities still have limited power to shape supply. Where authorities have not fully implemented the purchaser-provider split, a large part of budget holders' resources will be committed to in-house services. Similarly, where budgets are not fully devolved, purchasers will not have the same leverage in their role of brokers on behalf of their clients. Their purchasing power will be reduced and so to their opportunity to shape supply by encouraging the expansion of more needs responsive services.

In its guidance to social services departments (Price Waterhouse, 1992), the Department of Health provided a model of the planning process which sees needs based planning as a cyclic and evolutionary process (figure 1). Population needs assessment is the starting point for the development of strategic plans which in turn affect resource use through individual care planning. Analysis of the consequences of this resource use leads to a revision of assumptions about population needs and new strategic plans.

2.2.1 Population needs assessment is defined as "the process of estimating, projecting and categorising the needs of a local population" (op cit, p6). In most of the practical methods we shall consider, this involves defining and predicting the numbers of people in "target groups". There are many ways of predicting numbers. One method is to carry out a survey of needs. However, these are time consuming and expensive. The second method is to use existing national or regional surveys after adjusting them to reflect the composition of local populations from the Census and similar sources. The Price Waterhouse/DH Guidance provides a simplified illustration of how this can be done, using the UK Disability Survey of

**Figure 1: Needs Based Planning, from Price Waterhouse (1992).
(Illustrating the role of population needs assessment).**

1986. However the target groups use Disability Survey definitions which do not take into account the full

range of personal circumstances relevant to Community Care assessment decisions.

2.2.2 Individual needs assessment concerns professionals' assessments of individuals, in order to determine what services best meet that individual's need, taking into account their needs related circumstances. Assessments are translated into care plans, and these in aggregate determine resource use.

2.2.3 Needs based planning is the process whereby population needs assessment is integrated with individual need assessments as well as information about the supply of services in the development of strategic plans. The practicalities of this present a stumbling block to many local authorities, and in section 3 we shall review some of the specific models and tools which are available to help with this process, before presenting a full exemplification in part II. Because of this, in reviewing local authorities in section 4, we shall regard needs based planning as taking place whenever a systematic attempt is made to influence the planning process using either population or individual needs assessments. Local authorities, particularly those struggling to manage increased demand, have seen needs based planning mainly as providing tools for particular problems that have arisen from the Community Care changes: in particular

- Predicting the effect on demand in future of changes in the demographic profile, particularly the increase in dependent elderly people;
- Estimating the extent of unmet need, and the implied expenditure requirement for services;
- Predicting the long-term cost consequences of admissions to residential care;
- Ensuring equitable resource allocation as part of devolution of purchasing responsibility to divisions or teams.
- Considering the appropriate balance between services for people with different types of need.

2.3 Need.

While it is not practicable to introduce a full scale review of this very complex topic here, it is useful to state broadly what is meant by need, and introduce the factors that contribute to it in terms of the objectives of community care for elderly people.

Health economists have emphasised that 'need' is not an absolute property or condition of welfare, as is, for example, ill-health. Rather it is essentially instrumental: it concerns judgements about what ought to be done to achieve required ends (e.g. Culyer & Wagstaff, 1993. This is akin to the distinction drawn by the NHSME, 1990, between "the need for health" and "the need for health *care*"). Need implies the allocation or distribution of resources, which are assumed to be necessary to achieve the desired end, or to produce benefits.

Because need is essentially judgemental, statements about need must incorporate either implicitly or explicitly four elements. These are

- States of welfare. The circumstances of individuals that are relevant to making judgements about needs: those characteristics, that actually do or might affect decisions about the use of resources, both by purchasers and by clients.
- Prices. The cost of services which may be required. These are not necessarily fixed but vary

with demand and geographically with local labour market conditions.

- Resources. Financial resources available to purchase services as well as 'free goods': essentially paid for elsewhere such as by other agencies, or informal care.
- Assumptions about appropriate interventions: the services that may be required for a person in given circumstances².

A needs based planning system is essentially a mechanism for assembling and combining evidence and assumptions about states of welfare, prices, resources and service preferences for a group of people such as elderly people living in an area.

The starting point for population needs assessment is to identify the main states of welfare which are relevant to need judgement for community care. It is appropriate that these should correspond to the factors which affect resource decisions, and Challis et al (1995) have recently surveyed the domains which are used by 50 social services departments for assessing long term care needs. A summary of these findings is shown in table 1. Partly based on this, the following list is proposed as a list of the key domains.

- functional ability;
- physical health: illness, frailty;
- mental health: cognitive functioning, depression, anxiety;
- physical environment: housing;
- financial resources;
- social networks and availability of informal care;
- carers needs.

The Appendix contains a short literature review describing each of these further.

² This needs some further remarks to bring it into line with conventional explications of needs based planning by health economists. Statements about what interventions are appropriate are in principle predicated by assumptions about what outcomes are desired, and it is this latter which is normally emphasised. The link between services and outcomes in effect presumes knowledge about the 'welfare technology' - what is likely to be required in order to achieve a particular improvement in state of welfare for a person in a certain initial state.

Choice of services is also dependent on marginal utilities for outcomes by the decision maker. Then the services judged appropriate for each individual will be those which, over all individuals maximise the decision maker's utility function within a fixed overall budget. This maximisation involves making trade-offs, for example between potential benefits for different client groups. This kind of analysis has come in for two criticisms. The first is pragmatic: there is no coherent body of evidence about the 'welfare technology' - the production function - that can be called on for a planning model: indeed some have argued that such welfare services are essentially indeterminate in their outcomes. The second is that by emphasising optimisation in relation to a set of marginal utilities which are at the core of the planning process, it represents a centralised, corporatist approach to planning.

Concentrating on the resulting services rather than the decision process dilutes this objection, by focusing on means rather than ends. The means - services - are the observable product of the decision process and in themselves beg no assumptions about how that decision has been reached, which can be assumed just as easily to represent a typical consensus among all parties, as the rational consequence of central planning. Basing the planning model on an analysis of actual decisions about the appropriate services for people with particular needs (though not necessarily sticking rigidly to those allocations) represents the bottom-up approach.

Nevertheless, there are disadvantages in this approach, which are important to bear in mind. Concentrating on the appropriate service intervention for a person in a given state of welfare draws attention away from the possibility of substitution, for example when the relative costs of home care and residential care vary. Issues of equity become reduced to equality of services for people at a similar initial state, regardless of their ability to benefit.

3. Local Authority Needs Based Planning

Planning and information systems have been well studied during the Community Care development programme. Nevertheless, not much is known about the extent of needs based planning. Hardy et al (1993) reviewed the second round of Community Care plans that local authorities published in 1993. Though they concluded that planning was generally well developed, plans at that stage were predominantly task oriented, for example monitoring progress towards targets. They highlighted the lack of use of evidence about needs and supply which would better enable planning to concern "the essential planning purpose as being to shape and manage a market": which is closely in accord with our definition of the planning task as concerning "balancing resources with the emerging pattern of client contracts, and in providing incentives to providers" (¶2.1).

A recent review has been undertaken by Challis et al (1995) of domains of welfare included in assessment instruments for elderly people by social services departments, results of which are summarised in table 1. At the time of writing, publication of an SSI inspection report on information strategies was also expected shortly, as part of the current Community Care Development Program.

To help fill the gap, a short review of the state of needs based planning was undertaken in eight social services departments that were visited during 1994 and 1995. It should be emphasised that these were not chosen randomly but in every case were visited because of some initiative on the part of the department. The account here is based on formal interviews with managers responsible for management information or planning sections in seven of these departments, except that in Surrey information was obtained less formally during the process of developing the model described in part II of this report.

Seven of the eight had established some form of computerised client based information system. However, only two of these systems, in Cheshire and Hampshire, currently recorded information about the client's needs related circumstances. Most systems recorded service utilisation, and were often used primarily for accounting.

All departments except one had devised some form of categorising states of welfare, which formed the basis for eligibility criteria. The basis of the categorisation varied across authorities. The degree of risk was an important element which featured in three departments. Physical abilities featured explicitly in two areas and could have been a possible feature in those areas with a service based eligibility criteria. Other elements included chaos or crisis, mental and emotional capacity. Table 2 summarises local authority need definitions and eligibility criteria.

All interviewees were broadly familiar with the theory behind population needs assessment, and with one exception were able to identify advantages that it might have to offer in their departments. This level of familiarity is perhaps not unexpected given the way authorities were selected, nevertheless is encouraging and undoubtedly is owed in no small measure to the Price Waterhouse/DH Guidance. The single most frequently mentioned application was to some aspect of geographical equity in distribution between districts, followed by identification of unmet need. Table 3 summarises the methodologies of population needs assessments in local authorities.

It was also encouraging that most areas had, on their own initiative, made use of some form of population needs assessment in their strategic planning. Table 3 outlines these applications. All of these practical methodologies were top-down, not always well rooted in evidence, and in no cases drawing on local

information from individual needs assessments. These applications were mostly used for allocating resources to budget holding teams, particularly for the Special Transitional grant for residential care. The methods typically used were not dissimilar to those outlined by the Scottish SWSI guidance (1996). These ad-hoc approaches were undoubtedly useful, though it is significant that five of the eight had subsequently become actively involved in developing more elaborate and improved methods or models of population needs assessment; three of whom were working with a university based research centre (four if Surrey are included, though their original model as described in their 1994/5 Community Care Plan was developed in-house). This is shown in table 4: the methods are discussed further in the next section.

4. Population Needs Assessment: Practical Approaches.

A number of methods already exist. Examples include the Balance of Care Model (McDonald et al, 1974; Bowen & Forte, 1987), Easy Planner (Opit, 1990), The Hampshire Model (Price Waterhouse 1993), the SSRADU (Social Science Research and Development unit) model (Wright 1993), the Social Policy Research Unit (SPRU) model (SPRU & YHEC, 1993) and a model developed by the Age Concern Institute of Gerontology (Hancock, 1994). The approach is paralleled by models for chronic health resource allocation and planning from elsewhere, for example Canada (Birch et al, 1991; Delorme and Rousseau, 1987); Australia (Madden et al, 1996); USA (Burner et al, 1992).

Characteristically each of these have been developed with a specific type of policy question in mind. This section reviews the UK examples. As most of these are regarded by their authors as potentially commercial products, this review is based on reports and in most cases interviews with users, but not from hands-on application. In some cases the available information was limited. Many of these products are in a state of development and it should be noted that the review was undertaken in mid 1995.

Before doing so we shall first outline some desirable properties that provide criteria for assessing these models.

4.1 Desirable properties.

What properties are to be expected of a good population needs assessment model? Questions one might ask of a given approach might include:

- What issues is it designed to answer? A list was given in □2.1. Can it answer 'what if' questions as well as straight forecasts of local needs? Is it sufficiently detailed to consider a wide range of the issues highlighted in the community care arena, such as the impact of the availability of informal care support, or the effect of transfer of responsibility between agencies?
- How are individual states of welfare defined? Most systems use definitions of target groups of similar people. Are these groups defined taking into account all relevant factors that should enter a resource allocation decision, such as in the list in □2.3 above? Do they comprise people who are broadly comparable, in the sense that similar needs judgements are likely to be made within groups³?
- Do the definitions of target groups correspond well with local assumptions? How well do they

³ More correctly, that similar outcomes could be expected from similar inputs.

correspond to local priority groups, and to factors which are highlighted in assessment and known to be important to care planning decisions? Is it possible to use local definitions? It is very desirable that the definitions should be specified to a level of precision that allows local discussion of the consequences of options for intervention, and thus facilitate local debate.

- Are the definitions suitable for joint planning? Do they incorporate factors relevant to purchasing decisions by other agencies; health, housing.
- What evidence is used to predict the size of target groups (and other predictions required by the model)? Is national or local research evidence being used? Does the method base the prediction on all relevant people, including those in communal establishments?
- If national surveys are used to provide evidence, how good is the method of deriving local estimates from them? Most methods use synthetic estimation (i.e. predictions based on Census counts). Methods based on regression formulae are likely to be better than ad hoc methods. Is any indication of accuracy given?
- Can the prediction method estimate the rate of demand (number of new clients) as well as the stock position?
- Can the method cope with updated predictors (particularly population age projections⁴)? Does it incorporate means of making projections?
- What assumptions are made about informal care? Most systems treat this as part of the definition of state of welfare, but more correctly it should be treated as a supply factor.
- What assumptions are made about take-up? On what basis is take-up predicted?
- How does the method incorporate assumptions about appropriate services? Is it rigid, or does it facilitate 'what if' questions about the consequences of alternative service allocations. Will it readily incorporate information from local assessments about typical service allocations to target groups? Does it allow for substitute services, according to what is most efficient given local prices?
- How does it incorporate price of services? How good is the evidence about prices? Can the method allow for variations in price for example between urban and rural areas, or according to levels of demand?
- Is it suitable for joint planning? Is it suitable for residual planning: in other words, will it allow for the possibility of other purchasing agencies such as health and voluntary organisations which may help to offload some of the SSD's responsibility, again with area variations?
- Are costs separated according to who will pay for them? In particular, does the method predict client contribution?

⁴ Long term care planning models may also incorporate assumptions about trends in age-specific health rates, also changing availability of informal care, and the financial and material resources including the growth in private pensions and insurance. This however is beyond most local authority planning needs.

No method is likely to address every one of these points. Indeed, in some important areas there remains a crucial lack of evidence even at national level, which prevents realistic estimates being made. This has been felt in particular in relation to flows of people through community care. Many local authorities looked to needs based planning to predict the resource consequences following transfer of responsibility from social security for purchasing private residential and nursing home care. With little information on which to base planning, there was a period of considerable financial instability in some local authorities.

To some extent the objectives listed above are mutually incompatible. For example, the requirements for refining target groups and increasing their number must be balanced against the need for parsimony, manageability and the capability of synthetic estimation. While it is desirable for target groups to be defined for local contexts, this creates a requirement for a new set of prediction formulae for every application. Each of the methods described below create their own compromises.

4.2 The SSRADU Community Care Model

Developed by the Social Services Research and Development Unit (SSRADU) at the University of Bath with Cheshire SSD. The approach of the model is essentially top-down by applying national prevalence rates (through the UK Disability Survey) to population data (1991 Census figures and 1989-based population projections) to produce unit costings of services and the construction of typical care packages (Wright, 1993). The model does not draw upon any client needs assessment data although it does use local care managers to draw average care plans for need groups. The model's consideration of need is very simple, basing its need groups only upon parameters of severity of disability, age and informal support.

4.2.1 Method. On the demand side of the model, there are 9 needs groups to represent the needs of the population. In the model "need" refers only to severity of disability and 3 age categories. These groups are derived by combining 3 age groups with 3 severity of disability groups. That is, by age (16yrs-retired; retired-75 years; 75 years plus) and severity (combined opcs categories of severity: mild = cat 1-3, significant = 4-8, severe = 9-10). The national prevalence rates of severity by disability was applied to local census data to determine demand. Figure 2 gives an illustration of an output of the model. The assumption behind "need" for each local authority was that those in categories 9-10 were "severe" and would receive the bulk of resource allocations. A referral document has been given to care managers to complete which asks them to classify each of their clients into the 3 needs categories. The care managers are asked to classify each client subjectively. The group are working on developing a way in which the model will be able to update the data gained through the referral and assessment process.

Figure 2: SSRADU model: typical spreadsheet.

AGE	SEVERITY	SUPPORTED/ UNSUPPORTED	TAKE UP RATE	COST/ PACKAGE/ GROUP/ WEEK	TOTAL COST
16 - retired	mild	supp: unsupp:			
	significant	supp: unsupp:			
	severe	supp: unsupp:			
Retired - 75	mild	supp: unsupp:			
	significant	supp: unsupp:			
	severe	supp: unsupp:			
75 +	mild	supp: unsupp:			
	significant	supp: unsupp:			
	severe	supp: unsupp:			

The model considers on what is termed the "supply side"⁵, inbuilt average care packages that each need

⁵ This is not strictly correct. These are services demanded: supply concerns provider resources and prices. Other than average unit costs, the model is rather thin on supply issues.

group could receive. These average care plans were derived from a workshop held with social workers and care managers from the local authority. They were given the 27 pen pictures (from the OPCS disability survey) (3 pen pictures for each of the 9 needs groups) and asked to list 3 typical care packages for each group. These were then aggregated to derive an average care plan for each group. The cost of care has been calculated using average unit costs of each service received has been derived from the local authority.

The next stage of the model estimates the rate of recipients of social services who are supported or unsupported by carers and applies them to them population data. The rate of supported or unsupported in the population is guess-timated (Wright, 1993).

4.2.2 Comment The model embraces the approach set out in the Price Waterhouse/DH Guidance (1992), and the methodology is fairly straightforward. It provides appealing target groups. The basic model could quite easily be applied to other authorities simply by substituting the relevant census data and revising the average care plans. The use of estimates from the model are however limited in use. The model only considers 3 need factors: age, severity of disability and informal care support. The estimates of support and take-up rate are rather limited. Local information is incorporated though this is all normative and makes no use of information from individual needs assessments.

4.3 York University Model

A model for estimating the potential need for services in North Yorkshire SSD has been developed by the York Health Economics Consortium and the Social Policy Research Unit of the University of York. It is a top-down model which draws on the basic technique of reanalysing existing large scale surveys to arrive at "need definitions" which are then applied to local demographic data using predictive equations. Models were based on data from the General Household Survey; and apply the models to census data at electoral ward level, then aggregated to fit the population located with North Yorkshire County administrative boundaries. The primary focus of the model was in an assessment of the underlying need for domiciliary services which would indicate the scope for expansion of existing service provision (Astin and Corden, 1994). Definitions of "need" are based on the questions in the Disability Survey and tend to relate directly to a single method of service provision. The model does not appear to reflect local variation in supply or price issues.

Although the model has been developed specifically for North Yorkshire SSD, the technique used is flexible and could be translated for another authority, although it would require some substantial reanalysis.

4.3.1 Method The model concentrates on eight areas of "need" which relate to questions put to a sample of people aged over 65 years of age in the 1991 GHS:

1. Help with personal care
2. Professional care
3. Help with housework
4. Help with shopping
5. Unable to hand wash clothes
6. Receives meals on wheels
7. Unable to cook a meal

8. Unable to use transport

(Ferguson et al, 1993). A loglinear analysis of nine variables common to the GHS and 1991 Census revealed that four variables were significant indicators indicating the likelihood of need for help. These variables were: age, sex, number of people living in a household and whether an individual had an illness which limited their daily activity (Astin and Corden, 1994). Estimates of need for each service were derived statistically using logit analysis to calculate the expected proportion of these variables which were then applied to the 1991 census data to obtain numbers in need. For example, three variables were found to be indicators of the potential inability to cook a hot meal: age, sex and single household (see figure 3). Using figures from the 1991 census the potential need is the sum of the all proportions under the variables males and females in single households, thus it is the sum of:

- 2% of males aged 65-74 in single households
- + 10% of males aged 75-84 in single households
- + 23% of males aged 85+ in single households
- + 1% of females aged 65-74 in single households
- + 7% of females aged 75-84 in single households
- + 16% of females aged 85+ in single households

Figure 3: York Model: Predicting the need for Meals on Wheels

Wants Meals on Wheels						
	Males			Females		
	65-74	75-84	85+	65-74	75-84	85+
	%	%	%	%	%	%
Single Households	2	10	23	1	7	16
2 or more in H/H	0	2	4	0.2	1	3

(Ferguson et al, 1993)

The model estimates that 2800 elderly people in the North Yorkshire/Selby area are unable to cook a hot meal. However, not all people who are unable to cook a hot meal want the meals on wheels service. Analysis of service receipt data from the GHS revealed that approximately half the number of elderly people were actually receiving meals on wheels, a similar figure to SSD estimates. The authors suggest that this provides some confidence in the predictive potential of the model, though they do not explain the reason for the need gap.

4.3.2 Comment. This method uses sophisticated statistical estimation techniques. However, unlike most other approaches, it predicts demand for specific services, rather than the numbers of people with specific types of need for whom alternative strategies may be possible. So it is not suited as a means of

testing the consequences of alternative service strategies. The model does not consider cost or supply factors. No use is made of information from individual needs assessments.

4.4 *Price Waterhouse Model*

A spreadsheet based tool model based on Lotus 1-2-3 version 2.3 has been developed with Hampshire SSD by Price Waterhouse consultants. The model has been marketed as planning tool which reflects Hampshire's aim to shift its role from a provider to an enabler. The model has a top-down approach, but applies current patterns of service provision in Hampshire to local population Census data and population predictions to predict service requirements over a four year time frame. At the moment, utilisation rates are guesstimates as Hampshire's client data system is not fully operational.

This approach is tied to very specific policy questions, referred to as "scenarios". Rather simpler estimation approaches are used than in other models, which are geared to the specific question. Scenarios 1, 2 and 3 use population census data for people aged 75 years and over based on the assumption that these are the most dependent group. The first scenario uses only change in population growth with no changes in service provision, balance of services, occupancy and utilisation. It is the simplest model to run. This assumes no change in the balance of residential to community care. The second scenario incorporates notional target levels for service provision and assumes that improvements in efficiency are possible. The model shows that the increased demand due to population growth can be accommodated within existing resources if occupancy levels are increased. A further scenario incorporates current levels of occupancy and utilisation for future years and makes assumptions about the future demand for care based. The same scenario can be run using notional targets for occupancy and service utilisation. Similar scenarios can be run using data for all people aged 60/65 years and over.

A model run specifically for the home care service is interesting. Using a top level of home care to be provided by the local authority, the model is able to estimate the number of extra hours of care which might be required to be purchased through the independent sector. (Source: Hampshire Social Services Department, 1994)

4.4.1 Method. Predictions are made for five client groups for each of the 17 areas within Hampshire:

- older people
- people with physical disabilities
- people with medical disabilities
- people with learning disabilities
- users of drugs and alcohol

The computer package is presented in five layers on a Lotus 123 Spreadsheet Package:

- Data entry
Level of package where census population figures, current service utilisation rates are stored
- Do nothing
This applies current service utilisation rates to 1991 Census Data for Hampshire to

produce "current revealed needs" or numbers of people needing services.

- Do minimum
Same as above. No change in the balance of services but targets are set for occupancy.
- Do minimum 4
- Do minimum 5
Same as above. No change in balance of services but targets are set for occupancy and "high dependency" Home Care Service. An extract of this layer is shown in Table 4.3a to 4.3e.

4.4.2 Comment. The model is broad-brush, and thereby limited. For example need estimates are based simply on numbers in three age categories. Using utilisation data locks the model into maintaining that current patterns of service provision are valid. Supply issues are not considered. Some of these drawbacks are acknowledged by the authors and presumably will be addressed. In particular, the introduction of realistic change assumptions which are based on needs assessment records. Hampshire SSD hope that full computerisation of their client data will allow aggregation of data in the future and the information between needs and service use will be able to be linked. Service utilisation rates in the model which are currently guesses, could be replaced by actual rates when the data is aggregated. Nevertheless, the model will need to be considerably developed to enable this data to be incorporated.

4.5 Balance of Care Model

The Balance of Care model was developed by the Operational Research Section of the Department of Health and Social Security (DHSS), updated in 1987 (Bowen & Forte, 1987), though (in mid 1995) it is believed that further work is being undertaken to bring it up to date. The approach of the model is very similar to the Price Waterhouse/DH Guidance. The technical formulation of the model is given by McDonald et al (1974) and Coverdale and Negrine (1978). The purpose of the model is to secure a rational allocation of resources in the health and personal services to the competing demand of numerous client groups.

Figure 4: Balance of care system: need categories

The approach is based on a number of client groups which are divided into a number of homogeneous categories (target groups) based on: level of disability (ADL/IADL); mental health; social support; continence (figure 4). For each category there is an number of acceptable modes of care. The model links demand with supply by assuming that each mode of care has certain implications for resource use, assuming an ideal level of provision for persons in the category under consideration; but also that the overall solution is constrained by gross limits on the supply of services. The model is able to estimate the cost of delivering services to all clients.

Main Characteristics	PHYS	MENT	INCO	S
1 Severe handicap: adverse	4	-	-	/
2 Severe handicap: behav'l disorders; support	4	3	-	3
3 Severe handicap: possible dementia; support	4	1-2	-	3
4 Mod/min handicap: dementia; incontinence; adverse	2-3	2-3	2-3	/
5 Mod/min handicap: incontinence; adverse	2-3	1	2-3	/
6 Mod/min handicap: behav'l disorders; adverse	2-3	3	1	/
7 Moderate handicap: dementia; adverse	3	2	1	/
8 Moderate handicap: adverse	3	1	1	/
9 Mod/min handicap: behav'l disorders; support	2-3	3	1-3	3
10 Moderate handicap: dementia; incontinence; support	3	2	2-3	3
11 Moderate handicap: incontinence; support	3	1	2-3	3
12 Moderate handicap: dementia; support	3	2	1	3
13 Moderate handicap: support	3	1	1	3
14 Minor handicap: possible dementia; adverse	2	1-2	1	/
15 Minor handicap: support	2	1-2	-	3
16 Few or no handicaps	1	1	1-2	-

Physical Handicap

- 4 Severe Chairfast or bedfast
- 3 Moderate Unable to carry out personal and household care (dress, wash, etc)
- 2 Minor Unable to carry out household care (shop, cook)
- 1 None Able to undertake personal and household care

Mental Health

- 3 Dementia with significant behaviour disorder
- 2 Dementia without significant behaviour disorder
- 1 No dementia

Continenence

- 3 Severe Incontinent of faeces and urine
- 2 Moderate Incontinent of urine once or more in 24 hours
- 1 Continent Totally continent or occasionally incontinent

Several slight variants of the approach exist. The 1989 model has been applied in Oxfordshire SSD to

Informal support

- Adverse Little social contact or help with personal and domestic tasks from friends
- Supportive Regular social contact and some help with personal and domestic tasks from friends

consider the criteria to be used in locating need and devising an equitable distribution of resources throughout the county (Bebbington et al, 1990).

4.5.1 Method The Balance of Care System is a spreadsheet modelling package using SYMPHONY. It uses a standard set of target groups (with minor variants), which is more elaborate than in most other systems. The user can apply service assumptions based on the Balance of Care Survey undertaken in 1980-81 to local population data, or where practicable on local information and priorities.

The core of the method is an estimation of the numbers of elderly people in each of the sixteen distinct target groups based on the age/sex/living alone structure of the elderly population. The next stage in the model is to apply appropriate service plans for people in each of the sixteen need categories and to estimate the resulting resource consequences. Average unit costs are incorporated to develop an estimate of total resource needs.

4.5.2 Comment The Balance of Care model is the only method at present truly available "off-the-shelf". It is comprehensive, but suffers badly from being out of date. As a result, the target groups are inflexible and do not correspond to the needs categories which local authorities would now want to use. Modelling supply effects in terms of absolute limitations, rather than through price variations, and ignoring the private sector, also reflects old assumptions. There are several limitations of the model. The prediction formulae are not only out of date, but are based on samples of clients from rather old local surveys, rather than a general population.

4.6 Age Concern Institute of Gerontology

The Age Concern Institute of Gerontology has developed a computer model which focuses on the needs of the elderly and their carers. By assessing the needs of the population and considering the alternative methods of service intervention, the model aims to help local authorities plan for purchasing and commissioning of services in such a way that it make the best use of resources. A detailed description of the model is available (Hancock, 1994).

The model aims to reflect the process of the population needs assessment as defined by the Department of Health in their community care guidance. It draws explicitly on the Balance of Care Model (Bowen & Forte, 1987) and the Easy Planner model (Opit, 1990). The model constructs need groups based on severity of need as defined by the disability survey using several parameters of need which are based on personal care, continence, mobility and behaviour. Like others, the model is based on the UK Disability Survey and the 1991 Census.

4.6.1 Method Numbers of older people and their carers in different categories of need. The methodology involved reanalysing the UK Disability Survey to construct 20 categories of need using a combination of the following parameters of need: behavioural problems (high and low severity), continence problems (high and low severity), mobility / locomotion (high, medium and low severity), personal care needs (high and low severity) and extent of informal care given (high and low). The numbers of people with behavioural, continence and mobility problems and personal care needs are from the disability survey. The severity refers to a range severity of disability scores from the disability survey. The number of carers is estimated by calculating from the disability survey the average numbers of sole co-resident and other carers per disabled person in each category. Multiplying the estimates of

the numbers of people in each disability category by these averages gives an estimate of the numbers of carers associated with disabled people in each category. This method assumes that the number of carers is simply a function of the numbers of disabled people. These figures are then applied to 1991 census figures to give an estimate of the numbers of people living at home with and without some informal care and the numbers of people caring for them.

The next stage of the model is determined by the user, who can enter the types and levels of services required for each category and the carers which would be required to enable them to live at home in a range of settings. Costs are calculated by drawing upon the work on unit costs by Netten & Smart (1993).

An illustration of the model is given in figure 5 for the category: elderly people with personal care needs, incontinence and behavioral problems, living at home with some informal care. The model estimates that there are 104,000 people in this category. In the disability survey, 35% received the chiropody service, 55% received social day care and 45% received district nursing etc. Multiplying the proportions with the number of people in the category and applying the costs in the model implies an annual total cost of approximately £235 million to provide this level of service.

Figure 5 Average Volume of Key Services Received by Elderly People with Problems, Personal Care Needs, Living in Their Own Homes With Some Informal care (1985 :

Service	% receiving service	Approximate level received	Averaged over all in category
Chiropody	16	once / fortnight	4 visits / year
Day care (social)	16	11 hours / week	1 3/4 visits / week
District Nursing	36	2 visits / week	3 visits / month
Continence and laundry	6	5 times / month	3 to 4 times / year
Home care	16	2 1/2 hours / week LA home help	1 3/4 hours / month
GP visit	75	13 visits / year	10 visits / year
Social work	15	1 visit / fortnight	4 visits / year
Respite care	17	24 days / year	4 days / year
Aids / adaptations	54		
Estimated health and social services cost:			
per person		£2,262	
for all such people in England		£235 M	

Source: Hancock R, 1994, p.27 table 3.

4.6.2 Comment The approach is similar to a number of other methods. The number of target groups is larger than most, but the estimation methods are less sophisticated than others. It does not use any bottom-up data (client assessment data or local surveys etc) and does therefore does not reflect the characteristics of the local population or local policies. There is an emphasis on the importance of informal carers in community care, though the model does not incorporate carers needs in any detail.

4.7 Easy Planner, Predicting Admissions into Institutional Care

We have few details of the Easy Planner model developed by Opit (1990) for Wessex RHA. A related model has been developed for estimating the numbers of elderly people in a given population who are likely to enter institutional care (Opit and Pahl, 1993). The estimates represent a normative pattern with which the actual pattern in an SSD can be compared. Hence the model can give some idea of the balance of care, although the figures must be approached with caution as they represent national admission rates for which there may be some local variation. The approach is based on the Disability Survey, applying rates to local population census data. The focus of the model reflects local authority pre-occupation with the shift of the balance of residential and community care in the early years of the community care policy. The model was concerned specifically with the consequences of the transfer to local authorities from social security, of the responsibility for purchasing residential and nursing care.

4.7.1 Method The Disability Survey is used to identify key variables which predict the likelihood of admission: time intensive care, living alone and dementia. Time intensive care is measured by the interval need scale: no or little care required; long interval need - care required once or twice a day; and short or critical interval need - care required from three or four times a day up to almost continual care. Those who live alone are distinguished from those living with others. Dementia is distinguished by those who score three or over on the OPCS cognitive disability scale compared to those whose lower scores indicate no dementia. Combining these three variables produces twelve categories. For each category the model shows the proportion who were admitted to institutional care or who died in the interval between sampling and the interview.

The data shows that the rate of admission into care increases as dependency levels increase. Using logistic regression on the three independent variables coefficients were calculated and indicate that there is a multiplicative effect of increasing dependency, dementia and living alone. The model then applies these coefficients to the national estimates of admission for each of the categories to derive estimates of the probability of admission. As these estimates were calculated for the time between sampling and survey interview, the figures were then adjusted to reflect annual rates of admission. The time between sampling and interview was 4 months, so final figures are multiplied by three to reflect an annual rate.

4.7.2 Comment This model is unique in addressing flows rather than stocks of clients. Because of this focus, it is not concerned with supply nor with broader needs based planning issues.

5. Conclusion

Many social services departments appear concerned to make use of needs based planning, but there remain obstacles.

The first is that most local authorities remained locked into historical methods of resource allocation for their many budgets, even if the results of population needs assessment are available. It is easiest to

introduce new methods with new grants and new responsibilities. Otherwise positions are entrenched. Moreover over the last few years many authorities have experienced a very variable resource position, which has often involved hard bargaining over unanticipated cuts. In this situation, proposals for budgetary shifts which come from outside the political process are not welcome, particularly if they propose large resource shifts (and thereby imply poor efficiency). For this reason, although most SSD managers appear to agree in principle with the theory and purpose of population needs assessment, most are happiest to see used as a method of justifying existing resource allocation decisions, rather being redistributive.

The second is that population needs assessment and needs based planning demand skills and information. Prediction methods for population needs assessment remain beyond the capacity of most departments, and many are experiencing delays in implementing the basic key information systems required to make these methods most effective. This includes elements such as categorising need, developing standard assessment forms and recording individual client needs assessment and care plans on a computer package in such a way as to allow aggregation and analysis of the relationship between need and service receipt in the development of target groups of need.

Nevertheless, there seems to be a genuine willingness in social services departments to overcome these problems. Possibly it will be easier when the Community Care reforms have "bedded down", though of course there is once again the risk that positions will become entrenched: as Kelly (1989) says: "the theory of incrementalism is a long-standing and influential perspective on policy making and resource allocation in the public sector".

Social services departments will be helped by examples of recent attempts to apply population needs assessment to needs based planning. It is hoped that the examples described in section 3 will assist with this process, and serve as a starting point to help focus on the type of approach which is potentially useful for particular applications. But most of the methods reviewed in section 4 pay little attention to local evidence. We believe social services departments will want to see methods that integrate with local policies and local information from client needs assessments. With this in mind, part II of this report introduces an approach that shows how such data can be used.

Table 1: Assessment domains for long term care of elderly people used by 50 local authorities

<u>Functional/continence</u>	%	<u>Cognitive/psychosocial</u>	%
Hearing/communication	96	Customary routine	90
Vision	90	Cognitive functioning	88
ADL Feeding	84	Behaviour	82
ADL Transfer	88	Depression/anxiety/mood	58
ADL Bathing	92	Social integration	42
ADL Toileting	88		
ADL Dressing	94	<u>Social/Environment</u>	
ADL Grooming	40		
ADL Mobility	94	Participation in assessment	90
IADL Manage medication	80	Carer needs	90
IADL Prepare food	88	Financial circumstances	84
IADL Prepare hot drink	44	Home environment	96
IADL Shopping	80		
IADL Housework	82	<u>Clinico-medical</u>	
IADL Laundry	74		
IADL Manage money	76	Skin/feet condition	86
Rehabilitation needs	8	Disease/health conditions	58
Continence management	76	Nutritional status	58
		Dental	30
		Treatments	20
		Medication	18

Source: Challis et al (1995). Percentages are of assessment instruments which broadly cover this topic: structured questioning is much less.

Table 2: Summary of Local Authority Need Definitions and Eligibility Criteria

Local Authority	Eligibility Criteria / Need Definition		
	Yes	No	Basis
Cheshire	✓		Risk; chaos; support network into categories of high/ medium and low need
Hampshire	✓		Risk; physical, mental & emotional capacity; crisis
Essex	✓		Activity of Daily Living (ADL) scale and 1985 OPCS Survey of Disability prevalence rates categorised into 7 priority bands by degree of risk
Berkshire	✓		Priority
North Yorks			Response to assessment is linked to timescale
Hounslow	✓	✓	Priority system is set by individual services into categories of high/ medium & low need
Surrey	✓		Priority system for all services divides clients into high, medium and low need
Norfolk		✓	Priority system is set by individual services

Table 3: Methods of Local Authority Resource Allocation

Local Authority	Model for Resource Allocation?		Details
	Yes	No	
Cheshire	✓		Core budget & STG grant divided to districts through a formula based on % population aged 85 years plus (elderly care group) and degree of family stress (children's care group)
Hampshire	✓		<p>Core budget currently allocated to districts through a formula based on a combination of population census indicators and political trends.</p> <p>STG budget for elderly care group allocated through a locally produced variant of the Revenue Support Grant Standard Spending Assessment formula based on the following indicators: number of pensioners, residents aged 65 years and over, elderly living alone, number of residents aged 65 years and over in independent homes, elderly living in private rented accommodation and proportions of elderly in council housing (as a proxy for elderly people on Income Support).</p>
Essex	✓		Core budget is allocated on a historical basis. The STG budget is divided to districts through a resource allocation index which is based on a combination of social indices of need, for example for the elderly: numbers of pensioners living alone and numbers on housing benefit. Monies released from core budget is siphoned back into a central pot and reallocated through the STG formula.
Berkshire	✓		<p>Resources are allocated to districts according to the proportion of "high priority" clients. They now realise that there are a number of factors which would influence these figures and which are out of the control of staff.</p> <p>They previously developed a Social Service Allocation Model (SSAM) which was used as a predictor of need. Lack of consent for the model lead to them currently attempting to develop a new formula based on a combination of various social need indices which would vary between client groups, for example for the elderly: population aged 75 years and over.</p>

Table 3: (continued).

Local Authority	Model for Resource Allocation?		Details
	Yes	No	
North Yorkshire		✓	The main method of resource allocation is historically based. Locally identified needs are prioritised according to a system of bids. Population need indicators are used to justify budget allocation.
Hounslow		✓	Resources are allocated to districts on a historical basis. Core budgets are less flexible but the STG budget is sometimes moved across teams as the need arises.
Surrey	✓		Localities budget for adult services partly determined by formula.
Norfolk			Budget is allocated to districts based on previous years spend. The first year that the STG money was available, monies were allocated to teams according to the amount of money that budget managers were spending in independent sector residential homes. STG spending was not controlled and great variation was found between localities based on whether they had high aspirations for their clients or tried to work to a nominal budget. Since that first year, the STG money has been allocated also according to previous spend. Planner recognised that this method ensured that past inequities were perpetuated.

Table 4: Summary of Methodologies of Local Authority Population Needs Assessment

Local Authority	Is Population Needs Assessment Undertaken?		
	Yes	No	Details
Cheshire	✓		SSRADU Model: uses top down data including 1991 Census and 1985 Survey of Disability prevalence rates
Hampshire	✓		Price Waterhouse Management Consultants Model: uses top down data - 1991 census and forecast figures and bottom up data - actual and estimated service utilisation rates
Essex	✓		Working on a simple model based on the DoH / Price Waterhouse model of population needs assessment: estimating broad levels of need by applying 1985 Survey of Disability prevalence rates to local 1991 census data.
Berkshire		✓	
North Yorkshire	✓		Working with York University to develop estimates for potential need for help with eight services in the County: personal care, professional care, housework, shopping, hand-wash clothes, meals on wheels, cooking meals, transport. Estimates based on reanalysis of the 1991 General Household Survey and the 1985 Survey of Disability and the 1991 Census. Results of study are used to confirm locally identified evidence of need and unmet need.
Hounslow		✓	Some national census figures are collected. A multi-agency planning group is currently looking into methods of top down and bottom up population needs assessment.
Surrey	✓		In-house method developed following experience with the Opit method and SSA formulae. Published as part of Community Care Plan. Develops expenditure need by priority group. Now working with PSSRU.
Norfolk		✓	No method for population needs assessment. Locally identified needs and unmet needs are intuitive. They do however plan to utilise client needs data from the developing information system when completed.

Part II: Exemplification of Population Needs Assessment

1. Introduction

This second part of this report describes the development of a population needs assessment model for community care for elderly people. The purpose is to describe and exemplify the broad principles of an approach which combines top down planning with bottom-up evidence, and to demonstrate its application to a range of planning questions. This approach is illustrated by its application to planning issues in Surrey Social Services Department.

Section 2 describes the PSSRU approach to needs based planning in general terms, and the planning context in Surrey.

The next three sections outline the methodological approach. Section 3 concerns the "bottom-up" aspects of the model: the collection of evidence about individual needs circumstances and social services and health resource allocations; and the development of a typology of elderly people which incorporates the needs factors that most affect resource decisions in Surrey. Section 4 describes the method of population needs assessment, and discusses how client preferences and take-up may affect this. Section 5 considers priorities and hence services and resources which may be provided to people in the typology, and supply factors which determine the cost of those services.

Section 6 considers the application of this approach to local policy issues in Surrey. Those considered here are (i) balance of care; (ii) equity between local areas with Surrey (iii) unmet need (iv) future need projections.

2. Background.

2.1 The PSSRU population needs assessment approach

The project was developed in response to the new community care policy and to the guidance provided by the Department of Health (Price Waterhouse, 1992). The underlying objective of the project is to assist the Department of Health provide guidance in an area which has been recognised as probably the most difficult to implement in the move to the devolved care management approach advocated by 'Caring for People'.

The PSSRU has been working with Surrey SSD. The project has two main objectives. The first is to develop a needs based planning methodology with planners from Surrey SSD to assist in the equitable and efficient deployment of community care resources for elderly and physically disabled care groups. The methodology developed will contribute to Surrey's planning and monitoring activities. The elderly care group has been defined by Surrey as "people aged 65 + who need help because of age related frailty, physical disability or illness, mental illness (including dementia) or learning disability" (Surrey SSD, 1994/95). The physically disabled care group (known as "people with sensory or physical disabilities") are defined as "people aged 18 - 64 who need help because of a physical disability or illness or because of sensory disabilities" (Surrey SSD, 1994/95). The present report concentrates solely on the former group.

The centrepiece of this work is the development of a computer based population needs assessment model which can be used by Surrey SSD as a basis for estimating need, demand for services and resource distribution. While other similar models already exist, which were described in part I of this report, the reason for developing a new approach in Surrey stemmed partly from a belief that in order to be most successful, these methods must be closely tailored to local conditions, and because of what were felt to be shortcomings in existing methods. Surrey SSD had already developed its own population needs assessment approach, described in successive year's Community Care reports, which had been making a contribution to needs based planning in the authority. The authority was therefore particularly receptive to this approach.

In part, the purpose of this exercise is to exemplify some of the ideas that were listed in section 3.1 of part I of the report. Thus the PSSRU model differs from existing approaches in a number of ways, but draws on the ideas of several antecedents: in particular the ideas of health economists who translate decision making in this area, as others, as a reconciliation between demand and supply, and who characterise need as a judgement about how resources should be allocated in order to achieve welfare outcomes, according to the priorities for meeting welfare shortfalls of different kinds, equity, and in the context of a need to make efficient use of finite resources given the supply situation and understanding of the technology of welfare. (Williams, 1974; Culyer, 1976; Davies, 1977; Bebbington & Davies, 1983, Culyer & Wagstaff, 1993)

The approach also owes a good deal to the Balance of Care conceptualisation (Bowen & Forte, 1987) which characterises the planning process in terms of 'what if' questions on the basis of target groups of individuals defined at a level of specificity that facilitates discussion about priorities and appropriate options for intervention. The purpose of the model was to secure a rational allocation of resources in the health and personal services, linking demand with supply by assuming that each mode of care has certain implications for resource use, assuming an ideal level of provision for persons in the category under consideration.

But these approaches are effectively top-down, in that they work through the consequences of planners' policies paying comparatively little attention to client demand, preferences and actual decision making. The Price Waterhouse/DH (1992) guidance proposed an approach to planning which combines "bottom-up" data collected locally from individual client needs assessments, with "top-down" assumptions about the pattern of future demand from a population needs assessment, resource limitations, prices, and priorities for intervention (part I, figure 1). The PSSRU approach specifically attempts this and provides a method can be continually refined to reflect improving information and any changes in assumptions about need. Additional advances included refinement of statistical methods for synthetic estimation using Census and other sources; evidence based treatment of take-up; a method of providing for service substitution; some consideration of price variations and joint planning; and in particular application to a range of needs based planning issues.

2.2 The Surrey context

Surrey SSD is divided geographically into 24 social service localities which themselves are grouped into four planning areas which are also used by the two district health authorities: West Surrey Health Commission and Eastern Surrey Health Commission. Access to assessment and case management is via purchasing and care planning teams located in 24 locality social service centres, 5 social service teams based in hospitals and health service settings, an out-of-hours emergency duty team, an alcohol and drug service and a resettlement team focusing on the needs of people leaving long stay hospitals.

From the 1991 Census, people of pensionable age in Surrey made up 18.9% of the resident population, identical to the national proportion, though the proportion of those aged 75 years and over is slightly higher. The proportion of residents in private households with a limiting long standing illness (LLI) was 10.0% while the national average was 13.1%. The locality of Ewell and Epsom had 12.59% of residents in private households with a LLI, the highest of all localities, while the lowest proportion of residents in private households with a LLI was found in Frimley with 7.10%. The proportion of residents in private households living alone and with a LLI was 2.36% in Surrey. (1991 Census, OPCS)

While the total number of pensioners will not change much between 1991 and 2001 the number of people aged 85+ could increase by nearly 50% with the likelihood of substantial rise in the number in need.

In other respects, the population in Surrey are relatively well off and this is reflected in favourable statistics in for example, home and car ownership, social class, rates of unemployment.

2.2.1 Surrey SSD policy

Surrey has adopted a policy on priorities and targeting of resources for the elderly and young physically disabled. Services are provided to those who are in high need, defined as:

People who need daily or continuous help, for example people who are unable to do one or more of the following care tasks safely or independently, i.e. without help or aids/equipment:

- get into and out of bed;
- eat and drink;
- prepare light snacks;
- get to and use the WC or commode;
- get dressed;

- wash face and hands;
- strip wash;

and people with a visual difficulty who are unable to function safely and independently.

Services are provided for people in high need if they have no other support with caring, or receive help from a carer who needs support.

At the end of March 1995, Surrey was funding care for 7,400 elderly people and 1,800 younger adults with a physical disability. Surrey SSD purchased a range of services, including for elderly people: 1,815 residential home places, 555 nursing home places, and 5,026 community care packages.(Surrey SSD CCP 1995/96). The 1995/96 SSD budget for the elderly client group was £57.4m, or approximately 47 per cent of the total budget allocated to care packages. A further £0.6m was allocated to an Age Concern domestic help scheme to help subsidise domestic care for people with low or moderate need. At the same time, the four health authorities in Surrey provided £31.3m to the elderly for continuing care and respite care, with some joint care packages, and £0.6m for YPH.

A major concern has been the higher than expected demand for care under the aegis of the special transitional grant: almost 40% higher than predicted in 1993. This has been outstandingly for community based care, and is putting considerable pressure on resources.

2.2.2 Supply issues in Surrey

On the whole, there are a good supply of services in Surrey. However there is anecdotal evidence that there are some short falls⁶ and these include:

- quality day care
- short term respite care that can be booked out in advance in the private sector
- joint home care/ nursing auxiliary workers who can administer simple medical and home care tasks
- hot meals on wheels delivery at weekends
- nursing home beds
- respite care beds due to lack of community hospital beds
- community support workers for EMI patients to give them medication and related increased demand for aux nurses
- 24 hour a day domiciliary care - at present the care manager has to build up the package from a mix of services and this results in gaps in service provision
- Shortage of home care - arising from a shortage of permanent staff and lack of continuity in the supply of care.
- private occupational therapist's, lack of choice and a slow assessment period
- physiotherapists

Surrey SSD has expressed commitment to the principles of joint planning. At the individual assessment stage, this tends to occur on a formal basis (often joint plans are recorded on care plans) and informally where the actual planning is not reflected in case notes. At the strategic level, representatives from the district and borough councils, District Health Authorities (DHA's), voluntary organisations, independent

⁶ Supply issues were identified in a series of interviews with SSD staff in 4 pilot localities in Surrey during 1994.

sector, and housing associations are invited to participate in a variety of joint locality and strategic planning groups. The DHA's work with Surrey SSD to jointly plan for health care and social care needs; the joint purchase of care; ensuring efficient and effective discharges from hospital and the resettlement of people from long stay institution.

3. Population Needs Assessment I: Developing a Needs Typology

3.1 Introduction

In part I, ¶2.3, we discussed what is meant by need and described a needs based planning system as essentially a mechanism for assembling and combining evidence and assumptions about states of welfare, prices, resources and service preferences for a group of people such as elderly people living in an area. In the following sections, the elements of this will be considered in turn. The approach taken is that the best starting point for considering each of the above in a specific context, is an understanding of what assessment decisions are being made at the field level, and what are resource consequences of those decisions. Attention should first be paid to "bottom-up" evidence of what is actually happening, before moving to a normative, "top-down" models.

3.2 Collecting local data

The first element for population needs assessment is the basis for describing need, and in common with most approaches we use target groups. However, in order to construct this typology, it is desirable to root it in the assumptions about need current in the social services department. For this purpose we sought the views of staff at various levels in Surrey, used policy reports, but in particular collected evidence about assessment and resource allocation. The following explains what was collected in Surrey.

3.2.1 Client circumstances

Data recorded on 405 individual client need assessments of elderly and physically disabled (YPD) clients was collected from client files in five "pilot" localities, chosen to represent a range of socio-economic conditions. Four were community localities, chosen to represent a mix of urban/rural and relative wealth/poverty. For recent hospital discharge cases, the fifth was a hospital based team. The data collection period was during the summer of 1994.

These 405 cases represented approximately 40% of current case load in the five areas of Surrey. Of these, 319 were elderly people. Clients who fell within the parameters of the framework described above were selected randomly.

The first part of information collected was on the clients' need related circumstances and existing care resources. The data on needs related circumstances reflects those identified are ones which are relevant in a care managers judgement of need. These include including age, sex, ethnicity, recent hospital episode, living circumstances, the clients' ability to undertake a variety of activities of daily living tasks (including instrumental activities of daily living) such as washing, dressing, cooking, laundry etc. Information was collected on the clients physical and mental health condition, as well as a variety of socio-demographic characteristics including: the social networks of the client including the clients level of social contact or isolation, availability and level of informal care provision, whether the carer(s) required support, accommodation situation and clients' financial circumstance.

3.2.2 Service decisions.

The second part of the information came from care plans for the same sample of 405. This included details on the type, volume and frequency of service information. This provides information about the *de facto* decision making within the authority which is, or should be, a reflection of current policies,

resources, and service assumptions as well as client preferences.

In order to produce a model for joint planning, it would have been desirable to have examined information from community health assessments both separately and in conjunction with community care assessments. In practice this was not possible within the scope of the project. However, in part to simulate the joint care planning process, wherever community health services were recorded, it has been assumed that these in effect form part of joint decision making. In fact only 36 cases appear to have been jointly assessed, while a further 109 cases had some community health service input recorded. At least these inputs were taken into account by care managers.

3.2.3 Services Inventory

The third part of the data collected for this study was an inventory of all services purchased by Surrey SSD, together with their actual prices.

In practice an inventory of services available for SSD care managers to arrange for their clients was provided by Surrey SSD. This covered a range of services which were run by a range of providers such as the SSD, health authority, private and voluntary organisations. Unit costs of these services was sought and available in most cases, but where local cost figures were not available these were imputed from national data (mainly Netten & Dennett, 1995). Table 2 summarises the services that have been incorporated into the model. (Similar supply and unit cost information was requested from Health Authorities within the Surrey County boundaries, but they were unable to provide any details which would be comparable with SSD information).

The unit costs shown in table 2 were used to estimate the gross cost of the service package (the SSD element, though community health could have been computed) for all elderly clients in the sample.

3.3 Identifying the main domains of need

The first stage in the development of a need typology for Surrey was to identify the main factors which are relevant to need judgement. This was done by combining the results of the assessment survey with the literature review in the appendix and a field study among middle managers and senior field staff designed to test assumptions about needs and priorities.

The key domains were described in Part I, §2.3. Scales were developed to measure the level of each of the main domains of need in the database. This would ensure comparability of variables between cases and give some indication of the severity of the need circumstance. Some existing and validated scales were used, but in the interests of parsimony and also to maintain comparability with Surrey's existing criteria for measuring need, simplifications were sought to reduce measures to short ratings.

Figure 2 summarises the ratings that were ultimately used for the definition of target groups, and table 1 shows their incidence among people aged 65+ among the assessments. For further discussion of these domains, see the appendix.

3.4 Defining Target Groups

Figure 2: Scales

Functional Ability

1. Low Need = Independent

People who can do (even with difficulty) all the following ADL tasks:

The final stage is to develop target groups of people in need based on the above domains. The primary method of doing so is according to clients within the client database who are similar in the need judgements that are made on their behalf. The approach is to start by identifying those domains of need that appear to affect the weekly cost of care packages. With all the items in figure 2, the average cost of care increased as the severity of need increased. The most significant cost-raising factors are severe dementia, functional disability, physical health, being alone and lacking informal support, and insecure accommodation.

1. Light laundry
2. Shopping
3. Mobile (50 yds out of doors)
4. Bathing
5. Prepare a hot meal
6. Light housework
7. Dressing
8. Mobile indoors
9. Washing hands & face
10. Transfer to a chair
11. Feeding
12. Transfer to toilet

2. Moderate Need = Long Interval

People who require help with one or more ADL tasks, less than once a day

Unable to do one or more of the following:

1. Light laundry
2. Shopping
3. Mobile out of doors
4. Bath self
5. Prepare a hot meal
6. Light housework

3. High Need = Short Interval

People who require help with ADL tasks at least once a day

Having established the validity of domains in relation to their consequences of care, the next stage was to undertake a cluster analysis of

Unable to do one or more of the following:

7. Dress and undress
8. Mobile indoors (more than a

few steps)

9. Wash hands and face

clients within the sample into groups that can be defined by their need domains, such that variation in the weekly cost of care packages provided is minimised within groups and maximised between groups, conditional on their being a minimum number of clients in each cluster. Description of how the weekly cost of care was derived is described above.

The resulting target groups were then discussed extensively with staff in Surrey and subsequently clarified and refined to improve homogeneity with respect to the combinations of needs domains represented in each group and the salience of the resulting classification to policy and practice decisions within Surrey. In this we were assisted because Surrey has already developed a planning model making use of three target groups, and the ideas were familiar.

This analysis provided the set of target groups which together formed the need typology. The typology is a set target groups which are homogeneous in terms of patterns of need and services receipt. A target group is described by various combinations of the various parameters and levels of need. Each target group is mutually exclusive and is so specified that all adults fit into one or other group. Most people would fall into a catch-all "no-need" group, though of course this was a very small group among social services clients. Table 3 summarises the relationship between the need domains and the need typology for elderly people. The remainder of this report concentrates on the analysis for elderly people only, though work on younger physically handicapped adults is also underway.

Although target groups are defined in part on a criterion that they should be similar in cost terms, there is some variation in the range of services actually used. This is shown in table 4, which also describes an illustrative case for each target group.

4. Population Needs Assessment II: Estimating numbers in target groups

4.1 Using The Disability Survey

The next step in the development of the model is to determine how many people in a particular population, are in circumstances equivalent to each of the target groups. These populations may consist of all individuals, say in an area, and also individuals among a selected subpopulation, say people currently receiving some form of long-term care. These may be combined to identify the *take-up rate* among target groups. These numbers represent the stock position, that is people currently in particular situations. The flow position, numbers expected to move from one target group to another, or from non-take up to referral or take up, is also of major concern for planning purposes. This could be tackled using methods similar to those described below. However at present there is little supporting information about rates of transition between states of need, though information on uptake rates (admission rates) is more common.

As estimates will be required for various geographical and other population subgroups, the assumption is that it is not practicable to undertake a survey of sufficient scale to estimate numbers of elderly people directly in all possible localities of interest. Nor, for services where the take-up rate is much less than 100% - that is where need and receipt are not virtually synonymous - can we infer much from user surveys about the extent of need. (There are a few exceptions in the field of health. It may be practicable to directly estimate the numbers of young adults with a severe physical disability from locality registers or assessments made by health services). Instead the approach proposed is to use synthetic estimation (Skinner, 1991). This approach relies on finding correlates among Census indicators for the variable in which we are interested - target group membership, to derive predictive formulae of the expected incidence within a locality of each target group given its profile on the Census indicators.

But first some means is required of identifying the Census indicators and developing a method of prediction. The client database is not sufficiently large for this purpose nor is it representative of the general population. Instead for the elderly these estimates have been developed using the 1986-8 UK Disability Survey (Martin et al 1988). This survey has the advantage of being large, capable of being made nationally representative, and with good information on all the need domains listed in section 3.2.

Even so, it is not possible to reproduce the definitions of all the needs domains exactly as they appear in the client database (i.e. as they are recorded on client assessments in Surrey); but after discussion with Surrey staff it was decided that the following definitions should be closely equivalent in severity:

- Functional disability:
Defined as in figure 2.

- Physical health:
Defined as in figure 2, together with whether client has been a hospital inpatient in the last six months.

- Mental health:
Uses the behaviour and intellectual functioning scores in the Disability Survey.
Moderate is scores of 3.5 or more on intellectual function. Severe is scores above 7 on either scale, provided the criterion for moderate impairment is also satisfied.

- Informal support
Applies to those in private households only. Defined as in the final paragraph of §3.2.6.
- Accommodation need
Physical conditions affects the provision of adaptations only. Accommodation was assumed to be insecure where the elderly person lived in a household where someone else (other than partner) was head of household and where there were was evidence of other difficulties: the person had ADL problems needing assistance which was not obtained within the household. This is not relevant to people in communal establishments.

The above five categories are sufficient to identify people belonging to target groups 2 - 12. Groups 13 and 14 require some further consideration.

Regarding group 13, the Disability Survey does not provide direct information about insecure accommodation, which concerns situations where the disabled person is, in effect, at risk of becoming homeless. Symptomatic of this situation are the unwillingness of the householder to continue to accommodate a disabled person, perhaps following a severe health event and hospitalisation, and lack of support from other household members, as in the definition above. However we cannot accurately estimate the size of this group, as defined in Surrey SSD, from the evidence of the Disability Survey.

Group 14 is defined with reference to service involvement: hospital discharges. From the Disability Survey, 33 percent of all people aged 65+ discharged from hospital in the previous 12 months were provided with some community health or social services. This may be used to estimate the size of this group, as discussed below.

People already in communal establishments, mainly health related establishments, are given similar classification. The Disability Survey has more limited information on such individuals but it is possible to establish functional disability and mental health by similar definitions. (However functional disability within a communal establishment may differ from their disability were the person to live at home). Assuming no problems with accommodation, it is possible to classify individuals into 6 target groups, corresponding to target groups 2; 3, 4 and 5 combined; 6, 7, and 8 combined; 9 and 10 combined; and 11 and 12 combined.

All other people, both living at home and in communal establishments, and this includes all people who would not have eligible for inclusion in the Disability Survey, are assumed to belong to target group 1.

Table 5 shows the estimated numbers of people aged 65+ in Great Britain in 1986 according to these need groups.

4.2 Linking the Disability Survey to Census predictors.

The question now arises as to how national estimates based on the Disability Survey in 1986 can be applied to the situation of a single local authority in 1995.

A categorisation of Census factors has been devised in order to produce maximum correlation with target group membership. For people in private households, the method of doing so was to identify the key factors through discriminant analysis within that part of the Disability Survey. These were age, sex, household composition. Then various subgroupings of these factors were tested for their correlation with

target group membership, ultimately selecting the one with a contingency coefficient of 0.42. (This latter step cannot be done by standard optimisation methods since the derived subgroups have to be ones for which Census counts will be available).

As everyone in the Disability Survey has limiting longstanding illness, the assumption is that estimates using the Census will automatically incorporate this factor. This ignores the slight difference in definition of LLI between the Disability Survey and the Census: although both identify similar numbers of people, in the Disability Survey they are more concentrated in upper age bands. We cannot formally check the legitimacy of using LLI based on the Disability Survey, but a cross-check with the 1991 General Household Survey shows that 87% of people over 65 receiving domiciliary services of estimated value exceeding £20 per week, have limiting longstanding illness as defined in that survey.

Table 8 shows the results of this analysis: the proportion of people in each target group among people living at home in the Disability Survey according to age/sex/household composition. It is then possible to use these proportions as probabilities to predict, in a new population, the size of each target group given numbers in the 12-fold classification from the 1991 Census.

Table 9 is similar for people in communal establishments, though based only on age, sex and limiting longstanding illness.

Before applying this approach, it is worth making a few cautionary remarks which lead us to make some modifications. The synthetic estimation method rests on an assumption that the relationship between need and Census factors, remains constant between local authorities and through time. In particular, the factors which are highly associated with target group membership are age, sex, household composition, and limiting long-standing illness. This assumption should not however, be taken for granted. An aging population is assumed to increase the amount of ill-health, but there have been advances in health - at upper ages, age specific mortality rates have declined over the decade. More significantly, people in Surrey have exceptionally low ill health rates for their age (Bone et al, 1995), judging by answers to the Limiting Long-Standing Illness question in the Census. It is therefore particularly important to take LLI into account when deriving local estimates. There are social differences too. Changes in the availability of informal care through time are probably reasonably reflected in family composition, though less is known about differences between areas. There have been significant gains in financial position of elderly people, and as we already pointed out Surrey is also exceptional in this respect: but wealth will not directly affect an individual's target group, only what form of help is sought.

The treatment of communal establishments also requires a note. The Disability Survey applied to all communal establishments, though those not catering for disabled people were not included in the study. The result is that there are significant numbers of people at comparatively low levels of disability estimated to be living in communal establishments.

Group 14, people recently discharged from inpatient care, could be better estimated by a different approach. The age specific proportions of people discharged who fall into this group, taken from the Disability Survey, may be applied direct to the number of actual discharges, in order to estimate the size of target group 14. This approach allow for the demand for community services to reflect inpatient provision. But the assumption that these proportions remain constant is questionable. There have been significant changes in the pattern of admission to inpatient care through time, and there are probably even greater differences between areas. Moreover we have not yet received age specific discharge rates by locality from HES, so this approach is not used in the present exemplification.

4.3 Predicting numbers in each target group.

The prediction for a local area is based on numbers in Census categories. The necessary numbers for Surrey as a whole are shown in table 10 (together with tenure which is required for estimating take-up rates). These figures are obtained from Census local government statistics, mostly directly but with a little additional calculation in some cases. The populations may be adjusted to allow for the expected change in age composition between 1991 and later years: 1996 and 2001. The result of multiplying each figure to reflect forecast age distributions in 1996 and 2001, is also shown in table 10. A further refinement would be to adjust the number in communal establishments in line with recent DH forecasts, but this has not been done.

Table 11 shows, on these assumptions, the estimated numbers in each target group, for people living at home and for those in communal establishments. These estimates are prepared by multiplying the number in each Census category (from table 10) by the proportion of that category belonging to each target group, as shown in table 8. For completeness, estimated numbers among all residents are also presented in table 11; to achieve this, the numbers in the 'composite' target groups in the communal establishments are distributed among the separate target groups in the same proportions as to that of people living at home. Comparative estimates are shown for 1996 and 2001, and subsidiary tables break this down by planning area.

4.4 Allowing for take up.

The planning method estimates need, and the quantity of resources necessary to satisfy those needs, but individuals have choices. By no means all people in each need group are, at a point in time, known to social services, or more precisely are receiving assistance funded by community health or social services. Not all people who might, from their target group, be judged to need social services necessarily receive them for three reasons:

- they may choose not to receive them, specially if they can afford private alternatives;
- they may get some substitute service, eg inpatient care, perhaps because of other complicating factors;
- they may be missed for whatever reason: lack of services, poor information, difficulty of access, etc. This is "unmet need"⁷.

Needs based planning requires a different approach to the different types of failure of uptake. Where people choose to use alternatives, then the level of resourcing should be reduced to reflect that choice: there is no point in providing services that people do not want, if their needs can be met elsewhere. Similarly with substitution, though this may imply a case for joint rather than residual planning to achieve the most efficient use of resources. Where low take-up is due to unmet need, clearly we would not wish to lower the forecast resource requirements: indeed there may even be a case for increasing them.

⁷ A fourth reason is that the definition of target groups may not be sufficiently refined to identify need accurately at an individual level. Determining who would benefit from services requires skilled judgement: this cannot be decided according to the simplified rules used to construct the groups. Some of the people in target groups may not be eligible.

In this exemplification, we examine what would be the expected take-up in each target group, if Surrey's take-up followed a similar pattern to the national average, after allowing for factors which might influence user preferences in different localities. Differences in the availability of substitutes was not an issue in this case, as it might be if for example, an area is split between health authorities operating very different continuing care policies.

It is possible to estimate 'take up', in the sense of usage, from the Disability Survey for social services within each target group (other than target group 1). For the private household sample, people were regarded as having taken up social services if they had recently seen a social worker, attended a local authority day centre, or been visited by an LA home help or meals on wheels. Those in communal establishments were classified if they were paid for, at least in part, by a local authority or by DSS (in precognition of the NHS&CC Act reforms of 1993). These figures are shown in table 5.

Table 5 shows something of a mismatch between need and take-up of social services. Among those living in the community. In no target group is the proportion of people receiving social services much greater than one half, while significant numbers in the less needy groups get services.

4.4.1 Those living in the community.

It would be possible to apply the take up rates in the Disability Survey as shown in table 5 to estimates of need. However, this has two weaknesses. First, there have been radical changes in community services since 1986. On the one hand these have had the intention of targeting services more precisely, but on the other they have sought to make services more open and responsive. At present there is little evidence about what the net effect on take-up has been. Surrey report greatly increased pressure of demand for community based services, and this might seem to throw doubt on old estimates. Table 12, which is based on the GHS, shows that nationally the number of people receiving some of the main domiciliary services has not changed greatly: rather, the volume of services to each recipient has increased. On this evidence we shall assume present take-up levels for each target group are not greatly different from the time of the Disability Survey.

The second consideration is that take-up is influenced personal choice and this varies from area to area, presumably linked to other personal characteristics. In ¶2.4 we noted that Surrey residents are generally well-off and this is particularly relevant to the kind of care that disabled people seek, and the Disability Survey shows, not unexpectedly, that take-up is much lower among people in owner-occupied households. This may be even truer now that housing capital is the main determinant of whether an elderly person will get state funding for residential care. In Surrey, at the 1991 Census, 67 percent of all elderly people in the community with limiting longstanding illness lived in owner-occupied households, compared with 56% nationally.

In order to investigate this, an examination has been made of personal characteristics that are associated with take up. The results are shown in table 6. The second column shows the proportion in each category who, in the Disability Survey, were using social services (overall, 27 percent of all people reporting in the Disability Survey who were living in the community, had had recent contact with a social worker, or were using home helps, meals services or day care). The logistic regression, which is discussed further in ¶4.5, shows that even allowing for differences in need group, social services are far more likely to be provided to those in the upper age groups and those living alone. One other factor that proved highly significant in table 6 was tenure: people in owner-occupied households are much less likely to get social services. The odds ratios in the final column quantify this effect: they show that, for example,

all else being equal a person aged under 75 is only 31% as likely to receive social services as someone aged 85+.

For this reason, expected take-up levels have been adjusted to allow for the age, sex, household composition and tenure distribution in Surrey, using the logistic regression formula in table 6 with each target group. The resulting predicted take-up levels are shown in the second column of table 13. Multiplying numbers in target groups by predicted take-up gives the expected stock demand levels shown in column 3 of table 13.

4.4.2 Those living in communal establishments.

A different approach for people currently living in the community from those already in communal establishments. For these people, "take-up" concerns the proportion among those in each target group who have a local authority purchased or part-purchased place, as opposed to a place purchased privately, or by some other agency. In so far as everyone is in some form of care, the question of unmet need does not arise provided this is adequate. We may therefore assume that actual variations between areas are entirely the consequence of user choice and substitution. If we regard local authority purchased care as essentially residual, and can assume both that the supply of these substitutes is stable, then in effect the demand from people in communal establishments for local authority resources is the same as the actual number of people currently receiving this form of care. In 1995/6 this was expected to be 2370 elderly people in Surrey.

This assumption is carried through the present exemplification. In other contexts one might wish to consider the implications of assuming that people are misplaced.

It is also necessary to know the target group membership of people in local authority purchased communal establishments. Again there is little recent evidence, though it is widely assumed that the proportion in the severer target groups has increased recently. We have assumed the distribution remains similar to that of residents in local authority purchased places in the Disability Survey, except that there is no-one in the target groups 1 and 2, for whom Surrey no longer purchases residential care. The resulting numbers are shown in table 13, column 5. Comparison with table 11 allows us to quote take-up rates: the proportion of all elderly people living in communal establishments for whom the local authority is providing, by target group, though it should be noted this assumes that the total number of people in communal establishments is the same as in 1991.

4.5 Estimated demand.

Having estimated numbers in target groups who would be taking up social services under these assumptions about take up rate, finally we can estimate the total number of people in each target group in Surrey who, under a standard level of service, would expect to be receiving services. This is shown in the final column of table 13. The total number is about 10,500, compared with 7,400 for whom care is actually currently provided.

5. Population Needs Assessment III: Resources, Services, Priorities, Costs.

5.1 Resources

Planning must take place in the context of resource constraints. Generally these planning models are used for two types of question.

- What is the best deployment of fixed resources in order to obtain the most benefit (cost-efficiency) consistent with equity (equally valued benefit for individuals with similar initial problems⁸).
- "What-if" questions about the resource consequences of different assumptions, particularly about the priorities for resource allocation, or forecasts of changes in the pattern of needs, costs, or the availability of substitutes.

The exemplifications presented here are of the second type. They concern the resources that would be necessary if the kind of decision being made at present for people, and current priorities, were applied to everyone in need in Surrey, assuming that take-up levels were as predictions based on the Disability Survey suggested they might be.

5.2 Service priorities

The client need assessment survey (3.2) has been taken as the starting point for making normative assumptions about the services that would be appropriate, as it should reflect the consequences of current practice and policies. Table 14 shows the probability that each service was assessed as necessary in the survey, together with the average amount assessed as required for those individuals who would receive services. Note that the estimates of probabilities and of amounts shown in table 14 have been rounded, and in some cases smoothed slightly to iron out inconsistencies probably resulting from the small sample sizes in some groups.

The introduction of probabilities reminds us that there are alternative ways of meeting needs. It will not always be appropriate to allocate identical services for equal needs. This may happen in response to user choice, or on the grounds of efficiency. If services vary in their relative costs, as is likely both between areas and through time, then in some circumstances it may be more cost effective to provide domiciliary support and in another to offer residential care. Variations in service allocations may also happen for other reasons some of which may reflect lack of knowledge or inefficiency, so large variations of practice within a target group may be a cause for investigation.

The volumes shown in table 14 are the average over a year. Where domiciliary services were planned for a short term only, pro-rata volumes apply, because most short term allocations assume no long term need. This applies particularly to target group 14 (hospital discharges), for whom often services are expected to be needed for around two months.

For community based services, these volumes represent the amount of client contact with the service,

⁸ This does not necessarily imply the same services or the same costs. As costs differ, so may the most efficient choice of services to meet a welfare shortfall, and these may produce different combinations of outputs. This is equitable provided the resulting state of welfare is valued equally.

and in many cases there will be administrative, travel and training overheads. The actual frequency and time spent on each visit or case was not always recorded on case notes, except for domiciliary and day care. Limited information was available about volumes of community health services. In these cases, assumptions have been made about likely volumes based on the Disability Survey. Unknown length of visits have been replaced by our assumptions about the average time that would have been spent per week with the client.

The exemplifications presented here are all based on an assumption that the probabilities and volumes shown in table 14 will continue to be appropriate, except that in future no person in target group 2 (as well as 1) is likely to be provided with social services funded support.

5.3 Costs

In order to convert estimates to a cost, a unit cost is applied to each service. The unit costs used for this purpose are shown in table 2. These are, as far as possible, estimates of the average unit costs in Surrey in 1994/5. For the following services, unit costs were estimated from data supplied by Surrey SSD: residential care; nursing home care; domiciliary care, sitting service, day care. Where more than one cost was available for a similar service, the average cost has been calculated. All other services use national average unit costs taken from Netten (1994).

These averages will of course conceal variations between individual costs particularly for very diverse services such as day care. We will assume that such cost variations are not relevant to the particular exemplifications examined here. For example, standard prices apply to bought in services like residential care, and there do not appear to be significant geographical variations in costs. There is an implicit free-market assumption that the prices of services would vary little with changes in demand.

6. Applications of the model.

We are here concerned to apply that version of the model that incorporates allowance for nationally average uptake rates as reported in the Disability Survey.

Four applications are described here. Each looks at the consequences if the expected take-up rates from Surrey's elderly population, using predictions of up-take based on the Disability Survey, were to be provided with services at the level being allocated in the Surrey assessment survey of 1994. The four applications are concerned with predicting:

- The overall demand for resources in Surrey and the balance between services of different kinds, using this model;
- The relativities between the different localities and planning areas in Surrey;
- Consequences of aging population;
- The relativity between Surrey and other similar local authorities, on these assumptions about resource allocation.

6.1 Predicted demand and the balance of care in Surrey.

This is a "what-if" prediction: examining the resource consequences that would be expected for Surrey derived from combining the number of people expected to demand social services based on the Disability Survey, with the services that were typically being allocated in 1994, and their average unit cost.

The estimated number of people in each target group in 1996 is shown in the penultimate column of table 11. In those groups of greatest concern, numbers 3 - 14, there are 31,500 elderly people which represents one quarter of all those over 65. Of these, table 13 predicts that 10,500, or 6 per cent of people aged 65, will be coming to social services for help.

This is significantly larger than the actual number of elderly people known to Surrey social services, which is estimated at 8,200 (Surrey Community Care 1995/6, figure 7). The implication is that this may represent a need gap. As we shall see shortly, there is also a gap for most shire counties. The model is predicting a higher demand than is currently met, but there are however, possible alternative explanations. The most likely of these are:

- No allowance is made for those people in residential care still being supported by DSS.
- The prediction of take-up rate may be wrong. We have applied current resource allocation criteria to estimates of take-up based on the Disability Survey. As we discussed in 4.4, the evidence nationally is that take-up rates have not changed much. But it might be that these rates are more different in shire counties than predicted by the model. If owner occupancy is insufficient to fully adjust for the effect of wealth on take-up, then the predicted levels of take-up may be an overestimate in Surrey.

The volumes of services implied by meeting this level of demand with the services of table 14, is shown in table 15. This could be compared with actual provision at present to get an indication of the required shift in the balance of care.

Finally the unit costs of table 2 are applied to this volume of provision. , The total expenditure implications

determined by multiplying the predicted number in each target group by the actual average gross unit cost in Surrey. Results are shown in the penultimate column of table 11. Because the model predicts greater demand than Surrey now provides is rather higher than the actual cost.

6.2 Geographic equity and expenditure between localities in Surrey.

The predicted level of expenditure need for each locality is derived by predicting numbers in target groups within localities and multiplying these by average gross costs (no allowance for area variations in costs is made in this model. The estimated expenditure need level arising from this calculation is shown in table 16. There are quite significant variations between localities in expenditure need, ranging from £346 per person aged 65+ per annum, to £574. It should, of course, be noted that this table is based on a total expenditure that corresponds to the overall model prediction for Surrey.

6.3 Unmet need: comparisons with other local authorities.

We noted above that the gap between actual expenditure and predicted expenditure need according to the model is not necessarily conclusive evidence of an expenditure shortfall by today's standards. Further evidence may be obtained by calculating the same index for similar local authorities and comparing them with Surrey. Table 17 shows gross expenditure on elderly people in 1993/4 from Revenue Outturns for all shire authorities, and the level that would be predicted by the model (using, of course, current assumptions about service allocations). Unit costs for all authorities in this table are Surrey's (deflated from 1994/5), so that in effect the table compares the volume of expenditure need. The model predicts (col.3) that Surrey has one of the lowest expenditure needs of all shire counties, on a per elderly capita basis. The ratio between predicted expenditure need and actual spend in 1993/4 is shown in the last column. Most shires are predicted by the model to have higher expenditure need, than their actual expenditure⁹.

Surrey's ratio is 1.37, its actual expenditure is closer to forecast expenditure than for most shire counties. This would suggest that by comparison with other shire counties, Surrey's expenditure in 1993/4 was not above average in relation to need.

6.4 Trends through time.

Based on OPCS projections of the likely age structure of the population in Surrey in 2001, table 11 constructs the expected distribution across need groups. This table is based on an assumption that the relationship between age and target group membership remains unchanged. Although the total elderly population will increase only slightly, there is a 16% increase in the over 85's, and the numbers of potential concern to social services will increase by 2,300 or 5%. If it is further assumed that take-up rates remain unchanged: and this is highly contingent on health authority plans for continuing care as well as other factors affecting elderly people such as the distribution of financial resources, table 18 shows that this would imply an increase from £68.5m to £73.5m per annum at 1994/5 prices, assuming identical priorities in service allocation prevail.

⁹ The question of the comparability of Revenue Outturns data between local authorities arises. The extreme authorities may be the result of unusual ways of reporting.

Table 1: Numbers in Need Domains among 319 elderly clients of Surrey SSD.

Functional Disability

1. Low	11
2. Moderate	89
3. High	68
4. Very high	142

Physical Health Condition

1. None/minor	72
2. Predictor condition	117
3. Predictor & hospital	126

Mental Health Condition

1. No problems	208
2. Moderate condition	61
3. Severe condition	46

Informal Support

1. Live-in carer	127
2. Outside carer	156
3. No support	30

Isolation

1. Regular contact	283
2. Alone and isolated	32

Accommodation

1. No problems	207
2. Insecure tenure	29
3. Physically unsuitable	79

Carer needs

1. No carer	30
2. No support needs	99
3. Support needs	186

(Numbers do not always add to 319 due to missing information)

Table 2: Services in the Model

<u>SSD Funded:</u>	<u>Includes the following services:</u>	<u>Average unit cost</u>
Residential Homes	Residential home care.	£249 per week
Nursing Homes	Nursing home, hospice care	£340 per week
Respite care	Respite and short-term residential care	£249 per week
Domiciliary care	Home care: personal & domestic, social and unsocial hours; housework scheme and care attendant scheme; help with children (for YPH).	£9.30 per client hour ¹
Daycare	Centre based care (including sheltered workshops, lunch club, drop-in centres where allocated), mainly funded by PSS, providing lunch; bathing; EMI care; speech therapy; living skills; respite care; deaf services; transport; other general activities.	£17 per visit ²
Sitting service	Sitting service: social and unsocial hours including weekends	£10.00 per visit
Meals on wheels		£3.00 per meal
Aids, Adaptations	All forms of aids and equipment and adaptations to the home	£100 per annum ³
<u>DHA Funded:</u>		
District nursing	All forms of district nursing; also health visitor, community psychiatric nurse.	£31 per contact hour ⁴
Occupational therapy	And physiotherapist	£34 per contact hour

Costs are at 1994/5 prices.

(Continued)

Table 2: (continued)

This table omits certain services which were initially considered but proved to have minimum cost consequences, because they were mentioned in less than 3 per cent of care plans (10 cases). These include:

Social work. This does not include care management, which is not costed in this model.

Laundry service.

NHS funded day hospitals and clinics. Possibly these are under-reported.

Costs to voluntary organisations are omitted. Voluntary services are costed according to their unit contracted cost to social services. However as many non-residential services are block contracted, an estimated average is used for the main relevant services. Some minor services are omitted.

Note also that although community health costs are included in the model, they are omitted from tables 17-18 which are SSD costs only.

1. Not allowing for unsociable hours which cost £12.30 per hour.
2. Some specialist day care services probably cost rather more, eg visit to the EMI unit (£33, following Netten). No allowance has been made for these as few clients were involved.
3. Estimated from the average cost per person provided with an aid in 1994/5. The cost of adaptations falls to the housing department.
4. For district nurses. HV's and CPN's would be £44 following Netten, 1994; but these services are comparatively rare.

Table 3: Elderly need typology (summary)

Target Gp.	Mental Health			Functional Disability				Physical Health		Accommodation		Informal Support		Average Weekly Cost of Care (£/s)
	No	Moderate	Severe	None /Low	Moderate	High	Very High	Severe	Low	Secure	Insecure	Yes	No	
1	✓			✓				✓		✓	✓	✓	✓	0
2	✓				✓			✓		✓		✓	✓	45
3	✓					✓		✓		✓		✓	✓	39
4	✓					✓		✓		✓		✓	✓	90
5	✓					✓		✓		✓		✓	✓	116
6	✓					✓		✓		✓		✓	✓	55
7	✓						✓	✓		✓		✓	✓	102
8	✓						✓	✓		✓		✓	✓	141
9		✓		✓		✓	✓	✓		✓	✓	✓	✓	131
10		✓		✓		✓	✓	✓		✓	✓	✓	✓	190
11			✓	✓		✓	✓	✓		✓	✓	✓	✓	226
12			✓	✓		✓	✓	✓		✓	✓	✓	✓	234
13	✓			✓		✓	✓	✓		✓	✓	✓	✓	201
14	Short term hospital discharge cases													19 ¹

¹Averaged over a year.

Table 4: Elderly Need Typology: Target Group 1

NEED CIRCUMSTANCE	COMMONEST SERVICE PACKAGES	AVERAGE WEEKLY COST OF CARE (£)	FREQUENCY
<p><i>Need Factors</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> No mental health condition <input type="checkbox"/> None or low functional disability <input type="checkbox"/> Any physical health condition <p><i>Support Factors</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> Any accommodation situation <input type="checkbox"/> Any level of informal care support 	<ul style="list-style-type: none"> <input type="checkbox"/> Nil 	0	1 case

DESCRIPTION

This group is characterised by no or low functional disability and no mental health problems. People in this group will not require services at present, though they may require advice or assistance for the future.

Table 4 (continued): Target Group 2

NEED CIRCUMSTANCE	COMMONEST SERVICE PACKAGES	AVERAGE WEEKLY COST OF CARE (€)	FREQUENCY
<p><i>Need Factors</i></p> <ul style="list-style-type: none"> ☐ No mental health condition ☐ Moderate functional disability ☐ Any physical health condition <p><i>Support Factors</i></p> <ul style="list-style-type: none"> ☐ Secure accommodation situation ☐ Any level of informal care support 	<ul style="list-style-type: none"> ☐ Home Care 62% ☐ District Nurse 29% ☐ Aids/equipment 20% 	45	34

DESCRIPTION

The main feature of this group is moderate functional disability. All of the members of the group will be able to live in the community with the provision of a range of community care services, particularly domiciliary care and extra aids or equipment.

TYPICAL CASE EXAMPLE

Mrs B is 85 years of age, arthritic, and lives alone. Her children provide her with some informal care support. With some difficulty, Mrs B is able to undertake most of her own personal care but needs help with bathing and hair care. She can get around downstairs with support from furniture, but cannot manage steps, nor domestic tasks beyond making drinks and a snack. Mrs B is in regular contact with friends and relatives, though they are unable to visit as frequently as they would like. Her accommodation is good.

Mrs B's children need some help with caring for their mother. Mrs B will require domestic home care once a week and it is suggested that she goes to a drop-in day care centre 2 days a week.

The cost of the care package is €40.25 per week.

PSSRU Case No. 191.

Table 4 (continued): Target Group 3

NEED CIRCUMSTANCE	COMMONEST SERVICE PACKAGES	AVERAGE WEEKLY COST OF CARE (£)	FREQUENCY
<p><i>Need Factors</i></p> <ul style="list-style-type: none"> ☐ No mental health condition ☐ High functional disability ☐ None/Low dependency physical health condition <p><i>Support Factors</i></p> <ul style="list-style-type: none"> ☐ Secure accommodation ☐ Well supported by informal carer ☐ Informal carer requires support 	<ul style="list-style-type: none"> ☐ Domiciliary care 50% ☐ Respite care 66% ☐ Day care 33% ☐ Occ. Therapist 16% ☐ Aids/equipment 67% ☐ District nurse 33% 	39	6

DESCRIPTION

Members of this group have no mental health problems but have a high functional disability. They have none or low dependency physical health condition and their accommodation is secure. They are well supported and the informal carer will probably require some support. Because they are well supported, members of this group will be able to remain in the community with the provision of a range of community care services. With their high functional disability, 50% of the group will require some aids or adaptations to the home.

TYPICAL CASE EXAMPLE

Mrs C is 87 years of age, and frail. She is unable bath, and lately has increasing difficulty with a number of other personal care tasks such as dressing and managing the toilet. She is unable to undertake even the most basic domestic tasks without risk. She has a lodger who in exchange for reduced rent, undertakes much of the housework. A volunteer also provides help with shopping. Her son keeps in touch and gives the lodger breaks, but lives a long way off.

The lodger, who works during the day, is concerned about the increasing demands, and about the risk to Mrs C when no-one is around. Mrs C's house is unsuitable for someone with her needs. A weekly bathing aide will be provided. Help is given to organise a private domestic help who will pop in and prepare meals during the week. A community alarm will be provided, and she will be assessed for aids. The total cost is £46 per week.

PSSRU Case No. 160.

Table 4 (continued): Target Group 4

NEED CIRCUMSTANCE	COMMONEST SERVICE PACKAGES	AVERAGE WEEKLY COST OF CARE (£)	FREQUENCY
<p><i>Need Factors</i></p> <ul style="list-style-type: none"> ☐ No mental health condition ☐ High functional disability ☐ None/Low dependency physical health condition <p><i>Support Factors</i></p> <ul style="list-style-type: none"> ☐ Secure accommodation ☐ Not well supported by informal carer 	<ul style="list-style-type: none"> ☐ Domiciliary care 85% ☐ District nurse 40% ☐ Aids/equipment 15% ☐ Meals on wheels 24% ☐ Chiropodist 10% 	90	14

DESCRIPTION

Members of this group are similar to group 3, except that they are not well supported. Consequently, a greater proportion of the group (85%) will require domiciliary care and district nursing. A small proportion (7%) will require the 24 hour care provided by a residential home.

TYPICAL CASE EXAMPLE

Mrs D. is 85, and lives alone in her own home, which is comfortable. She has been able to get by, but has become difficult to understand, and has no friends locally. Her children have been providing the only support: they live some distance away. Mrs D's recent flu has left her much weaker, and her children are now seriously concerned for her welfare. She is unable to wash, dress, and cannot transfer or get around the house alone without great difficulty, or manage any housework other than making a cup of tea, and she has problems with oral medication.

Mrs D is extremely reluctant to leave her home, and not happy about accepting help from social services. But daily help will be essential. Home care will visit twice daily and provide personal care. This will require 11 hours per week. At weekends, Mrs D can manage to pay a neighbour to help her for 3 hours. The cost of the care package will be £102 per week.

PSSRU Case No. 205.

Table 4 (continued) Target Group 5

NEED CIRCUMSTANCE	COMMONEST SERVICE PACKAGES	AVERAGE WEEKLY COST OF CARE (£)	FREQUENCY
<p><i>Need Factors</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> No mental health condition <input type="checkbox"/> High functional disability <input type="checkbox"/> High dependency physical health condition <p><i>Support Factors</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> Secure accommodation <input type="checkbox"/> Any level of informal care support 	<ul style="list-style-type: none"> <input type="checkbox"/> Domiciliary care 60% <input type="checkbox"/> District nurse 41% <input type="checkbox"/> Adaptations 24% <p style="text-align: center;">or</p> <ul style="list-style-type: none"> <input type="checkbox"/> Residential home 24% 	116	17

DESCRIPTION

This group is similar to groups 3 and 4 except that clients suffer from a high dependency health condition and may receive any level of informal care support. Compared to groups 3 and 4, a higher proportion of this group (one quarter) will require residential home care and this is related to their high dependency health condition. The majority of this group will however, be able to continue to live at home with the provision of a large range of community care services.

TYPICAL CASE EXAMPLE

Mrs E is 86 years of age, deaf, and lives in sheltered accommodation, where domestic support is provided. She suffers from arthritis and osteoporosis, and has had a recent knee operation. Her family are supportive, but unable to visit regularly. Her daughter had been staying with her to provide personal care, but this cannot continue indefinitely. Mrs E tries to do things for herself, but is often unable, and needs help with washing, dressing (particularly now she uses a leg brace) and hair care.

Mrs E has been receiving home care but has been reassessed following the most recent hospitalisation. She has considerable pain. She is assessed as needing home care five days a week, 7½ hours, to help with getting up and going to bed. The weekly cost of the care package amounted to £74.

PSSRU Case No 200

Table 4 (continued): Target Group 6

NEED CIRCUMSTANCE	COMMONEST SERVICE PACKAGES	AVERAGE WEEKLY COST OF CARE (£)	FREQ- UENCY
<p><i>Need Factors</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> No mental health condition <input type="checkbox"/> Very high functional disability <input type="checkbox"/> None/Low dependency physical health condition <p><i>Support Factors</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> Secure accommodation <input type="checkbox"/> Well supported by informal carer 	<ul style="list-style-type: none"> <input type="checkbox"/> Domiciliary care 70% <input type="checkbox"/> District nurse 56% <input type="checkbox"/> Respite care 36% <input type="checkbox"/> Aids 33% <input type="checkbox"/> Day care 22% 	55	27

DESCRIPTION

Members of this group are characterised by no mental health condition and very high functional disability. They are well supported and the carer will probably require some form of support. Their accommodation situation is secure and they have none or a low dependency health condition. This group will be able to live at home with the provision of a range of community care services such as domiciliary care, respite care, district nursing and day care.

TYPICAL CASE EXAMPLE

Mr F is 82 years of age and he lives at home with his wife. Mrs F undertakes all of her husbands' personal care tasks. The couple have hired a private bath attendant and a private cleaner. Mr F suffered from a stroke some years ago, and is very highly functionally disabled. He is able to manage his own continence, but is unable to carry out any other personal care. He is mobile on the level only with extreme difficulty.

Mr F is in regular social contact with friends and family and his accommodation is secure. Mrs F is willing to continue in her caring role, but will require support. As Mr F is well supported he will be able to remain at home with the provision of a range of community services. Mrs F requires two, two week respite care breaks and day care for Mr F once a fortnight. Personal care in the morning three days per week and in the evenings four days per week are also required for Mr F. The weekly cost of the care package amounts to £76.

PSSRU Case No 201

Table 4 (continued): Target Group 7

NEED CIRCUMSTANCE	COMMONEST SERVICE PACKAGES	AVERAGE WEEKLY COST OF CARE (£)	FREQUENCY
<p><i>Need Factors</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> No mental health condition <input type="checkbox"/> Very high functional disability <input type="checkbox"/> Low dependency physical health condition <p><i>Support Factors</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> Secure accommodation <input type="checkbox"/> Not well supported by informal carer 	<ul style="list-style-type: none"> <input type="checkbox"/> Domiciliary care 62% <input type="checkbox"/> Occ. Therapist 24% <input type="checkbox"/> Aids 42% <input type="checkbox"/> Adaptations 17% 	103	28

DESCRIPTION

This group is similar to group 6 except that they are not well supported by informal care. Consequently many will be in, or needing, sheltered accommodation. The majority of the group will be able to continue to live at home with the provision of a range of community care services. Aids and adaptations are a high priority in this group.

TYPICAL CASE EXAMPLE

Mrs H is 83 suffers from osteoporosis, unable to do anything that requires standing, cannot get around more than a few feet, unable to prepare food. Risk of falling is severe. She lives alone, but has regular visits from relatives particularly her brother, though he is unable to give her much help. She has had a private domestic cleaner, but has turned to social services because she can no longer afford sufficient help. Her house, which she owns, would be suitable if it was better adapted.

She is being reassessed for her long term needs. She will retain her private help for three hours per week, and in addition be allocated a daily home carer for getting her up and bedtime, and meals on wheels during the week. An occupational therapist will advise on suitable aids, particularly in the bathroom, and an alarm will be provided. The weekly cost is £111.

PSSRU Case No 228

Table 4 (continued): Target Group 8

NEED CIRCUMSTANCE	COMMONEST SERVICE PACKAGES	AVERAGE WEEKLY COST OF CARE (€)	FREQUENCY
<p><i>Need Factors</i></p> <ul style="list-style-type: none"> ☐ No mental health condition ☐ Very high functional disability ☐ High dependency physical health condition <p><i>Support Factors</i></p> <ul style="list-style-type: none"> ☐ Secure accommodation ☐ Any level of informal care support 	<ul style="list-style-type: none"> ☐ Nursing home 21% <p style="text-align: center;">or</p> <ul style="list-style-type: none"> ☐ Domiciliary care 57% ☐ District nurse 32% ☐ Aids 25% ☐ Meals on wheels 21% 	140	28

DESCRIPTION

This group represents a combination of the factors highlighted in groups 6 and 7. Members of the group have no mental health condition, very high functional disability, any physical health condition, secure accommodation and might receive any level of informal care support. The difference is that this group suffer from a high dependency health condition. Consequently, an even higher proportion of this group (35%) will require residential and nursing home care. Approximately 65% of the group will be able to live at home with the provision of a wide range of community care services.

TYPICAL CASE EXAMPLE

Miss I is 85 years of age and she lives alone. She suffers from a high dependency health condition as she has recently been in hospital and also suffers from Bells Palsy, arthritis, has problems with her sight. Miss I is not well supported with no informal care support at all. Miss I is unable to carry out any personal care task except to wash her hands and face, and is unable to manage her continence. Miss I is able to eat and drink but is unable to prepare food or cook or carry out any domestic or instrumental tasks. Miss I is not able to move about indoors or outdoors, complete transfers. Miss I is socially isolated and her accommodation is physically unsuitable for her needs.

Miss I is highly functionally disabled, has severe health problems and is no informal care support. She will need 24 hour nursing home care to care for her needs. The weekly cost of nursing home care is €354.

PSSRU Case No 360.

Table 4 (continued): Target Group 9

NEED CIRCUMSTANCE	COMMONEST SERVICE PACKAGES	AVERAGE WEEKLY COST OF CARE (£)	FREQUENCY
<p><i>Need Factors</i></p> <ul style="list-style-type: none"> ☐ Moderate mental health condition ☐ Any level of functional disability ☐ Any physical health condition <p><i>Support Factors</i></p> <ul style="list-style-type: none"> ☐ Any accommodation situation ☐ Supported by an informal carer ☐ Carer requires support 	<ul style="list-style-type: none"> ☐ Residential home 24% <p>or</p> <ul style="list-style-type: none"> ☐ Day care 53% ☐ District nurse 36% ☐ Respite care 35% ☐ Domiciliary care 24% ☐ Sitting service 6% 	131	16

DESCRIPTION
<p>Members of this group are characterised by moderate intellectual impairment (possibly mild dementia) with any level of functional disability. They are reasonably well supported through the carer will probably require some form of support. One quarter will be assessed as needing residential home care. The majority will however be able to remain at home with the provision of a large range of community social and health care services such as day care, domiciliary care, district nursing, respite care and aids and equipment. Respite care is particularly likely to be used in this case.</p> <p>TYPICAL CASE EXAMPLE</p> <p>Mrs J is 77 years of age and she lives with her husband. Both her husband and children provide her with some informal care help. Mrs J suffers from a moderate functional disability and suffers from mild dementia. Mrs J is classified as having a high dependency health condition having had a recent hospital episode and having suffered from a stroke. She is able to carry out most of her personal care tasks except bathing, caring for her hair, teeth, and feet; and she is mobile. However Mrs J is incapable of managing domestic care tasks. Mr J is limited by some arthritis but is willing to continue with his caring role but will require support.</p> <p>Mrs J is sufficiently supported and will be able to continue to live at home with the provision of a range of community support services. Mrs J will require respite care for 3 weeks per year to enable her husband to go on holiday. She will also require day care one day per week and personal home care approximately 4 hours per week. The average weekly cost of the care package amounts to £105.</p> <p><i>PSSRU Case No 100</i></p>

Table 4 (continued): Target Group 10

NEED CIRCUMSTANCE	COMMONEST SERVICE PACKAGES	AVERAGE WEEKLY COST OF CARE (£)	FREQUENCY
<p><i>Need Factors</i></p> <ul style="list-style-type: none"> ☐ Mental health condition (excluding severe dementia) ☐ Any functional disability ☐ Any physical health condition <p><i>Support Factors</i></p> <ul style="list-style-type: none"> ☐ Any accommodation situation ☐ Not well supported by informal carer 	<ul style="list-style-type: none"> ☐ Residential home 36% <p>or</p> <ul style="list-style-type: none"> ☐ Domiciliary care 36% ☐ Respite care 20% ☐ Meals on wheels 14% 	190	48

DESCRIPTION

This group are similar to group 9 except that they are not well supported. Consequently, an even larger proportion of this group will be unable to remain living at home and will require 24 hour residential or nursing home care (61%). With the provision of a range of intensive community care services such as day care, domiciliary care, nursing care etc some members of this group will be able to remain living at home.

TYPICAL CASE EXAMPLE

Mrs L is 77 years of age and she lives alone. Mrs L is highly functionally disabled. She is able to wash her hands and face, manage her continence and care for her hair, but she is unable to dress herself, bathe or care for her teeth, feet or nails. Mrs L is able move around indoors and outdoors but cannot handle steps or stairs. She is able to complete all transfers except to the bath. Mrs L is able to prepare drinks but is not able to prepare snacks, cook or do any other domestic tasks. She suffers from mild dementia and has problems with communicating, memory, behaviour and orientation. She also has problems with the concept of danger, financial management and safety awareness. Mrs L has some informal care support from friends and she receives meals on wheels and visits hospital day care. However, as she has not well supported and appears increasingly at risk she will require placement in a residential care home.

The average weekly cost of residential home care is £249.

PSSRU Case No 171.

Table 4 (continued): Target Group 11

NEED CIRCUMSTANCE	COMMONEST SERVICE PACKAGES	AVERAGE WEEKLY COST OF CARE (£)	FREQUENCY
<p><i>Need Factors</i></p> <ul style="list-style-type: none"> ☐ Severe mental health condition ☐ Any functional disability ☐ Any physical health condition <p><i>Support Factors</i></p> <ul style="list-style-type: none"> ☐ Any accommodation situation ☐ Supported by an informal carer ☐ Informal carer requires support 	<ul style="list-style-type: none"> ☐ Residential home 33% or ☐ Nursing home 29% or ☐ District nurse 25% ☐ Domiciliary care 29% ☐ Respite care 17% 	227	24

DESCRIPTION

This group suffers from a severe mental health condition and are well supported. With the provision of a range of community health and social care services some members will be able to remain living at home. However, nearly two-thirds of this group will be assessed as needing either residential or nursing home care.

TYPICAL CASE EXAMPLE

Mr M is 77 years of age and he lives at home with his wife. Mr M is severely mentally disabled and as a result highly functionally disabled. His wife has to undertake all of his personal care tasks. He has regular sessions at a hospital to provide his wife with respite care and attends day care 4 days per week. Mr M is able to drink on his own but and eats on his own with difficulty. He is immobile indoors and outdoors and in not able to transfer on his own. Mr M is not able to undertake any domestic care tasks. His sever dementia creates problems with memory, behaviour, communication, orientation, the concept of danger and safety awareness. The M's live in rented accommodation and the landlord is concerned about the situation.

Although supported, Mr M has severe dementia which is affecting his carer's ability to take care him. He will require a residential home place. The average weekly cost of residential home care is £249.

PSSRU Case No 41

Table 4 (continued): Target Group 12

NEED CIRCUMSTANCE	COMMONEST SERVICE PACKAGES	AVERAGE WEEKLY COST OF CARE (£)	FREQUENCY
<p><i>Need Factors</i></p> <ul style="list-style-type: none"> ☐ Severe mental health condition ☐ Any level of functional disability ☐ Any physical health condition <p><i>Support Factors</i></p> <ul style="list-style-type: none"> ☐ Any accommodation situation ☐ Not well supported by informal carer 	<ul style="list-style-type: none"> ☐ Residential home 59% <p>or</p> <ul style="list-style-type: none"> ☐ Nursing home 20% <p>or</p> <ul style="list-style-type: none"> ☐ Domiciliary care 20% 	234	18

DESCRIPTION
<p>This group is similar to group 11 except that the members are not well supported. The result is that virtually all are assessed as needing residential or nursing home care.</p>
TYPICAL CASE EXAMPLE
<p>Mr O is 82 years of age and he lives alone. He suffers from severe dementia and is highly functionally disabled. He is classed as having a high dependency health condition as he has been in recent hospital inpatient and suffers from a respiratory condition. His neighbour provides some informal care help and he is in regular social contact with friends and family. Mr O is unable to carry out many personal care tasks although he is able to wash his hands and face, dress himself, eat and drink unaided and is mobile indoors. He is however unable to manage steps and stairs. Mr O is not able to cook for himself or do any other domestic tasks and he has problems with memory, communication, behaviour and orientation. He also has problems with the concept of danger, safety awareness and financial management.</p> <p>Mr O has severe dementia and insufficient informal care support. A residential home place is recommended. The average weekly cost of residential home care is £249 per week.</p> <p><i>PSSRU Case No 392.</i></p>

Table 4 (continued): Target Group 13

NEED CIRCUMSTANCE	COMMONEST SERVICE PACKAGES	AVERAGE WEEKLY COST OF CARE (£)	FREQUENCY
<p><i>Need Factors</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> No mental health condition <input type="checkbox"/> Moderate to very high functional disability <input type="checkbox"/> Any physical health condition <p><i>Support Factors</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> Insecure accommodation <input type="checkbox"/> Any level of informal care support 	<ul style="list-style-type: none"> <input type="checkbox"/> Residential home 30% <input type="checkbox"/> Nursing home 30% <p>or</p> <p>A range of community care services:</p> <ul style="list-style-type: none"> <input type="checkbox"/> District nurse 40% <input type="checkbox"/> Respite care 20% <input type="checkbox"/> Domiciliary care 30% 	201	10

DESCRIPTION

The main precipitating factor here is insecure accommodation: often people who have been living with younger relatives who are unwilling to continue caring for them. This group excludes those with a mental health condition but some degree of functional disability. This means that a move from their present accommodation is likely. This may be to sheltered accommodation, with other support, though the majority will be assessed as needing placement in a residential or nursing home.

TYPICAL CASE EXAMPLE

Mrs Q is 85 years of age and she lives with her two sons who provide some informal care help. She is moderately functionally disabled but able to carry out all of her own personal care tasks with difficulty, as well as some basic domestic tasks such as prepare drinks and snacks. However she is entirely housebound and deaf with some communication difficulties.

Following hospitalisation, Mrs Q's sons want someone else to look after her. It is felt that she would best be cared for in a residential home. The average weekly cost of residential home care is £249 per week.

PSSRU Case No 37

Table 4: (continued): Target Group 14

NEED CIRCUMSTANCE	COMMONEST SERVICE PACKAGES	AVERAGE WEEKLY COST OF CARE (£)	FREQ- UENCY
<ul style="list-style-type: none"> □ Hospital discharge □ Short term care package 	<ul style="list-style-type: none"> □ Domiciliary care 65% □ District nurse 33% <p style="text-align: center;">or</p> <ul style="list-style-type: none"> □ Residential home 20% 	<p>19</p> <p>(Averaged over a year)</p>	<p>40</p>

DESCRIPTION

This group have been discharged from hospital and require a short term care package for 6 weeks or less. They require a range of community social and health care services in the form of domiciliary care or district nursing or short term residential or nursing home care. This group are relatively low cost but many require very intensive inputs of care for a short time.

TYPICAL CASE EXAMPLE

Mrs R is 77 years of age and she lives alone. Her children provide informal care help. Mrs R has recently been in hospital. She suffers from arthritis, and eye and ear conditions. Mrs R has been assessed in hospital. She is able to wash her hands and face and dress herself and care for her hair and nails. She is able to cook meals but is unable to do laundry or housework. She is mobile indoors but is unable to go outside on her own. Mrs R is classed as being very highly functionally disabled at present because she unable to manage her continence, but it is hoped that this will resolve itself. Mrs R will require intensive personal home care for 9 hours a week for about two months. The average weekly cost of the care package is £82 during this period: equivalent to about £14 over the year.

PSSRU Case No 323.

Table 5: Actual Number of People Aged 65 Years and Over, GB, by Target Group, from the 1986 GB Disability Survey.

Target Group	Private Households			Communal Establishments		
	Number in Disability Survey	Proportion in target group ¹ . %	Of which, receive social services %	Number in Disability Survey	Proportion in target group ¹ . %	Of which, (part) funded by SSD or DSS %
1	788	66.7 ²	(NA)	126	18.8 ³	(NA)
2	1922	16.9	24	238	6.3	72
3	116	1.0	29	566	15.1	81
4	204	1.9	57			
5	83	0.7	58			
6	232	2.1	27	530	14.0	51
7	39	0.4	32			
8	72	0.6	42			
9	101	0.9	29	664	17.7	66
10	200	1.8	46			
11	133	1.2	36	1055	28.1	58
12	106	0.7	33			
13	141	1.3	17	-	-	-
14	405	3.5	35	-	-	-
Total	4542			3180		

Source: Reanalysis of 1986-8 Disability Survey. These figures relate to that period.

Notes:

1. After reweighting.
2. Including people not represented in the Disability survey. These proportions assume that there were 8,286,000 people aged 65+ living in private households, of whom 3,301,000 are represented in the Survey: the remainder all being in target group 1.
3. Including people not represented in the Disability survey. These proportions assume that there were 397,000 people aged 65+ living in communal establishments, of whom 335,000 are represented in the Survey: the remainder all being in target group 1.

Table 6: Factors affecting use of community based social services in UK Disability Survey (Private Household Sample).

Factor	Proportion using social services %	Logistic Regression Coefficient	SE	Odds Ratio %
Target Group				
1	9	-1.7355	0.0064	18
2	24	-0.6413	0.0047	53
3	29	0.3332	0.0090	140
4	57	0.3895	0.0069	148
5	58	1.0656	0.0098	290
6	27	0.2284	0.0072	126
7	32	-0.7604	0.0136	47
8	42	0.7140	0.0103	204
9	29	0.2955	0.0094	134
10	46	0.1957	0.0070	122
11	36	0.5994	0.0084	182
12	33	-0.1712	0.0091	84
13	17	-0.4781	0.0098	62
14	35	0.0000	-	100
Age Group				
65 - 74	17	-0.8858	0.0045	31
75 - 84	32	-0.2724	0.0042	60
85+	43	0.0000	-	100
Gender				
Male	19	-0.1827	0.0032	83
Female	31	0.0000	-	100
Tenure				
Owner Occupied	24	-0.4005	0.0030	67
Other	34	0.0000	-	100
Household Comp.				
Living Alone	40	1.7220	0.0073	560
All aged 65+	18	0.6017	0.0070	183
One aged under 65	19	0.5060	0.0076	166
Several aged < 65	17	0.0000	-	100
Constant		-1.0910		

Table 7: Factors affecting whether use of institutional services is funded (or part funded) by social services or social security in the Disability Survey (Communal Establishments Sample).

Factor	Proportion funded by social services, social security %	Logistic Regression Coefficient	SE	Odds Ratio %
Target Group				
1	71	0.6334	0.0202	188
2	72	0.6541	0.0154	192
3 - 5	81	1.1216	0.0121	307
6 - 8	51	-0.2708	0.0105	76
9 - 11	66	0.3225	0.0100	138
12 - 13	59	-	-	100
Age Group				
65 - 74	59	-0.3618	0.0110	69
75 - 84	64	-0.1943	0.0081	82
85+	67	-	-	100
Gender				
Male	63	-0.0449	0.0088	96
Female	65	-	-	100
Constant		0.4868	0.0076	

Table 8: Target group membership according to personal circumstances, for people living in private households, based on the Disability Survey.

	Target Group						
	1 %	2 %	3 %	4 %	5 %	6 %	7 %
Male, 65-74, LLI, private h'hold, living alone	25.9	39.8	0.0	2.8	0.7	0.0	0.7
Male, 75-84, LLI, private h'hold, living alone	17.0	48.5	0.0	3.2	1.3	0.0	3.2
Male, 85+, LLI, private h'hold, living alone	11.4	65.7	0.0	5.7	0.0	0.0	2.9
Female, 65-74, LLI, private h'hold, living alone	23.6	49.4	0.0	5.5	0.6	0.0	1.1
Female, 75-84, LLI, private h'hold, living alone	17.1	48.6	0.0	9.9	2.2	0.0	1.8
Female, 85+, LLI, private h'hold, living alone	4.4	49.6	0.0	19.4	3.9	0.0	2.4
Person, 65-74, LLI, private h'hold, living with partner	19.7	42.2	3.7	1.3	2.2	9.2	0.3
Person, 75-84, LLI, private h'hold, living with partner	14.0	44.6	5.0	2.1	2.2	7.6	0.5
Person, 85+, LLI, private h'hold, living with partner	8.1	25.1	7.4	2.2	0.7	16.3	0.0
Person, 65-74, LLI, private h'hold, living with 1 other	19.2	37.3	3.6	2.5	1.8	4.0	0.0
Person, 75-84, LLI, private h'hold, living with 1 other	13.2	28.5	3.9	4.5	2.2	7.7	1.2
Person, 85+, LLI, private h'hold, living with 1 other	5.5	18.1	3.6	5.5	3.6	16.4	0.0
Person 65-74, LLI, private h'hold, h'holder, 2+ others	15.4	28.8	4.5	0.9	0.0	9.9	0.0
Person 75-84, LLI, private h'hold, h'holder, 2+ others	8.5	19.6	6.1	2.2	0.7	5.7	0.7
Person 85+, LLI, private h'hold, h'holder, 2+ others	0.0	12.5	0.0	1.8	1.8	16.0	0.0

Table 8: Continued.

	Target Group						
	8 %	9 %	10 %	11 %	12 %	13 %	14 %
Male, 65-74, LLI, private h'hold, living alone	0.7	0.0	9.8	0.0	1.4	0.0	19.0
Male, 75-84, LLI, private h'hold, living alone	0.0	0.0	5.8	0.0	3.8	0.0	18.4
Male, 85+, LLI, private h'hold, living alone	0.0	0.0	8.6	0.0	2.9	0.0	2.9
Female, 65-74, LLI, private h'hold, living alone	0.2	0.0	5.3	0.0	1.9	0.0	12.4
Female, 75-84, LLI, private h'hold, living alone	1.2	0.0	6.9	0.0	2.3	0.0	10.3
Female, 85+, LLI, private h'hold, living alone	0.0	0.0	8.3	0.0	3.9	0.0	8.2
Person, 65-74, LLI, private h'hold, living with partner	1.6	3.1	2.0	1.5	1.6	1.1	10.8
Person, 75-84, LLI, private h'hold, living with partner	2.3	3.7	3.4	4.2	1.6	1.4	8.1
Person, 85+, LLI, private h'hold, living with partner	3.0	4.5	3.0	9.6	5.9	11.1	3.0
Person, 65-74, LLI, private h'hold, living with 1 other	2.9	3.6	2.9	5.1	2.2	5.4	9.4
Person, 75-84, LLI, private h'hold, living with 1 other	2.2	6.8	3.8	7.8	2.7	12.8	2.7
Person, 85+, LLI, private h'hold, living with 1 other	3.6	9.1	3.6	10.9	5.4	12.8	1.8
Person 65-74, LLI, private h'hold, 2+ others	4.5	2.7	2.7	8.1	3.6	12.6	6.3
Person 75-84, LLI, private h'hold, 2+ others	2.1	2.8	4.4	13.6	5.7	23.6	4.3
Person 85+, LLI, private h'hold, 2+ others	5.3	7.2	7.2	23.2	1.8	21.4	1.8

Note: The interpretation of this table is: 25.9% of all men, 65-74, with limiting longstanding illness, in private household, living alone; are in target group 1, etc. Note that all people without limiting longstanding illness are in target group 1.

Table 9: Target group membership according to personal circumstances, for people living in health related communal establishments, based on the Disability Survey.

	Target Group						
	1 %	2 %	3,4,5 %	6,7,8 %	9,10 %	11,12 %	
Men, 65-74, communal establishments	9.0	10.7	16.7	11.6	20.2	31.8	
Women, 65-74, communal establishments	6.7	8.7	13.0	20.0	22.3	29.3	
Men, 75-84, communal establishments	4.8	6.9	18.9	21.8	19.8	27.8	
Women, 75-84, communal establishments	4.0	9.0	19.6	17.7	18.5	31.2	
Men, 85+, communal establishments	4.3	8.5	16.6	16.1	24.2	30.3	
Women, 85+, communal establishments	1.8	5.0	17.5	14.1	22.8	38.8	

Table 10: Numbers of elderly people in Surrey from the 1991 Census and projected to 1996

	1991 Census ests.		1996 projection	2001 projection
	Number	Living in owner occupied h/holds		
Person, 65+, non-LLI, private h'hold	97445	NA	99009	105145
Male, 65-74, LLI, private h'hold, living alone	1535	54.2%	1532	1474
Male, 75-84, LLI, private h'hold, living alone	1939	55.4%	1929	1972
Male, 85+, LLI, private h'hold, living alone	762	60.8%	947	1106
Female, 65-74, LLI, private h'hold, living alone	3624	58.1%	3617	3475
Female, 75-84, LLI, private h'hold, living alone	7709	55.1%	7670	7840
Female, 85+, LLI, private h'hold, living alone	3558	52.1%	4423	5166
Person, 65-74, LLI, private h'hold, living with partner	8141	71.1%	8125	8754
Person, 75-84, LLI, private h'hold, living with partner	10587	70.2%	10534	10028
Person, 85+, LLI, private h'hold, living with partner	2990	73.2%	3717	3531
Person, 65-74, LLI, private h'hold, living with 1 other	4604	80.0%	4595	2909
Person, 75-84, LLI, private h'hold, living with 1 other	3777	80.0%	3751	2539
Person, 85+, LLI, private h'hold, living with 1 other	1064	80.0%	1323	1024
Person 65-74, LLI, private h'hold, 2+ others	2567	83.1%	2562	1621
Person 75-84, LLI, private h'hold, 2+ others	2103	83.1%	2092	1416
Person 85+, LLI, private h'hold, 2+ others	593	83.1%	731	571
Person, 65+, non-LLI, communal establishment	2761	-	1795	740
Men, 65-74, LLI, communal establishment	680	-	679	652
Women, 65-74, LLI, communal establishment	841	-	839	807
Men, 75-84, communal establishment	707	-	703	916
Women, 75-84, communal establishment	2805	-	2791	2633
Men, 85+, communal establishment	795	-	988	868
Women, 85+, communal establishment	3266	-	4060	5056

Communal establishments include people resident in social and health care establishments only. The projections apply Surrey planning assumptions about the

changed aged structure to all 1991 estimates.

Table 11: Predicted Number of People Aged 65+ Years, by Target Group in Surrey.

A: Totals in 1996 and 2001, by private household and communal establishment in 1996.

Target Group	Total in Private Households (1996)	Total in Communal Establishments (1996)	Total 1996	Total 2001
1	113639	1112	114751	114208
2	21665	719	22384	22959
3	1435	1777	1938	2003
4	2646		3573	3853
5	997		1346	1409
6	2883	1627	3987	4167
7	497		688	732
8	869		1202	1245
9	1253	2145	1994	2091
10	2377		3782	4018
11	1688	3419	3587	3849
12	1351		2872	3089
13	1807	-	1808	1899
14	4726	-	4726	4769
Total (All groups)	157834	10799	168633	170292
Total (groups 3-14)	22529	8968	31498	33125

Table 11: (continued).

B: Totals in 1996, by planning area of Surrey.

Target Group	North-West Surrey	South-West Surrey	Mid Surrey	South-East Surrey
1	38259	27167	27057	22269
2	7549	5336	5098	4404
3	633	435	472	399
4	1164	804	865	738
5	440	302	328	275
6	1296	888	976	827
7	224	154	170	140
8	395	266	291	250
9	642	432	501	420
10	1222	820	945	793
11	1138	743	923	784
12	909	596	747	618
13	619	432	390	366
14	1622	1132	1053	920
Total	56113	39506	39815	33202
Total (groups 3 - 14)	10305	7003	7660	6529

Table 11 (continued)

C: Totals in 2001, by planning area of Surrey.

Target Group	North-West Surrey	South-West Surrey	Mid Surrey	South-East Surrey
1	38014	27089	26931	22176
2	7726	5480	5236	4519
3	653	451	488	414
4	1254	868	932	797
5	461	316	342	289
6	1351	929	1020	868
7	238	164	180	150
8	408	275	301	260
9	672	453	524	443
10	1297	871	1003	845
11	1221	798	986	845
12	977	642	801	667
13	648	454	411	385
14	1633	1144	1064	928
Total	56552	39935	40219	33585
Total (groups 3 - 14)	10812	7366	8052	6890

Table 12: Receipt of home care services by people aged 65+, 1985 and 1994, England and Wales.

A: Proportion of elderly people who received services last month, by age.

		65-74 %	75-84 %	85+ %	All aged 65+ %
LA provided home help/care.	1985	3.2	13.9	32.2	8.8
	1994	3.0	10.3	26.1 ²	7.3
Home nurse ¹	1985	2.8	8.6	20.9	6.0
	1994	2.5	8.4	19.0	5.8
Meals on wheels	1985	0.6	4.5	12.2	2.7
	1994	0.9	3.5	13.1	2.8
LA or voluntary day centre	1985	4.4	6.6	6.5	5.3
	1994	2.1	5.0	5.2	3.3
(Numbers)	1985	2008	1137	230	3375
	1994	1938	998	291	3227

(e.g. in 1985, 3.2 per cent of all people aged 65-74 reported having received a local authority home help).

B: Hours of local authority provided home help/care received last week (by those receiving any amount).

		1-2hrs %	3-4hrs %	5-10hrs %	11+hrs %	N
LA home help or home care	1985	58	31	11	0	261
	1994	67	21	11 ²	1	234

Source: General Household Survey, 1985 and 1994/5.

¹Home nurse includes district nurse and health visitor.

²However, these rates are significantly lower than figures given in the new Department of Health feedback HMD/94 "Community Care" for England 1994, which gives receipt by 35.9% of *households* with the oldest person aged 85+ (table S1.4) and 20% of households receiving 5+ hours per week (table S1.5), during a surveyed week.

Table 13: Predicted Number of People Aged 65 Years and Over by Target Group, Taking Up Services, in Surrey.

A. In 1996.

Target Group	Living in the community		In communal establishments		Total
	Take-up rate %	Number using services	Take-up rate %	Number using services	Number
1	0	0	0	0	0
2	23	4884	0	0	4884
3	27	388	38	697	501
4	55	1456			1878
5	56	562			724
6	25	722	25	402	965
7	29	147			197
8	38	330			440
9	26	331	32	685	498
10	43	1031			1549
11	33	550	29	976	1108
12	31	414			833
13	14	251	0	0	251
14	34	1617	0	0	1618
Total		12683		2760	15446
Total (groups 3 - 14)		7800		2760	10561

Table 13 (continued).

B. In 2001.

Target Group	Living in the community		In communal establishments		Total
	Take-up rate %	Number using services	Take-up rate %	Number using services	Number
1	0	0	0	0	0
2	23	5130	0	0	5130
3	27	405	38	753	520
4	55	1577			2039
5	56	592			766
6	25	761	25	439	1026
7	29	158			213
8	38	341			460
9	26	346	32	750	527
10	43	1091			1660
11	33	587	29	1086	1205
12	31	445			913
13	14	270	0	0	270
14	34	1663	0	0	1663
Total		13366		3028	16394
Total (groups 3 - 14)		8236		3028	11264

1. Take up rates in community are based on 1986 Disability Survey, adjusted for Surrey's distribution on age, sex, household composition and tenure using table 7.

2. Numbers in need are calculated from target group size in table 11 multiplied by target group rate.

3. Take up rates for LA supported residential care are as implied by the following column (i.e. column 5 divided by the estimated number in each group in 1996).

4. Numbers in this column are based on the expected stock position in 1996, distributed among the target groups in the same proportions as in the Disability Survey (from table 5) but assuming none in target groups 1 and 2.

Table 14: Average service quantities in each target group.

Service	Prob. Vol.	Target Group													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
Residential care (place)	% n	0 0	0 0	0 0	0 0	20 1	0 0	0 0	20 1	30 1	40 1	40 1	60 1	30 1	0 0
Nursing homes (place)	% n	0 0	0 0	0 0	0 0	0 0	0 0	0 0	20 1	0 0	20 1	30 1	20 1	20 1	0 0
Respite care (weeks per ann.)	% n	0 0	10 2	60 2	20 2	20 2	40 4	10 2	10 4	40 4	10 4	10 4	0 0	20 2	10 2
Home care (hours per week)	% n	0 0	40 5	60 5	80 7	60 7	70 5	70 7	50 7	20 7	30 7	20 7	20 7	30 5	60 5
Day care (days per week)	% n	0 0	20 2	20 2	10 2	20 2	20 2	10 2	10 2	60 2	10 2	10 2	0 0	20 2	0 0
Sitting (days per week)	% n	0 0	0 0	0 0	10 2	0 0	0 0	0 0	0 0	10 2	0 0	0 0	0 0	0 0	0 0
Meals on wheels (no. per week)	% n	0 0	10 5	10 5	30 5	0 0	0 0	10 5	20 5	10 5	10 5	0 0	10 5	0 0	0 0
Aids and adapt- ations	% n	0 0	30 1	30 1	20 1	20 1	30 1	40 1	20 1	20 1	0 0	0 0	0 0	0 0	0 0
District nurse (hours per week)	% n	0 0	30 2	30 2	40 2	50 2	20 2	20 2	30 2	40 2	10 2	20 2	10 2	30 2	30 2
OT (hours per week)	% n	0 0	0 0	0 0	10 1	10 1	20 1	20 1	10 1	10 1	0 0	0 0	0 0	10 1	20 1

Source: Surrey client assessment survey.
For 3 months only.

Table 15: Service Implications for people over 65 in Surrey, in 1996 and 2001, from the model.

<u>SSD Funded:</u>	<u>1996</u>	<u>2001</u>
Residential Homes	2020 places in use	2178 places in use
Nursing Homes	947 places in use	1022 places in use
Respite care	121 places in use	130 places in use
Domiciliary care	1.98m hours per annum	2.11m hours per annum
Daycare	186,000 visits per annum	198,000 visits per annum
Sitting service	25,000 days per annum	27,000 days per annum
Meals on wheels	388,000 meals per annum	413,000 meals per annum
Aids, Adaptations	2,700 people helped p.a.	2,860 people helped p.a.
<u>DHA Funded:</u>		
District nursing	410,000 hours per annum ¹	435,000 hours per annum ¹
Occupational therapy	16,700 hours per annum ¹	17,900 hours per annum ¹

¹ Figures are for social services clients only.

Table 16: Gross and Per Capita Cost of Community Care by Locality for People Aged 65 Years and Over in Surrey in 1996 (1994/5 prices), forecast by the model.

Locality	Gross Cost of Community Care for Elderly People (£'m/annum)	Per Capita Cost of Care (People Aged 65+, £/annum)
Ashford	1.83	485
Camberley	2.73	377
Chertsey	2.69	391
Egham	1.96	390
Staines	1.89	364
Sunbury	2.18	452
Walton	3.31	363
Woking	5.73	408
NORTH-WEST TOTAL	27.89	397
Ash	1.30	371
Cranleigh	2.09	346
Farnham	2.00	574
Godalming	2.49	441
Guildford	6.74	422
Haslemere	2.29	469
SOUTH-WEST TOTAL	28.16	428
Banstead	3.03	369
Cobham	1.91	387
Epsom & Ewell	4.32	345
Leatherhead	2.98	360
Molesey	2.46	420
MID SURREY TOTAL	29.41	369
Caterham	2.36	412
Dorking	3.11	475
Horley	1.95	386
Oxted	2.61	407
Reigate	4.68	495
SOUTH-EAST TOTAL	29.44	443
SURREY TOTAL	68.45	406

Costs have been calculated by multiplying the average cost of care from Surrey Needs Based Planning Target Groups by the total numbers of numbers of persons falling into target groups for each locality.

Table 17: Actual expenditure on the elderly in 1993/4 and forecast expenditure given predicted size of target groups and Surrey's unit costs, for all shire counties.

	Actual gross expend £'m	Model forecast spend £'m	Model forecast spend per capita £	Ratio, forecast to actual
Avon	56.7	64.2	405	1.13
Staffordshire	57.4	65.4	426	1.14
Buckinghamshire	29.5	34.0	424	1.15
Berkshire	26.6	35.2	375	1.32
Humberside	47.2	63.1	447	1.34
Bedfordshire	22.4	30.4	451	1.35
Derbyshire	49.7	68.0	443	1.37
SURREY	45.5	62.3	373	1.37
Oxfordshire	23.6	34.1	423	1.45
Hertfordshire	39.9	58.0	399	1.45
Warwickshire	20.4	29.8	389	1.46
Cheshire	35.5	52.1	360	1.47
Suffolk	28.7	42.5	373	1.48
Cambridgeshire	25.5	37.9	394	1.49
Lancashire	71.5	107.1	452	1.50
Cleveland	25.4	38.4	490	1.51
Norfolk	38.5	58.3	398	1.51
Essex	65.5	100.1	399	1.53
Hereford and Worcester	27.1	41.9	371	1.54
Northumberland	14.4	22.4	434	1.56
Shropshire	17.0	26.7	412	1.57
Nottinghamshire	47.8	76.0	480	1.59
Kent	62.3	99.8	394	1.60
Wiltshire	22.6	36.4	412	1.61
Northamptonshire	23.3	38.0	448	1.63
West Sussex	31.7	52.3	351	1.65
Cumbria	20.6	34.3	402	1.66
North Yorkshire	31.9	53.0	416	1.66
Isle Of Wight	5.6	9.5	326	1.68
Devon	45.6	76.6	367	1.68
Leicestershire	32.3	55.6	420	1.72
East Sussex	33.5	60.3	375	1.80
Cornwall	19.9	35.9	383	1.80
Durham	26.3	47.7	496	1.81
Hampshire	49.3	91.4	375	1.85
Gloucestershire	17.0	32.0	343	1.88
Somerset	16.0	31.5	349	1.97
Lincolnshire	19.8	40.4	369	2.04
Dorset	25.0	51.6	346	2.06

Actual gross expenditure is from DOE RO3B.

Table 18: Gross and Per Capita Cost of Community Care in 1996 and 2001 for People Aged 65 Years and Over in Surrey, at 1994/5 prices, forecast by the model.

Year	Total Cost of Community Care for Elderly People (£'m/annum)	Per Capita Cost of Care (People Aged 65+, £/annum)
1996	68.45	406
2001	73.50	432

APPENDIX: Domains of Needs-Related Circumstances.

This appendix provides a brief background to the domains of need-related circumstances for elderly and physically disabled people described in section 3 of the report. There is a very full literature in this area, and the reader is recommended to refer the many review texts available, e.g. Kane & Kane (1981); McDowell & Newell (1987); Patrick & Ericksen (1993); Maddox (1995). The international classification of impairments, disabilities and handicaps (ICIDH) is useful (Duckworth, 1983).

A.1 Multi-domain approaches

OARS (Older Americans Resources & Services Group) recognised 5 domains with which to diagnose need for services:

- Social Resources : the quantity and quality of relationship with friends and family and the availability of care in time of need
- Economic Resources: adequacy of income and resources
- Mental Health: extent of psychiatric well being, presence of organicity
- Physical Health: presence of physical disorders and participation in physical activities
- ADL: capacity to perform various instrumental and physical (or bodily care) tasks that permit individuals to live independently.

(Laurie, 1978)

More recently, Wilkins has adapted the framework used in the WHO classification of handicaps to form the following classification which provides a comprehensive classification of dependency and better reflects the types of assistance required:

- Orientation
- Activities of Daily Living
- Mobility
- Occupation
- Social Integration
- Economic
- Emotional
- Environmental
- Other

(Wilkins, 1986)

Wilkins main domains differ from Lauries' by adding the domains of environment and emotional well being.

The EuroQol measure of health related quality of life is a deliberate simplification that concentrates on

just five domains, each on a three point scale:

- Mobility
- Self-Care Ability
- Performance of usual activities
- Pain and Discomfort
- Anxiety and Depression.

(Euroqol, 1990). Note that none of these approaches considers carers needs.

A.2 Functional Ability

Functional ability has often been associated with the performance of personal care tasks as described by The Activities of Daily Living (ADL) (Katz & Akpom, 1976) and the Instrumental Activities of Daily Living (IADL). The Katz Index rates six ADL functions (in order of decreasing dependency): bathing, dressing, going to the toilet, transfer, continence and feeding. Measures of dependency are often based on measures of ability to undertake ADL's and IADL. However, it is possible to measure a much wider range of functional abilities: for example Martin et al include locomotion (mobility), reaching and stretching, dexterity, continence, sensory impairment as well as mental disabilities described in section A4.

Scaling functional ability has received much attention. Katz' original scale used arbitrary weights, but later Guttman scaling was widely applied to these measures (eg Kyle et al, 1987). Isaacs and Neville (1976) rated functional ability not by the level of care that would be required in the absence of this ability: an influential approach that has echoes in the needs definition used in Surrey's Community Care reports (Surrey, 1994). Martin et al (1988) used rater judgements of equivalent states, while EuroQol has used rate judgements of time trade-off's between states of health to estimate quality adjusted life-years.

A.3 Physical Health

Kane & Kane (1981) summarise a variety of indicators:

1. Bed Days
2. Restricted activity days
3. Hospitalisations
4. Physician visits
5. Pain and discomfort
6. Symptoms
7. Signs on physical exam
8. Physiological indicators (eg cardiac function)
9. Permanent impairments (eg vision, hearing etc)
10. Diseases/diagnoses
11. Self ratings of health
12. Physician ratings of health
13. Predicted life expectancy

Indicators of past service utilisation and are linked to supply and therefore are not pure measures of need for health care (Eyles & Birch, 1993). Needs based planning is specifically concerned with moving away

from supply based indicators which only perpetuate past inequalities in health service allocation (Eyles et al, 1991). Nevertheless service utilisation may in its own right create needs, in particular for rehabilitation, which ought to be taken into account.

Disease classification and physiological indicators are sometimes regarded as much less relevant to social care as compared with health care. However, previous studies have identified a link between certain specific health conditions, physical dependency, and the need for extra help (Hunt, 1978; Bowling et al, 1991). Health status can affect social roles, occupation, life satisfaction and emotional well being. Bowling (1994) identifies a link between chronic illness and reduced quality of life by affecting an individual's ability to carry out the activities of daily living. Problems with eyesight, arthritis and associated problems including foot care were among the major factors to make far greater use of services compared to other groups

Hunt (1978) found that certain health conditions were commonly related to physical dependency. These were: musculoskeletal disease, heart conditions, lung conditions and failing sight. Stroke and Parkinson's disease (categorised as brain and nerve conditions in the OPCS Disability Survey (Martin et al, 1988) are also associated with severe dependency and mental as well as physical dependency. The present study examined these as re-defined for the OPCS Disability Survey (Martin et al, 1988):

1. Complaints of bones joints and muscles
2. Complaints of brain and nerves (not mental illness)
3. Complaints of heart, blood vessels and circulation
4. Eye complaints
5. Complaints of lungs and breathing

Using these predictor health conditions social services clients were classified as follows:

1. Not having any of the predictor conditions;
2. Having one or more predictor condition;
3. Having one or more predictor condition and having recently been discharged from hospital.

A.4 Mental Health

Schneider et al (1993) have identified 3 main types of mental health problems which affect elderly people:

- Dementia - including Alzheimers' disease and multi infarct dementia. Mild dementia impairs work and social activities although the capacity for independent living remains with adequate personal hygiene. Moderate and severe dementia involve loss of capacity for independent living up to continuous support required;
- Other illnesses which cause permanent cognitive impairment eg chronic schizophrenia;
- Affective disorders - including neurosis, depression, anxiety, alcoholism. These are distinguished as endogenous or exogenous (e.g. loneliness).

All of these are relevant to social care, but because dementia often requires institutionalisation or substantial permanent intervention it is likely to have greater resource consequences. Many scales are summarised in Kane & Kane (1981) such as the Dementia Rating Scale and the Mini Mental State test. Cognitive impairment measures include a range of domains such as orientation, memory, attention,

mental control, behaviour, communication. The simple rating adopted in the text is taken from social work assessments and is linked to the intellectual impairment scale and behaviour scales of the OPCS Disability Survey (Martin et al 1988):

- Mild/moderate dementia: intellectual functioning severity scores from 3.5 - 7.0
- Severe dementia: intellectual functioning severity score above 7.0 or intellectual functioning score above 3.5 and behaviour score above 7.0.

Affective disorder is often measured by the General Health Questionnaire (GHQ). However, affective disorder was not found to be highly correlated with care packages in the Surrey assessment survey.

A.5 Accommodation Need

Many elements of accommodation have been identified as factors to consider when assessing the ability of people to cope with health problems. These include: access, physical quality (warmth, dryness), ease of management, adaption for disability, isolation, harassment, tenure, household relationships, overcrowding, amenities (see Bolton et al, 1988; Hutton, 1991).

Privately rented housing is often subject to housing inadequacies such as sub standard heating, poor condition, lacking in amenities and insecurity of tenure (Wheeler, 1986). Older housing has also been linked to poor conditions. The adequacy of heating has become a major issue, particularly in relation to elderly people who are particularly vulnerable (Bond et al, 1990). Davies et al (1990) identify as a particularly vulnerable group, those disabled people living in the home of relatives who are increasingly unwilling or unable to care for them, sometimes following hospital discharge.

The simplified approach in the text is to divide these into two main domains: whether the accommodation is *physically adequate* in the sense of being easy access, warm, suitable for disabled living etc; and *security of tenure*, which often concerns the extent to which tenure is under the disabled person's control. Physically unsuitable accommodation was defined as accommodation which was not physically suitable for a client's needs, for example if it would require adaptations or if they would require additional help to maintain it. This is usually associated with the provision of aids and adaptations. Insecure tenure exists if there is any risk that increasing disability would cause them to need to find lose their present accommodation due to a strain on the current household or fear of eviction. This is associated with high risk of admission to residential care.

A.6 Financial Resources

Financial resources may not affect need per se, but it will most certainly affect the options that are open once need arises.

For people who are economically independent, the availability of financial resources may provide greater options and degree of choice over the type, source and amount of care that they receive.

Stoller and Cutler (1993) have investigated predictors of paid-for help, which is commonest among elderly people with a combination of good financial resources and poor support networks, particularly those without children.

Financial resources are closely related to social status and a number of factors that, in one way or

another, affect the risk of disablement and the nature of the choices that might be made. Social status is linked to informal care. Mayer and Wagner (1993) suggest that income and property may provide a measure of control over children. Presents and anticipated legacies may help to maintain relations with children and grandchildren and encourage reciprocal appreciation.

At the same time most social services are now chargeable to clients who have sufficient resources. This affects firstly, take-up. The desire to preserve these resources may serve to steer people away from services for which they would be means tested. At the time of the assessment study few people with realisable assets above £8,000 were likely to receive local authority supported residential care. Second, social services costs are recoverable where the financial resources of its clients permit charging.

A.7 Social Networks and Informal Support

Elements of a social environment could include the existence, nature, frequency and subjective importance of social interactions (networks), activities and participation in human relationships.

The quality of social environment affects the ability to cope with health problems and maintain independence despite their functional limitations, most obviously through the availability of social support. It also has a strong influence on service preferences - the desire to remain in the community, and indeed the relief of isolation is a goal of social care in its own right, stemming back to engagement theories of aging. A study by Bowling et al found no association between disability and reported loneliness. The size of the social network available was also found not to increase to meet any increase in instrumental help that may be needed (Bowling et al, 1994).

Informal sources of support "are clearly vital in understanding the needs of older persons" (Dill, 1993). The immediate family - other household members in particular - have been identified as the primary source of long term care assistance for the elderly in many studies documented in the gerontological literature; and that disabled people with a social network able to provide care will make substantially less use of on community based social services (Hunt, 1978). Wenger & St Leger (1992) provide a useful classification of types of support networks.

Although we cannot automatically assume that there is a direct relationship between the size and density of the social network and the amount of support received, there are particular characteristics of the social network which could provide some clues: size, density, intensity of interactions, durability, geographical dispersion, frequency of interaction, homogeneity of members. These variables are reflected in existing measures of social environment: for example, the Social Networks Assessment Questionnaire (Froland et al. 1979), Family Structure and Contact Battery (Shanas et al, 1968), OARS Social Resources Scale (Duke University, 1978); Henderson et al (1983); Social Support (Mor et al, 1992). These generally distinguish the *availability* from the *adequacy* of social networks, where the latter refers to its potential for support, rather than the support actually given.

Simpler approaches concentrate on measures of contact with other people (and perhaps by the amount of informal help actually given, though the latter may not be a good indicator of what is potentially available, or whether carers can reasonably sustain present involvement). The Surrey assessment survey follows this approach.

□ Social support is measured by whether a client had contact with friends or family at least

once a week, in which case they were classed as having had "regular" social contact. If clients were living alone and had social contact less than once per week they were classed as being "alone and isolated".

- Informal care is measured at three levels. First, whether the client was supported by a carer who lived with them in the home. Second, whether the carer did not live in the home, and thirdly, no informal care support provided at all.

A.8 Carers Needs

Recognising the needs of informal carers is a major, recent relevant theme in UK social care. Policy and practice guidance from the Department of Health now encourages local authorities to consider the views of any informal carers when carrying out assessments of older or disabled people, the " preferences of carers should be taken into account and their willingness to continue caring should not be assumed" (DH, 1990, paragraph 3.28).

The burden on carers has been repeatedly identified both in small studies (e.g. Nissel & Bonnerjea, 1982) and national surveys (e.g. Green, 1988): recent reviews include Qureshi & Walker, 1989; Levin et al, 1989.

Respite and day care have been the main resources to help carers (Levin et al, 1994). Twigg (1992) classifies the relationship between carer and client into six different forms of the caring relationship: spouse carers, parental carers, filial carers, sibling carers, child carers and non-kin carers. Issues of choice, expectations and obligation are experienced to varying degrees in different relationships. The underlying theme is that assumptions should not be made about the role and expectations of carers.

Stress is often measured by general purpose instruments such as the GHQ (Goldberg, 1978), but some special purpose measures do exist, such as the Relatives Stress Scale (Greene et al, 1982). In the Surrey assessment survey, it was simply noted whether or not carer stress was a factor.

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