LINCOLNSHIRE PCT

LINCOLNSHIRE PARTNERSHIP NHS TRUST

UNITED LINCOLNSHIRE HOSPITALS NHS TRUST

LINCOLNSHIRE SOCIAL SERVICES

Identifying Alternatives to Hospital for People with Dementia

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REPORT OF FINDINGS

The Balance of Care Group

in association with the National Audit Office

Version 1.0

23 March 2007

Executive Summary

This report presents the key findings from a project undertaken for Lincolnshire health and social care organisations, in conjunction with the continuing National Audit Office value for money study on the impact of dementia of older people in England. The aim of the project in Lincolnshire has been to explore the potential for changes in care pathways for people with dementia, and hence identify potential related changes to service provision across health and social care services.

The central focus of the project was a survey of 863 adult inpatient case notes which took place across Lincolnshire on 29 November 2006. These patients were in a range of places but included all those in:

- medical and orthopaedic beds in acute hospitals (667 patients)
- intermediate care placements in community hospital and care homes (121)
- specialist inpatient beds for older people with mental health problems (OPMH) (75)

Any 'outlier' patients of these specialties were also included. Patients in other surgical, obstetric, psychiatric and paediatric specialties were excluded from the survey, as were day cases.

The validated *Appropriateness Evaluation Protocol (AEP)* instrument was used to assess the need for acute inpatient care both at admission and on the day of the survey. For the community hospitals and care home placements customised protocols were agreed to allow assessment of alternative ways of meeting needs outside the current setting.

Some key findings were:

- 715 out of 863 patients surveyed (83%) were aged 65 or over.
- 111 patients (13%) had a documented diagnosis of dementia. 65 of the 111 patients with dementia (59%) were on acute hospital wards.
- Patients with dementia in OPMH units tended to be younger than those in acute hospital or intermediate care, and have few medical problems.
- There may be significant under diagnosis or under recording of dementia. Possible reasons include a wish to avoid patients being restricted from accessing some care settings, and the incidence of vascular dementia, which may not result in contact with specialist OPMH services.
- Relatively few admissions for people with dementia to acute hospital appeared to be avoidable, however there were a substantial number that fell within AEP criteria but might have been avoidable if admitting physicians had known the medical history.
- The majority of acute hospital patients with dementia (68%) were outside AEP criteria on the day of care. Potential alternative care settings covered the full range of services, both generic and specialist. In most cases the need is for some intervention to ensure these patients are able to access the same care and treatment services outside hospital as people without dementia.

- There was a substantial and unmet need, identified in both acute and OPMH settings, for rehabilitation support that can work with people with dementia, and for EMI continuing care placements.

These findings are compared with those for other health and social care economies in England.

The report discusses the implications of the findings, which need to be taken forward jointly by Lincolnshire PCT, United Lincolnshire Hospitals NHS Trust, Lincolnshire Partnership Trust and Lincolnshire Social Services. An initial stage would be to develop a common view of desirable changes to care pathways, and how to effect them, followed by consideration of resource and capacity implications.

Although the survey included all medical and orthopaedic patients, whether or not diagnosed with dementia, we have not reported here results for the whole survey population. However summary analyses and anonymised source data are being made available to all participating organisations so that related whole system issues can be addressed.

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The Balance of Care Group February 2007

Acknowledgments

The Project Team would like to acknowledge the help and support of all colleagues across Lincolnshire who took part in the bed usage survey.

Particular thanks are due to Jeanne Flanagan and Sarah Jones for providing local administrative support throughout the project.

CONTENTS

1. PROJECT BACKGROUND AND METHODOLOGY

Introduction

The National Audit Office (NAO) is undertaking a value for money study examining the health and social care services available to help older people with dementia and their carers to maintain good physical and mental health for as long as possible. The NAO is addressing the following questions:

- Is there a clear vision and strategy for providing services for people with dementia and their carers?
- At each stage of dementia, diagnosis, community care and long-term care, are current and future needs understood and being met in an integrated, patient-centred way?
- Is the whole system cost-effective?

The study has several simultaneous work streams one of which is the project detailed in this report, an in-depth study of the numbers of people with dementia in a typical range of bed-based care services within a local health and social care economy (excluding long-term care settings). The project has been concerned to provide evidence about current access to services by people with dementia and in particular:

- An assessment of the extent to which admissions could be avoided or length of stay reduced if alternative approaches to dementia care needs were introduced
- Identification of alternative care pathways and services to deliver them
- A description of how the whole system operates and how different services interact with each other
- Evidence regarding good practice

Important issues here are whether appropriate alternative care settings might be identified for future development, and the extent to which people with dementia typically have other, additional co-morbidities and health and social care needs.

The Balance of Care Group, which has expertise in undertaking this type of analysis, was commissioned to undertake this part of the overall NAO work programme in close association with the Lincolnshire health and social care community. This included the Lincolnshire Partnership Trust (LPT), Lincolnshire Primary Care Trust, United Lincolnshire Hospitals NHS Trust (ULH) and Lincolnshire Social Services who have jointly recognised the need for a whole systems approach to redesigning services.

As well as providing data for the overall NAO programme, the project was also designed to provide insight and support for local requirements in taking forward services for people with dementia, particularly in terms of the scope for future service delivery models. This report summarises key findings from the survey with respect to these local issues, and will provide a case study for inclusion in the NAO national report.

The focus of the project was a bed utilisation survey across medical and orthopaedic beds in the four main hospitals of the United Lincolnshire Hospitals NHS Trust; the

three community hospitals run by Lincolnshire PCT and associated intermediate care bed places provided in care homes across the county; and the inpatient beds for older people with mental health problems (OPMH) run at three sites by the Lincolnshire Partnership Trust (see appendix I). The aim of the survey was to identify, for each patient, whether their care needs might have been met in an alternative care setting, either avoiding admission altogether, or through earlier discharge.

For patients in the acute hospitals the survey used a recognised clinical benchmark tool, the *Appropriateness Evaluation Protocol (AEP*) to identify patients whose care needs might not require an acute hospital setting (see appendix II). The protocol was also used (although in a slightly different way) for patients in the OPMH beds in order to try and identify any specifically acute *medical* needs in those settings over and above mental health issues. Similar questions of alternative care settings were investigated in the community hospitals and care home settings (but without recourse to the AEP).

The project was initiated in September 2006 and the bed usage survey took place on 29 November 2006. Workshops to check the interpretation of initial results took place with some of the surveyors in early December. Subsequent discussions on the findings took place with senior managers of participating organisations and a workshop with the local project Steering Group in early January 2007. This was also an opportunity to present extended analyses including data on discharge dates and locations of the survey population.

In this way, survey findings have been subject to extensive discussion and interpretation in a range of feedback sessions, workshops and presentations. These sessions focussed on issues relating particularly to care for people with dementia or related health and social care needs.

The material presented here follows that focus and, unless significant for understanding the differential needs of people with dementia, findings for the overall hospital population are not included. On this we note that overall patient characteristics were similar to populations that we have surveyed elsewhere. Some summary analyses and the source data are also being made available to the various organisations that supported this exercise.

The survey database is rich and can be analysed in many different ways. Results presented here are those we feel contribute most to understanding the potential for change in the current health economy.

Structure of the Report

The report has six main sections, with sections 2-4 covering the main survey results in a series of summary graphs and commentaries. Note that each graph indicates the total number of patients relevant to that particular analysis.

1. The principles and methodology underlying the project. This includes a description of the bed usage survey, which was a key element of the work undertaken.
2. Numbers of people in hospital with dementia
3. Reasons for admission of people with dementia
4. Reasons for continued stays in hospital

5. Comparison with similar surveys
6. Discussion and conclusions

Principles underlying the project

One of the key underlying concepts of this project has been to support the development of a strategy that will improve the appropriate flow of patients through the system of care within the health and social care economy of Lincolnshire. The assumption is that demand in any one part of the system of flow is dependent on the ability of the capacity two stages or more 'upstream' to handle the demand that is presented to it. Reducing delays throughout the system, so that work can flow at the appropriate time, is crucial in optimising the use of resources.

Similarly, if there are deemed to be problems within the current systems, one solution is to widen the scope of the systems to include further stages, and create innovative solutions to those problems. For example, perceived problems at the admission to a hospital may be more efficiently managed through preventative and chronic disease management programmes in the community that prevent people arriving unnecessarily at the hospital 'front door' in the first place.

Figure 1.1 below illustrates these issues generally at key points on the patient flow system. Relative to each element of this flow are aspects and issues that may affect its performance. For example, discharge planning issues might include whether or not there is a good discharge planning culture, or technical factors to do with capacity which might be delaying discharge processes.

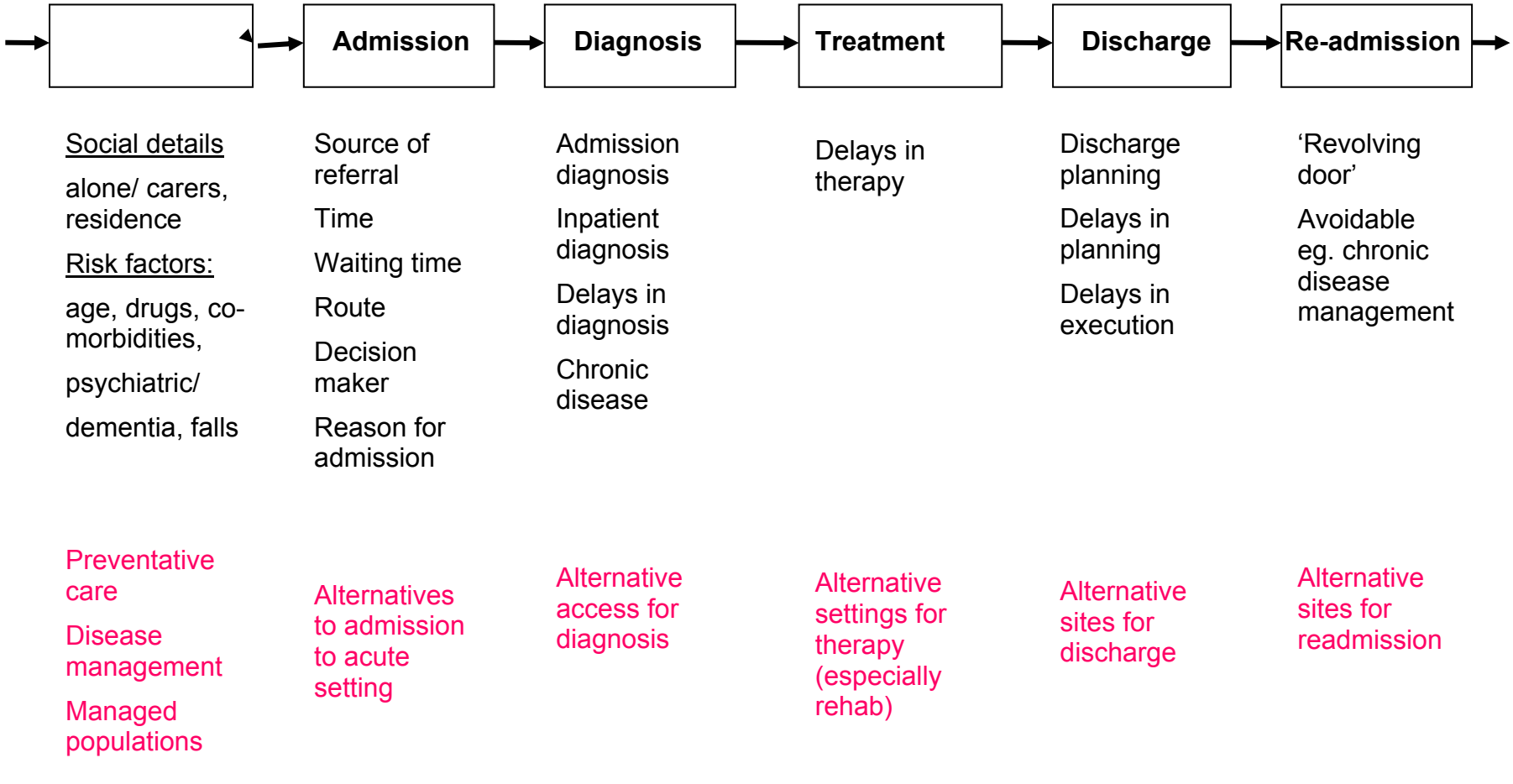
Below each of those aspects, in turn, are potential management action and decision areas that might be considered.

The key to making all of this work is information: knowing what is going on at any one time directly impacts on the ability for managing the entire process. Some aspects of the system are better provided with data than others and a key element of this project has been to obtain, by means of a major bed usage survey, relevant data on the use of beds and the characteristics of patients using them which can then be used to inform issues about the scope of capacity and future service requirements.

With this focus, the underlying principles of this project have included:

- Adopting a whole systems methodology
- Examining the balance between capacity and demand at all stages of the care pathways
- Involving managers, clinicians and practitioners from all the stakeholder organisations.
- Undertaking the project in a manner that facilitates the practical implementation of its outcomes.

Figure 1.1 Patient flow process: a whole systems perspective



The Bed Usage Survey

The main aims of the survey were to:

1. identify alternative services that could prevent admission to - or accelerate discharge from – hospital care, assuming they were fully available.
2. identify factors in the admission process, and subsequent patient management, where patients might be delayed or admissions avoided.
3. involve clinicians and other care professional staff in defining and undertaking the survey, and interpretation of the results.

The involvement of clinicians and other care professional staff took place throughout the process of the project itself including: defining the survey questionnaire to reflect more closely local circumstances and data definitions; undertaking the survey; and in being involved in the interpretation of the results.

Consultation and preparation took place in September and October followed by the survey itself, which took place on a single day (29 November 2006). This included: medical and orthopaedic adult inpatients at the four ULH sites; OPMH beds at the three LPT sites; and intermediate care-specific locations including three community hospital sites and placements within eleven care homes across the county. Non-orthopaedic surgical, paediatric, maternity and acute psychiatric patients and day cases were excluded from the survey.

The overall coverage of the survey was close to 100% of the patients targeted. To date we have not been able to compare with a definitive list compiled from the hospital Patient Administration Systems of patients in hospital during that day. However we have had access to an extract of all discharges and deaths of patients before 23 December 2006 of patients admitted on or before the survey date (significant numbers of patients remained in hospital at that point), and there is a good match to survey data, once corrections for mis-recording of IDs, and variable use of IDs is taken into account.

Figure 1.2 summarises the locations of patients surveyed and the numbers of available beds reported (for more detail see appendix I). In most cases any large difference can be explained in terms of particular operational issues on the day. For example, the Gainsborough hospital ward was not as full as expected due to recent ward renovation work having reduced its capacity in the days before the survey. At Lincoln County hospital, one ward was closed to new admissions in the days immediately prior to the survey which, in turn, accounted for its low occupancy on the survey day.

One care home with four intermediate care home places (‘Cedars’ at Bourne) was omitted from the survey on the day due to pressure of time on the surveyors as a result of large distances to travel and traffic congestion.

	Patients surveyed	Available beds
United Lincolnshire Hospitals:		
• Lincoln County	270	288
• Pilgrim	226	261
• Grantham	110	119
• Louth	61	72
Lincolnshire Partnership Trust		
• Witham Court (Lincoln)	39	41
• Manthorpe Centre (Grantham)	16	20
• Rochford Unit (Boston)	20	20
Lincolnshire PCT hospitals		
• Gainsborough	12	21
• Skegness	27	36
• Welland (Spalding)	19	25
Care homes		
• Bonner House	6	6
• Bunkers Hill	6	8
• Crowtree House	2	6
• Halmer Grange	6	8
• Harrison House	11	12
• Halmer Lodge	7	8
• Ingelow Manor	8	10
• Linelands	10	15
• St Andrew's	4	4
• Cedars, Bourne	0	5
• The Cedars, Gainsborough	3	3
TOTAL	**863**	**988**

Figure 1.2 Number of patients surveyed by site

Survey Methodology

The survey form was centred on the *Appropriateness Evaluation Protocol* (AEP), an instrument which provides criteria for evaluation of current care practice. Originally developed in the USA, it has been adapted for use in the UK and Europe and been validated and found to be reliable tool [1, 2]. The Balance of Care Group has experience over recent years of employing it in several local health economies across the UK.

The AEP enables an analysis of the reasons for *admission* as well as those for *continuing stay* in an acute care setting against a range of criteria for judging the appropriateness of that setting for individual patients in terms of the acuity of their condition or treatment requirements (see appendix II).

For the acute hospital survey sites, the AEP formed the core of the survey form around which other questions sought information about potential alternative care settings - whether they were currently available or not. This was a crucial assumption as the survey was being used to identify *potential demand* for alternative services – irrespective of whether or not they currently exist. Of particular interest in this survey were alternatives for people with dementia. Definitions of the alternatives specified on the survey form are provided in appendix III.

The AEP was also used on the survey form for the OPMH inpatient sites but with an important difference in its application to acute sites. In the latter, surveyors did not identify alternative care settings if patients met either admission and/or day of care criteria. In the OPMH settings, however, surveyors recorded AEP criteria for patients but, irrespective of whether or not they were found, they were asked to identify relevant alternatives to admission and day of care for every patient. The AEP was being used in these locations to identify any substantial medical conditions alongside mental state conditions.

The AEP was not employed in the survey of the community hospital and care home locations because it does not identify patients admitted specifically for rehabilitation purposes or sub-acute care (the usual form of care provided in these settings). Building on work that the Balance of Care Group has undertaken in other survey sites, a modified version of the survey form - which explicitly recognised this type of patient - was employed for these sites. This questionnaire still asked about the type of care for which the patient had been admitted (and whether this could have taken place in an alternative setting), and whether care the patient was currently receiving might be carried out in an alternative setting. As there were no equivalent benchmark AEP criteria, the potential for alternatives was sought for *all* patients irrespective of admission or continuing care reasons.

Apart from these variations on the use of the AEP instrument, all other data items collected on all survey form variations were identical. This meant that, where relevant, analyses could be carried out across the entire survey population, as well as for the respective acute, community and OPMH sectors.

As well as identifying patients that were potentially suitable for alternative care settings, the survey also recorded data on:

- when - and by what referral route - the patient was admitted to the hospital and who admitted them.
- reasons for admission; co-morbidities; and any individual risk factors (for example, whether the patient was on a multiple drug therapy or lived alone).
- mental state (dementia; confusion; psychoses; anxiety/ depression; substance misuse)
- whether the patient had a discharge plan and any reasons which appeared to be contributing to delays to their care process (irrespective of the patient being medically fit for discharge at the time of the survey).

Key messages from these data are presented in sections 2-5 of this report.

Following the survey and initial analyses of the data, a results interpretation workshop was held at which initial survey findings were presented to surveyors for discussion and clarification of any issues that had arisen in completing the survey forms.

Comments from these sessions and other feedback supplied by surveyors on the day are reported in appendix IV.

Surveyor training

The involvement of local care professionals in the survey process was crucial to its success. Some 67 care professional staff undertook the survey; coming from both acute and community backgrounds, and spanning medical, nursing and therapy professions (see appendix V). All surveyors underwent specific pre-survey training, which was fundamental to the conduct of the survey. It covered the survey aims and explained in detail the survey form and how it was to be completed.

Several elements of the data to be recorded – particularly those related to the interpretation of whether the patient met AEP criteria – relied on the surveyor's professional ability to abstract relevant data from the patient notes and, where appropriate, judge the potential for appropriate alternative care settings based not on their knowledge of existing services or facilities, but on alternative *care processes*. Thus 'non-acute bed' as an alternative to acute care could signify a range of potential locations (eg. community hospital or care home) while 'specialist nurse' could be specified in relation to the diagnosis of the patient (eg. specialist in COPD or diabetes). All of these could be assumed to be available alternatives; surveyors were asked to ignore any existing resource constraints when identifying alternatives as the aim was to identify *potential demand* for future service configurations and investment.

Wherever possible surveyors were allocated to areas they did not normally work in (for example, to a community hospital when they normally worked on an acute ward or, if they remained on their usual hospital site, a different ward area). This enabled a more objective perspective to be taken of the information available from the patient notes.

Several surveyors also took part in subsequent 'results interpretation' workshops which provided a means of cross-checking how they had interpreted the survey questions on the day.

Data and confidentiality issues

Approval was sought and obtained from the Caldicott Guardians responsible in each of the participating organisations. Data for the survey were abstracted from each patient's medical, nursing and therapy notes. All patient-specific data were anonymised prior to entry onto a structured 'Access' database by Balance of Care Group analysts. All surveyors and project team members signed a data confidentiality form designed for the project.

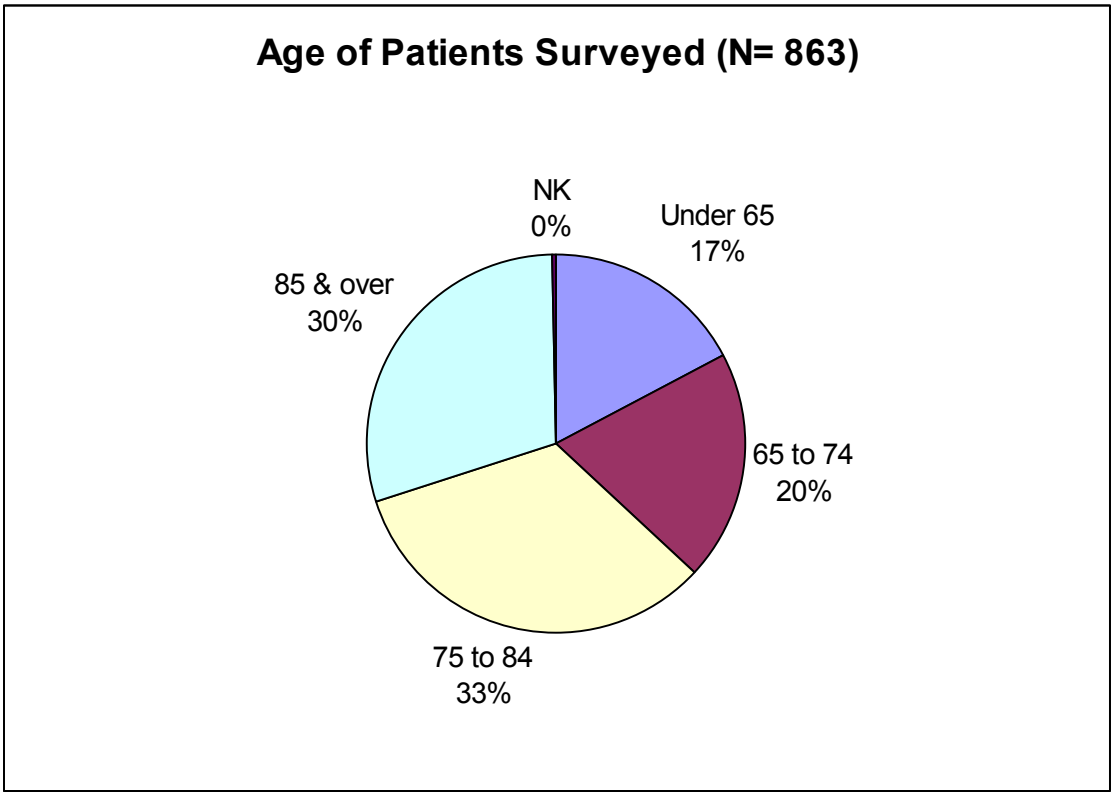
The survey data were linked to the hospital and community PAS systems through the patient's hospital number. This enabled data on patients' PCT to be obtained and, a few weeks after the survey, key data to be added on date and destination of discharge, if this had subsequently occurred. The reason for this follow-up was to obtain information on lengths of stay of the survey cohort and to 'fine-tune' the implications for developing potential alternative care capacity estimates.

SECTION 2: NUMBERS OF PEOPLE WITH DEMENTIA IN HOSPITAL BEDS

Each figure in this section is accompanied by a more detailed commentary, but key points are:

- The average age of all patients surveyed was 76, and 83% were aged over 65. OPMH patients tended to be in the younger 65+ age bands, with very few aged over 85. (figs 2.1, 2.2)
- Various risk factors may predispose patients to hospital admission and continuing stay. Many acute and intermediate care patients have multiple comorbidities. However, this tended not to be the case for OPMH patients, who also had few mobility problems (fig 2.3).
- The proportions of all acute patients falling within AEP criteria were similar to the levels found in other UK studies: 16% were outside AEP admission criteria, and 49% day of care criteria (fig 2.4)
- For OPMH patients use of the AEP protocol indicated that most are 'medically fit', so that the focus of their treatment can be their mental and cognitive function (fig 2.4).
- 111 of the 863 surveyed (13%) were identified as having dementia. Further review of the survey data identified a further 30 patients at 'high risk' of dementia, although the diagnosis had not been identified in the case notes. Many dementia patients in acute hospital beds had behavioural problems requiring prompting or constant supervision (figs 2.5 – 2.9).
- Many patients with dementia have other co-morbidities and most of these patients are in acute care rather than OPMH settings (figs 2.10, 2.11).
- There is a range of mental health assessments used for patients across the county. However it appears that some assessments may not be readily identifiable from hospital case notes, with implications for care delivery. (figs 2.12 - 2.15).

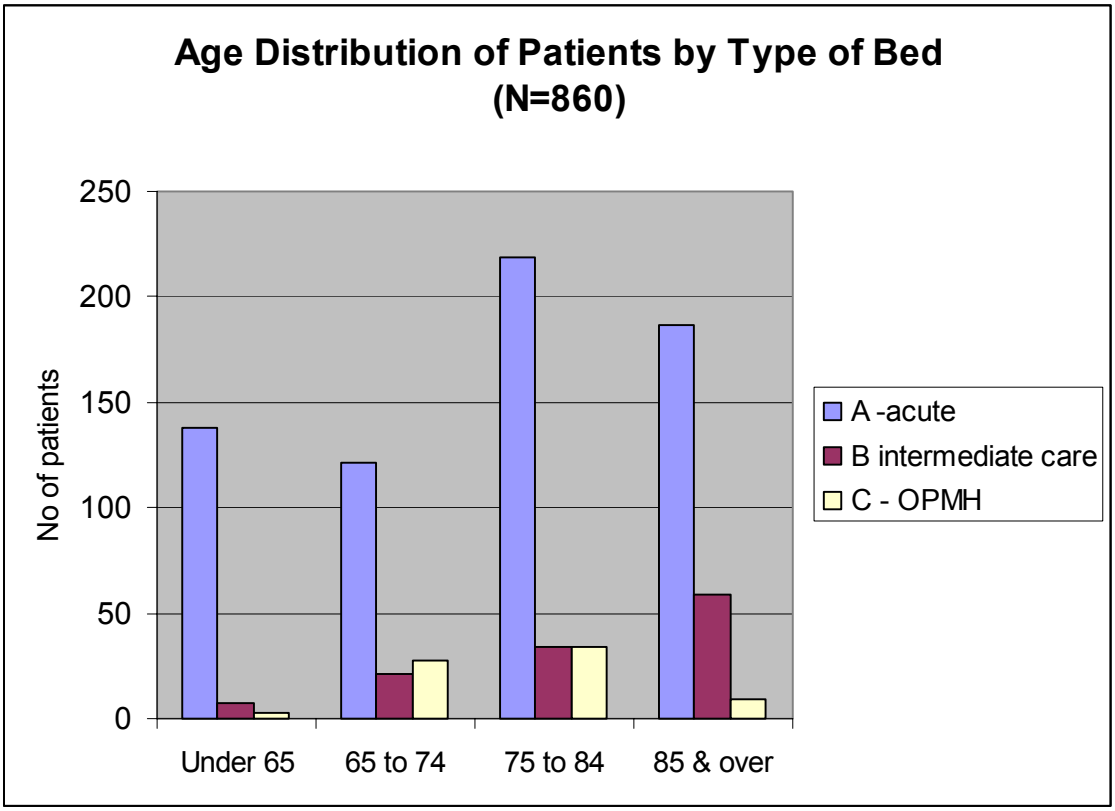
Figure 2.1



Over 80% of all the patients surveyed were aged 65 years and older, and 63% of them were over 75 years old. The average age was 76.

This age profile, weighted towards older age groups, is to be expected given the wards included in the survey. Older patients are more likely to be admitted to hospital, and have longer lengths of stay. The combined effect of this is that even in acute hospitals the majority of patients in beds are in older age groups.

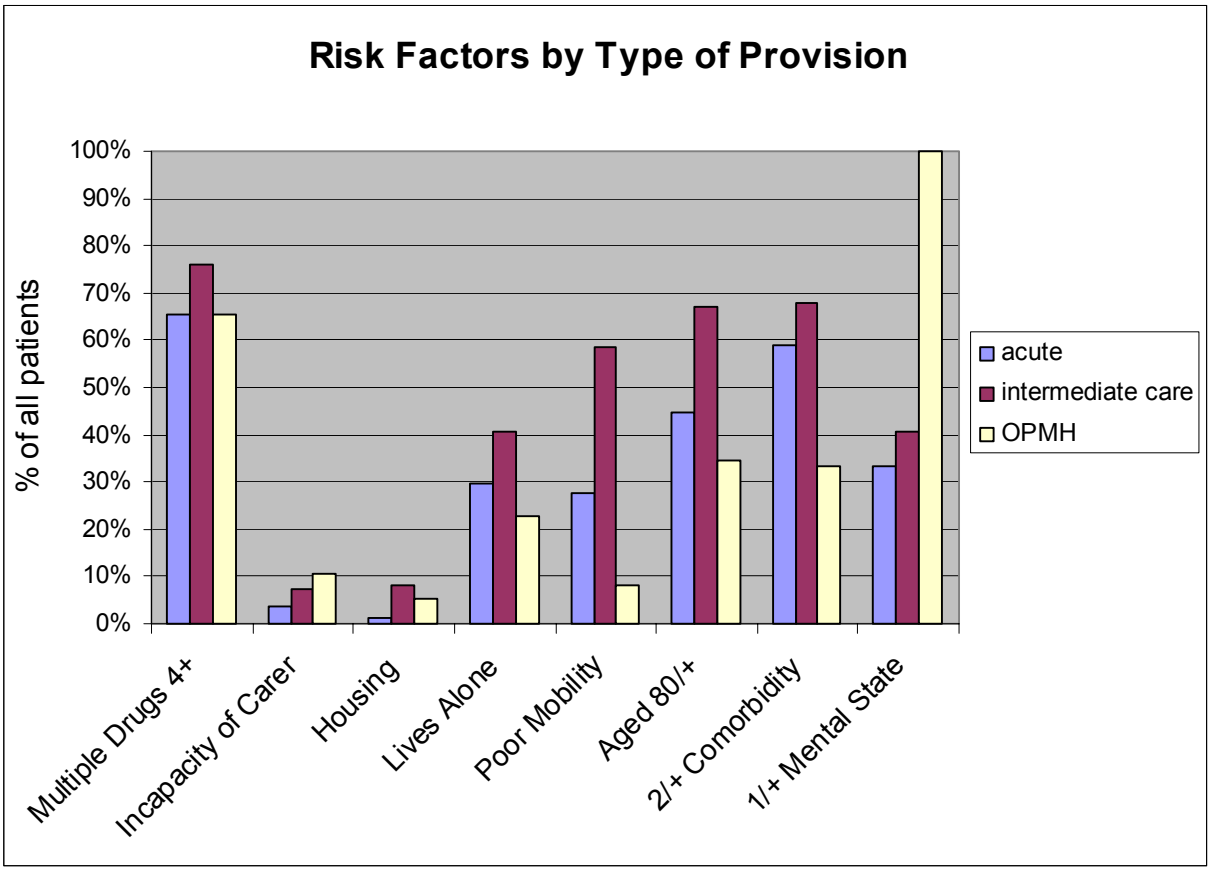
Figure 2.2



The distribution by age varies across type of bed provision. As might be expected patients in intermediate settings tend to be older, with nearly half aged 85 or above.

Of particular note however are the ages of patients in OPMH units, the majority of whom are under 85: this is an indicator of the way these specialist units focus on working with patients at a relatively early stage of their condition, and patients are expected to move on to other forms of care in due course.

Figure 2.3

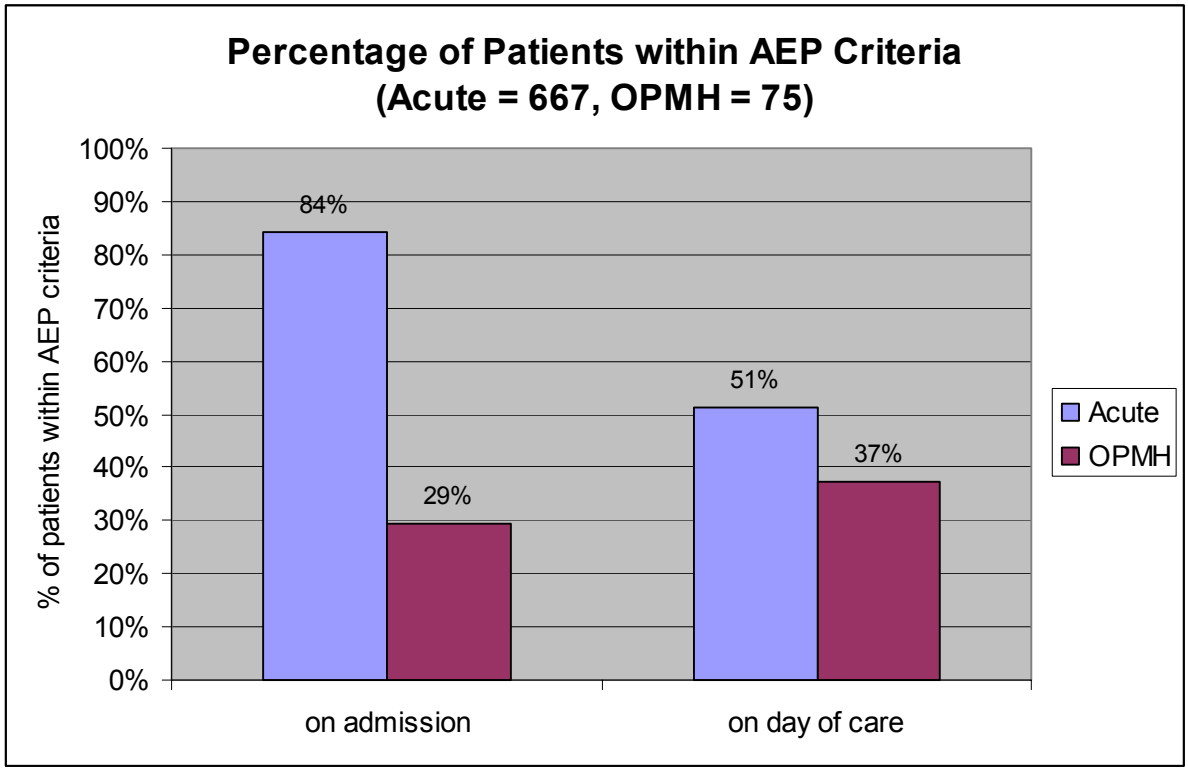


'Risk factors' are defined as circumstances which are likely to have a bearing on admission and discharge processes for patients. These include the patient's age, co-morbidities and number of medications they are on, but also wider social circumstances which may affect their ability to live successfully in the community, for example whether they live alone, have poor mobility, or have a carer who is currently incapacitated. Presence of these factors - and an individual patient may have more than one of these - may increase the propensity to admit a patient in order to minimise their risk, or make it more complex and often, therefore, slower to organise discharge arrangements.

Many patients are on four or more medications – this is not unusual and reflects current practice in modern drug therapies to treat different co-morbidities such as heart failure. Incapacity of carer (whether due to medical circumstances or stress-related/ unable to cope) was not particularly significant, but proportionally more so for OPMH patients (who are also less likely to be living alone).

Overall 59% of patients had 2 or more comorbidities, indicating the presence of long term conditions and possible issues of frailty. There are relatively fewer patients with two or more co-morbidities in the OPMH settings – indicative of fewer 'frail' patients and more focus on treating mental rather than physical conditions. Less than 10% of these patients have mobility problems.

Figure 2.4



The AEP criteria were only applicable to patients surveyed in the acute hospital (ULH) beds and OPMH beds (LPT). There are two sets of criteria: one set relate retrospectively to the patient's admission; the other to the condition and care requirements on the day of the survey.

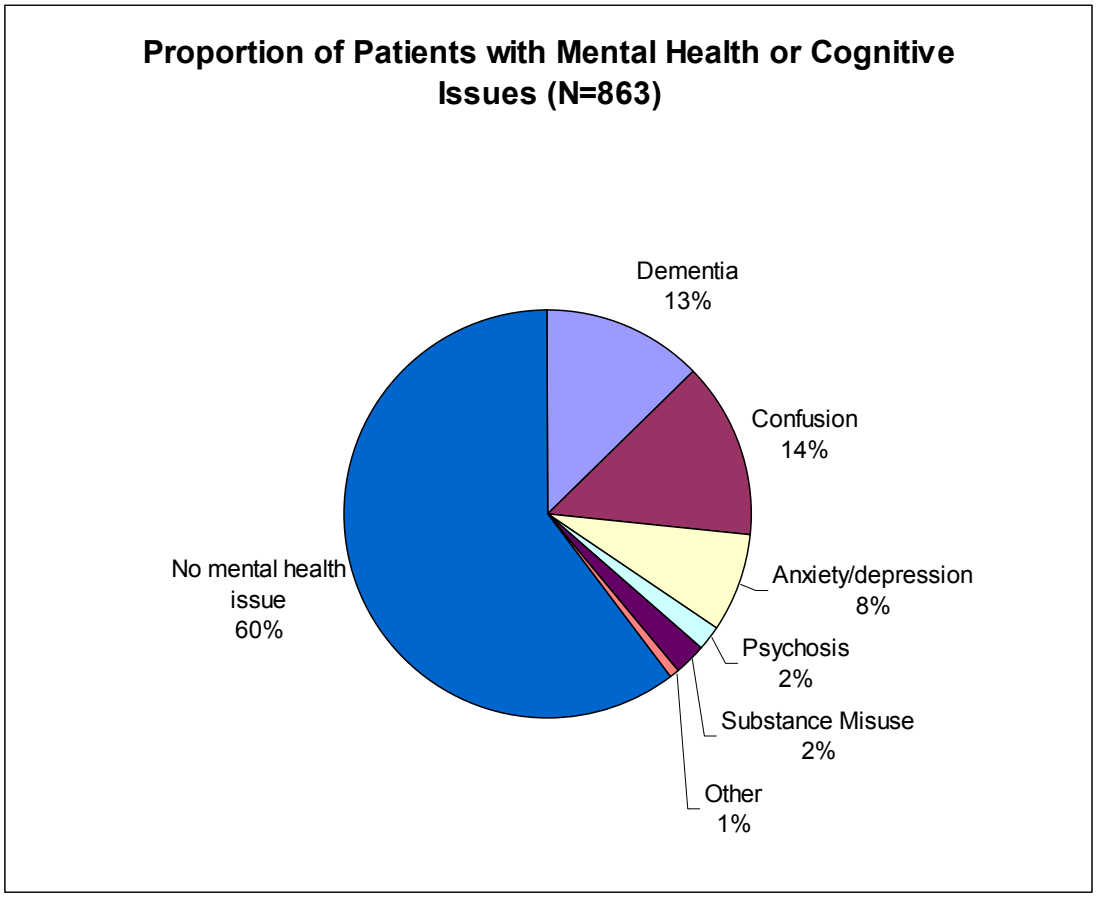
The percentages of ULH patients falling within either set of criteria is not atypical when compared to other UK studies covering medical and orthopaedic beds: 16% were outside AEP admission criteria and 49% day of care criteria.

Note that this does not imply that 16% of *all* admissions would be outside AEP criteria: within a point prevalence study the patients surveyed will be disproportionately those with longer stays, and as shown above they will tend to be frailer older people with complex health and social care needs, and more likely to be admitted outside AEP criteria.

In addition 49 patients (7%) were admitted to ULH acute sites within AEP criteria, but the only identifiable reason was intravenous therapy.

The application of acute care criteria to the OPMH patients was to establish the level of medical needs over and above any needs associated with the patient's mental condition. The figures indicate much smaller proportions of patients meeting either set of acute care criteria – in the majority of cases the AEP criteria selected related to the patient's consciousness or confusional states, suggesting that very few patients had 'mainstream' medical conditions. This reflects the local care model which focuses on providing a mental health care and not primarily treatment for other acute conditions.

Figure 2.5



Patients could be recorded as more than one mental state in the survey. However, for analytical purposes only one mental state per person has been used. Where patients had more than one mental state recorded they were classified into a single category using the following priority rules:

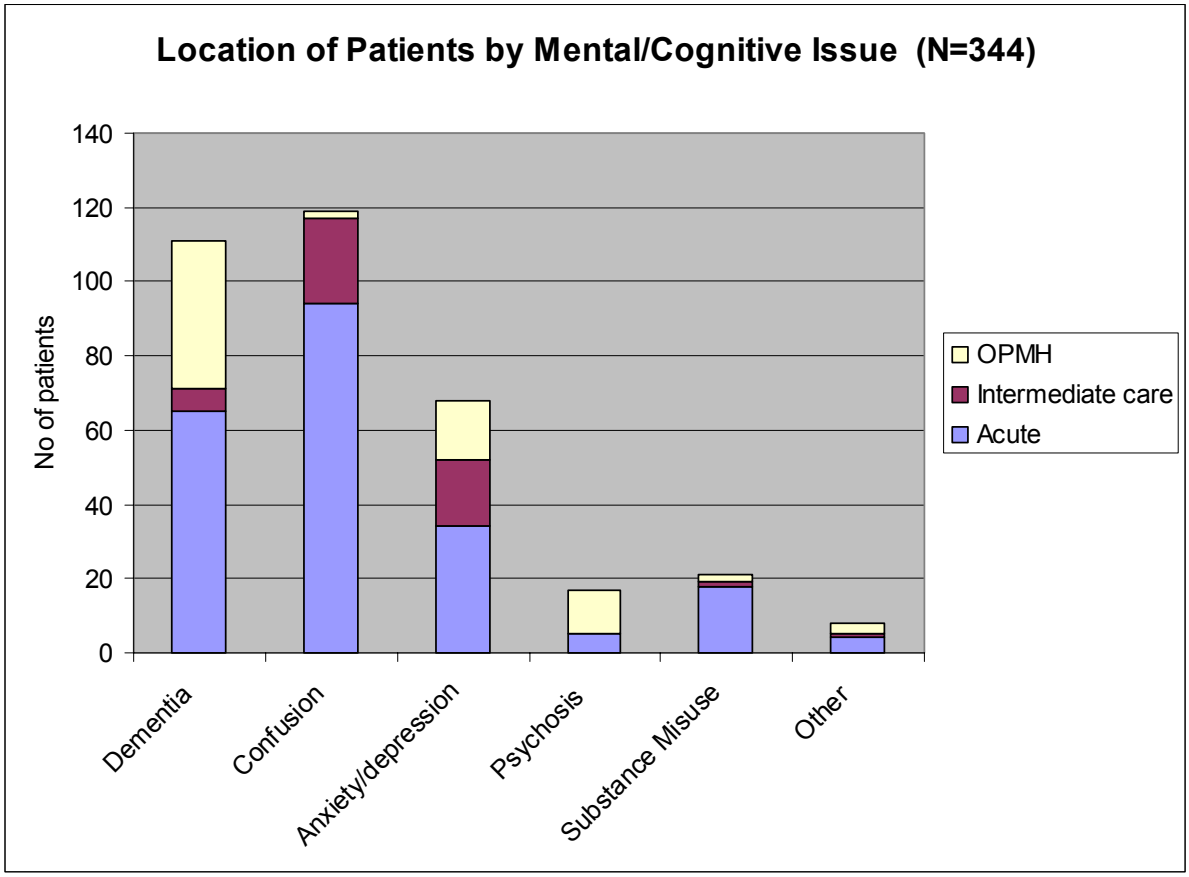
1) dementia
2) substance misuse/ psychosis
3) confusion
4) anxiety/ depression

111 patients (13%) had a dementia diagnosis recorded in the notes. Altogether 40% of all patients had a mental heath or cognitive issue identified from the notes.

Of particular note here are the 14% of patients who had some mention of confusion, without any dementia diagnosis being identified. Whilst acute confusional states ('delirium') are commonplace in patients admitted with infections or other toxic conditions, most will stabilise within a few days of admission, thus continued confusion may be an indicator of dementia. The majority of surveyors did not have a mental health training background and tended to be conservative in recording these assessments; looking for a clear record of dementia in the notes rather than attempting to piece together that diagnosis from circumstantial evidence (for example, based on medication or co-morbidities). This approach was adopted throughout, but we have subsequently reviewed the data on confusion to identify patients at 'high risk' of having dementia (see figure 2.15).

Typically it is difficult identify the presence of anxiety and depression from inpatient case notes and it is likely that the recorded levels understate the actual prevalence. As this is outside the immediate concerns of this project, we have not investigated this issue further.

Figure 2.6



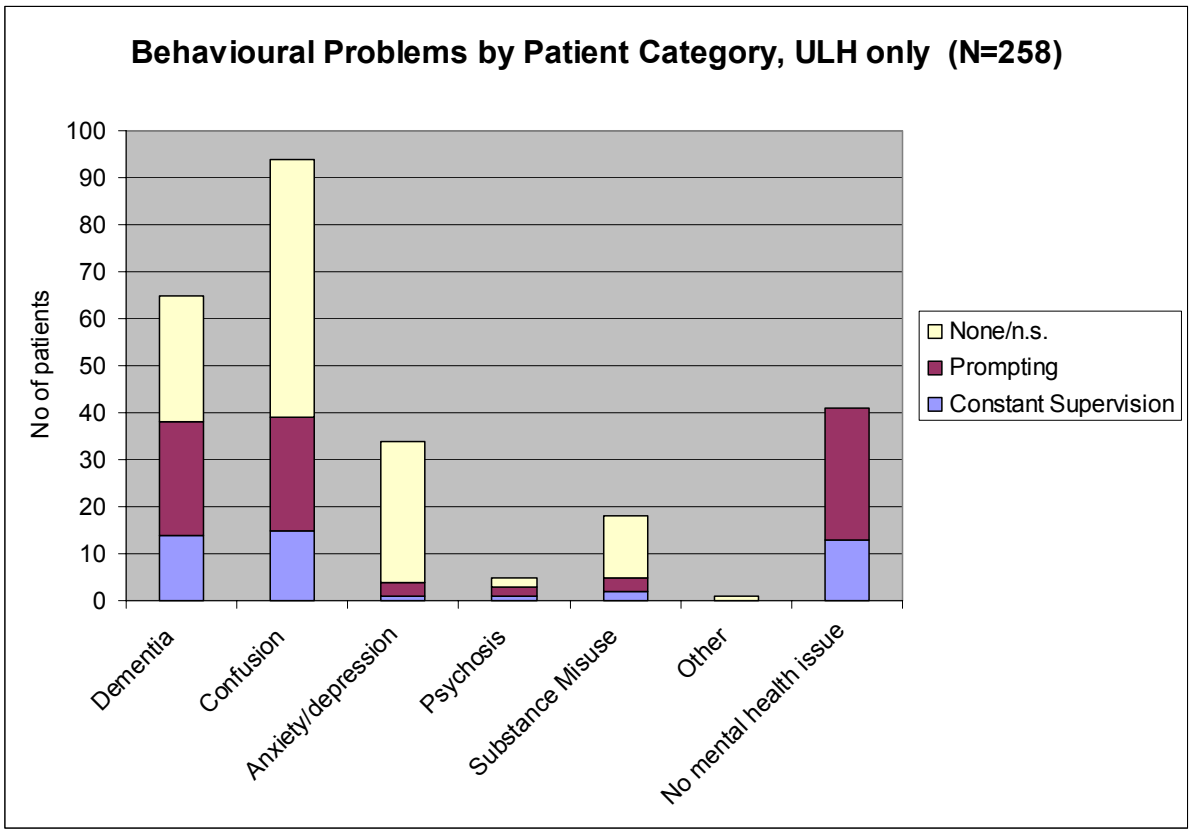
This graph shows the number of people by type of mental health/cognitive issue in each type of bed.

The greatest number of identified patients with dementia are in acute hospital settings (65 out of 111). A further 40 patients out of the 75 in OPMH were diagnosed with dementia.

Only 6 patients with dementia were identified in intermediate care settings, five of these in community hospitals, the other in a care home. Although there is no formal bar to access to intermediate care for people with dementia, in practice the emphasis on relatively rapid access to rehabilitation services, or a period of recuperation, militates against more complex dementia patients with multiple comorbidities.

However 23 out of 105 intermediate care patients were assessed as confused, indicating the possibility that some might have undiagnosed dementia, or the diagnosis had been withheld to avoid prejudicing access to rehabilitation.

Figure 2.7



Behavioural problems identified here reflect care or supervision requirements in acute hospital (ULH) settings only. As might be expected, a greater proportion of dementia patients require prompting in undertaking tasks or constant supervision. The latter is particularly required when the patient is physically mobile and has a tendency to wander.

Of interest are the numbers of patients with confusion who require supervision or prompting. The numbers are very similar to those for dementia.

Note that there are also patients identified as requiring prompting or constant supervision who do not have an identified mental health condition – these are typically patients with severe medical conditions (requiring high levels of nursing supervision) or people recovering from, for example, strokes.

Equivalent counts of behavioural issues in intermediate care and OPMH settings follow (figures 2.8 and 2.9). For intermediate care a majority of the patients with confusion were also identified as requiring additional supervision.

Figure 2.8

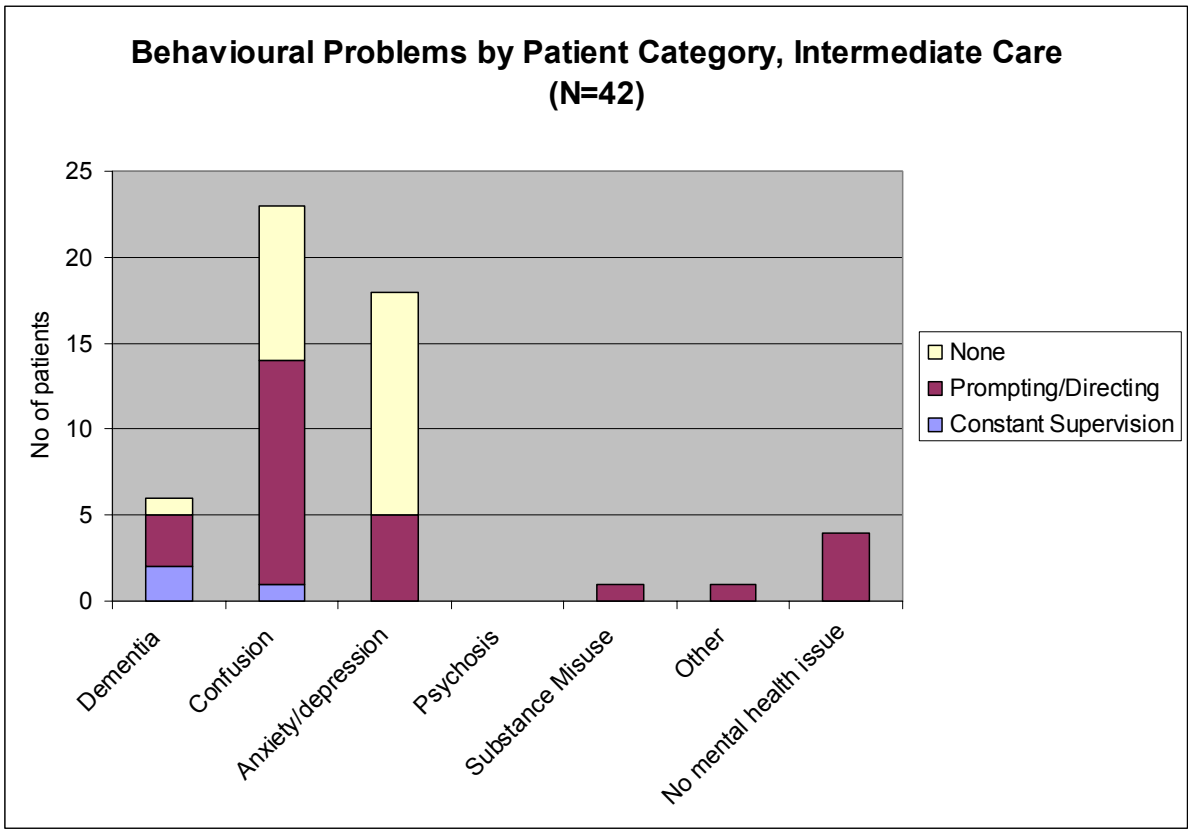


Figure 2.9

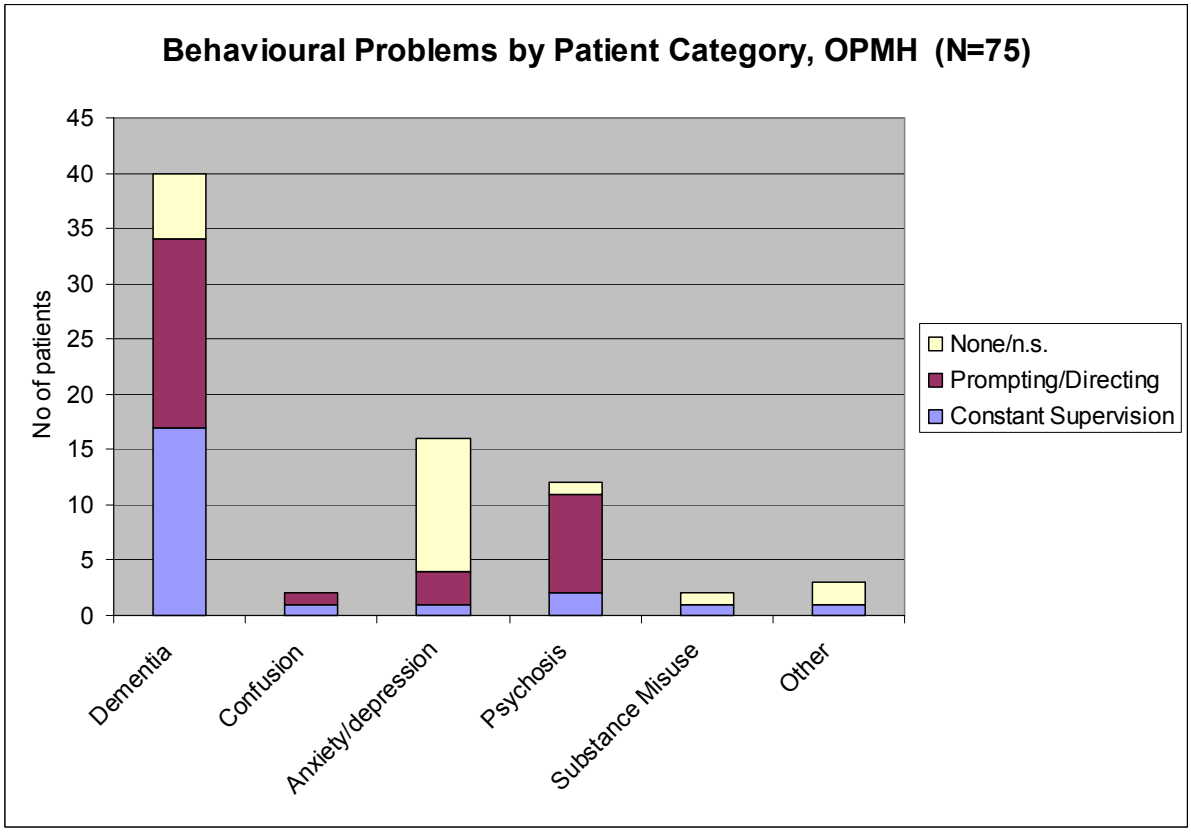
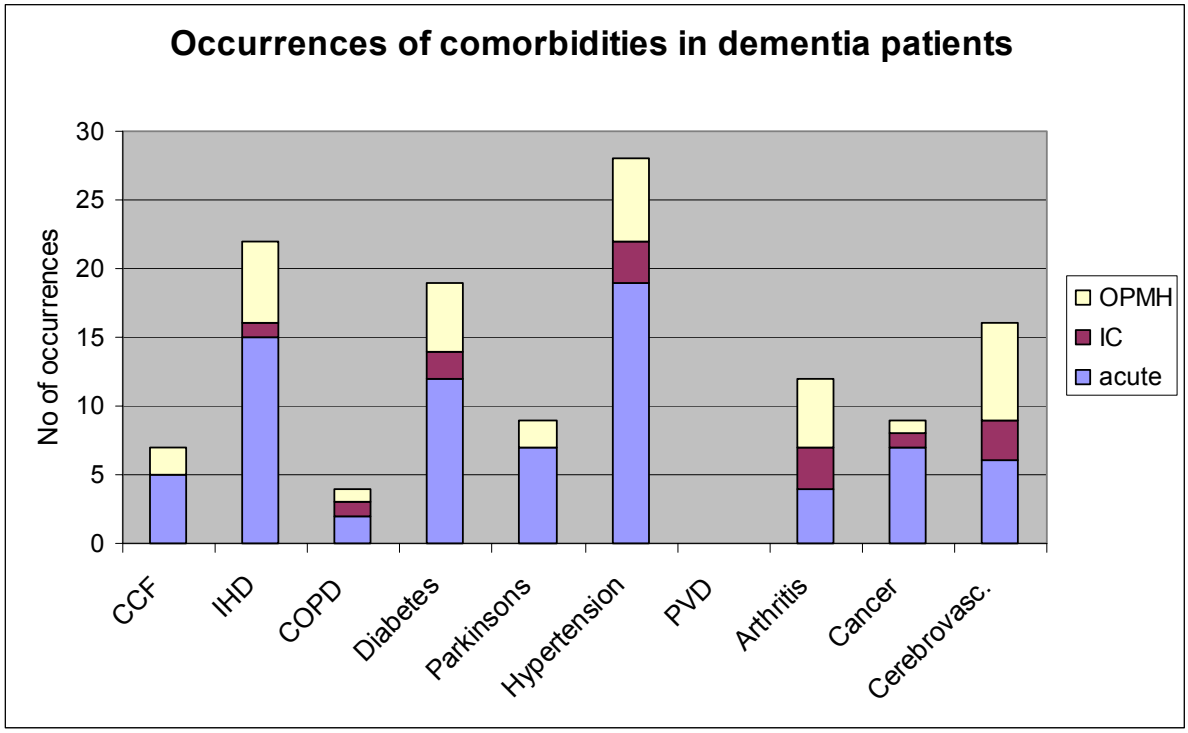


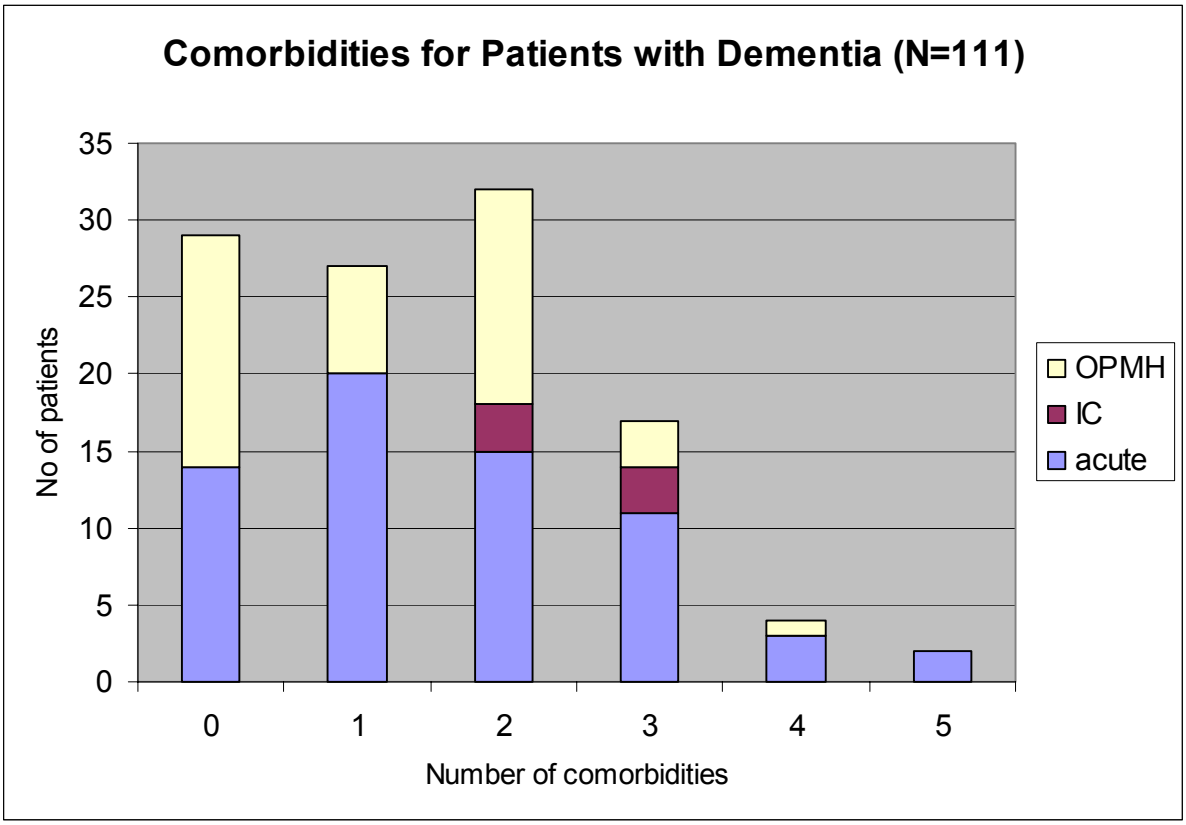
Figure 2.10



Many older people with dementia also have one or more co-morbidities – especially circulatory conditions such as hypertension and ischaemic heart disease. Altogether 126 comorbidities were identified across the 111 patients with dementia, 77 in the 65 patients in acute beds, 35 in the 40 patients in OPMH beds.

43 out of the 65 patients in acute beds (66%) had at least one of the four most common comorbidities: hypertension, diabetes, ischaemic heart disease and cerebrovascular disease.

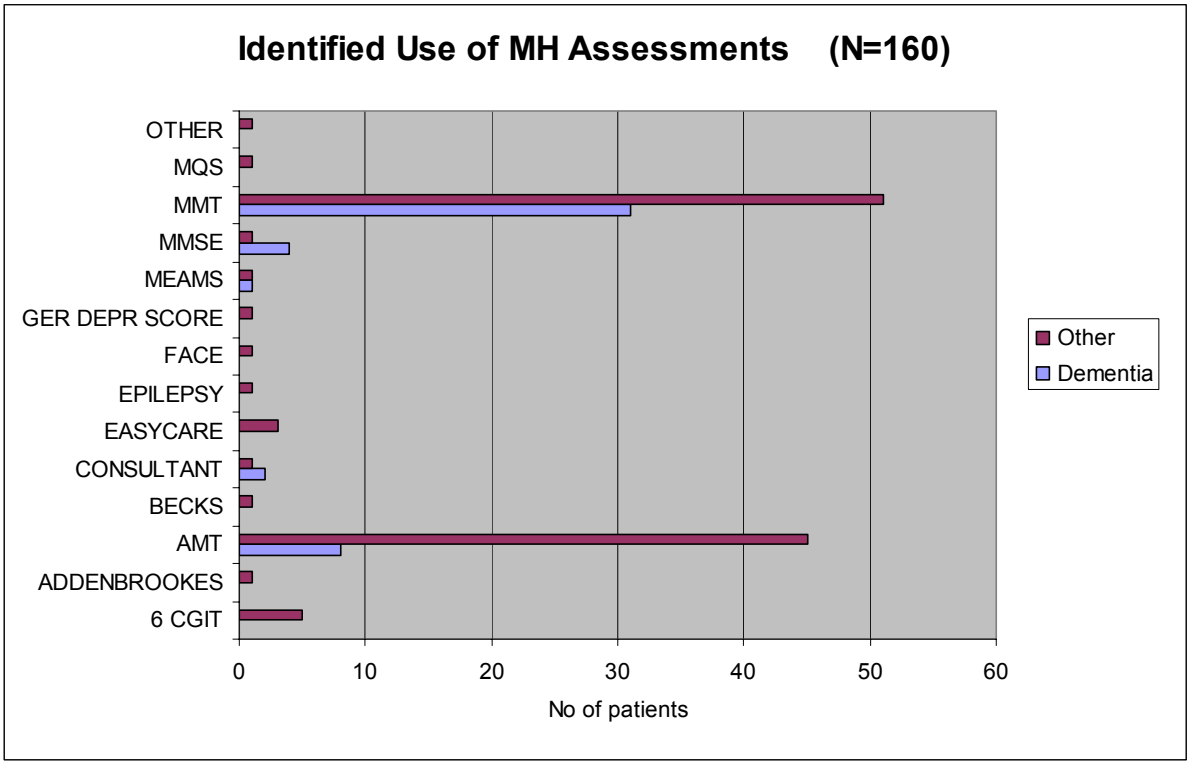
Figure 2.11



The comorbidities are not evenly spread across patients with dementia. Over a quarter have no comorbidities at all, especially amongst the OPMH patients, again highlighting that this service is not organized to support the more complex frail patients.

The six people with diagnosed dementia in intermediate care each have two or three comorbidities.

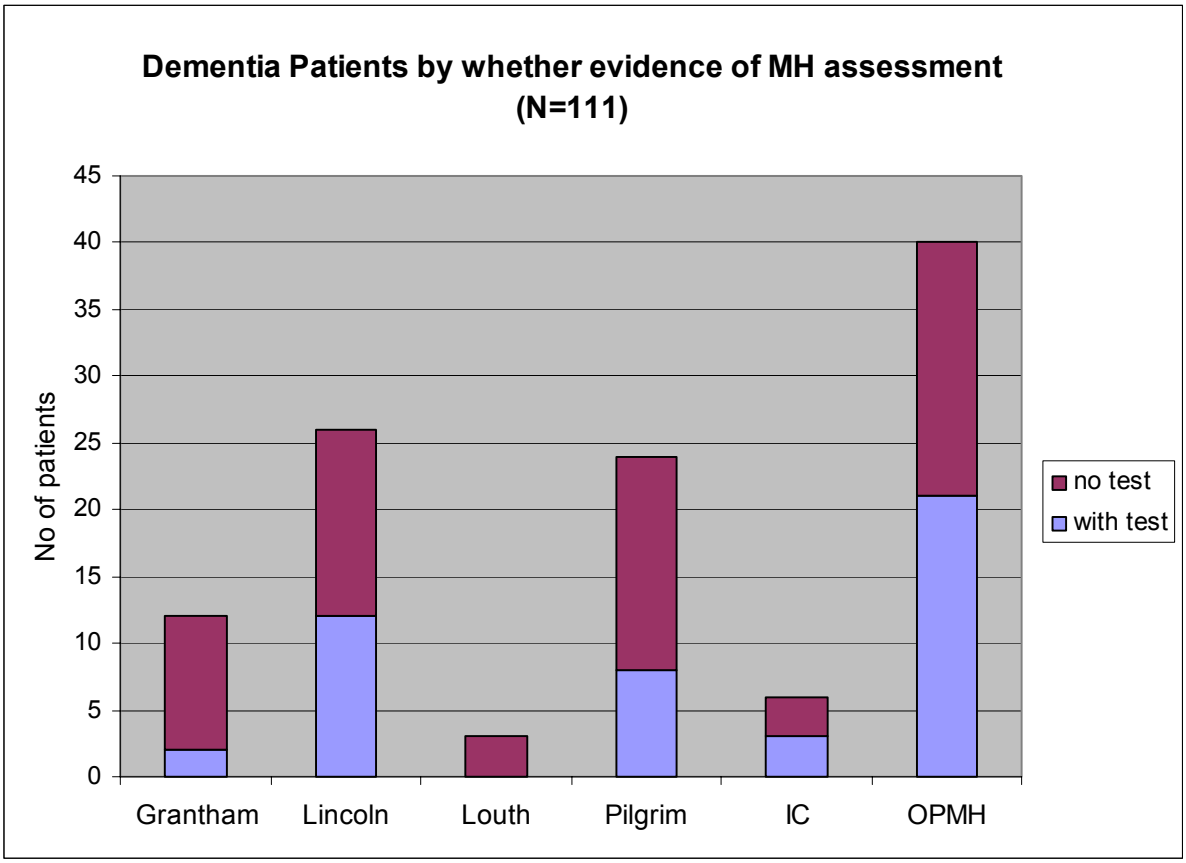
Figure 2.12



Surveyors were asked to record any indication they could find in patient notes of a mental health assessment having taken place (whether this was partial or in full). A range of different scores appear to be used, with the Mini Mental Test (MMT) and Abbreviated Mental Test (AMT/ Hodkinson) being the most common.

Altogether an assessment was only identified for 46 out of the 111 patients with dementia, and it is likely that some assessments were not identified because either a standard proforma was not used (the key findings being incorporated in other medical notes) or the proforma was not held with the main notes this may be a factor in the lack of Easycare assessments found.

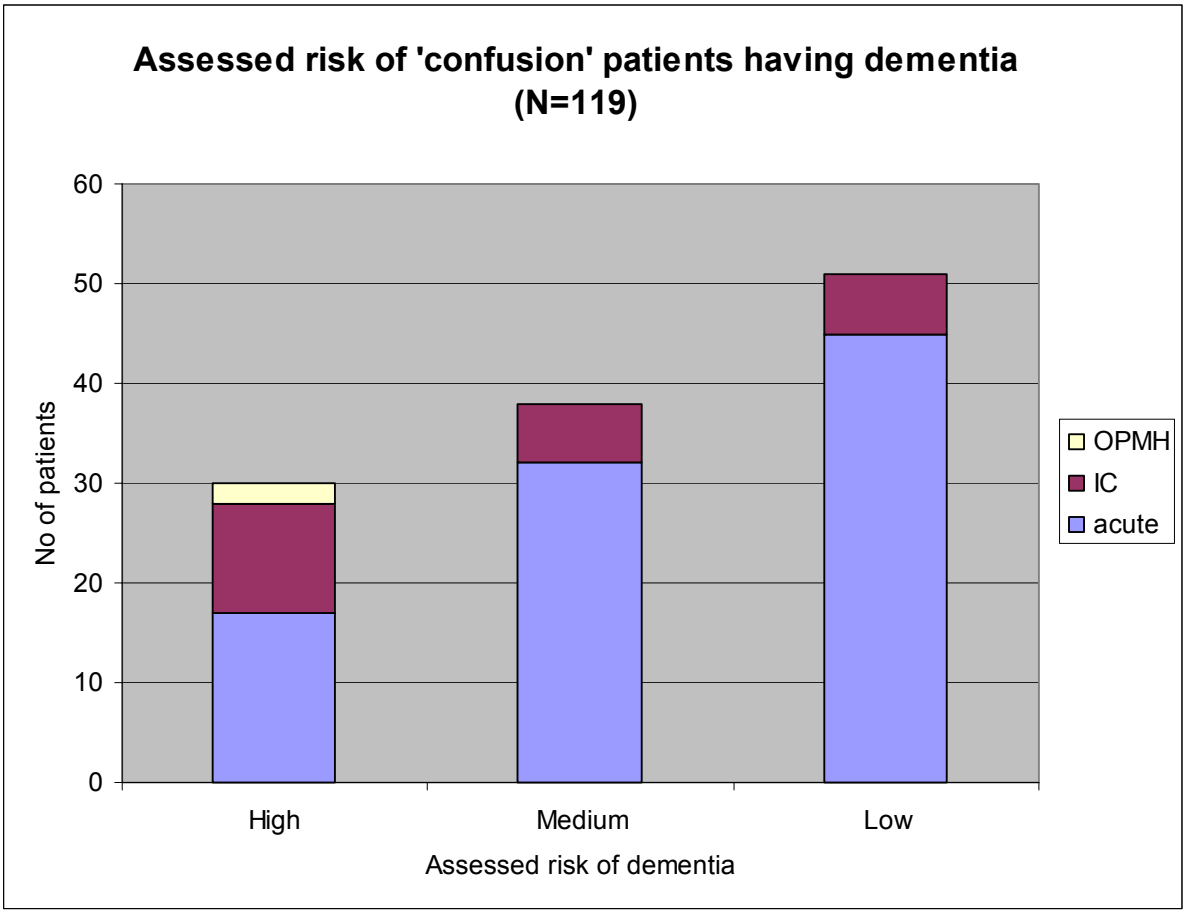
Figure 2.13



The lack of documentation has been further explored by looking at the situation by individual hospital site for the 111 patients with dementia diagnoses. Here the lack of documentation found - even in hospitals such as the Pilgrim known to have a more thorough approach to assessment - suggests that the organization of notes could be improved to ensure that generalist staff can readily access mental assessment.

It is likely that similar issues apply to the use of the Single Assessment Process (SAP, implemented through EasyCare).

Figure 2.14



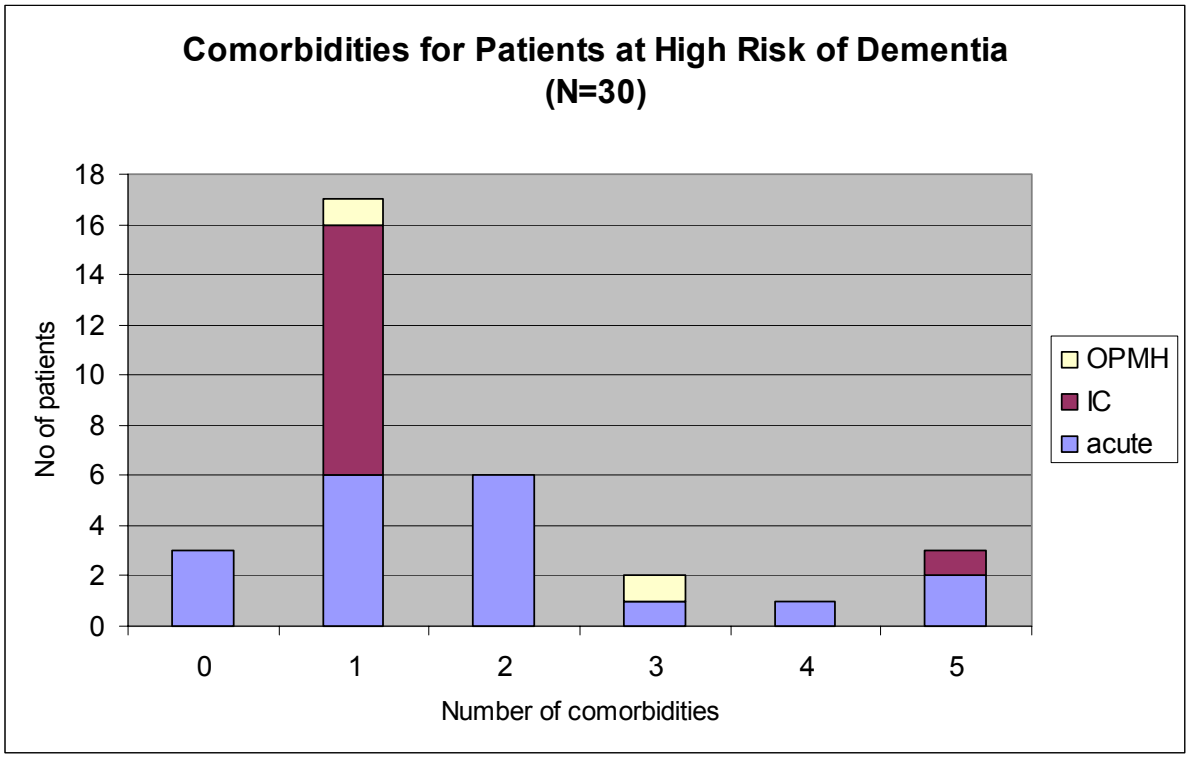
The incomplete nature of the mental assessment documentation, coupled with some of the data regarding behavioural characteristic of patients indicated that there might be substantial numbers of patients with dementia that had not been diagnosed, or the diagnosis omitted from hospital notes. In the latter case there was some anecdotal evidence that diagnoses were not recorded if this was likely to prejudice the patient's subsequent placement.

We therefore reviewed all 119 patients with mention of confusion, and classified them into groups at high, medium and low risk of having dementia. This was based on:

- Age
- MH Assessment scores
- Potentially linked comorbidities eg vascular disease
- Confusion on admission that was still present on the day of care
- Whether the confusion could have a toxic cause eg UTI

Altogether 30 patients fell into the 'high risk' category: most of these patients would be given a dementia diagnosis on the basis of the available data alone. It is probable that some of the medium risk group would also be diagnosed with at least moderate dementia.

Figure 2.15



Of the 30 'high risk' patients, eleven were in intermediate care. This included three in Bunkers Hill and two in other care homes with the remainder in community hospitals including four in Skegness.

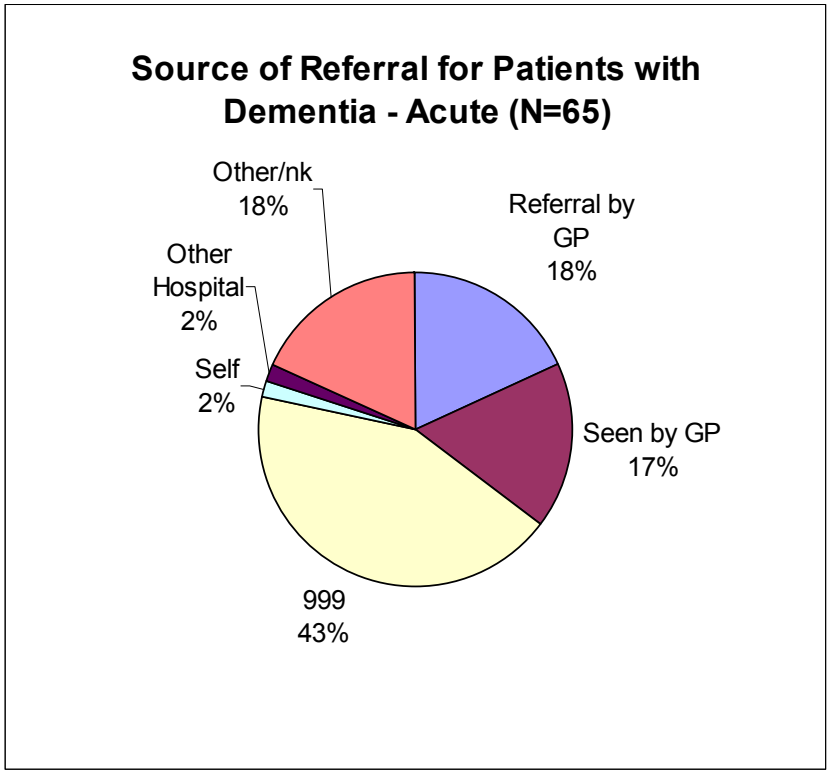
Curiously, all except one of the intermediate care patients had only a single comorbidity, with a range of different conditions reported. This suggests that patients in the high risk group may be cleared for intermediate care referral if it is felt that wider frailty issues are not too unmanageable.

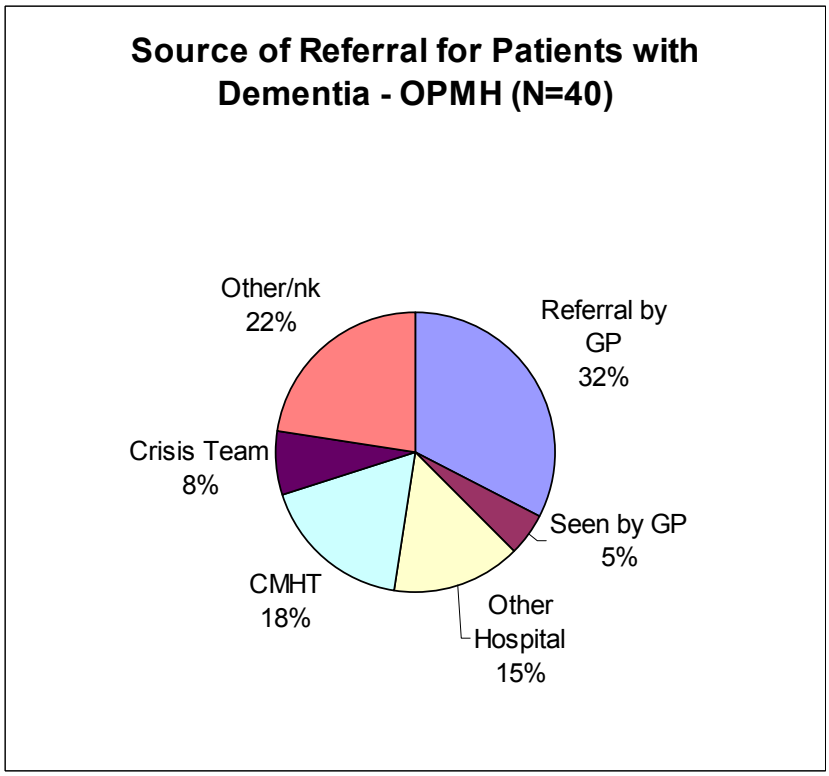
SECTION 3 ADMISSION ROUTES FOR PEOPLE WITH DEMENTIA

Key points are:

- Referral routes into acute beds for dementia patients are similar to those for patients without dementia or mental health issues (fig 3.1).
- For patients with a mental health issue, acute admissions are driven by medical rather than those mental health needs, although there may be some admissions of patients with dementia which might be avoidable if the dementia diagnosis was known (figs 3.2, 3.3).
- Although the numbers are small, surveyors suggested a wide range of potential alternative care settings to acute admission for dementia patients. (fig 3.4).

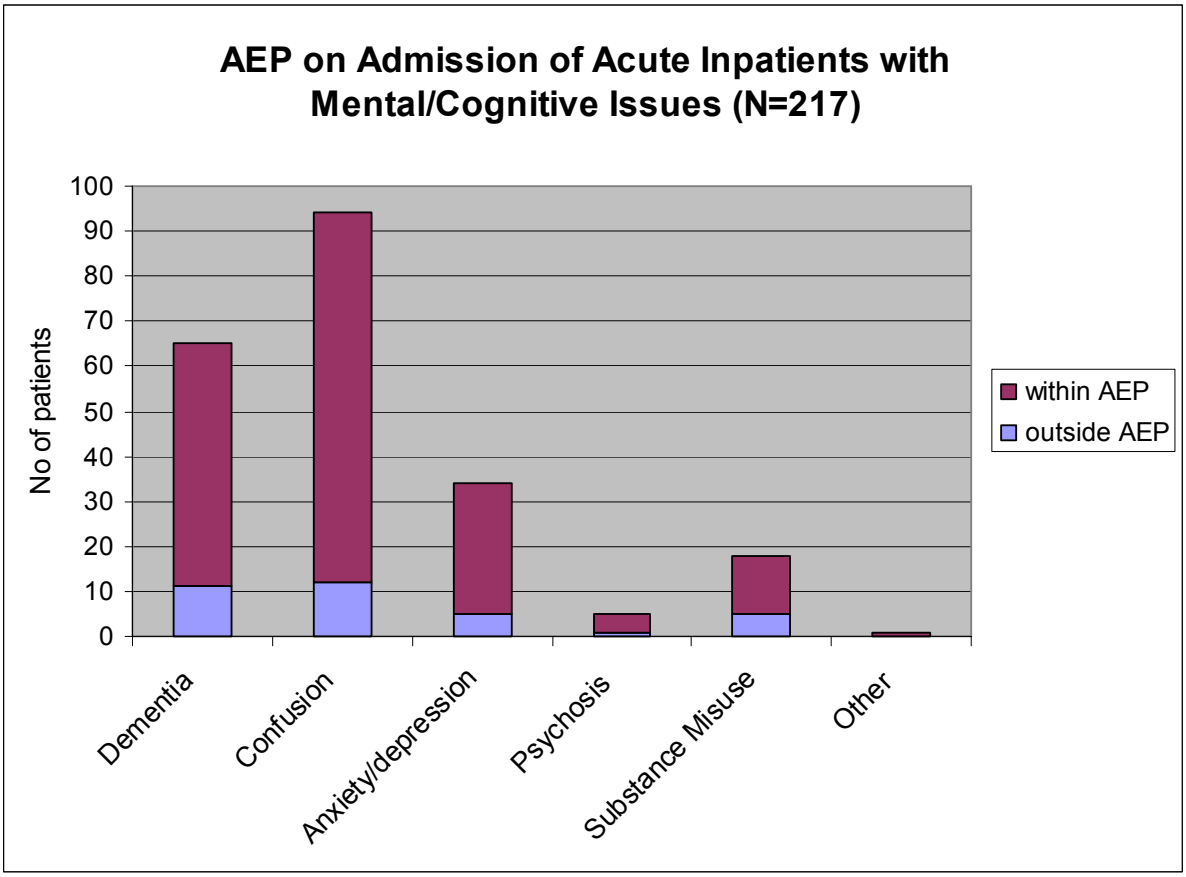
Figure 3.1





Referral patterns for acute hospital admission were similar to those for patients in Lincolnshire without dementia or mental health issues. One third of patients were referred in by their GP, and nearly half were admitted following a 999 call (with no evidence of GP involvement). Within the OPMH sector there was a more even split among several principal referral routes: GPs, other hospitals (usually acute), community mental health and crisis teams. Community Psychiatric Nurses and social workers were included in the 'other' group.

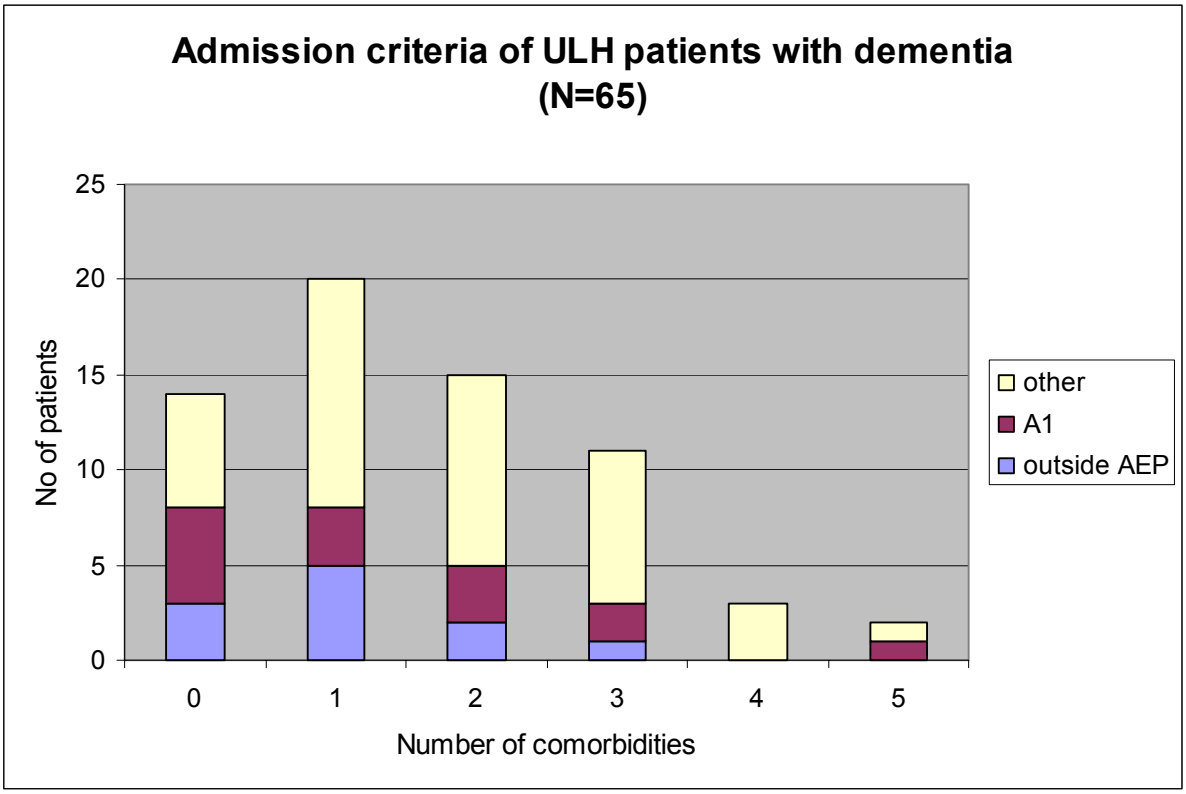
Figure 3.2



For acute hospital (ULH) patients, the majority of patients - across all types of mental condition – fell within the admission criteria for acute care. For dementia 11 out of 65 patients (17%) were admitted outside AEP criteria, only slightly higher than the equivalent figure for all acute inpatients surveyed (16%) as shown in figure 2.4.

The significance of this is that acute admissions appear to be driven by medical (rather than mental health) reasons. This reflects a typical characteristic of these patients as being elderly, and often frail with several co-morbidities.

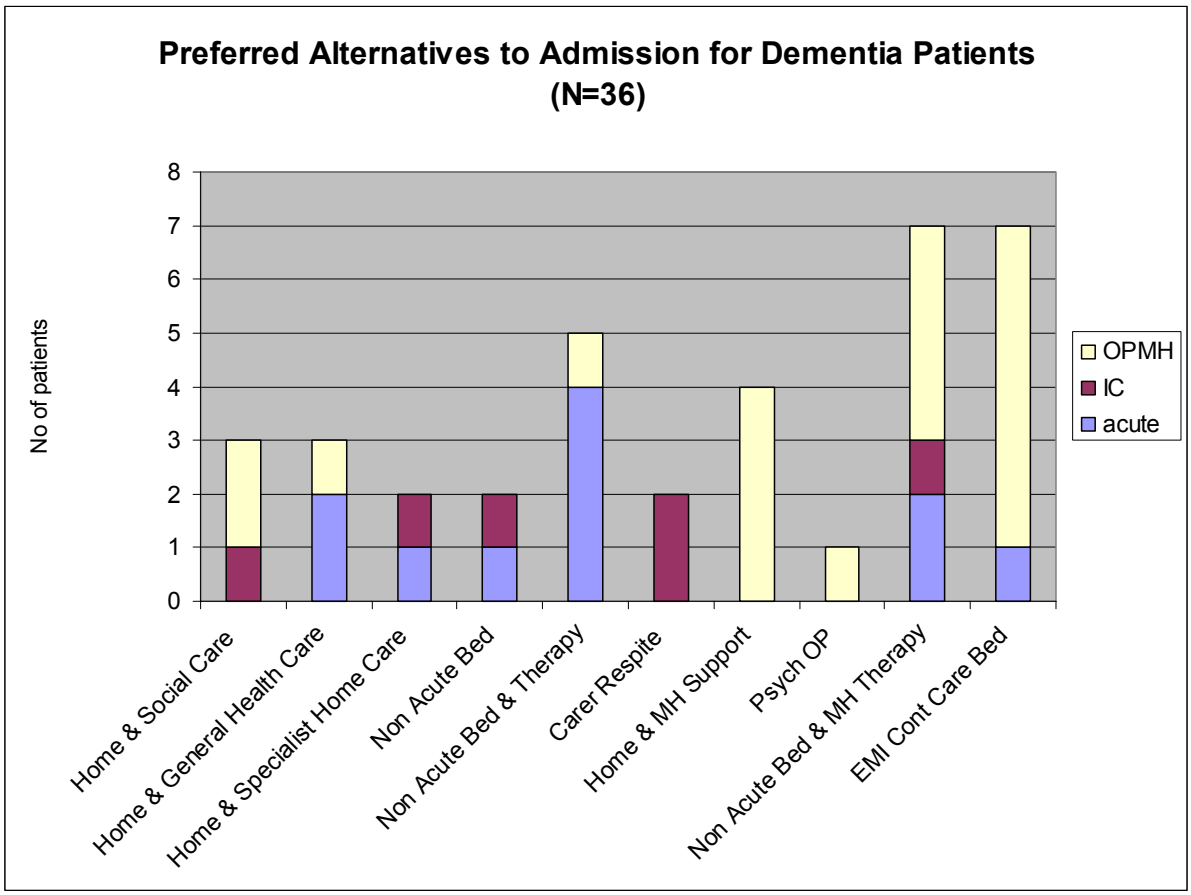
Figure 3.3



One feature that differentiates the dementia admissions from others is the extent of admissions that relate to AEP criterion A1 ('sudden onset of unconsciousness or disorientation'). As can been seen above this reason for admission particularly applies for patients with no or few comorbidities (though numbers are small), and in these cases it may be that some of these admissions could also be avoided if it was known patients had dementia but not other conditions. Altogether 14 acute admissions were identified as meeting criterion A1, though we cannot tell if any other criteria might have applied.

For the 17 acute patients with confusion identified as being 'high risk' for dementia a similar pattern could be observed. Only 2 of the 17 'high risk' patients (12%) were outside AEP criteria, but a further 7 (41%) were admitted with the A1 characteristic.

Figure 3.4



The purpose of identifying AEP criteria is not to classify patients clinically, but to identify those for whom alternative care locations might, in retrospect, have been possible if relevant services had been available. In this graph the focus is on alternatives to admission for dementia patients in all care settings. For acute patients only, alternatives were not sought if the patient was within AEP admission criteria (since acute hospital admission is thereby identified as the preferred option). The options shown are surveyors' 'first options' if they specified more than one for each patient (which was permissible).

With the caveat that we are looking at small numbers, a striking feature of this graph is the wide range of potential alternative care settings suggested – including many which were not 'mental health specific' options. Furthermore the range is wide for all types of care setting where the patient is currently situated.

Five patients might have avoided admission to an acute or OPMH facility if a generalist 'Non-acute bed with therapy' (eg community hospital) had been available to them, and a further 7 might have been able to go to a more specialist non-acute bed. Six patients in OPMH beds needed specialist EMI care home beds plus just a single acute inpatient.

There were a number of home based alternatives to admission identified, but only in a few cases for acute inpatients.

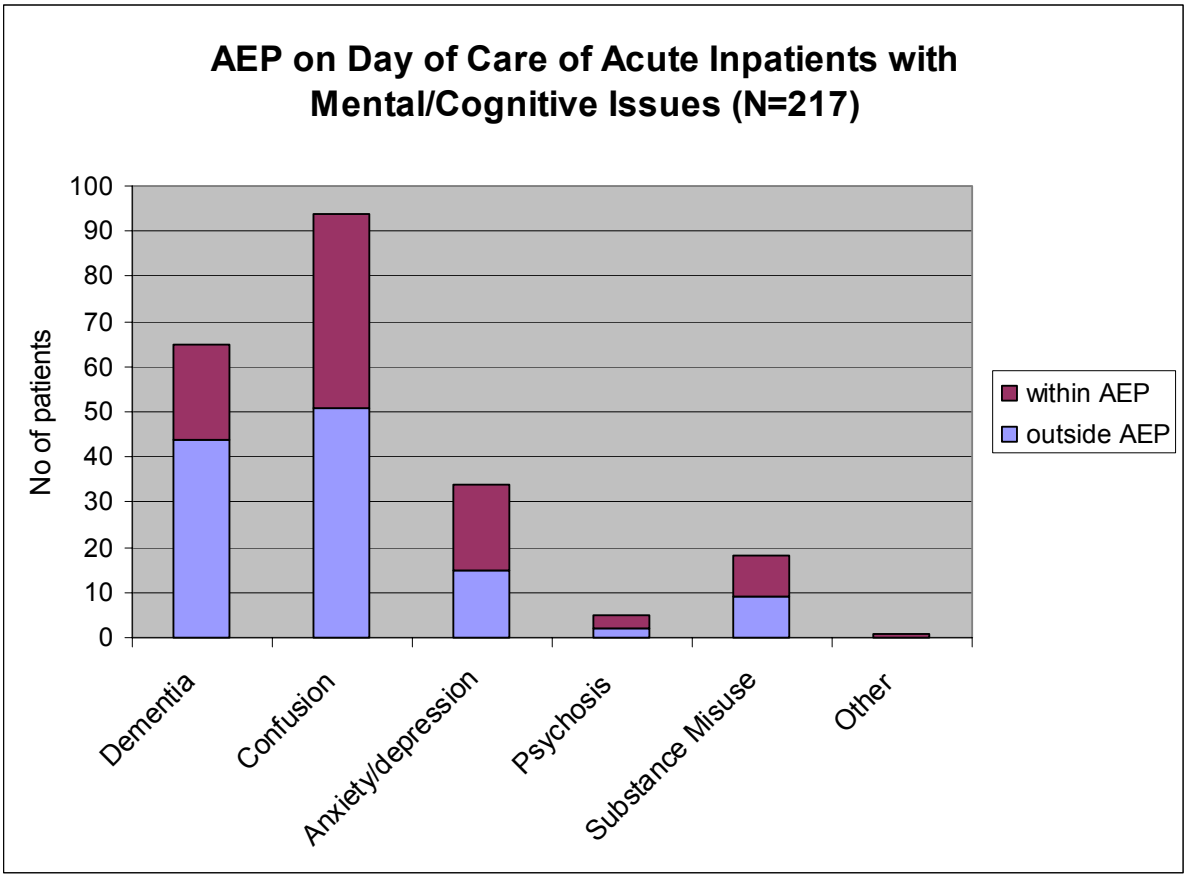
For only two patients in care homes 'carer respite' was identified, but it appears that this is in effect what the admissions had been designed to achieve. Otherwise patient characteristics, in particular the presence of an acute or sub-acute medical condition, indicated a need for admission to bed based care, though not necessarily an acute bed.

SECTION 4 REASONS FOR CONTINUED STAY IN HOSPITAL

Key points are:

- Dementia patients are more likely to be outside 'day of care' AEP criteria in acute settings than other patients without dementia (fig 4.1)
- Just as they did for alternatives to admission, surveyors identified a wide range of potential alternative care settings for patients with dementia who were outside day of care AEP criteria in acute beds, and also for patients currently in OPMH beds. A major issue appears to be arranging access to a wide range of services that may only have limited experience of caring for people with dementia (figs 4.2, 4.3).
- There appeared to be relatively little movement on to non-acute settings specializing in dementia care, providing either therapeutic or continuing care (fig 4.3)
- Looking specifically at orthopaedic patients with dementia; most had been admitted following a fracture or fall; none had been admitted for elective procedures. Lengths of stay were considerably higher than for equivalent trauma patients without dementia (fig 4.4).

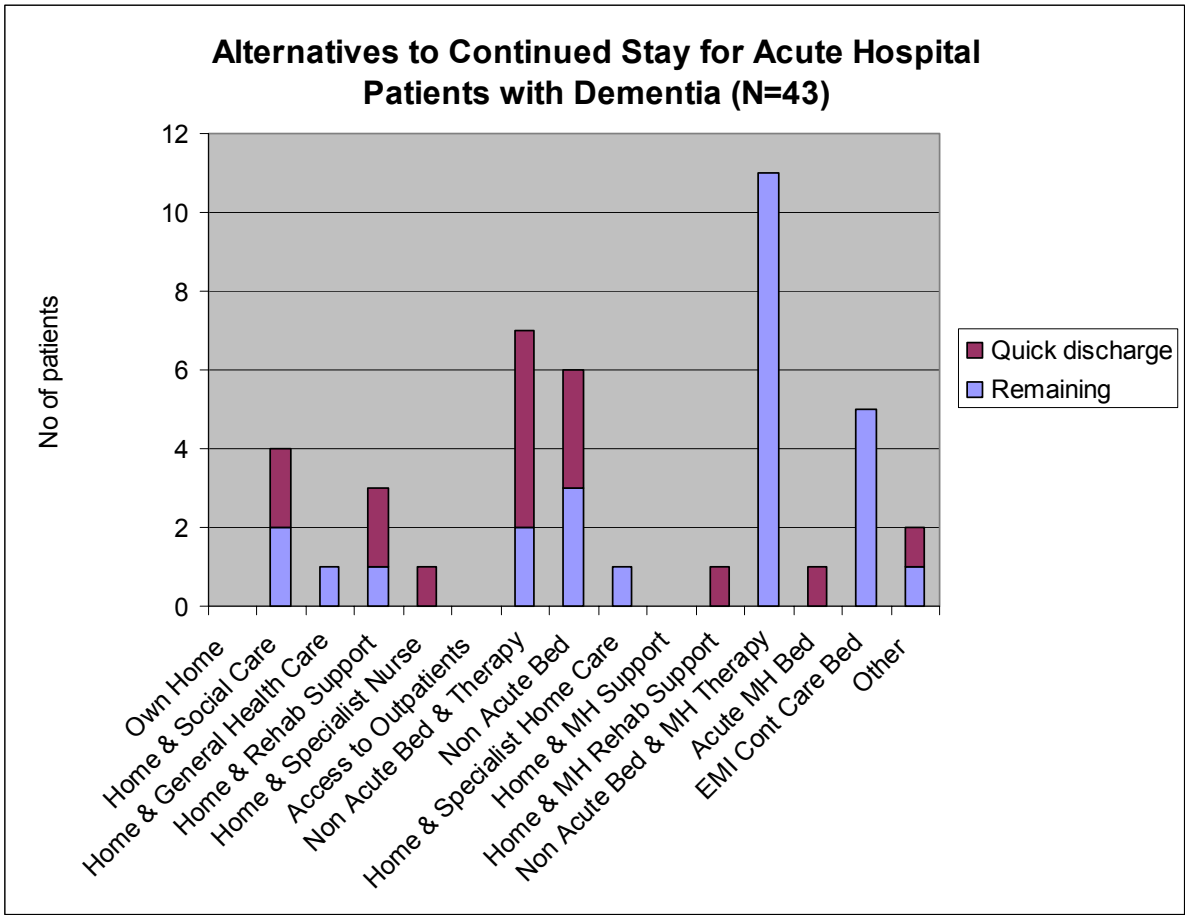
Figure 4.1



When it comes to an examination of AEP status on the day of care, the dementia group differ significantly from other patients, and from those with mental or cognitive issues.

Altogether 44 out of the 65 acute patients with dementia were outside AEP criteria (68%) compared to an average figure across medical and orthopaedic wards of 49% (figure 2.4).

Figure 4.2



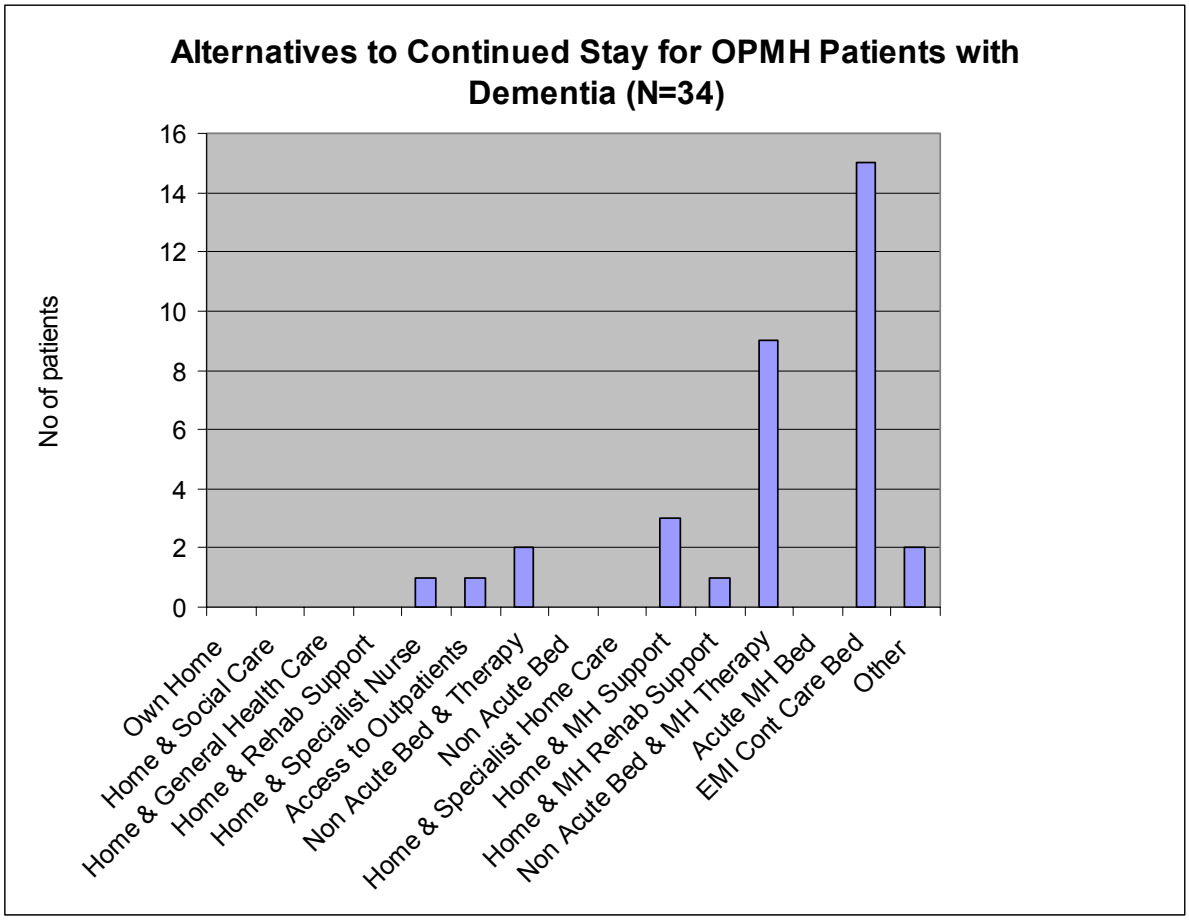
As for alternatives to admission a wide range of potential alternative care packages was identified. Note that surveyors would have included those patients soon to be discharged not knowing of course exactly when they might have been discharged. These data were obtained two weeks after the survey from the local information systems which gave a discharge date and destination of surveyed patients (if this had happened).

The graph shows alternatives considered for patients outside AEP criteria in the ULH hospitals only (alternatives were identified for 43 of the 44 outside AEP criteria). A 'quick discharge' is one within a week of the survey or two weeks, if the alternative is bed-based. The remaining patients are therefore those for whom the preferred discharge option (or any other) has not been made available.

There is a range of alternatives identified, mostly involving access to mainstream services, none in great volume. This suggests that one of the major issues for dementia patients is arranging the access to a wide range of services that may only have limited experience of caring for people with dementia.

There are however two patient groups requiring more specialised services, and in neither case were any of these patients discharged over the two week follow up period. The larger requirement, which applied to 11 of the dementia patients, is for the 'non-acute bed with MH therapy' ie a bed based service providing rehabilitation, where the staff are trained to work with dementia patients. The other group involved 5 patients requiring continuing care in an EMI care home.

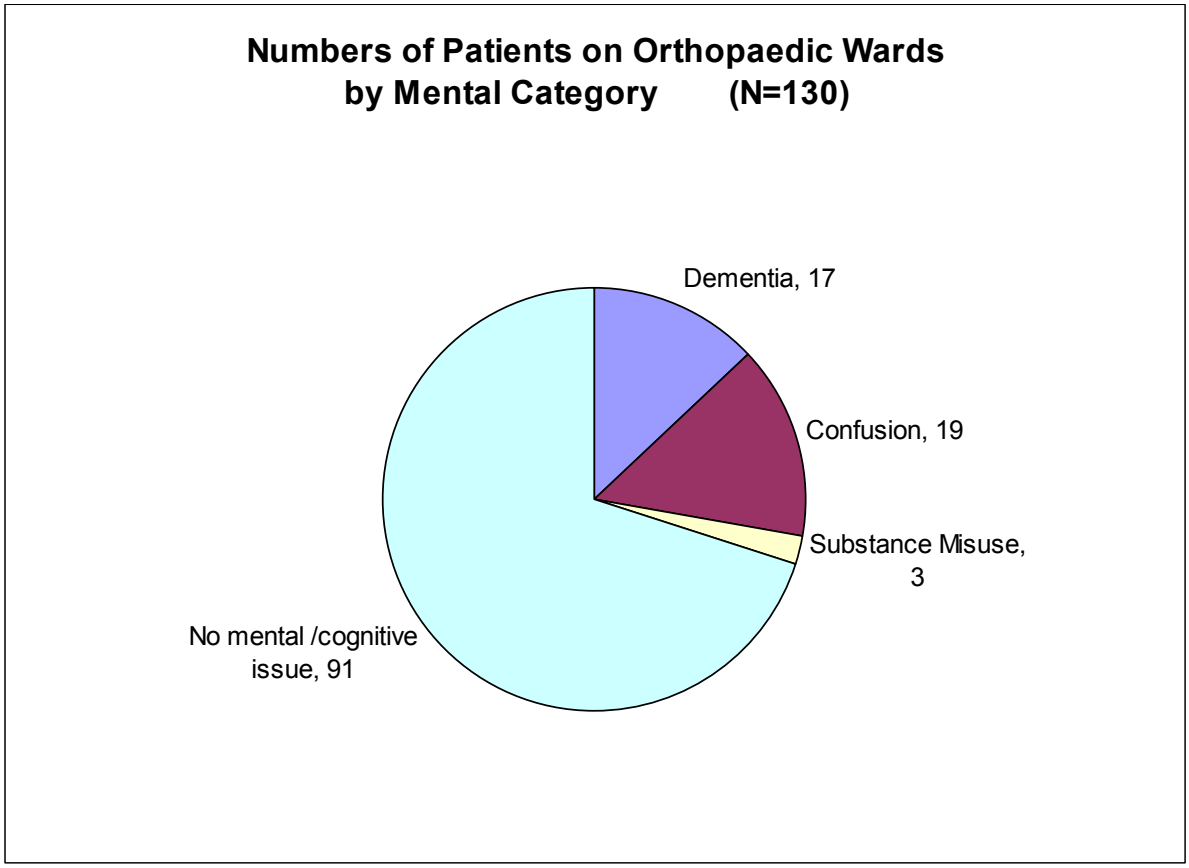
Figure 4.3



For OPMH patients surveyors were asked to identify any alternative provision to continued stay on the ward, and did so for 34 out of 40 patients with dementia.

As for acute patients there was a group requiring EMI continuing care, plus the more specialized therapy option with MH trained staff. In the latter case it may be that this service is already being delivered within the OPMH environment, certainly this would be possible.

Figure 4.4



In describing the acute hospital population with dementia, we have grouped together the medical and orthopaedic patients. Prevalence of dementia on the orthopaedic wards is similar to medical, with 17 out of the130 patients (13%) identified with dementia diagnoses, and a further 19 (15%) with indications of confusion.

None of the patients with dementia or confusion were undergoing elective procedures – most were admitted following falls and fractures. As for other patients with dementia the majority were outside AEP criteria on the day of care, and there was a range of alternatives identified to expedite discharge, which are included in the totals shown in figure 4.2.

Using the outcome data on discharges extracted from the hospital PAS systems, we have calculated that the average length of stay for the patients with dementia who were discharged by 23 December 2006 (13 out of the 17) was 24.3 days. The comparable figure for non-elective patients without dementia diagnoses was 16.9 days.

SECTION 5 COMPARISON WITH SIMILAR SURVEYS

Previous surveys undertaken by the Balance of Care Group have indicated the extent to which hospital beds may be disproportionately occupied by patients with dementia, and it is of interest to compare the headline figures of this more focussed survey with those obtained elsewhere.

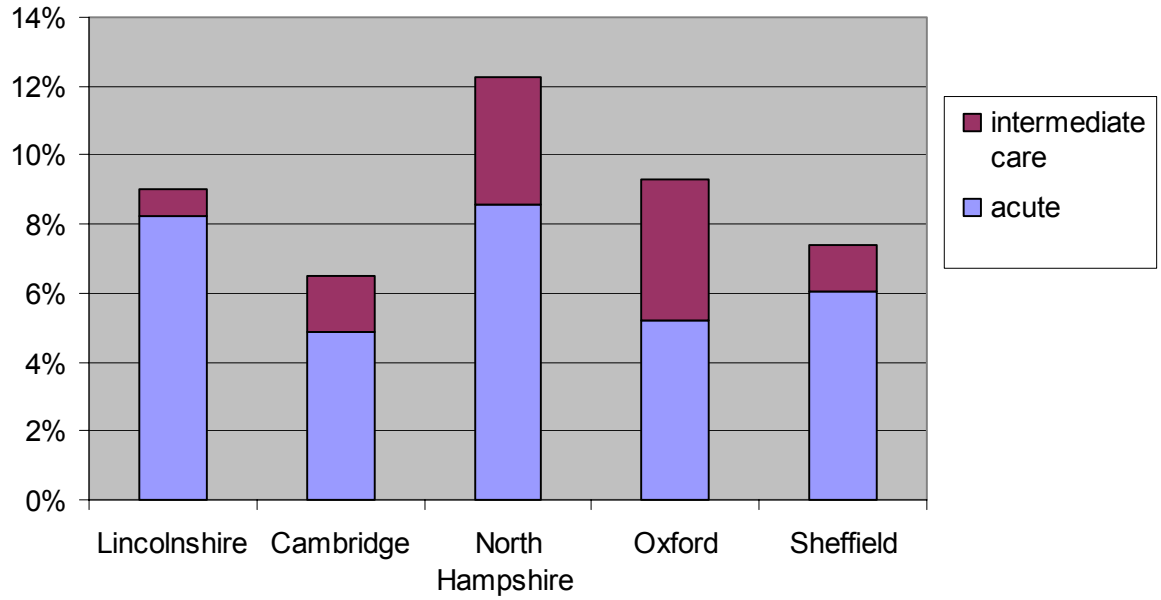
Earlier surveys using the AEP protocol tended to be focussed on the development of intermediate care (IC) provision, and it is only in more recent surveys, with the focus more on frailty and long term conditions that we have explicitly sought information on dementia diagnoses. We have been able to extract comparable data from surveys in hospitals across:

- Cambridgeshire (2003)
- Oxfordshire (2003)
- North Hampshire (2004)
- Sheffield (2004)

Of these only the North Hampshire exercise included the OPMH service, and hence had a particular focus on dementia and other mental state data. The Oxfordshire survey was undertaken in parallel with a separate OPMH survey and there was some focus, especially across its geratology (elderly medicine) service, on meeting the needs of frail older people with dementia.

Generally comparisons across health economies are difficult for a variety of reasons: the catchments are not known; bed usage by patients with dementia will depend on length of stay as well as admission avoidance; the deployment of beds to meet elderly medicine needs may involve community hospitals and care homes; and some beds in acute hospitals may be deliberately allocated for non-acute purposes.

Figure 5.1 Percentage of medical and orthopaedic patients with dementia



All the surveys above included the available designated intermediate care beds together with medical and orthopaedic beds in acute hospitals, so we have looked at prevalence of dementia across all these beds, plus AEP compliance in the acute hospital beds only. Figure 5.1 shows the percentage of all these patients with an identified dementia diagnosis. Only North Hampshire shows a higher count than Lincolnshire, and this was attributable to the numbers within the community hospitals. Oxfordshire had similar bed numbers but made much more use of community hospitals managed by, what is now, a single PCT.

Cambridge and Sheffield both show a lower count, and we suspect that this is affected by the lack of focus on dementia in these exercises and that diagnoses in the notes may have been missed. With these exercises taking place 2 - 3 years ago we also note that there were fewer structured assessments, such as SAP, completed then.

Figure 5.2 Percentage of patients with dementia outside AEP criteria

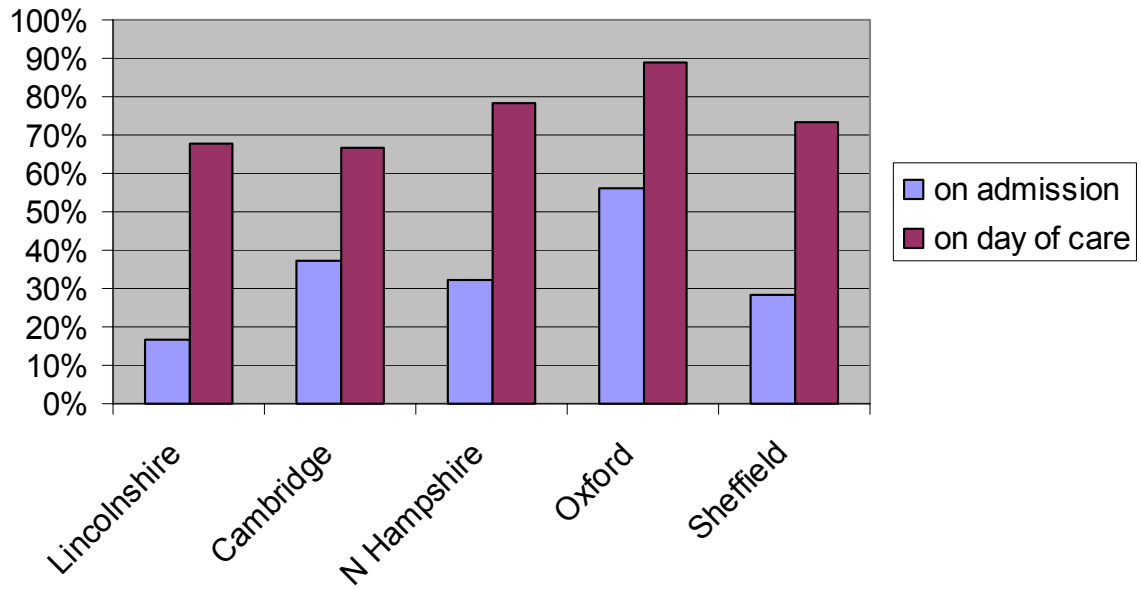


Figure 5.2 shows a comparison of percentages of acute hospital patients with dementia in the surveys that were outside AEP criteria, on admission and on the day of care.

With regard to AEP criteria on admission there is wide variability that will be affected by the interpretation of the 'A1' criterion ('sudden onset of unconsciousness or disorientation'), but also by overall length of stay and the extent of non-acute provision within otherwise acute hospitals (this was especially the case in Oxford).

In all cases the number of patients with dementia outside AEP criteria on the day of care is very high, reflecting the difficulty encountered across the country in discharge of such patients from acute facilities.

SECTION 6: DISCUSSION AND CONCLUSIONS

This project has adopted an established methodology for reviewing hospital bed utilisation, and extended it to provide more detailed insights into the usage of beds by people with dementia.

In order to identify these patients we have needed to survey comprehensively bed usage in specialties where patients with dementia are likely to be found ie medical and orthopaedic, and intermediate care beds, in addition to specialist OPMH beds. Findings across the whole survey population for Lincolnshire have not been reported other than where they provide a useful comparator for dementia-specific counts. We are, however, providing more detailed counts to the participating Lincolnshire organisations, which may be of value in considering whole system issues relating to care practice and capacity across the wider local health and social care economy. We noted in section 2 that the proportions of all patients outside AEP criteria were similar to those encountered in other exercises, and there will also be similarities in the potential alternatives to hospital provision, though of course levels here will be dependent on the current service configuration.

In previous Balance of Care surveys we have not usually sought such specific data on dementia, and some of the comparability issues with previous surveys were discussed in section 5. In the light of this some of the findings have been surprising, or at least were not predicted. The implications of the findings require further discussion between all the Lincolnshire agencies, not least to establish the care models that need to be put in place if service delivery and associated capacity is to change.

This concluding section aims to draw together the various findings emerging from the survey, and highlight issues that will need attention as shared plans are put together. We consider in order:

- Numbers of hospital patients with dementia
- Quality of current provision
- Alternatives to admission
- Earlier discharge from hospital

Numbers of Patients with Dementia

Bed usage by patients with dementia is high, and more patients are to be found in medical and orthopaedic wards than in specialist OPMH units. Altogether dementia diagnoses were identified for 111 out of the 863 patients surveyed (13%). Across medical and orthopaedic patients in acute hospitals, 65 out of 667 patients (10%) had a dementia diagnosis.

This high bed usage reflects the extent to which many people with dementia have comorbidities which put them at risk of hospital admission. Once admitted the sorts of difficulties associated with arranging discharge of older people are compounded by the presence of cognitive problems.

One issue we have explored is the extent to which diagnosis may be withheld to increase the possibilities of patients being able to move on to more appropriate care settings. Although in principle some of the intermediate care provision could cater for patients with dementia (care homes with appropriate registration, and community hospitals) only 6 patients out of 121 surveyed in intermediate care placements (5%) had dementia diagnoses. To explore the

possible extent of undiagnosed cases, we reviewed all 119 patients for whom issues of confusion had been raised, and identified a further 30 patients at 'high risk' of dementia, whose characteristics appeared consistent with a diagnosis of dementia. Interestingly these patients included 10 in intermediate care settings; half of these in care home placements.

With 17 'high risk' patients in acute hospital, the total inpatient population known, or likely to have, dementia rises to 82 out of 667 patients (12%). Similarly the intermediate care setting could have 16 patients with dementia out of 121 (13%), although the level of comorbidity for these patients appears low. Probably this also underestimates the true level of dementia in this hospital population, as many of the 55 patients at 'moderate risk' are also likely to have dementia.

Whether or not the high risk patients are included, the level of dementia identified is comparable to or higher than that recorded in previous Balance of Care surveys in other parts of the country. We do not believe that this necessarily implies higher levels of need, nor greater dependence on hospital services, since it could be that the level of mental health assessment is higher in Lincolnshire than the other locations, and we were in any case particularly looking for these measures.

Quality of Services

Although not within the terms of reference of this project the survey did provide some indicators of the quality of care for patients with dementia.

The clinical member of the Balance of Care team was struck by the high standard of care being delivered within the OPMH units, and the apparently high morale of staff working there, which we had not encountered in other surveys. In discussion we felt that in part this resulted from the clear policy on casemix, with patients selected at earlier stages of the condition and with relatively few comorbidities, for which the aim of the inpatient stay was to orientate the patient for successful return home for the long term. Thus the units did not become dominated by patients requiring rehabilitation or continuing care.

Patients with a range of comorbidities tended to be found on medical and orthopaedic wards. Given the medical problems this may be a suitable way to meet the patient's needs provided that the special requirements of dementia are addressed. On this we have noted the apparently incomplete and inconsistent use of mental state assessments. Nevertheless we did form the impression that the use of assessments was higher than in hospital populations we have surveyed in the past, and to some extent the gaps may be attributable to a lack of integration of assessments undertaken elsewhere into the hospital casenotes.

Nevertheless the majority of patients with dementia in the acute hospital setting did not have acute medical needs in terms of AEP criteria, but in many cases neither were they able to move on to more appropriate settings. One indicator of this can be taken from the experience on orthopaedic wards, where the average length of stay of dementia patients surveyed (all of them non-elective) was over 24 days, compared to under 17 days for other non-elective orthopaedic inpatients.

Alternatives to Admission

The extent of admission of patients with dementia outside AEP criteria was similar to that of other patients. Thus only a small number of alternative approaches to care at this point was identified, over half relating to some alternative form of non-acute bed provision.

In previous Balance of Care surveys the level of admissions outside AEP criteria has been higher (though on a lower number of identified patients with dementia). A possible difference here is the use of the 'A1' admission criterion: 'Sudden onset of unconsciousness or disorientation (coma or unresponsiveness)' (full list of criteria at appendix II). A relatively high number of patients were identified in this group and, if admitting physicians had known of the dementia diagnosis, an alternative to admission might have been possible. Without knowing the diagnosis, it would be essential to undertake a full medical assessment because of the number of potential medical causes, such as infection. Clearly extended mental health assessment and, just as important, easy availability of those assessments could affect admission decisions.

Another factor affecting the admission process that has been suggested is the extent to which acute hospital patients have vascular dementia rather than Alzheimer's Disease. We note the large number of occurrences of diabetes, hypertension and heart and cerebrovascular disease (figure 2.10) amongst acute hospital admissions, compared to the OPMH patients. LPT has subsequently reviewed the diagnostic mix of OPMH inpatients and reported that over half those patients have vascular dementia; we do not have equivalent figures for patients presenting to acute hospitals, and it remains possible that people with dementias developing alongside other medical conditions are admitted to acute hospital without being known to the specialist services.

Earlier Discharge from Hospital

As seen in previous surveys, a high proportion of acute patients with dementia in Lincolnshire are outside AEP criteria. As for patients without dementia, their needs are disparate, covering a range of home-based and bed-based services outside the acute setting. For many it appears that the key is ensuring that these patients do not get 'left behind', since it is always more straightforward for generalist services to deliver care needs for the mainstream: there is potential here for support from in-reach specialist mental health teams to ensure the generic services are available as required.

The development of the Community Mental Health Team, including an in-reach service, in the Louth area provides one model of this in practice in the county. Only three dementia patients were identified there on the survey date (5%), half the level seen at the other hospitals (although note that the numbers are small). Of these patients only one was outside AEP on the day, and was discharged home two days later. The precise reasons for these observations are unclear and merit further, more detailed investigation. The Louth approach aims to avoid admission where possible, including rapid review of patients presenting to the medical emergency assessment unit, and to ensure patients are able to return home as soon as possible after an acute medical or surgical event. There remain however two specialist services for which substantial demand appears to be unmet: non-acute, bed based therapy delivered by staff with relevant training in care of dementia patients; and EMI continuing care (usually a care home with appropriate registration). Remarkably, not one of the 16 acute hospital patients outside AEP criteria on the day of care, and identified as suitable for one of these care options, had been discharged two weeks later.

The shortage of continuing care placements for people with dementia is recognised in Lincolnshire, and we understand there are proposals to make use of directly managed care homes for this purpose. However there is also a wish wherever possible to increase the use of community based alternatives, although surveyors only identified the possibility of a 'second choice' home based alternative in a single case out of the 16 patients identified for EMI continuing care across acute and OPMH beds. Note however that the bed usage survey did

not include continuing care placements, and further review would be needed to identify if the current casemix and levels of use of continuing care places would be required if more community based services were available.

The approach for therapy based beds, concerned with the rehabilitation and return home of the patient, is also not straightforward, as it requires a mix of medical, therapeutic and mental health skills: in principle the location could be in any of the settings included in this survey, and to identify the most appropriate approach requires further consideration by the Lincolnshire agencies of potential models of care that can best meet these needs.

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APPENDIX I: Locations surveyed

United Lincolnshire Hospitals NHS Trust

Lincoln County

Alexandra Short Stay	25
Branston	1
Burton	13
Carlton Coleby	26
Clayton	2
Digby	27
Dixon	16
EAU	27
Hatton	26
Johnson	16
Neustadt - Welton	14
Panton	23
Shuttleworth	2
Stow	25
Stroke Unit	20
Waddington	7
Subtotal	270

Pilgrim

3A	17
3B	25
5A	8
6A	25
6B	25
7A	19
7B	24
8A	6
8B	25
Cardiology Unit	8
CDU	19
M2	7
Stroke Unit	18
Subtotal	226

Grantham

1	25
2	27
5	22
6	16
EAU	20
Subtotal	110

Louth

Carlton	28
Fotherby	6
Lindsey Suite	2
Manby	21
MEAU	4
Subtotal	61

Lincolnshire PCT hospitals

Skegness (Scarborough, Gloucester wards)	27
Welland (Ward 2)	19
Gainsborough (Scotter ward)	12
Subtotal	58

Lincolnshire Partnership NHS Trust (OPMH units)

Witham Court (Brant, Langworth wards)	39
Manthorpe Centre (Grantham)	16
Rochford Unit (Pilgrim)	20
Subtotal	75

Care home placements*

Bonner House, Sleaford	6
Bunkers Hill, Lincoln	6
Halmer Grange, Spalding	6
Harrison House, Grantham	11
Halmer Lodge, Lincoln	7
Ingelow Manor, Boston	8
Crowtree House, Louth	2
Linelands, Lincoln	10
St Andrew's, Ewerby	4
The Cedars, Gainsborough	3
Subtotal	63

GRAND TOTAL 863

*Placements at 'The Cedars' nursing home in Bourne were not included in the survey.

Appendix II: Appropriateness Evaluation Protocol (AEP) Criteria

Appropriateness of Admission Criteria

Severity of Illness Criteria

A1. Sudden onset of unconsciousness or disorientation (coma or unresponsiveness).

A2. Pulse rate:
a) < 50 per minute
b) 140 per minute

A3. Blood Pressure:
a) Systolic < 90 or > 200 mm Hg.
b) Diastolic < 60 or > 120 mm Hg.

A4. Acute loss of sight or hearing.

A5. Acute loss of ability to move body part.

A6. Persistent fever:
a) 37.78 C (100 F) orally or
b) 38.33 C (101 F) rectally for >5 days

A7. Acute bleeding.

A8. Severe electrolyte or blood gas abnormality (any of the following):
a) Na < 123 mmol/L
Na > 156 mmol/L
b) K < 2.5 mmol/L
K > 6.0 mmol/L
c) Venous bicarbonate (unless chronically abnormal) < 20 mmol/L
Venous bicarbonate (unless chronically abnormal) > 36 mmol/L
d) Arterial pH < 7.30
Arterial pH > 7.45

A9. Electrocardiogram evidence of acute ischaemia; must be suspicion of a new myocardial infarction.

A10. Wound dehiscence or evisceration.

Medical Procedure

B1. Intravenous medications and/or fluid replacement (does not include tube feedings).

B2. Surgery or procedure scheduled within 24 hours requiring:
a) General or regional anaesthesia, or
b) Use of equipment, facilities, or procedures available only in a hospital.

B3. Vital sign monitoring every 2 hours or more often (may include telemetry or bedside cardiac monitor).

B4. Chemotherapeutic agents that require continuous observation for life-threatening toxic reaction.

B5. Intramuscular antibiotics at least every 8 hours.

B6. Intermittent or continuous respirator use at least every 8 hours.

Appropriateness of Day of Care Criteria

C. Medical Services

C1. Procedure in operating theatre that day.

C2. Scheduled for procedure in operating theatre the next day, requiring pre-operative consultation or evaluation.

C3. Cardiac catheterisation that day.

C4. Angiography that day.

C5. Biopsy of internal organ that day.

C6. Invasive central nervous system diagnostic procedure (eg. lumbar puncture, cysternal tap, ventricular tap).

C7. Any test requiring strict dietary control for the duration of the diet.

C8. New or experimental treatment requiring frequent dose adjustments under direct medical supervision.

C9. Close medical monitoring by a doctor at least 3 times daily (observations must be documented in record).

C10. Operative day for any procedure covered in numbers 1, or 3-7 above.

D. Nursing/ Life Support Services

D1. Respiratory care – intermittent or continuous respirator use and/or inhalation therapy (with nebuliser, intermittent positive pressure breathing) at least three times daily.

D2. Parenteral therapy – intermittent or continuous intravenous fluid with any supplementation (electrolytes, protein, medications).

D3. Continuous vital signs monitoring, at least every 30 minutes, for at least 4 hours.

D4. Intramuscular and/or subcutaneous injections at least twice daily.

D5. Intake and output measurement.

D6. Major surgical wound and drainage care (eg. chest tubes, T-tubes, haemovacs, penrose drains).

D7. Close medical monitoring by nurse at least 3 times daily, under doctor's orders.

E. Patient's Condition

Within 24 hours on or before day of review:

E1. Inability to void or move bowels (past 24 hours) not attributable to neurological disorder.

Within 48 hours on or before day of review:

E2. Transfusion due to blood loss.

E3. Ventricular fibrillation or electrocardiogram evidence of acute schaemia, as stated in progress notes or in electrocardiogram report.

E4. Fever at least 37.78 C (100 F) orally or at least 38.22 C (101 F) rectally, if patient was admitted for reason other than fever.

E5. Coma – unresponsive for at least one hour.

E6. Acute confusional state not due to alcohol withdrawal.

E7. Acute haematological disorders, significant neutropenia, anemia, thrombocytopenia, leucocytosis, erythrocytosis, or thrombocystosis, yielding signs or symptoms.

E8. Progressive acute neurological difficulties.

APPENDIX III: Survey form definitions of alternative care settings

Three different forms were used in the survey: form 'A' for the four ULH hospitals; form 'B' for all non-acute sites (including the community hospitals and care home placement settings); and form C for the three LPT sites for OPMH patients.

All forms had a similar structure with surveyors asked to suggest where appropriate the potential for care settings for patients in terms of:

a) alternatives which might have prevented their current admission
b) alternatives for the care currently being received on the day of the survey ('day of care')

In addition, surveyors were asked to identify:

c) whether a patient was receiving any rehabilitation and, if so, what type (see below)
d) if there were any identifiable delays to the patient's treatment or discharge process.

The tables below provide definitions of the potential care alternatives specified on the survey forms, and a classification of rehabilitation types. All definitions were discussed in depth with surveyors during the training sessions.

a) Alternative care settings to admission

The specified alternatives to admission were identical on all three survey forms types with the following exceptions:

- The 'non-acute bed + therapy' option was not given on form B as it described the type of bed the patient was currently in
- The addition of an 'acute bed' option on form C.

The options were presented in two columns on the survey form (indicated below by the grey row). Those below this line contain specific 'mental health-related' services where it was indicated that this indicated a need for staff trained in working with dementia/ confused older patients.

Own home only	At home (alone, or with a carer/ family) but with no additional supporting services
Home with social care	At home with Care Assistant support only for social care tasks. Social care can also include meals on wheels and voluntary sector support
Home with general health care	At home with general community nursing support (and with or without social care support)
Home with rehab support	Support at home from therapy services (with or without social care and / or nursing support)
Home with specialist nurse	Specialist nurse skills - eg diabetes, stroke (and with or without social care and / or general community nursing support). Except CPN (see below).
Access to outpatient clinic	At home (alone or with carer and with or without social care support) with access to

	diagnostics/ day hospital services
Non-acute bed + therapy	Placement in community hospital, residential or nursing care home (excluding mental health facility) with direct input from therapy services
Non-acute bed (not EMI)	Placement in community hospital, residential or nursing care home (excluding mental health facility)
Carer Respite	Provision of respite bed in a nursing or residential home (due to carer burnout / to enable carer break)
Home with 'specialist' home care	Specialist home care service for people with dementia, focusing on tasks to maintain and promote independence
Home with MH support	Interventions by any member of community-base mental health services (eg. medical, nursing, social work, psychology), including crisis response to nursing and residential homes
Home with rehab support (MH)	Support at home from therapy services (with or without care assistant or nursing support), with additional support from community-based MH services
Admission to acute mental health bed	Admission for assessment and treatment of acute mental health problem
Psychiatric outpatients/DH	Access to Consultant Psychiatrist led out patient clinic, or via a day hospital
Non-acute bed + therapy (MH skills)	Placement in a specialist MH care home or other institution with specialist rehabilitation (ie staff trained to work with MH patients)
EMI continuing care bed	Placement in a specialist MH care home or other institution, no rehab
Other	Please specify (eg. 'emergency care practitioners on ambulance')

b) Alternative care settings to that received on day of survey

The specified alternatives to treatment on the day of the survey were largely the same as for those on admission on each survey form with the following exceptions:

- The 'admission to acute mental health bed' option was not given on form C as it described the type of the type of bed the patient was currently in.

c) Type of rehabilitation

The definitions of rehabilitation used were identical on all three survey form types

- *Recuperative*. This is 'low-level' rehabilitation not requiring inputs from trained physiotherapy or occupational therapy (OT) staff. This type of patient may be recovering from a (relatively minor) recent illness or recurrence of a chronic condition and are unable to fully cope at home. They require only 'maintenance levels' of rehabilitation (which may involve limited inputs from physiotherapy or OT assistants) and, importantly, time to recover and return to full health.
- *Restorative*. This is more substantive rehabilitation performed mainly by qualified OT and physiotherapy staff. This type of patient may be recovering from a more major illness or recurrence of a chronic condition, or from a substantial acute episode (such as a major surgical or orthopaedic operation). In this case the patient requires substantial inputs of therapy with the aim and expectation of restoring them to their previous levels of mobility and activity.
- *Reconstructive*. This is for patients requiring the most substantial levels of rehabilitation from qualified and specialist therapy staff and specialist medical staff. This type of patient is recovering from a very severe condition (for example from a major stroke) where they require substantial levels of therapy to develop new skills such as walking following an amputation . They may or may not be expected to regain their previous levels of mobility and activity but hope to achieve a degree of independence.

d) Delays to the discharge process

Potential reasons affecting the discharge process were set out for the surveyors to tick as many as applied for an individual patient (or to add any other reason not specified on the survey form). This section was identical on all three survey form types.

Review/ assessment by other care professional	Other medical specialist Physiotherapist OT Social worker/ care manager Psychiatrist Discharge Planning Sister/ Community Liaison Assessor from care home Continuing Care Assessment
Rehabilitation / other hospital care to be arranged	Ward round Transfer to other acute ward Transfer to rehab ward Transport Home OT visit
Investigations	CT MRI Xray Blood/ U&E Histology Ultrasound Echo
Community health / social support	Intermediate care at home Intermediate care bed Community nursing Social care package Adaptations/ equipment Funding

Care home/ own home	EMI place Nursing place Residential place Sheltered Housing Re-housing Hospice/ palliative care
Carers/ relatives	To agree actions To be organised