A QUESTION OF BALANCE

A REVIEW OF CAPACITY IN THE HEALTH SERVICE IN WALES 2002
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FOREWORD

I was commissioned by the Director of NHS Wales in October 2001, to undertake a review of capacity in the Health Service in Wales.

This report has reviewed the actions resulting from the recommendations of the Capacity Working Group and the Emergency Pressures Task Force Reports in 2000, the changes which have taken place over the last two years, the pressures currently endured by the service and future trends. Significant progress has been made since the publication of these reports. Notable examples include the allocation of £40 million for emergency pressures and waiting times, an increase of over 100 medical beds within acute general hospitals, the commissioning of additional critical care beds, a concerted effort by the Welsh Assembly Government, Health Authorities, Local Authorities and Trusts to tackle delayed transfers of care and to adopt more flexible ways of working, and regular status reporting systems (SITREPs).

The dynamics of managing capacity issues in Wales have changed since the last report, with real expectations by the Welsh Assembly Government for significant improvement in services. NHS Trusts must deliver continuous and sustained reductions in waiting times, whilst at the same time having systems capable of meeting emergency pressures. An unprecedented increase in growth monies has further heightened the expectations of the general public to see an overall improvement in their local services.

Whilst there have been improvements, this report reveals that most acute general hospitals in Wales are working with unsustainable bed occupancies of well over 90% in general medicine, and the average number of patients awaiting their next appropriate phase of care was 806 per day across Wales during 2001/02, approximately three quarters of whom occupied acute and community beds. This increased to an average 1036 during the first five months of 2002/03. At the same time elective procedures are being cancelled because surgical beds are occupied by emergency medical patients or patients needing to be transferred to more appropriate settings. This is why I have entitled this report “A Question of Balance”. Unless the right balance can be struck between demand and supply, balance of emergency and elective workloads and the balance of resources in primary care, community, secondary, social care, independent and voluntary sectors, the whole system will work sub-optimally.

Clearly, there are a number of areas where urgent action is needed to address the problems of medical beds running at impossibly high levels of occupancy, patients being treated in inappropriate settings and not being able to remain in their own homes, outliers in acute general hospital beds, delayed transfers of care and under-utilised community hospitals.

Capacity cannot be switched on over-night. It is about recruiting and retaining more staff, improving the existing estate and providing modern buildings and equipment, and above all, working in new ways. Working in new ways must include the recognition that partnership working is the only means by which a sustainable response to meeting the demands for emergency and elective care will be delivered.
The Welsh Assembly Government, working with the Health Service, Local Government, voluntary and independent sectors has a real opportunity to co-ordinate a whole systems solution in which no one sector has pre-eminence and the importance of all is equally recognised and valued. This will be strengthened by the Welsh Assembly Government’s vision for a unified five-year strategic plan for the NHS, linking service, workforce, estates, information and financial planning elements in a single whole.

This report highlights the key areas for action, but does not attempt to suggest that there is one answer. The report attempts to demonstrate that the more balanced a health and social care system becomes, the better placed it is to meet the demands that present. The responsibility for putting things right must now lie with every health and social care community to work out their own plans.

A range of complex and interrelated processes and resources will need to be managed, but the dynamics of the system will shift over time, and it will be essential that these shifts are identified and plans flexed accordingly. Better data and information systems will be required to inform the process.

Recent decisions on structural reform of the NHS must not hinder what needs to be done, particularly if sustainable capacity for delivering improved waiting times is to be provided in the coming months. Indeed, they have been designed to tackle such issues, through Health, Social Care and Well-being Strategies and Secondary Commissioning Partnerships, overseen by their Regional Officers.

My thanks go to colleagues throughout NHS Wales and Social Services for their co-operation in the writing of this report and to colleagues at the Welsh Assembly Government, Information Department of Bro Morgannwg NHS Trust and Health Solutions Wales for their contributions of information and statistics. I would also like to thank Gaenor Shaw, Rachel Marsh and Alex Bowerman for helping me in compiling this report.

Paul Williams OBE
Chief Executive
Bro Morgannwg NHS Trust
A QUESTION OF BALANCE

EXECUTIVE SUMMARY

This report reviews progress made since the publication of the Capacity Working Group Report in 2000. Through an analysis of published data and information from key sources across Wales, it describes the changes in demand, available capacity, activity and targets which have occurred since 2000, both on an all Wales basis and at a more local level.

Recent Progress

It is clear that significant progress has been made since 2000. Notable improvements include:
- the issuing of Planning Guidance to improve management of emergency pressures;
- the establishment of the SITREPS system to monitor pressure on hospitals;
- the Keep Well this Winter campaign;
- the investment of £40 million by the Welsh Assembly Government to address emergency pressures and waiting times;
- additional funds for Social Services in Wales, in the form of Reduction in Delayed Transfers of Care and Supporting Care Home Sector Grants and Flexibilities Special Grants which have encouraged the development of a whole systems approach;
- the publication of ‘Improving Health in Wales – a Plan for the NHS with its Partners’, providing strategic direction for the service.

It is however impossible to quickly reverse a situation which has deep roots. The variations in service patterns and local shortfalls have developed over a number of years and are related both to past policies and investment decisions and to significant changes in demography and disease patterns.

As a result, despite the significant action taken, emergency pressures continue to dominate the health agenda for Wales, at a time when greater emphasis is simultaneously being placed on meeting more demanding targets in relation to waiting times.

The Need for a Whole Systems Approach

The report recognises the fact that hospital capacity is affected by capacity in all other key sectors. Capacity issues can only be understood, capacity fully utilized and adequately planned through a whole systems approach.

Evidence is presented which suggests that demand in the acute hospital sector is affected by the capacity in the primary care, community, social care and independent sectors to support patients in their own homes or other places of residence despite their heightened care needs.
Significant numbers of patients with chronic disease continue to be admitted to the acute hospital sector, despite the fact that there are many good examples of services across the UK in which patients are more effectively and appropriately managed in the community. In particular, there is scope for the introduction of chronic obstructive pulmonary disease (COPD) teams, which might avoid 30% of admissions for acute episodes of this disease, saving perhaps 14,000 bed-days across Wales.

A range of intermediate care services also prevent admissions, facilitate safe and timely discharge, reduce readmission rates, prevent ill health/accidents that might precipitate admissions and promote personal independence. Rapid response teams, reablement teams, hospital at home services and additional services from the independent care home sector, have all been introduced in many areas of Wales and to some degree have been evaluated. Further uptake in each locality should be considered.

The capacity and resources within social services and the independent care home sector also affect demand in the acute hospital sector. This is demonstrated through the increased numbers of delayed transfers of care, which can arise through shortages in social services funding, lack of availability of independent care home beds and patient choice. Examination of data at a Local Authority level shows significant variations in the funding levels for the over 65s, the numbers of placements being made, the numbers of people supported by the authority within homes and the number of nursing home and residential home beds. Further work is required at a local level to understand the impact of these variations on the whole system, and to ensure that the numbers of delays are reduced as a priority.

Primary care has a particularly significant role in relation to inpatient activity and demand, as it is the gateway to other services and the starting point of the patient pathways. The numbers of GPs have increased in the last 10 years. However, so too has their workload leading to considerable pressure. The new GP contract affords an opportunity for the new Local Health Boards (LHBs), Trusts and other organisations to review services and to plan together new and innovative ways of working, particularly in relation to out of hours services.

The use of NHS Direct is increasing, and initial data suggests that it may have the potential to decrease demand on GPs and hospital Accident and Emergency (A&E) Departments, although further work on the impact of NHS Direct is required. The voluntary sector also has a key role to play in reducing demand on the acute sector, which needs to be developed further.

The Pressures on Hospitals

The main elective and emergency gateways to secondary care are described. In the elective gateway, increasing numbers of outpatient referrals are reported. Numbers of new outpatients attendances have dropped slightly, and waiting times are unduly long in many areas. The drive to improve outpatient waiting times is likely to lead to an increase in activity levels, which in turn will lead to increasing numbers on the inpatient and daycase waiting lists. This then provides the driver for increased elective admissions. Improvements are being pursued across Wales in outpatient management, which will assist this situation but the capacity difficulties remain.
A&E Departments are one of the main emergency gateways to inpatient admissions, with 2,400 new attenders per day, a rise of 1% since 1999/00. This leads directly to increased numbers of admissions, although lessons can be learnt through an analysis of varying admission rates across Wales. Pressures on hospital bed capacity causes bottlenecks within A&E Departments themselves, with the numbers of patients waiting more than 4 hours on trolleys increasing. This could increase further if Trusts begin to reserve elective beds in order to meet waiting times targets.

Some areas have had success in diverting patients away from the A&E Department by establishing assessment units (adult and paediatric), which have resulted in patients being seen in more appropriate settings. Much could also be done to improve the pathway of patients attending A&E, through empowering triage, streaming, or improvement in access to diagnostic services, or by providing alternative services which might be more appropriate to patients’ particular needs.

The total number of emergency medical and other admissions continues to rise overall, with pressures now evident throughout the year. There are, however, significant local variations in rates of change. Other demands on the acute sector come from increasing average lengths of stay due in part to higher proportions of admissions of patients aged over 75. The average length of stay ALOS for medicine/elderly medicine in acute hospitals has risen by 0.3 days since 1999/00, which results in an additional requirement for 66,000 bed-days per year. The numbers of delayed transfers of care have continued to rise, with an average of 806 patients delayed each day across Wales, approximately three quarters of whom occupy acute and community beds.

Elective inpatient admissions have decreased, despite the continuing drive to reduce waiting times. The numbers of daycases have risen, though overall level remain well below those that expert advice suggests are attainable.

The evidence of these increased demands on the acute hospital sector is reflected in bed occupancy levels. In the light of evidence that occupancy levels above 82% - 85% produce increasingly severe problems in managing services, the present level of 98% for general medical/elderly acute beds is unacceptably high. The need to identify beds for emergency cases accounts for most of the 300 plus outliers per day and over 1000 operations cancelled each month across Wales.

Efficient bed management plays a crucial role in the day to day management of these pressures but there are opportunities for more pro-active management and to improve the co-ordination across Trusts, with lessons learnt from the introduction of schemes in England.

The data also demonstrates that Trusts could do more internally to alleviate these pressures: by fully utilising all community and GP beds, which are currently operating at only 77% occupancy levels; by scheduling elective patients more appropriately; and by maximising daycase levels. Although not directly addressed in this report, the low occupancy levels in obstetrics and paediatrics has been another area identified for consideration at a local level.
The Need for Action

A whole systems approach is essential to developing strategies and plans for local communities which will bring the system into balance. Whole systems capacity mapping, to be introduced by the Assembly, will be useful in identifying where the bottlenecks and backlogs are in the system. The use and refinement of dynamic modelling techniques could also help to improve understanding of how whole systems operate although they depend on robust information from all parts of the system. However, they should not be seen as a foolproof way of identifying exact capacity requirements.

Unless urgent action is taken to move quickly towards sustainable 82%-85% occupancy levels in acute medical beds the hospital system will continue to be seriously out of balance. The challenge to those who fund, provide and manage the service is to find the equivalent of and additional 479 beds through a combination of efficiency improvements, innovations and investment in additional capacity across the whole system. This report demonstrates that to achieve this, many factors must addressed including, of course, the significant increase in delayed transfers of care.

Urgent action is essential to establish a balance between key elements within the system, and a longer term programme to ensure the availability of sustainable services. Regional Directors, the new LHBs, Local Authorities and Trusts must urgently identify those actions that are the most appropriate for meeting their local circumstances and ensuring that the flow of emergency and elective care runs as smoothly as possible.
RECOMMENDATIONS

Key Theme 1: Additional capacity is required across the whole system to meet rising demands and reduce unacceptable levels of pressure within individual sectors.

Recommendations for Immediate or Urgent action

1.1. Commissioners and Trusts with other partners, must take urgent action to develop plans for each area to ensure that general medical /elderly beds in acute general hospitals operate at optimal bed occupancy levels (no more than 85%). Across Wales this must amount to the equivalent of bringing on stream at least 479 additional medical beds for main acute general hospitals. Commissioners must justify their investment strategies, identifying how they plan to deliver target bed numbers or a combination of beds and bed alternatives where these are not met.

1.2 Health and social care organisations must be given the go-ahead to proceed with the commissioning of agreed additional facilities as soon as possible, and will have to work to meet the challenge of recruiting staff and if necessary, using the revenue set aside for the additional capital infrastructure if this is the only option available.

Recommendations for longer term action

1.3 The Welsh Assembly Government should ensure that there is a sustainable level of investment in the social care sector to ensure local communities have access to a balanced health and social care system.

1.4 Developments in primary/community care, including possible engagement with the voluntary sector in schemes to avoid admissions should be targeted, to have an early effect on inpatient capacity.

1.5 Resources should be invested in primary care, in line with the Primary Care Strategy, in order to ensure that increasing demands on this sector can be met.
Key Theme 2: Partners must work together to promote a whole systems approach to the management of demand and capacity, working to develop a better understanding of the interrelationships between demand, capacity and activity in each sector and organisation.

**Recommendations for Immediate or Urgent action**

2.1. Local health and social care communities must develop robust cross-organisational arrangements and ensure that whole system strategies and plans are developed to bring the system into balance. This will include joint use of resources, and is in line with the requirement for the development of Health and Wellbeing Strategies. The proposed all-Wales 5 year strategic plan for the NHS will contribute to this aim.

2.2. Commissioners must work towards developing a sustainable whole health and social care system for their area, which provides an adequate balance for emergency and elective admissions throughout the year. They must understand and plan for the impact of Trusts not being able to maintain and balance elective and emergency beds and the impact of this on waiting times.

2.3. The Welsh Assembly Government should encourage and promote the use and refinement of dynamic modelling techniques, to be applied in each area which will inform decisions taken as part of the planning processes including the Service and Financial Framework round.

2.4. Further work must be undertaken as a matter of urgency to identify the data requirements for whole system modelling in all sectors, and action taken to start routine collection.

2.5. As a priority, additional information must be collected at a local level to determine current and predicted capacity, demand and resources within social services and the independent care home sectors, in order to assist in modelling the whole system. The introduction of the Capacity Mapping tool will form part of this work.

2.6. Commissioners need to recognise the additional pressures faced by tertiary centres and major trauma centres as a result of increased numbers of out-of-area patients, complex case mix and complex arrangements for aftercare packages.
**Recommendations for longer term action**

2.7. Further work should be undertaken at a local level to understand more fully the interrelationships between demand, capacity and activity levels in each sector. Further research could include consideration of the following:

- current conversion rates from outpatients to inpatients and daycases, in order to understand and predict the impact that rising outpatient attendances will have on demand for acute capacity;
- the factors which affect the rates of A&E attendance and ways in which this could potentially be reduced;
- the effects of local variations in residential/nursing home care provision.

2.8. The role of NHS Direct should be further developed as part of the whole system through the use of protocols, and its impact on demand in the primary and acute sectors more fully evaluated.

2.9. The role of the voluntary sector should be enhanced in order to release capacity within the acute hospital sector, with appropriate schemes introduced in each area.

**Key Theme 3: Delayed transfers of care are a major cause of capacity problems within the hospital sector. Current numbers of delays cannot be tolerated, and urgent action must be taken to significantly reduce levels.**

**Recommendations for Immediate or Urgent action**

3.1. Local Authorities with their partners must indicate as soon as possible and before this winter whether the current target reduction of 25% will be achieved by March 2003.

3.2. Contingency arrangements must be agreed with Trusts for providing alternative options for patients delayed within acute beds if this overall target is not achieved.

3.3. The nursing and residential home sectors should be utilised more fully through the provision of a regular income stream to provide a means of encouraging greater throughput and of flexing capacity at times of particular pressure.

3.4. As part of the action to reduce the numbers of delayed transfers of care, the Welsh Assembly Government should provide guidance on the issue of patient choice. Failure to act in this area will mean that many patients will remain in hospital inappropriately.
### Recommendations for longer term action

3.5. A longer-term target to reduce delayed transfers of care by 75% should be set. This would still mean that there would be approximately 200 beds in Wales occupied by delayed transfers of care at any one time. The Welsh Assembly Government must work with Local Authorities and Local Health Groups / Boards to develop plans for how this can be achieved.

### Key Theme 4: All sectors must demonstrate that existing resources are utilised efficiently and effectively

### Recommendations for Immediate or Urgent action

4.1. Trusts must be able to demonstrate to commissioners the effective use of their community and GP bed capacity, ensuring that the beds are a fully integrated and utilised part of the system through which the patients flow. Operational policies for the use of both community and GP beds should be reviewed and refined.

4.2. Trusts must demonstrate that they are making effective use of their community based services in a co-ordinated way to alleviate the pressures within the acute hospital sector.

4.3. The impact of reserving elective beds to maintain elective activity levels on the numbers of trolley waits in A&E must be fully understood and kept under review.

4.4. Daycase rates must be increased to meet Welsh Assembly targets (75%) in order to maximise elective capacity. Each health community must indicate the level of capacity that will be released by meeting this target.

4.5. Those Trusts which have yet to target reduction of outliers by reorganising beds and wards more appropriately should urgently do so.

4.6. Bed management policies should be reviewed, and procedures or services put in place to improve patient throughput during the day. Every Trust should be able to demonstrate that it has in place a combination of appropriately staffed and fully utilised patient pathways; morning ward rounds or assessments and 7-day assessment of patients by senior staff and discharge of patients at weekends, or be in a position to account for their absence.

4.7. New approaches to dynamic bed management should be implemented by this winter, through the planning and co-ordination of the acute and community bed pool across Trusts, within health economy areas.

4.8. Occupancy levels in obstetrics and paediatrics should be reviewed in the light of reducing numbers of births and alternative forms of paediatric care.
Recommendations for longer term action

4.9. Trusts must demonstrate that they have systems in place to allow them to programme elective admissions through the week to make maximum use of available capacity. This will include a consideration of 7-day working.

4.9. Lengths of stay should be analysed further at a local level, and Trusts should take opportunities to reduce lengths of stay by streamlining internal processes, and further developing the use of pre-assessment clinics.

4.10. Trusts must continue to make improvements in the management of out-patient processes which will impact positively on patients flow and scheduling.

4.11. Commissioners and Trusts must agree and approve their elective programme prior to the commencement of each financial year, to allow for better annual scheduling of elective activity.

Key Theme 5: The patient pathway must be modernised, with innovative new schemes implemented to maintain patients in the community and divert admissions.

Recommendations for Immediate and Urgent action

5.1. Trusts must continue to work with primary care to develop more dynamic approaches to the management of patients who require urgent assessment, but who do not need to be admitted. Where they are not already in place, consideration should be given to the introduction of:

- fast track assessment centres (adult), in which evaluated projects have demonstrated a 10% decrease in numbers requiring admission;

- paediatric assessment centres, which have reduced pressure on A&E and inpatient beds (by 9%);

- telephone triage systems,

- emergency outpatients clinics.

5.2. The role of intermediate care services is crucial in avoiding admissions and facilitating early discharge. Commissioners and Trusts should ensure that there is an appropriate balance of these services implemented locally. Particular emphasis must be placed on rapid response teams and reablement schemes, which have been demonstrated to save significant numbers of bed days as well as improving quality of care for patients.
5.3. In the light of the significant numbers of patients who could be diverted away from the acute hospital sector, Local Health Boards and Trusts must take forward work to manage patients with chronic conditions within the primary and community care settings. Action should focus on evidence-based schemes, such as chronic obstructive pulmonary disease (COPD) teams which demonstrate a 30% reduction in admissions for acute exacerbation.

5.4. Out of hours services should be reviewed in conjunction with proposed changes to the General Practitioner contract.

5.5. There must be an increased focus on good practice and rapid roll-out across Wales of what innovative schemes and projects which are proven to be effective.

**Recommendations for longer term action**

5.6. Trusts must ensure that all A&E Departments have rapid access to diagnostic procedures and informed interpretation of the results through extending availability of key services 24 hours a day, 7 days a week, extending the roles for clinical support services staff and introduction of protocols for nurse requesting of procedures.

5.7. Commissioners and Trusts should examine the case mix profile of all emergency admissions to determine where there is scope to develop alternative pathways, particularly for those patients with 0-2 days length of stay.

5.8. Trusts must implement schemes that reduce waiting times within Accident and Emergency Departments and streamline the patient pathway. Streaming should be considered across Wales, as it has been demonstrated to speed up diagnosis and reduce waiting times in A&E Departments by up to 30%.

5.9. The impact of GPs, nurse practitioners and other health care professionals within the A&E setting can be significant, and further developments should be considered.
Key Theme 6: Data collection within all sectors should be improved, both in terms of usefulness and accuracy

**Recommendations for longer term action**

6.1. There must be a drive, led centrally, to develop and standardise data collection and accuracy of information.

6.2. Data required for ongoing monitoring and evaluation of primary and community care services need to be identified and systems developed for collection and collation.

Key Theme 7: Workforce issues must be considered and new ways of working developed

**Recommendations for longer term action**

7.1. Local health and social care communities must consider the major workforce issues which impact on capacity and capability within each sector.

7.2. The major workforce issues affecting primary care provision, and in particular the proposed new GP contract, need to be understood.

7.3. New ways of working for staff should be developed, which may include the introduction of 7 day working and changes to Consultant job plans to allow for morning ward rounds. Changes introduced as part of the new Consultant contracts may facilitate this.

Key Theme 8: Trusts and commissioners should consider implementing schemes or practices that have been shown to work well and which alleviate pressures on the system.

8.1. Examples of schemes or practices which are described within the report and which have been successful in alleviating pressures across the system are listed below:

- Fast track assessment units, to avoid admission where appropriate
- Paediatric assessment or ambulatory units
- COPD teams to avoid admissions for acute exacerbation of chronic disease
- Patient discharge lounges
- Consultant ward rounds moved to the mornings to facilitate earlier discharge
- Elective admissions phased throughout the week to make most effective use of capacity
- Streaming within A&E Departments
- Rapid access to diagnostic services within A&E / fast track centres
- Rapid response teams
- Reablement teams
- Trust wide approaches to bed management for both acute and community beds, managed as a continuum of patient care (e.g. step-down)
SECTION 1 – INTRODUCTION

1.1 Introduction

This report was commissioned by the Director of NHS Wales in October 2001, and examines the progress made in respect of capacity issues within Wales since the publication of the Report of the Capacity Working Group in 2000\(^1\). It also makes recommendations on further action required to address areas of concern.


The Capacity Working Group was established as a sub-group of the Emergency Pressures Task Force in 2000. The terms of reference for the Emergency Pressures Task Force were to:

- review the causes and responses of NHS and partner organisations to the pressures experienced over the Winter period;
- identify areas of good practice;
- recommend both short and medium term responses by respective partners to promote best operational practice in all sectors;
- provide a framework for medium term investment and planning;
- promote a whole systems approach in line with Health Improvement Plans and Social Care Plans.


The Report of the Capacity Working Group was incorporated as a major part of a subsequent document compiled by the Emergency Pressures Task Force (2000)\(^2\), which made wide-ranging short to medium term recommendations in respect of local work to be undertaken by health economies. The key recommendations were to:

- increase medical bed capacity to manage emergency admission pressures and to make available adequate elective capacity;
- develop a whole systems response to address the reasons for extended lengths of stay;
- increase critical care capacity in Wales;
- develop a better understanding of the reasons for increasing referrals in order to develop appropriate responses to demand management and whole systems support;
- take action to plan for variations in emergency workload leading to a more stable planning environment to balance emergency and elective workload;
- determine the balance between acute and intermediate beds in each health community;
- explore local variations in bed numbers across Health Authorities;
- implement additional analysis and routine information collection in critical areas (such as delayed discharges and medical outliers).
Reference was made to the importance of a whole systems approach, and the report advocated the need to plan across local health economies, requiring the co-operation and collaboration of all relevant partners. It should be noted, however, that this concept was in its infancy at that time.

Through the use of modelling techniques the Report of the Capacity Working Group (2000) suggested that 463 additional general medical / care of the elderly beds would be required across Wales in order to move to an optimal bed occupancy level of 85% in these specialities.

“Putting Wales First: A Partnership for the People of Wales (The First Partnership Agreement of the National Assembly for Wales)” (4) published in October 2000, indicated that 400 additional inpatient beds would be commissioned in order to achieve “rapid implementation” of the recommendations within the Report of the Emergency Pressures Task Force.

1.3 Actions since 2000

During the last two years, progress has been made towards a number of the recommendations outlined in the Report of the Capacity Working Group (2000), and in particular, funding for additional capacity has been increased. More cohesive planning has also taken place, led primarily by the Emergency Pressures Task Force established by Jane Hutt, Minister for Health and Social Services. Notable achievements include:

- Emergency Pressures Task Force Report (on Capacity Planning);
- Emergency Pressures Planning Guidance; (5)
- establishment of situation reporting (SITREPs) system;
- Keep Well this Winter campaign;
- investment of £40 million by the Welsh Assembly Government to address emergency pressures and waiting times;
- establishment of Critical Care Development Group;
- grant for Reduction in Delayed Transfers of Care and Supporting Care Home Sector ;
- Flexibilities Special Grants;
- databases for delayed transfers of care and cancelled operations;
- increase of 114 medical beds in acute general hospitals against the proposed figure of 463 identified in Report of the Capacity Working Group (2000).

During the latter part of 2001, the Welsh Assembly Government commissioned a report from District Audit, through the Audit Commission. (6) The purpose of this report was to track the use of the extra resources, comment on processes used for distribution, identify good practice and identify potential for improvement.
The District Audit Report identified a number of examples of good practice, but suggested that there were lessons to be learnt for the future. Of particular concern was the fact that only 30% of the additional resource was spent on emergency pressures and that there was an inconsistent strategic approach to the targeting of the new funds by Health Authorities. It also identified the need to focus on good practice and ‘what works’, improve performance monitoring and management, and speed up the process of implementation.

However, the report also suggested that the ability of Trusts to implement schemes was compromised by the short-notice of funding, ability to recruit, and in some cases, physical capability for additional beds without substantial capital investment.

1.4 Terms of reference for this Report

The principal aims of this report, as outlined in the project proposal, which is attached as appendix 1 are to:

- review the impact and progress made since the publication of the Report of the Capacity Working Group (2000);

- identify whether the projections made in that Report for additional beds, if implemented in full, would result in sustainable systems capable of dealing with both emergency and elective admissions.

Given the reference to whole systems working within the Capacity Working Group Report (2000) and the importance placed on this issue in the subsequent District Audit Report, this report has broadened its remit to include capacity issues within primary care, community, social care and independent sectors. This allows conclusions to be drawn on the interrelationships between capacity and demand in each sector, and on the degree to which the whole system is in balance.

The District Audit Report also suggested that the implementation of integrated acute and community Trusts could potentially be an advantage in managing emergency pressures and waiting times. This report, within the data available, therefore also reviews how successful the newly established integrated Trusts have been in effectively managing their patient flows and utilising all their available resources.

1.5 Scope

The scope of the work initially outlined in the project proposal, was approved by Health Authority and Trust Chief Executives, and the Director of NHS Wales. It identifies the entire project as having several distinct phases, with this report encompassing stages 1 and 2. The stages are outlined as follows:
Stage 2 represents a significant piece of work, which further explores the issues raised in the Report of Capacity Working Group (2000) and makes a number of substantial recommendations for immediate and longer term action. However, this report and its recommendations should not be seen as an end in themselves. The complex relationships between demand, capacity, emergency and elective workload have an on-going dynamic, which will require local health and social care economies to develop on-going mechanisms for sustained engagement in whole systems working. This would form the basis of Stage 3 of the project.
1.6 Methodological Approach

The methodological approach to the initial stages of the project, culminating in this report has attempted to be inclusive, as shown in figure 2.

Figure 2: Methodological approach

The sources of data utilised for informing this report are outlined in appendix 2, and references are outlined in appendix 3.
1.7 Structure of Document

Section 2 sets the scene in Wales and outlines the key influences on the health and social care systems.

Section 3 explores the relationship between demand in the acute hospital sector and capacity within the primary care, community, social care and independent sectors, and considers to what degree the whole system is in balance.

Section 4 describes the elective and urgent gateways to acute hospital care, and examines the way in which these generate demand. Activity levels and trends are identified over time, together with an analysis of local variations.

Section 5 considers the current acute hospital capacity, makes comparisons with the situation as described in the Capacity Working Group Report (2000), identifies pressure points and analyses data showing local variations in utilisation of the acute and community bed resources across integrated Trusts.

Section 6 considers the need for a whole systems approach, and describes how modelling techniques can be utilised to better effect.

Section 7 draws out the main conclusions.

Each section highlights key themes and recommendations for the way forward, and presents an overview of the situation at an all-Wales level, as well as describing local variations.
SECTION 2 – SETTING THE SCENE: AN OVERVIEW

2.1 Introduction

Despite significant progress to increase capacity over the last two years, emergency pressures continue to dominate the health agenda for Wales.

The purpose of this section is to:

- describe a system out of balance;
- review the key drivers for change;
- introduce the need for a whole systems approach.

2.2 The NHS in Wales – a system out of balance

Key Theme 1: The NHS is a system out of balance

There are 2.9 million people living in Wales. On a typical day, thousands need urgent or emergency access to the health service: 1,186 contact their General Practitioner out of hours, 450 contact NHS Direct, 724 require urgent transport to hospital by ambulance and 2,800 patients attend an Accident and Emergency Department.

Once patients arrive in the Accident and Emergency Department, many have to wait longer than they should. Around 16% of them will need to be admitted to hospital, but nearly 1,600 patients every month have to wait over 4 hours on a trolley before a bed is found.

On average, 817 patients are admitted each day to hospital as emergencies – an increase of 2.5% in just 2 years. 357 of them will be emergency medical admissions, 25% of whom will be over the age of 75.

Patients across Wales have to wait too long for assessment and treatment – nearly 69,000 are waiting over 6 months for their first outpatient appointment with a consultant, and over 10,000 are waiting over 12 months for admission to hospital. There is an increased drive to reduce the times that patients have to wait, so hospitals are under increased pressure to admit as many people as possible - but they manage to admit only 400 elective patients daily.

The increasing numbers of emergencies and the increased demand to admit electives puts unacceptable strain on the acute hospital sector and the staff who have to manage the situation. Medical beds have average occupancy levels of 92% at midnight, and at midday these rise to 98%. Beds are often only left unoccupied while bedding is changed, with turnover intervals (the time taken for beds to be filled) recorded as 0.72 days on average – in some hospitals turnover intervals are as low as 0.2 days.

An average of 806 patients who could have been transferred to other beds/care settings (delayed transfers of care) are taking up valuable beds in hospital each day,
about three quarters of whom are in acute and community beds. 336 patients will be
found in beds not designated for medical patients (outliers), which means that the
opportunity for 122,640 surgical bed days are being lost in Wales as a result. In turn,
the pressure on the hospital system is so great that 1,000 patients have their operations
cancelled each month, a large proportion of which may be due to pressures placed on
the hospital system.

At the same time, other beds in community hospitals may lie empty for a week
between patients (the average turnover interval is 7.5 days), with average bed
occupancy levels of 77%, and some community hospitals operating at only 55%
occupancy levels. Within the acute hospitals themselves, some areas such as
obstetrics and paediatrics are also operating at low bed occupancy levels (45 % and
52% respectively).

Hospitals bring in more elective patients on a Monday, and these are often the most
complex cases needing critical care beds. This is despite the fact that Mondays are the
busiest day of the week for most acute general hospitals, when A&E attendances are
highest, emergency admissions peak as GPs do their rounds after the weekend, and a
large number of discharges of patients are held over from the weekend.

Though daycases have risen by 13% over the last two years, there are still more
patients who could potentially be treated as a daycase rather than as an inpatient, and
many patients with chronic diseases who are admitted to hospital who could be cared
for more appropriately in the community.

There are clearly local variations across Wales, with some areas coping better than
others.

These statistics graphically illustrate a system out of balance and the complexity of
the inter-relationships between demand/capacity and emergency/elective workloads,
which can only be addressed through a whole systems approach. This situation
cannot be sustained. The drive to reduce these pressures and bring the system into
balance is the rationale behind this report and its recommendations.

Whilst all of these pressures cannot be addressed at once, clearly a number of urgent
measures have to be agreed for early and immediate action in key areas, particularly
in the use and number of hospital beds. Other actions which could reduce demand
through admissions avoidance or early discharge should also be actively pursued,
along with more integrated working practices amongst primary care, secondary,
community, social care and independent sector partners.
2.3 Key Influences

Key Theme 2: There are a number of key influences that impact on the whole system

There are a number of key influences on the whole system in Wales, which impact on demand, capacity and on policy development. It is important to have a broad overview of each, acknowledging that many other strategies and documents outline the issues in greater depth and detail.

2.3.1 Demographic Factors

Population Size

Population size is one of the key factors which governs demand for health and social care services, and it is important that due diligence is paid to this when planning and commissioning services at the local level. In addition it should also be realised that there has been a net in-flow of patients into Wales over recent years, reversing previous trends.

The population of Wales is currently 2,937,000. This represents 4.9% of the total UK population. Scotland has a greater population (5,119,200) and Northern Ireland a smaller population (1,691,800).

The resident population by Health Authority is often used as one of the proxies to determine resource requirements for each area.

<table>
<thead>
<tr>
<th>Health Authority</th>
<th>Resident Population (‘000s)</th>
<th>% of Wales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bro Taf</td>
<td>742.4</td>
<td>25%</td>
</tr>
<tr>
<td>Dyfed Powys</td>
<td>480.7</td>
<td>16%</td>
</tr>
<tr>
<td>Gwent</td>
<td>556.6</td>
<td>19%</td>
</tr>
<tr>
<td>Morgannwg</td>
<td>499.6</td>
<td>17%</td>
</tr>
<tr>
<td>North Wales</td>
<td>657.7</td>
<td>22%</td>
</tr>
<tr>
<td>WALES</td>
<td>2937.0</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: Health Statistics Wales 2001

Based on trends in births, deaths and migration, it is forecast that the number of individuals living in Wales will rise by a further 32,300 by 2006 and exceed 3 million by 2016.
Age Profile

Key Theme 3: Wales has the highest percentage of population aged 65 and over in the UK

The age profile of the population is one of the critical factors to be considered by health and social care economies in planning future services. Of particular interest is the proportion of the population who are elderly. Statistics indicate that Wales has the highest proportion of the population aged 65 and over in the UK as shown in figure 4. This is significant, and potentially supports the requirement for additional resources within Wales, along with some of the data in respect of morbidity and mortality.

Figure 4: Percentage Population aged 65 and over

<table>
<thead>
<tr>
<th></th>
<th>Wales</th>
<th>England</th>
<th>Scotland</th>
<th>N. Ireland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Population (000s)</td>
<td>2,937</td>
<td>49,752.9</td>
<td>5,119.2</td>
<td>1691.8</td>
</tr>
<tr>
<td>Population aged 65+ (000s)</td>
<td>507.3</td>
<td>7761.4</td>
<td>788.3</td>
<td>219.9</td>
</tr>
<tr>
<td>% population aged 65+</td>
<td>17.3%</td>
<td>15.6%</td>
<td>15.4%</td>
<td>13%</td>
</tr>
</tbody>
</table>

Source: Health Statistics Wales 2001

Some 17% of the population in Wales are aged 65 years and over. This proportion is increasing. It is projected that 18% of the Welsh population will be aged 65 or over by 2011 and 20% by 2016.

Figures vary considerably between areas, with North Wales and Dyfed Powys Health Authorities having the highest proportion of their populations aged 65 and over. Wider variations are also noted between unitary authority areas, with a range between 14% (Cardiff) and 23% (Conwy).

Figure 5: Population aged 65 and over by Health Authority (% of total population)

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Bro Taf</th>
<th>Dyfed Powys</th>
<th>Gwent</th>
<th>Morgannwg</th>
<th>North Wales</th>
</tr>
</thead>
<tbody>
<tr>
<td>65-74</td>
<td>8.2</td>
<td>10.3</td>
<td>8.8</td>
<td>9.3</td>
<td>9.6</td>
</tr>
<tr>
<td>75+</td>
<td>7.1</td>
<td>9.1</td>
<td>7.3</td>
<td>8.3</td>
<td>8.9</td>
</tr>
<tr>
<td>Total over 65 years</td>
<td>15.3</td>
<td>19.4</td>
<td>16.1</td>
<td>17.6</td>
<td>18.5</td>
</tr>
</tbody>
</table>

Source: Health Statistics Wales 2001

The National Bed Inquiry\(^8\) notes that the Royal Commission on Long Term Care suggested that the population over 85 was expected to increase in the next 20 years by about 22%, but suggested that the rise could in fact be as high as 50%.

The changing age-profile of the population is mirrored by the changing age-profile of admissions to hospitals. The data demonstrates that the proportion of overall admissions in Wales of people aged over 75 has increased by 12% over the last 6 years (PEDW). Within general medicine / care of the elderly, this is even more starkly apparent, where a 15% increase is noted.
2.3.2 Sparcity

Sparcity or density of population is a further factor that is of some significance when considering distribution of resources and activity. Wales overall has a lower density of population than the UK average. However, there are significant local variations between a range of 2,292 people per sq. km in Cardiff and 24 people per sq. km in Powys.

Figure 6:

Population Density by Unitary Authority

Persons per square Km

- 24 - 46
- 47 - 107
- 108 - 251
- 252 - 362
- 363 - 733
- 2292
2.3.3 Morbidity/Mortality

**Key Theme 4: Morbidity and mortality rates are higher in Wales than in England**

**Mortality**

The age adjusted mortality rate per 100,000 population is higher in Wales than in England: for males, Wales’ figures of 930 compares with 870.7 in England. For females, Wales’ 617.8 compares with 581.7 in England.

**Morbidity**

The prevalence of selected medical conditions per 1000 patients between 1994 – 1998 shows that Wales has greater levels of illness with which to contend than in England.

**Figure 7: Prevalence of selected conditions per 1000 patients (male)**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Wales</th>
<th>England</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coronary Heart Disease</td>
<td>41.8</td>
<td>35.5</td>
</tr>
<tr>
<td>Hypertension</td>
<td>67.3</td>
<td>55.6</td>
</tr>
<tr>
<td>Insulin treated diabetes</td>
<td>6.6</td>
<td>5.0</td>
</tr>
<tr>
<td>Asthma</td>
<td>77.2</td>
<td>70.4</td>
</tr>
</tbody>
</table>

*Source: Health Statistics Wales 2001*

The female rates also show consistently higher prevalence of these selected conditions in Wales than in England.

Average life expectancy for a woman born in Wales is currently just over 79 years (about 5 years longer than for males). Again the variations in local authority areas can be significant.

Data is also available which demonstrates health status summary health scores. Figures for 1998 show a variation in physical health summary scores from 49.4 (Cardiff and Vale of Glamorgan) to 45.9 (Blaenau Gwent). Variations in mental health summary scores show a range of between 51.8 (Isle of Anglesey) and 47.4 (Merthyr Tydfil).
2.3.4 Deprivation

Key Theme 5: Deprivation levels in parts of Wales impact on morbidity and mortality and are one of the causes of inequalities in health

It is well evidenced that variations in mortality and morbidity may be linked with deprivation, and the Welsh Index of Multiple Deprivation shows significant variations across the electoral wards in Wales. Figure 8 shows the percentage of wards in each Local Authority which are among the 40% most deprived in Wales. This indicates severe deprivation in Merthyr Tydfil and Blaenau Gwent, and the least deprivation in Powys and Monmouthshire.

Figure 8: Percentage of electoral wards in each Local Authority among the 40% most deprived in Wales

Source: Welsh Assembly Government

The Chief Medical Officer’s Report (9) confirms that “there are substantial variations in the health experiences of different social groups and communities in Wales. These variations have been increasing and are of particular concern in the valley areas of South Wales.” The levels of deprivation in these areas can be seen to be amongst the highest, which confirms the links with health inequalities. Assembly policy clearly dictates that multi agency partnership working is the only way of tackling the socio-economic and environmental determinants of health, and many activities are already evolving in Wales to support the reduction of health inequalities at national and local levels.
2.3.5 Policy Initiatives

Key Theme 6: ‘Improving Health in Wales’ is the major driver of health policy and strategy

‘Improving Health in Wales’

The underlying basis of health policy in Wales and the major influence upon the development of priorities and services has been the publication of ‘Improving Health in Wales – a Plan for the NHS with its Partners’ (10). This was well received across Wales, and provides much needed strategic direction for all areas of the NHS.

This strategy confirms the commitment to increase general and critical care bed capacity in line with overall targets set out in the Partnership Agreement.

Taking this further the Welsh Assembly Government has proposed that a 5-year strategic plan for the NHS should be developed linking service, workforce, estates, information and financial planning elements. This will then provide the context against which decisions are taken at Assembly level on target-setting and resource allocation, and will inform central commissioning.

Drive to reduce waiting times

Waiting lists remain higher in Wales than those in England, with many patients still waiting over 6 months for their first outpatient appointment, and over 12 months for an inpatient admission. In accordance with national targets, there is a concerted drive to reduce waiting times in Wales, which will in turn lead to greater demand on elective surgical beds, and may compromise ability to effectively manage emergency admissions.

Service and Financial Frameworks

Health economies are now required to complete local Service and Financial Frameworks (SAFF) (11) for 2002/2003, which set out how they will deliver the Assembly’s priorities and requirements for the following year, alongside local priorities, within the resources available.

Key service priorities include:

- maintaining an adequate Accident and Emergency response;
- addressing clinical governance in the agenda from the Kennedy (12) report;
- greater emphasis on meeting waiting times targets;
- clinical standards and clinical governance issues;
- human resource requirements (Delivering for Patients); (13)
- meeting Improving Health in Wales milestones;
- financial imperatives;
- access to a member of primary care practice team within 24 hours of making an appointment (and much sooner in an emergency) by March 2003;
- reduction in delayed transfers of care.

Organisational change

‘Improving Health in Wales’ outlined major organisational structural changes to be implemented, with the abolition of Health Authorities, and introduction of 22 Local Health Boards (LHBs), 3 Regional Offices and a new agency to undertake the commissioning of specialised services (Health Commission Wales (specialist services)). These changes will take effect in April 2003, but the potential impact on the NHS in the next year should not be underestimated. However, it is clear that these changes must not be used as a reason to delay taking forward the recommendations of this report within the defined timescales. Indeed, improved partnership working, focussed at LHB level and overseen by the Regional Offices should be seen as a positive benefit, which will strengthen the ability to achieve these aims at a local level.

2.3.6 Financial Resources

<table>
<thead>
<tr>
<th>Key Theme 7: The lack of resources in the healthcare system is being addressed through large increases in funding allocations in the next few years</th>
</tr>
</thead>
<tbody>
<tr>
<td>The availability of financial resources is a key influence on the capacity and capability of the health service and its partners.</td>
</tr>
</tbody>
</table>

‘Improving Health in Wales’ gave a commitment to increasing resources for the NHS and its partners. This increase was confirmed by the Welsh Assembly Government following the Chancellor’s Budget statement in April 2002. It is now clear that there will be sustained investment, with significant increases in real-term resources in the NHS over the next few years, which will move expenditure levels towards those achieved in other parts of Europe.

Some key facts from the Wanless Report (14) also demonstrate the relative lack of resources within the healthcare system in the UK and Wales:

- the UK currently employs fewer doctors and nurses per head than most other European countries;
- although the numbers have increased in the U.K. they have not increased at the same rate as in other countries. The UK’s relative position has been declining as other countries have expanded their nursing workforce at a much faster rate.

It is also clear that there is an increasing imperative on the health service and its partners to ensure that these increased resources are utilised on the basis of clear strategic plans, developed in collaboration with all partners.
2.3.7 Workforce Issues

**Key Theme 8: There are major workforce issues within the NHS which impact on the way in which services are planned and can be delivered**

Workforce issues are a key influence on the way in which services are planned and can be delivered, and impact on the capacity and capability of each of the components of the whole system.

Within ‘Improving Health in Wales’ a commitment was given to significantly increase the number of clinical staff trained and employed within the NHS. The effective implementation of in-depth and accurate workforce planning is therefore a key target for the service.

However, recruitment and retention remain a significant problem, and as a result, capacity to deliver targets is compromised. A survey undertaken in December 2001 amongst Trusts in Wales highlighted that 9% of all consultant posts in Wales were vacant. A potential of 200 consultant retirements in Wales in the next 5 years was also identified, which represents 14% of the overall consultant workforce (15).

There is also a shortage of nurses: recent data shows a current vacancy level of 800 nurses in Wales, and the Royal College of Nursing (RCN) has warned of potential overall shortfall of between 2,000 and 3,000 nurses in Wales to meet required plans. Other healthcare professions are also experiencing severe shortages.

It is therefore imperative that all Trusts work in partnership with other bodies to develop co-ordinated and innovative recruitment initiatives, including international and e-recruitment. It should be noted that the UK already relies heavily on international migration: almost one third of our doctors and one eighth of our nurses were born outside of the UK (15). In a recent newspaper article (16), the general secretary of the RCN noted that half of newly registered nurses in Britain (to March 2002) came from overseas. She observed that, “…it is acknowledged that nursing is now a global profession and that the international mobility of nurses is not a new concept.”

At the same time, Trusts must ensure that they improve the working conditions for their existing workforce to reduce attrition rates and combat high levels of sickness and absenteeism. The increased use of flexible working, family friendly policies, better environments, and extended occupational health services are but a few of the issues that must be urgently addressed.

Other issues that also require consideration are:

- the workforce tends to be marked by a strong demarcation of roles between staff groups;
- existing evidence suggests that between 25 and 70% of doctors’ current roles and responsibilities could be undertaken by nurses or other health care professionals;
- healthcare assistants could undertake much of the routine work of nurses;
we have an ageing workforce with almost half of the current nursing workforce over 40 years of age;
various changes in working practices and training for doctors and nurses result in staff spending less time directly involved in patient care e.g. 40% of consultant time is now spent on teaching, training, audit and management of appraisal;
potential time lag which can occur between training and taking up post, and development of infrastructure in academia;
new contracts for GPs and consultants, and changes to pay structures through ‘Agenda for Change’(17).

2.3.8 Technology

| Key Theme 9: Changes in clinical and information technology are driving the way that services are organised and managed |

Changes occur rapidly in both clinical and information technology, which potentially changes the way in which services are organised and managed, and affects capacity and use of resources. Examples include tele-medicine, which in some areas radically alters the pattern of delivery of services.

The UK’s position historically as a late and slow adopter of medical technology was identified in an interim report by Derek Wanless, (18) concluding that “overall new technology is likely to continue to put upward pressure on health care spending as it enables more people to be treated and for longer periods of time”.

In terms of information technology, advances mean that the NHS is now able, and is planning to connect all parts of the system, with the aim of producing an electronic patient record which will change the way we work. In his final document, (14) Wanless cites a study at Duke University whose findings show that use of such a system resulted in an overall time saving for doctors of 13%. Introduction of a significant programme of information and communications technology investment to deliver the infrastructure and then applications, will ensure the delivery of such targets.

Such advances should not be halted, as a recent report (19) suggested that a physician-order-entry system in an inpatient setting reduced lengths of stay by 10.5%, reduced test charges by 12.5% and reduced drug costs by 15.3%.
2.3.9 Public Expectation

**Key Theme 10: Public expectation is increasing**

Despite all the problems identified within the health service, satisfaction with today’s health service is often high. A recent MORI survey undertaken across Britain in February 2002 found that 83% of people are satisfied with their GP. Whilst satisfaction with GPs is generally higher than with hospitals, patients are generally happy with the friendliness of hospital staff and the quality of care provided.

The Wanless Report clearly indicates that over the last few years there has been a change in patients’ perception and expectation, and indicates that this heightened expectation will continue to increase.

With each policy statement from Government, patient expectation increases further, and there is a perception that immediate improvements within the health service will follow such statements.

The patient of tomorrow is described as:

- better informed;
- more educated;
- having a busy lifestyle with inadequate time to do things;
- more affluent;
- less deferential to authority and professionals;
- having more to compare the health service against;
- will want control and more choice (and will reject “one fits all” services).

The Workforce Foundation has identified that over 50% of the adult UK population now have their own personal computer, and it has been estimated that by 2004 almost 40% of the adult population in the UK will be using the internet. Over half of current users report to have used the internet for health-related purposes. There are around 10,000 health information websites within the EU and this is growing rapidly by 300 per month. This increases patients’ access to information, but as the Wanless Report indicates, it also “…raises issues about its quality and reliability”.

2.3.10 Comparisons with England

**Key Theme 11: Lessons can be learnt from the way in which England deals with emergency pressures and demand to reduce waiting times**

Capacity issues are not peculiar to Wales alone. England faces similar problems, and changes within England are often subsequently implemented in Wales. However, it is worth noting that England has experienced difficulty in accommodating emergency admissions, with trolley waits in A&E at unacceptably high levels. This may, in part, be due to the significant progress that has been made in reducing waiting times for elective treatment and greater pressure to reserve beds for elective admissions.
Every NHS Trust and Primary Care Trust in England has been asked to appoint an emergency care lead, who will work across health communities to ensure good coordination of bed management. Each Trust has recently completed a “stock-take” of the number of beds required to meet the standards as set out in England’s NHS Plan, and the Department of Health will use the information to identify the overall capacity required to deliver.

2.4 Improving Health and Well-being: a Whole Systems Approach

The new drive towards improving health and well-being across Wales involves the requirement for close collaboration of many sectors and organisations, including:

- NHS Trusts (including secondary and community health care);
- Local Health Boards and General Practitioners;
- Social Services;
- voluntary sector;
- independent care homes sector;
- transport;
- housing;
- education;
- environment;
- economy.

From 2003, there will be a requirement for Local Authorities and Local Health Boards with their partners to develop Health and Well Being Partnerships, and produce Health and Well-Being strategies. The NHS in Wales cannot therefore plan in isolation, and interrelationships between different sectors must be considered. The contribution of all sectors is essential, as all are interrelated, with practices in one area having a significant impact on other parts of the system.

If every organisation works towards achieving optimal efficiency and also collectively engages in whole systems working, this will help to ensure a system in balance with no one part of the service under extreme pressure because of under investment or under capacity elsewhere. The degree to which this can be achieved will determine the effectiveness of health and social care provided. In those areas where this is less effective, the outcome is disruption within one or several parts of the continuum of care. This may be regarded as a Utopian view, but seeks to illustrate the concept of, and importance of whole systems working.

Whilst there is an appreciation that whole systems working must take into account all of the above, this report concentrates on the following areas:

- Primary and community care setting;
- social care and independent care home providers;
- the elective and emergency gateways;
- hospital sector.
SECTION 3 - PRIMARY CARE, COMMUNITY, SOCIAL CARE AND INDEPENDENT SECTORS

3.1 Introduction

The purpose of this section is to:

- establish how demand on the acute hospital sector is affected by capacity and provision within the primary care, community, social care and independent sectors;
- evaluate current capacity within primary and community care sectors in Wales.

3.2 Interrelationship between acute hospital sector, and primary care, community, social care and independent sectors

Key Theme 1: Demand in the acute sector is affected by capacity in the primary care and community care sectors to support patients in their own homes or other places of residence, despite their heightened care needs. Effective support in the community will lead to:

- preventing break down of care regimes which would necessitate admission;
- facilitating safe and timely discharge;
- reducing readmission rates;
- preventing ill health/accidents that might precipitate admission;
- increasing personal independence.

The following sections outline in more detail areas in which it is evident that capacity and demand within primary care, community, social care and the independent care home sectors affects demand for acute services.

3.2.1 Chronic Disease Management

Key Theme 2: The management of patients with chronic disease has a particularly strong influence upon demand and capacity within the acute sector. Evidence suggests that many patients currently treated in hospital could be better cared for at home or in the community

Using primary and secondary diagnoses only, PEDW data for 2001/02 indicates that 5% of general medical and elderly medical emergency admissions are for Chronic Obstructive Pulmonary Disease (COPD). This equates to 6121 patients a year. Data presented from seven similar schemes across the UK indicates that the provision of a hospital at home service for COPD can provide potential for avoiding 30% of admissions for acute exacerbations of COPD. For Wales this would result in a saving of 14,323 bed days per year. Acute exacerbations of COPD represent a significant proportion of total medical admissions and many are admitted during the winter months when acute medical beds are under particularly severe pressure.\(^{(21)}\)
Schemes of this nature have been implemented in a number of places in the UK. In some of the schemes patients do not require additional input from the GP or community services of any kind, as the patient remains under the care of the hospital consultant and hospital outreach respiratory team (which includes for example specialist nurses and physiotherapists). Evaluations suggest not only a clear effect on saving bed days but also a significant impact on quality of care of patients, with only 1 out of 10 requiring subsequent admission to hospital. In Torbay’s pilot it has been estimated that an average of 4.6 bed days has been saved every day, with an overall total saving of 481 inpatient bed days over the 4 month pilot.

A King’s Fund study on emergency hospital admissions in London between 1997 and 2001(22) identified that the ‘greatest use of resources (bed days) in acute hospitals during December and January is by older people, in particular those with chronic respiratory conditions and ‘acute on chronic’ disease. The three main respiratory illnesses involved were COPD, pneumonia and other acute lower respiratory infections.’

The report went on to state that many older people with chronic respiratory disease are identifiable in advance of winter. They can therefore be the subject of much more proactive management through the winter months in order to reduce the risk of an emergency admission. They suggested that this proactive management could include immunisation against influenza and also regular weekly or daily review during the critical few weeks in December and early January. They concluded that primary care should be supported to design robust and proactive packages of care to reduce emergency admissions for these patients.

Diabetes is another example of a chronic disease that places significant demands on the acute hospital sector. Based on data from a recent review by TARDIS (Type 2 Diabetes: Accounting for a Major Resource Demand in Society) the King’s Fund (23) have estimated that a person with Type 2 diabetes in the UK incurs on average, direct costs of over £2000 per year. Over 80% of this is accounted for within the NHS, and the estimated total NHS spend in 1998 for all people with Type 2 diabetes in the UK is was approximately £2.0 billion. It is also considered that more than 40% of NHS costs for the patient with Type 2 diabetes are associated with inpatient care.

It is therefore considered that investing in primary care and reducing complications has the potential to lessen spending in secondary care as well as improving quality of life for people with diabetes themselves. The NSF for Diabetes (24) provides a blueprint for how this group of patients should most appropriately be managed. Other NSFs are becoming available which will allow this philosophy to be rolled out further, such as Coronary Heart Disease. (25)

Case mix analysis of admissions indicates that there may be scope for integrated Trusts to identify other areas that may be targeted in order to reduce future admissions. The following chart identifies emergency admissions for general medicine/elderly and highlights the top ten reasons for admissions (which constitutes 39% of all emergency admissions in this specialty).
This demonstrates that many of these patients may fall into the category of those with chronic disease, such as chronic obstructive pulmonary disease (COPD), asthma, diabetes, ischaemic heart disease or heart failure, who could potentially receive a large proportion of their care outside the hospital environment.

**Figure 9: General and Elderly Medicine: Casemix Analysis, 2001/02**

![Pneumonia (3%) Unspecified Stroke (2%) Poisoning by pain killers (2%)](image)

Greater investment is needed in preventative approaches that improve the management of chronic conditions. This will entail the need for primary, community and social care services to work together in identifying people at risk and the creation of robust packages of care which could reduce the need for admission to hospitals.
3.2.2 Management of Patients within the Community

<table>
<thead>
<tr>
<th>Key Theme 3: Many other examples of services to support patients in the community exist, with some evidence of significant shifts in patients away from acute hospitals care. Good practice has yet to be rolled out across Wales</th>
</tr>
</thead>
</table>

There are a range of services, many innovative and new, which support patients in the community. These largely fall into the category of intermediate care services. The Department of Health issued guidance on the definition of these services (26) (to be mirrored in guidance to be produced by the Welsh Assembly Government in the near future). Intermediate care services will normally meet the following criteria:

- targeted at facilitating earlier discharge or avoiding admission to acute care or long term residential care;
- seek to maximise rehabilitation and recovery after illness;
- have a planned outcome of maximising independence;
- are time limited, typically lasting no more than 6 weeks;
- involve cross-professional working.

A range of approaches have been highlighted for further development in Wales:

**Rapid Response Teams:** Evidence suggests that rapid response teams can provide an alternative to admission and facilitate timely discharge from hospital. The teams can prevent a proportion of acute admissions by providing rapid assessment/diagnosis and equipment or housing based support services, along with short term nursing/therapy support if necessary. For example this service in Wrexham and Flintshire has saved more than 1,000 bed days during the winter months. The rapid response team in Rotherham saved over 4,000 bed days in 2001/02 (equivalent to 11 hospital beds).

**Elderly care assessment teams:** the adoption of elderly care assessment teams in some areas e.g. Conwy have proven to be very successful in reducing a number of inappropriate admissions and assisting timely discharge. Subjective evidence for this scheme suggests that up to 2,800 bed days have been saved by the service within the first two years.

**Hospital at home** is also advocated by the Intermediate Care Task and Finish Group in Wales, (27) providing intensive support in the patient’s own home, including investigations and treatment which are above the level that would normally be provided in primary care. Within such a scheme in Bolton, care can be provided for up to 15 patients for up to 14 days. The service receives referrals for patients requiring blood/platelet transfusion, IV therapy, chemotherapy, terminal care, nebuliser therapy, or patients with chest infections, pneumonia or unstable diabetes.

**Reablement** is a short term programme of intensive support and therapy in the patient’s own home, providing the opportunity for people to regain skills that they have lost or to learn new skills to help them to deal with their changed abilities. This enables them to be discharged from hospital earlier and allows them to continue living in their own home rather than remaining in hospital or being admitted to other forms of residential or nursing home care. The evaluation of a scheme in the Llynfi Valley
indicated that 88% of service users who had completed a reablement programme required less service provision than they would have done without access to the scheme. The individual patient programmes varied in their complexity and length but were shown to release financial savings and improve quality of life.

**Private nursing home or residential care beds:** North East Wales NHS Trust have contracted with the private sector to provide a range of step up beds to support the management of patients within the community, together with step down beds to facilitate early discharge. This provides the potential for flexing capacity within the system at times of crisis.

Other examples of groups of patients who can more appropriately be treated within the community and admission avoided can be determined through further analysis of case mix of emergency admissions. Figure 10 presents data on the case mix for Trauma and Orthopaedics emergencies in Wales. This demonstrates that the top 3 reasons for admission, accounting for 40% of all admissions, are for fracture of femur, forearm, and the lower leg including ankle. Many of these patients will be elderly, and there is currently much work underway in developing services to prevent slips, trips and falls in this age group. This could make significant inroads into the number of fractures presenting, and result in a decrease in subsequent emergency admission.

**Figure 10: Trauma and Orthopaedics: Casemix Analysis, 2001/02**

![Figure 10: Trauma and Orthopaedics: Casemix Analysis, 2001/02](image)

*Source: Patient Episode Database for Wales*
In addition, 2% of admissions were for acute back pain. Alternative options to admission require the need for further research, though there is ample evidence that back pain is best treated outside of the acute hospital environment.

Finally, the role of social care support at home should not be underestimated in relation to the ability to maintain people within a community setting. Most Local Authorities have increased the proportions of their budgets spent on domiciliary care over recent years (as opposed to forms of residential or nursing home care). However, problems within the sector are noted, particularly in relation to recruitment and retention of staff. There may be the potential at a local level to consider an integrated approach to addressing pay and conditions, which may alleviate some of these issues.

3.2.3 Social Care and Independent Care Home Services

Data on delayed transfers of care is now routinely monitored through monthly audits across Wales. Figures from 2001/02 indicate that on average, there are 806 delayed transfers of care at any one time across Wales, approximately three quarters of which occupy acute and community beds. This significantly compromises the ability of the acute hospital sector to manage pressures from emergency admissions and admit elective patients to meet waiting times targets. The Welsh Assembly Government has set a target that by March 2003, the additional grant funds will result in an overall reduction in delayed transfers of care across Wales of at least 25%.\(^{(28)}\) If achieved, this will release a further 200 beds within Trusts.

The reasons behind delayed transfers of care are various but analysis indicates that a significant proportion (57.1%) of all delayed discharges are attributable to social care issues. A further 22.5% are delayed for healthcare reasons and 17.1% for patients/carer/family reasons. The most common specific reasons recorded for delayed transfers of care in 2001/02 are given in figure 11.
Figure 11: Top Six Reasons for Delayed Transfer of Care – 2001/02

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Awaiting funding agreement from LA for residential/nursing home care provision</td>
<td>18.8%</td>
</tr>
<tr>
<td>Awaiting bed availability in other NHS hospital/specialty/facility</td>
<td>13.0%</td>
</tr>
<tr>
<td>Awaiting place availability and completion of relevant social care arrangements in nursing home (not NHS funded)</td>
<td>8.6%</td>
</tr>
<tr>
<td>Awaiting completion of post hospital social care assessment</td>
<td>5%</td>
</tr>
<tr>
<td>Other patient/carer/family related reason</td>
<td>4.5%</td>
</tr>
<tr>
<td>Patient exercising statutory right of choice</td>
<td>4%</td>
</tr>
</tbody>
</table>

Source: Welsh Assembly Government - Delayed Transfers of care

Three key issues emerge in relation to capacity and resources within the social care independent care home sectors.

Funding Levels

Key Theme 5: Significant variations in funding levels for those aged 65 and over are noted across Local Authorities, which may impact on ability to fund care home places, or domiciliary packages of care

Statistics demonstrate that over 18% of the total delayed discharges of care are due to a lack of funding for residential or nursing home places. A further group of patients are also delayed because of lack of funding for domiciliary care packages.

Figure 12 shows the relative variance of social services expenditure for older people by Health Authority area. (The total cost shown is derived from expenditure totals on purchasing costs, residential costs and day and domiciliary costs).

Figure 12: Social Services Expenditure for Older People by Health Authority Area 1999/00

<table>
<thead>
<tr>
<th>Health Authority</th>
<th>Total £</th>
<th>£ per Older person</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bro Taf</td>
<td>67,486</td>
<td>603.5</td>
</tr>
<tr>
<td>Dyfed Powys</td>
<td>48,661</td>
<td>511.9</td>
</tr>
<tr>
<td>Gwent</td>
<td>51,649</td>
<td>590.8</td>
</tr>
<tr>
<td>Morgannwg</td>
<td>51,781</td>
<td>594.9</td>
</tr>
<tr>
<td>North Wales</td>
<td>61,065</td>
<td>499.8</td>
</tr>
<tr>
<td>WALES</td>
<td>280,642</td>
<td>553.2</td>
</tr>
</tbody>
</table>

Source: Revenue outturn returns – Social Services Statistics Wales 2001

The breakdown of amounts spent on residential or nursing home places per head of population aged 65 and over shows significant variations across Local Authorities, from £180 per person in Cardiff to £399 per person in Flintshire. This is shown in figure 13.
The local variations in spend may reflect differing priorities within each Local Authority, which may then have an impact on the capacity within the hospital sector. Differences may also be due to numbers of people within each Authority who self-fund residential or nursing home places.

Availability of Places in Nursing and Residential Care Homes

A high proportion of delayed transfers of care have been attributed to awaiting place availability in nursing homes and also in residential care homes. It is therefore useful to consider trends in the overall numbers of homes and places over the last 5 years.

Welsh Assembly Government data in respect of private nursing homes show a significant decline in the number of establishments registered for nursing care (11.2%) and beds (18.6%) over a five year period.
Figure 14: Private Nursing Homes (at 31st March)

<table>
<thead>
<tr>
<th>Year</th>
<th>Homes providing Nursing Care*</th>
<th>Nursing Places</th>
<th>Residents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>410</td>
<td>13,383</td>
<td>10,746</td>
</tr>
<tr>
<td>1998</td>
<td>402</td>
<td>12,152</td>
<td>10,035</td>
</tr>
<tr>
<td>2000</td>
<td>385</td>
<td>11,701</td>
<td>9,449</td>
</tr>
<tr>
<td>2001</td>
<td>364</td>
<td>10,897</td>
<td>9,154</td>
</tr>
</tbody>
</table>

Source: Health Statistics Wales 2001 (KO 36 returns)
*Note: Dual registered homes are included here, although only numbers of nursing beds are counted.

Residential care for older people is provided both through local authority homes and independent residential homes. Numbers of establishments registered to provide residential care and beds declined between 1997 and 1999, but rose again between 1999 and 2001.

Figure 15: Residential Care Homes for Older People in Wales LA and Independent (at 31st March)

<table>
<thead>
<tr>
<th>Year</th>
<th>Homes providing Residential Care*</th>
<th>Residential care Places</th>
<th>Residents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>677</td>
<td>14,962</td>
<td>12,745</td>
</tr>
<tr>
<td>1998</td>
<td>689</td>
<td>14,894</td>
<td>12,886</td>
</tr>
<tr>
<td>1999</td>
<td>676</td>
<td>14,535</td>
<td>12,475</td>
</tr>
<tr>
<td>2000</td>
<td>675</td>
<td>14,747</td>
<td>12,700</td>
</tr>
<tr>
<td>2001</td>
<td>690</td>
<td>15,237</td>
<td>13,396</td>
</tr>
</tbody>
</table>

Source: Welsh Assembly Government RA Returns
*Note: Dual registered homes are included here, although only numbers of residential care beds are counted.

This data also suggests that there are consistently a number of vacant places (between 12% and 15%) in both local authority and independent residential care homes for older people. Higher vacancy figures are recorded on the 31st March for nursing homes each year.

The all-Wales picture masks significant local variations in the availability of the number of care beds per 1000 population in 2000.
Whilst information on the total numbers of homes and places is useful, the number of placements made by Local Authorities into residential and nursing care homes provides additional information on the demand placed on homes. Figure 17 shows that since 1994, the numbers of assessments undertaken by social services has increased (115%). As a result of these assessments the numbers of placements into residential care homes has also increased by 42%, although a decrease is noted in 2000. Nursing home placements have fluctuated each year, with a small overall increase noted over the period. The proportion of assessment leading to residential or nursing home placements has decreased from 13% to 7.5%, as Local Authorities have increased the numbers they are able to support at home.
Figure 17: Assessments and outcomes for older people (at 31st March)

<table>
<thead>
<tr>
<th>Year</th>
<th>Assessments</th>
<th>Placements in Residential Care</th>
<th>Placements in Independent Nursing Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>1994</td>
<td>39,048</td>
<td>2,766</td>
<td>2,311</td>
</tr>
<tr>
<td>1995</td>
<td>47,108</td>
<td>2,640</td>
<td>2,384</td>
</tr>
<tr>
<td>1996</td>
<td>51,749</td>
<td>2,706</td>
<td>2,192</td>
</tr>
<tr>
<td>1997</td>
<td>58,490</td>
<td>3,555</td>
<td>2,577</td>
</tr>
<tr>
<td>1999</td>
<td>78,841</td>
<td>4,239</td>
<td>2,604</td>
</tr>
<tr>
<td>2000</td>
<td>75,497</td>
<td>4,048</td>
<td>2,238</td>
</tr>
<tr>
<td>2001</td>
<td>83,982</td>
<td>3,917</td>
<td>2,413</td>
</tr>
</tbody>
</table>

Source: Social services Statistics Wales 2001 (AS I returns)

Again, variations are noted across Local Authority areas. The graph below indicates the variations in numbers of people supported in residential and nursing homes at the end of March 2000 per 1,000 of the population aged 65 and over.

Figure 18: Number of Older People per 1000 population aged 65+ who are supported in residential or nursing homes

Source: Revenue Out-turn returns, W.A.G.

As indicated in all of the tables above, the most recent validated figures are for March 2001 or in some cases, March 2000. The unavailability of more up to date information makes it difficult to gauge current trends. Anecdotal evidence suggests that there has been an escalation in the closure of establishments and beds in the last year. An ad hoc survey undertaken by the Welsh Assembly Government indicated that 380 nursing home beds and 424 residential care beds had closed between January and September 2001. This represents an approximate reduction of 2.8% and 3.5% respectively. They noted, however, that there was not full compliance in terms of responses to requests for data, and that the methodology for collecting this has not yet been validated.
Very recently, there have been concerns raised by the independent care home sector regarding the increasing costs of running establishments, due in part to wage increases in this area, increasing levels of dependency and the cost of meeting the new Care Home Standards. Several Welsh Unitary Authorities have experienced difficulty in reaching agreement with residential and nursing homes in the private sector regarding fees, and some have been advised that termination notices are likely if increased fees are not agreed. There are concerns that more homes may close.

In view of the growing problem identified, the Assembly announced (March 2002) additional funding as part of the Delayed Transfers of Care Grant in 2002/03 of £12m. Part of this grant was intended to strengthen the care home sector. Most Authorities have utilised a significant proportion to increase fees levels. An all Wales Care Strategy Group has also been established to plan constructively for the future of the care sector.

It has also been suggested that the provision of a regular income stream through the block purchasing of a number of beds in a locality may help to provide some stability to this sector. In turn, this strategy could also provide a key resource to reduce continuing pressures in the acute sector, which could be used to offer respite, residential reablement packages and be a means of flexing capacity at times of particular pressure.

The Welsh Assembly Government is developing a new Capacity Mapping tool which will include regular collection of data on availability of nursing and residential care capacity. This will be helpful in sharing more up to date information on capacity within this part of the system.

The data presented above demonstrates that, on an all Wales basis, the numbers of places within residential and nursing homes is declining and the numbers of placements each year are increasing. Despite this, there remain a number of vacancies across Wales. Some of the delayed transfers of care which are attributed to ‘awaiting availability of nursing / residential home place’ may therefore actually be due to the fact that patients have a statutory right to choose a home, which is discussed in more detail below.

Clearly, very different situations exist in each of the Local Authority areas, with differing resources available within social services departments for older people, differing rates of placements and differing capacity within the care home sector. Detailed work on reducing delayed transfers of care in relation to place availability will therefore need to be undertaken at a local level.
Patient Choice

Key Theme 7: A high number of delayed transfers are due to the patients waiting for places to become available in the home of their choice

A high proportion of delayed transfers of care are due to patients exercising their statutory right of choice. As described above, a number of delays that are recorded as being for ‘awaiting place availability’ may also relate to this reason. In the majority of cases, this relates to patients or families having the right to choose the residential or nursing home to which they are transferred. Many of the more popular homes have long waiting lists, and this then means that patients remain in a hospital bed until a place becomes available in the home of their choice, even though there may be vacancies within other homes in the locality.

Due to the statutory nature of this choice, the Welsh Assembly Government is currently considering whether further guidance could be developed to alleviate this problem. As an example, it may be possible for patients to be transferred to homes with vacancies whilst they await their first choice, thus creating some capacity yet not ultimately compromising choice. An alternative interpretation of statute may be that choices may only be made between those places with vacancies available at the time of discharge.

It is important to note, however, that in some areas, Local Authorities may not actually have sufficient resources to provide placements for all of these patients who are currently delayed because of patient choice. This means that even if the issue of patient choice was resolved, these patients may possibly remain as delayed transfers of care, but under a different category heading. Further work needs to be undertaken at a local level to determine the real effect in resolving the patient choice issue in terms of a reduction in the number of delayed transfers of care.

Data Quality

A considerable amount of work has been undertaken over the last 12 months to agree data definitions, and to ensure a consistent collation of information for Local Authority performance indicators etc. This should ensure that in future, more accurate information should be available to localities when analysing demand, capacity and resources as described above.
3.2.4 Role of Primary Care

Key Theme 8: Primary care has a particularly significant role in relation to inpatient activity and demand as it is the gateway to other services and the starting point of the patient pathways

The role played by the general practitioner and other members of the primary health care team has a significant impact upon demand on the acute sector.

GP referrals provide the main source of entry into the elective gateway of the acute hospital system. Evidence shows that referral rates from primary care to acute secondary care have increased by over 11% in the last five years (Welsh Core Indicators) which has impacted significantly on the demand for secondary care services. The Capacity Working Group (2000) recommended that, “there needs to be a better understanding of the reasons for increasing referrals so that appropriate responses [may be developed] to demand management and whole systems support…”

Whilst referral rates continue to increase there may be some scope to streamline patient pathways by re-engineering the referral process. There are a number of projects in which joint working has sought to circumvent unnecessary or inappropriate outpatient referrals; increasingly general practitioners and consultant colleagues are working together to develop joint referral protocols and improve information flows.

In addition, programmes are being developed to encourage innovation and alternative patient pathways, which might include the use of protocols and direct access to certain services for example. In dermatology, following process mapping, a number of Trusts have introduced nurse led clinics for children with eczema and psoriasis and patients with viral warts. In one area in the Midlands where this was introduced it has freed 25 consultant slots each month. The cardiology department in North West Wales NHS Trust, undertakes rapid access chest pain outpatient clinics which facilitates patient referrals from GPs who would otherwise have been referred for emergency inpatient admission. In Morgannwg the pathway for patients with musculo-skeletal conditions are being redesigned to avoid the ‘revolving door syndrome’ for those on orthopaedic and rheumatology waiting lists, and in Gwent an orthopaedic physiotherapy practitioner for spinal conditions has freed up consultant time for new patients and improved quality of care afforded to patients.

The Welsh NHS Confederation (30) also believes that, “…much outpatient activity, currently carried out in secondary care settings could arguably be far more effective if carried out in primary care”. Examples include providing minor operations in the GP surgery, encouraging greater prescribing responsibilities amongst nurses, and further developing the roles of members of the primary health care team.

The ability to access an appropriate member of the primary care team may also be seen as a factor affecting acute sector demand, with anecdotal evidence suggesting that some patients who cannot get an appointment with their GP present to A&E instead. One of the targets set by the Welsh Assembly Government is that patients
should be able to access an appropriate member of the primary health care team within 24 hours.

A further aspect of this pattern is the use of and access to GP out of hours services. Evidence \(^{(31)}\) shows that 1,186 out of hours GP consultations occur in Wales each day. Whilst this affects capacity in general practice, it also impacts upon demand in secondary care, as statistics show that 8% of such contacts result in emergency admission. This is given in figure 19.

**Figure 19: Out Of Hours Survey**

| Total Number of out of hours consultations /year | 432,713 |
| Number of out of hours consultations /1000 patients per year | 146 |
| Average % of out of hours admissions /year | 8% |

*Source: Out of hours Data Collection for Wales April 2002*

### 3.2.5 NHS Direct

**Key Theme 9: The use of NHS Direct is increasing, but data on its impact on demand and capacity in other sectors is limited. Further evaluation of this is ongoing**

NHS Direct provides an important example of how the provision of care and advice might be refocused on another part of the health care sector. Its original philosophy was to deliver confidential, evidence based health care advice and information 24 hours a day. Subsequent objectives introduced include directing the caller to access healthcare at the most appropriate level, and taking all calls for GP out of hours services in certain areas. As an example of its potential impact, A&E data from the University of Warwick and North Tyneside General Hospital demonstrates that 20% of patients attending an A&E Department can be given self care advice and safely discharged within 20 minutes of arrival. This amounts to approximately 6,000 patients each day or 2.4 million patients each year across the NHS in England.

NHS Direct now receives approximately 450 calls daily, which were previously addressed either by the primary health care team or by A&E Departments. Data available indicates that calls have increased since their inception in June 2000. Females are the main users, with their calls accounting for 61% of the total. Call rates per 1000 population were highest relating to children under five, with another peak for females in the age group 26 – 35. The number of calls per 1000 population are estimated at 19.7, with only 12% of calls made by those over the age of 65 years.

Home care was the advice given in approximately half of the outcomes recorded during each quarter (though this is a falling trend), and in less than 10% of outcomes recorded during each period, callers were advised to ring 999 or visit the A&E Department. However, there is currently no mechanism to record the number of patients presenting at A&E who have been advised by NHS Direct.

NHS Direct is already playing its part in relieving pressure on health services within Wales through piloting several new approaches. In Dyfed Powys Health Authority all Dental Calls are managed by NHS Direct. An all Wales Pharmacy database is
currently being completed to allow visitors to perform their own searches, and NHS Direct is also working in partnership with pharmacist across Wales to sign-post individuals to self care and pharmacies. There is also a language line to enable callers to access the service in a language of their choice and a text phone service for hearing impaired or deaf callers.

NHS Direct is currently piloting their screening of GP out of hours calls in several localities in North Wales and determining who should best deal with the caller. The six month evaluation of this pilot has shown a reduction in workload for GPs: pre integration home visits were recorded at 12.7% of call disposition, whereas post-integration it is at 7.5%. Home care advice has also risen from 43.3% to 45.5%. Evidence from Nottingham and Northumberland also shows that this approach can reduce demand on GP services and reduce referrals to hospital.

Additional work is required to evaluate the service and one of the obvious areas for future work should be to review protocols and their impact on both primary and secondary care, as a reduction (or increase) in demand could potentially result from this service.

3.2.6. Voluntary Sector

**Key Theme 10: The voluntary sector also has a role to play in reducing demand in the acute hospital sector, particularly supporting people on discharge**

There are more than 4000 voluntary organisations in Wales whose work relates to health and social care issues, and the voluntary sector provides a range of services that make an important contribution to the health and well being of people in Wales. The NHS Plan and the Strategy for Primary Care in Wales (32) call for health professionals to work closely with the voluntary sector.

A number of discharge support schemes are in operation across Wales. The British Red Cross manage a partnership scheme, with the support of Powys Social Services Department, to help people return home after a stay in hospital. The scheme provides support for clients and their carers for 4 – 6 weeks after leaving hospital. The scheme also provides training and support to the volunteers who operate the scheme. The Hospital Discharge Scheme run by Age Concern Morgannwg, which receives 50-60 referrals per month, helps the client to achieve independent living, provides practical domestic help, give advice on claiming the relevant benefits and provides assistance for carers. Such schemes can potentially avoid deterioration and readmission.

The ‘Prevention of Admission To Hospital Service’ (PATH) is a voluntary sector initiative in Newport, which has developed from a partnership between the Local Health Group and Age Concern. The scheme covers all GP practices in Newport and provides a seven day a week presence in the A&E Department at the Royal Gwent Hospital. Between April 1999 and March 2001, 405 clients were referred to the service. It is estimated that of these, 75% would have been admitted to hospital if the service had not been available.

Many voluntary sector services also seek to ensure social inclusion and maintain independence at home, thereby preventing deterioration and possible admission to
hospital or long term care. Examples include shopping, providing transport, befriending, and aiding other activities of daily life.

In the light of the significant contribution that the voluntary sector can make to maintaining people in their own homes and facilitating earlier discharge, a more coherent approach is required in each area to further develop the opportunities that this sector may provide to release pressures in primary and secondary care.

3.3 Capacity within Primary Care

3.3.1 Demand for Primary Care Services

| Key Theme 11: Capacity within primary care itself will determine the extent to which increasing numbers of patients can be maintained in their own homes or in the community |

Primary care has a key role to play as the provider of the majority of health care. Over 90% of the contacts between Welsh patients and the NHS take place in primary care. This represented over 8 million contacts in 2001.

Data indicates that demand in primary care is increasing by about 5% per annum. The continuing ability to undertake this workload and to take responsibility for an increasing number of patients cared for within the community, as outlined above, is dependant on the capacity within primary care itself.

3.3.2 Factors Affecting Primary Care Capacity

| Key Theme 12: Many factors affect capacity within primary care |

Many factors affect primary care’s ability to deliver, with several outlined in figure 20.
These factors are considered in more detail in the Primary Care Strategy for Wales.

In particular, the proposed new GP contract will influence working practices and expectations, afford opportunities to review the range of services currently provided, and allow Local Health Boards to consider alternative models of provision.

### 3.3.3 Capacity and Nature of General Practice

**Key Theme 13: The capacity within primary care itself to meet increasing demands is limited**

Data from the Welsh Assembly Government indicates that in Wales there are almost 2,000 General Medical Practitioners in total (Principals, non principals and GP registrars). At 30 September 2001 the number of GPs in Wales (unrestricted principals) stood at 1,785, a rise of 8% since 1991. During the same period the whole time equivalent number of GPs increased by 3% and stood at 1,655. The proportion of female GPs has increased from 20% to 29%, and the percentage of GPs working part time has also increased, from 7% to 19%. Within Wales there are some geographical variations as indicated in figure 21.
Comparisons of average list size across the UK show that GPs in Wales have a larger average list size (1,694) than Northern Ireland (1,679) and Scotland (1,441), although lists are larger in England (1,845).

Although there are more GPs in Wales per 1000 population than in England, and each GP has on average a smaller list size, evidence shows that the proportion of people frequently consulting their GP is greater in Wales than other countries within the UK. (Welsh Health Survey 1998). On average, patients in Wales registered with a GP have 6 consultations per annum. Workload may therefore be as high or even higher in Wales as in other parts of the UK.

Further analysis of list sizes in Wales by Health Authority area reveals some variance as shown in figure 22. Average list sizes are lowest in the most sparsely populated areas, which are also shown to have a larger proportion of their resident population over the age of 64.

At 30 September 2001 there were 113 single handed GPs in Wales, which represents 6.3% of all GP Principals. The figure for England was 2,534, 9.1% of their total number of Principals.
The break down by Health Authority area as follows:

**Figure 23: Numbers of single-handed GPs and proportion of total GPs by Health Authority September 2001**

<table>
<thead>
<tr>
<th>Health Authority</th>
<th>North Wales</th>
<th>Dyfed Powys</th>
<th>Morgannwg</th>
<th>Bro Taf</th>
<th>Gwent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single handed GPs</td>
<td>28</td>
<td>7</td>
<td>16</td>
<td>30</td>
<td>32</td>
</tr>
<tr>
<td>% of all Unrestricted Principals</td>
<td>6.7</td>
<td>2.2</td>
<td>5.4</td>
<td>7.1</td>
<td>9.9</td>
</tr>
</tbody>
</table>

*Source:*

The Primary Care Strategy in Wales is clear that pressures on primary care have increased, and the Welsh NHS Confederation (33) advocates that increased capacity is needed to address a legacy of under investment in many parts of primary care, but also to meet the fast growing demand.

### 3.3.4 Out of hours services

**Key Theme 14: Out of hours services are of particular concern, with further difficulties associated with the proposed GP contract.**

A recent survey undertaken on behalf of the Welsh Assembly Government in March 2002 shows that there were a total of 432,713 out of hours consultations in 2001, with the average number of out of hours consultations per 1000 patients being 146 per year. Out-of-hours services are provided by GP co-operatives (65%), Commercial deputising services (26%) and extended rotas / own cover (9%). Patient consultations were carried out in the following way:

- 17% home visits;
- 38% primary care centres;
- 45% telephone advice.

Whilst the report was largely designed to provide a baseline of data on out of hours services, it concluded that grass roots General Practitioners, out of hours organisations and LHGs believed that there was an urgent requirement for a strategic approach to out of hours services in Wales, with adequate funding attached.

A number of common themes emerged from the data collection:

- out of hours demand has a major impact on recruitment and retention with many rural areas that face recruitment issues having poorly developed out of hours services;
- there is a desire from a number of co-operatives to link with NHS Direct, but there does not appear to be a defined roll-out programme to facilitate this;
- further collaboration across LHG boundaries would facilitate economies of scale;
- there is a wide variation in the premises from which out-of-hours services are delivered;
- there is little monitoring of the quality of out-of-hours services;
- further use could be made of IT systems.
The future provision of out of hours services will therefore be a key issue for Wales to tackle, especially given the proposed changes to the GP contract. It is essential that LHBs take the matter up quickly to avoid patients self-referring to the secondary sector. However, there is also an opportunity for LHBs and General Practitioners to design alternative and imaginative schemes for the future.

3.3.5 Capacity within the wider Primary Care Team

Key Theme 15: The role of the wider primary care team and community services is vital, but very little is known about capacity in this sector.

Much of the work of the GP is supported and facilitated by the Primary Health Care Team (PHCT) within each practice/locality. These teams involve a number of other services and professionals in addition to General Practitioners, and include for example practice nurses, district nurses, health visitors, community midwives and therapy staff. In the widest sense, the extended primary health care team also includes general dental practitioners, pharmacists and opticians.

Their role is crucial in many of the schemes described earlier in this section, in the provision of services which maintain patients in the community, avoid admission and facilitate earlier discharge. It is also important to note that many of the members of the primary health care team are managed by integrated Trusts and there is therefore a need for Trusts to work closely with LHBs and GP practices in developing fully effective PHCTs.

However, there is only limited data available on capacity or activity associated with these teams. The only available data is on the number of contacts by health visitors and district nurses are shown in figure 24, which demonstrate the following by Trust:
Figure 24: Contacts by Health Visitors and District Nurses

<table>
<thead>
<tr>
<th>Trust</th>
<th>Health Visitors</th>
<th>District Nurses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Persons Seen</td>
<td>Total Contacts</td>
</tr>
<tr>
<td>Bro Morgannwg</td>
<td>27,043</td>
<td>151,666</td>
</tr>
<tr>
<td>Cardiff and District Community</td>
<td>19,062</td>
<td>97,323</td>
</tr>
<tr>
<td>Carmarthen-shire</td>
<td>6,536</td>
<td>75,280</td>
</tr>
<tr>
<td>Ceredigion/ Mid Wales</td>
<td>10,148</td>
<td>32,782</td>
</tr>
<tr>
<td>Conwy &amp; Denbighshire</td>
<td>12,186</td>
<td>53,141</td>
</tr>
<tr>
<td>Gwent</td>
<td></td>
<td>24,911</td>
</tr>
<tr>
<td>North East Wales</td>
<td>15,764</td>
<td>66,171</td>
</tr>
<tr>
<td>North Glamorgan</td>
<td>54,311</td>
<td>112,093</td>
</tr>
<tr>
<td>North West Wales</td>
<td>9,949</td>
<td>64,029</td>
</tr>
<tr>
<td>Pembrokeshire &amp; Derwen</td>
<td></td>
<td>31,987</td>
</tr>
<tr>
<td>Pontypridd &amp; Rhondda</td>
<td>35,431</td>
<td>125,000</td>
</tr>
<tr>
<td>Powys</td>
<td>13,304</td>
<td>69,703</td>
</tr>
<tr>
<td>Swansea</td>
<td>17,546</td>
<td>141,386</td>
</tr>
<tr>
<td>UHW/ Llandough</td>
<td>4,230</td>
<td>51,514</td>
</tr>
<tr>
<td>WALES</td>
<td>225,510</td>
<td>1,072,075</td>
</tr>
</tbody>
</table>

Source: Health Statistics Wales 2001

3.4 Recommendations

Developments in primary/community care should be targeted, to have an early effect on inpatient capacity.

In the light of the significant numbers of patients who could be diverted away from the hospital sector, Local Health Boards and Trusts must take forward work to manage patients with chronic conditions within the primary and community care settings. Action should focus on evidence-based schemes, such as COPD teams which demonstrate a 30% reduction in admissions for acute exacerbation.

The role of intermediate care services is crucial in avoiding admission and facilitating early discharge. Commissioners and Trusts should ensure that there is an appropriate balance of these services implemented locally. Particular emphasis must be placed on rapid response teams and reablement schemes, which have been demonstrated to save significant numbers of bed days as well as improving quality of care for patients.

Trusts and commissioners should examine the case mix profile of all emergency admissions to determine where there is scope to develop alternative pathways.
The Welsh Assembly Government should ensure that there is a sustainable level of investment in social care to ensure that local communities have access to a balanced health and social care system.

Further work should be undertaken at a local level on the effect of local variations in residential/nursing home care provision.

The nursing and residential home sectors should be utilised more fully through the provision of a regular income stream to provide a means of encouraging greater throughput and of flexing capacity at times of particular pressure.

As a priority, additional information must be collected at a local level to determine current and predicted capacity, demand and resources within social services and the independent care home sectors, in order to assist in modelling the whole system. The introduction of the Capacity Mapping tool will form part of this work.

As part of the action to reduce the numbers of delayed transfers of care, the Welsh Assembly Government should provide guidance on the issue of patient choice. Failure to act in this area will mean that many patients will remain in hospital inappropriately.

The role of NHS Direct should be further developed as part of the whole system through the use of protocols, and its impact on demand in primary and acute sectors more fully evaluated.

The role of the voluntary sector should be enhanced in order to release capacity within the acute sector, with appropriate schemes introduced in each area.

Resources should be invested in primary care, in line with the Primary Care Strategy, in order to ensure that increasing demands on this sector can be met.

The major workforce issues affecting primary care provision, and in particular the proposed new GP contract, need to be understood.

Out of hours services should be reviewed in conjunction with proposed changes to the GP contract.

Data required for ongoing monitoring and evaluation of primary and community care services need to be identified and systems developed for collection and collation.
SECTION 4 - GATEWAYS

4.1 Introduction

Demand for inpatient and daycase care is programmed through a number of elective and emergency “gateways” within the system.

The purpose of this section is to:

- identify the main elective and emergency gateways;
- identify the current activity in these areas and trends over a period of time;
- demonstrate how these systems have an impact on subsequent acute capacity;
- describe ways in which changes in practice in these areas can reduce demand for inpatient or daycase capacity.

4.2 The Elective/Planned Gateway

Key Theme 1: Outpatient referrals have an impact on overall inpatient capacity and have a role in programming demand

GP referrals provide the main source of entry into the elective gateway of the acute hospital system, and therefore create the initial demands on the service within the elective arena. The vast majority of referrals are initially seen in the outpatient setting, which may result in discharge, follow up or an inpatient/daycase elective appointment. Thus, outpatient systems in particular have an impact on the overall inpatient capacity through their role in ‘programming demand.’

Within a whole systems approach, a successful inter-relationship between primary and secondary care is of paramount importance because of the influence and impact each has on the other at all stages in the process. This is illustrated in figure 25.
4.2.1 Referral To Outpatients

**Key Theme 2: There are increasing referrals for outpatient appointments, which are influenced by a variety of factors**

Evidence shows that in Wales, referral rates from primary care to acute secondary care (outpatient referrals) have increased by 13% between 1996/97 and 2000/01.

**Figure 26: GP Referral Rates in Wales 1997 – 2001**

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Referrals</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996/97</td>
<td>610,117</td>
</tr>
<tr>
<td>1997/98</td>
<td>651,815</td>
</tr>
<tr>
<td>1998/99</td>
<td>680,985</td>
</tr>
<tr>
<td>1999/00</td>
<td>685,584</td>
</tr>
<tr>
<td>2000/01</td>
<td>686,942</td>
</tr>
</tbody>
</table>

*Source: Welsh Core Indicators*

Notably, changing referral rates are influenced by changing demography, changes in clinical practice and patient expectations (and greater access to information), which are increased when new targets are introduced.
In attempts to improve flows, and to reduce systemic delays, increasingly General Practitioners and consultant colleagues are working together to develop joint referral protocols. However, unless changes in management and capacity occur, a continuing rise in referrals will result in an increase in outpatient waiting times, which in turn will lead to a greater demand for inpatient admissions.

### 4.2.2 Outpatient Activity

**Key Theme 3: Total activity levels have increased overall, although new outpatient numbers have decreased slightly since 1999/00**

The numbers of new and follow-up attendances have increased by 4.5% and 9.5% respectively since 1996/97. However, numbers of new attendances decreased between 1999/00 and 2001/02.

**Figure 27: Activity levels: Out-patient Activity Levels (1000s)**

<table>
<thead>
<tr>
<th>Year</th>
<th>New attendances</th>
<th>% variance from previous year</th>
<th>Repeat attendances</th>
<th>% variance from previous year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998/99</td>
<td>703,800</td>
<td>-</td>
<td>1,999,976</td>
<td>-</td>
</tr>
<tr>
<td>1999/00</td>
<td>716,134</td>
<td>+1.75%</td>
<td>1,946,984</td>
<td>-2.6%</td>
</tr>
<tr>
<td>2000/01</td>
<td>715,707</td>
<td>-0.1%</td>
<td>1,974,955</td>
<td>+1.4%</td>
</tr>
<tr>
<td>2001/02</td>
<td>714,625</td>
<td>-0.2%</td>
<td>2,028,644</td>
<td>+2.7%</td>
</tr>
</tbody>
</table>

Source: Statistical Directorate Welsh Assembly Government

During 2001/02, the all Wales average ratio of repeat to new out-patient attendances was 2:8. Variations are noted across Wales, ranging from 3:3 in Bro Taf to 2:5 in Dyfed Powys and Gwent.

**Figure 28: Ratio of Repeat: New Outpatient 2001/02**

<table>
<thead>
<tr>
<th>Bro Taf</th>
<th>Dyfed Powys</th>
<th>Gwent</th>
<th>Morgannwg</th>
<th>North Wales</th>
</tr>
</thead>
<tbody>
<tr>
<td>3:3</td>
<td>2:5</td>
<td>2:5</td>
<td>2:8</td>
<td>2:9</td>
</tr>
</tbody>
</table>

Source: Statistical Directorate, Welsh Assembly Government
4.2.3 Outpatient Waiting Times

**Key Theme 4: Waiting times in Wales are unacceptably long and total numbers waiting have increased, although variations are noted across Wales**

Despite the increased activity levels, the rising referral rate has lead to an increase in the number of patients waiting for their first outpatient appointment in the last 6 years. A large increase in the waiting times is also evident.

**Figure 29: All Wales Outpatient (OPD) Waiting Times (at 31st March)**

<table>
<thead>
<tr>
<th>Date</th>
<th>Total Patients awaiting 1st OPD appointment</th>
<th>Patients waiting 6 months for 1st OPD appointment</th>
</tr>
</thead>
<tbody>
<tr>
<td>31 March 1997</td>
<td>101,308</td>
<td>5,956</td>
</tr>
<tr>
<td>31 March 1998</td>
<td>112,758</td>
<td>10,340</td>
</tr>
<tr>
<td>31 March 1999</td>
<td>134,364</td>
<td>21,828</td>
</tr>
<tr>
<td>31 March 2000</td>
<td>160,844</td>
<td>37,991</td>
</tr>
<tr>
<td>31 March 2001</td>
<td>177,647</td>
<td>45,757</td>
</tr>
<tr>
<td>31 March 2002</td>
<td>212,352</td>
<td>68,560</td>
</tr>
</tbody>
</table>

*Source: Statistical Directorate Welsh Assembly Government*

This demonstrates that the numbers waiting for a first outpatient appointment have risen by more than 100% since 1997. Local variations in the number of patients waiting for an outpatient appointment per 1000 resident population, range from 53 (North Wales) to 86 (Gwent), indicting that the extent of the problem is very different in each part of Wales.

4.2.4 Outpatient Waiting Times Targets

**Key Theme 5: There is an increased drive to improve outpatient waiting times, with clear targets established for inpatient and daycase waiting times**

The national target for outpatients is currently to eliminate outpatient waits over 18 months by March 2003 and to drive down the numbers waiting over 6 months. More precisely, Trusts must deliver a reduction or at least maintain the waiting times as at 30th September 2001. From the above table (figure 29) it is evident that Trusts in Wales will find these targets challenging, as demonstrated particularly by the increasing trend in patients waiting over 6 months.
4.2.5 Management of Outpatient Process

**Key Theme 6: Improvements have been pursued across Wales in outpatient management, but clinical governance concerns, pressures from Royal Colleges and 10 day cancer targets may impact on ability to increase numbers seen**

As part of the drive to reduce outpatient waiting times on a sustainable basis the Innovations in Care Team from the Welsh Assembly Government has examined and adapted good practice in England and have produced a Welsh guide to improving outpatient services, launched in July 2001 (34).

Improvements have been pursued across Wales in outpatient management over the last year through the Outpatient Improvement Programme, and Trusts are already sharing good practice in this particular area.

The programme is intended to:

- introduce an outpatient partial booking system;
- improve the effectiveness of the primary care, secondary care interface;
- reduce outpatient waiting lists and departmental waiting times;
- improve communications between hospital, patient and GP;
- progress implementation of care pathways;
- reduce non-attendance (DNA) rates and clinic cancellations;
- redesign outpatient clinics;
- implement rigorous policies to better manage the patient experience.

In order to optimise waiting list management opportunities, and to fully utilise available capacity, increasing use is being made of modelling systems. Systems using queuing theories are useful in providing management profiles to assist in capacity and waiting times challenges, at a very detailed level e.g. Checklist (35).

Whilst improvements are expected through full implementation of the guidance, activity levels may be limited by recruitment and retention and Clinical Governance issues. There is increasing pressure by consultant staff to move towards the outpatient activity levels as recommended by their respective Royal Colleges, and for many specialties this places current capacity levels at risk.

In addition, in order to meet the new CSCG ten day cancer standards targets, a number of urgent outpatient slots may be pre-allocated, which will reduce the potential for a number of long waiting patients to be removed from waiting lists. This may result in the rise of numbers waiting over 6 months.

Nurse-led clinics run by nurse practitioners have been shown to release consultant outpatient slots in order to increase throughput.

Though measures to re-engineer processes as described above may aid in streamlining pathways, there are limitations when acting within finite resources. The need for additional capacity therefore also needs to be considered in order to improve waiting times and outcomes, particularly to offset the effect of fewer patients being seen per clinic.
4.2.6 Conversion Rates

**Key Theme 7: The rate of conversion from outpatient attendance to inpatient or day case waiting lists will determine the demand on the acute sector, but limited information is available**

An understanding of the proportion of outpatient attendances which result in referral onto an inpatient or daycase waiting list will promote a better understanding of the way in which increased outpatient activity will create additional demand for inpatient capacity. Unless conversion rates change, the more outpatients that are seen, the more patients will be placed on inpatient and daycase waiting lists.

Local work to identify the conversion rates from outpatients to inpatients and daycases is therefore important in identifying the overall demand for elective capacity. However, there is only limited data available in respect of this. Some Trusts have undertaken small-scale studies into particular specialities. An example from one Trust is outlined in figure 30.

**Figure 30: Conversion Rates from Outpatients to Daycase/Inpatients 2001/02**

*Bro Morgannwg NHS Trust – Bridgend Locality*

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Daycase</th>
<th>Inpatients</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Surgery</td>
<td>22%</td>
<td>20%</td>
</tr>
<tr>
<td>Urology</td>
<td>44%</td>
<td>35%</td>
</tr>
<tr>
<td>Trauma and Orthopaedics</td>
<td>14%</td>
<td>20%</td>
</tr>
<tr>
<td>ENT</td>
<td>17%</td>
<td>23%</td>
</tr>
<tr>
<td>Oral Surgery</td>
<td>10%</td>
<td>22%</td>
</tr>
<tr>
<td>Ophthalmology</td>
<td>15%</td>
<td>17%</td>
</tr>
<tr>
<td>Gynaecology</td>
<td>19%</td>
<td>21%</td>
</tr>
</tbody>
</table>

*Source: Information Department – Bro Morgannwg NHS Trust*
4.2.7 Inpatient and Daycase Waiting Lists

Key Theme 8: As limited data is available on conversion rates, the only current indicator of demand for elective inpatient beds is the actual inpatient and outpatient waiting lists and the targets set for reducing waiting times

The following table demonstrates that inpatient waiting lists have increased overall since 1997. A large decrease is evident between 2000 and 2001, but numbers have increased again by 7% in 2002. However, data must be treated with some caution due to changes in accounting and definitions over the period.

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Number of patients waiting for Inpatient treatment</th>
<th>Total Number of Inpatients waiting more than 12 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>31st March 1997</td>
<td>37,095</td>
<td>5,306</td>
</tr>
<tr>
<td>31st March 1998</td>
<td>40,574</td>
<td>7,074</td>
</tr>
<tr>
<td>31st March 1999</td>
<td>35,851</td>
<td>6,650</td>
</tr>
<tr>
<td>31st March 2000</td>
<td>43,105</td>
<td>11,701</td>
</tr>
<tr>
<td>31st March 2001</td>
<td>36,156</td>
<td>10,222</td>
</tr>
<tr>
<td>31st March 2002</td>
<td>38,717</td>
<td>11,693</td>
</tr>
</tbody>
</table>

Source: Statistical Directorate, Welsh Assembly Government

Due to the changing definitions of a daycase, it is also difficult to identify specific trends in daycase waiting lists. However, in the last year there has been a 6% rise in the number of those waiting, although there has been a small decrease in those waiting over 12 months.

<table>
<thead>
<tr>
<th>Year</th>
<th>Total number of patients waiting for Daycase treatment</th>
<th>Total number of patients waiting over 12 months for Daycase treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>31st March 1997</td>
<td>22,957</td>
<td>1,664</td>
</tr>
<tr>
<td>31st March 1998</td>
<td>24,781</td>
<td>2,016</td>
</tr>
<tr>
<td>31st March 1999</td>
<td>21,770</td>
<td>1,651</td>
</tr>
<tr>
<td>31st March 2000</td>
<td>28,020</td>
<td>2,342</td>
</tr>
<tr>
<td>31st March 2001</td>
<td>22,057</td>
<td>1,394</td>
</tr>
<tr>
<td>31st March 2002</td>
<td>23,378</td>
<td>1,330</td>
</tr>
</tbody>
</table>

Source: Statistical Directorate, Welsh Assembly Government
National waiting times targets have been identified with the objective of eliminating waits of over 12 months for treatment by March 2003, as the next step in reducing waits to a maximum of 6 months.

The specific requirement is for Health Authorities to agree with Trusts the following maximum waits, whilst pressing for better performance where local circumstances warrant:

- Trauma and Orthopaedics: 18 months by July 2002, or waiting lists maintained (or improved) at March 2002 levels where these were under 18 months;
- Plastic Surgery: 15 months or less;
- General Surgery: 15 months or less by Trust;
- ENT: 12 months or less (except for tonsils and adenoids);
- 12 months for all other specialties with waits for cataracts treatment to be no longer than 4 months.

This will create a significant additional demand on inpatient and daycase capacity.
4.3 Emergency Gateway

**Key Theme 9: The urgent gateway can have a number of different access points**

The urgent or acute emergency gateway has many different access points, some of which are shown in figure 33.

**Figure 33: The Urgent Acute Gateway**

An evaluation of the number of patients accessing the system through these different routes will identify clearly where change may have the greatest impact.

4.3.1 Accident and Emergency Department

**Key Theme 10: The Accident and Emergency Department/Local Accident Centre is a principal gateway, and there is therefore a need to understand the key changes driving this part of the system**

Approximately 42% of all emergency admissions come via the Accident and Emergency Departments (and Local Accident Centres) throughout Wales. Its role in determining demand for acute sector beds is therefore significant. Its potential for diverting admissions is therefore also significant, and needs to be understood in greater detail.
### 4.3.2 Internal Management of A&E

**Key Theme 11: In managing this gateway, internal efficiency needs to be explored and new models developed**

Although there is no single recommended or evidence-based model in the UK to indicate how all Accident and Emergency Departments (and Local Accident Centres) should operate, much work has been undertaken in this area, and through certain national policies/guidance a preferred framework has been established, which includes:

- a need for consistency of assessment (e.g. triage) response at all initial points of contact with or entry to the healthcare system;
- developing an integrated, patient focused approach to emergency care;
- empowering triage with senior medical and/or nursing input and re-direction of patients where appropriate;
- streaming of patients and fast-tracking patients with minor injuries or illness;
- access to fast-track and/or specialist teams;
- pre-emptive use of investigations and rapid access to core investigations/diagnostic procedures at all times;
- providing alternatives to admission and use of Accident and Emergency Departments.

The above is based on a balance of the “four wheels” within the Department. When these work together, departments can work effectively and unnecessary waits can be reduced.
Local performance against each of the four wheels is not within the scope of this report. However, health and social care economies should consider this in more depth, sharing examples of good practice across Wales.

4.3.3 Activity Data and Trends

**Key Theme 12: New attendances continue to rise, but a reduction in follow-up attendances has meant that overall attendances have decreased in the last 2 years. Significant variations in rates of attendance are noted across Wales, together with variations across acute hospitals**

Published data indicates that apart from Northern Ireland, Wales has the highest number of A&E attendances per 1000 of resident population within the United Kingdom, and has 19% more attenders per 1000 than England.

New attendances in Accident and Emergency Departments (including Local Accident Centres) have continued to rise overall, despite the fact that within the last two years, many hospitals have also developed new approaches such as paediatric assessment centres, and fast-track/assessment units. There has been a 9% rise in attendances between 1995/96 and 2001. In 2001/02 there were a total of 877,606 new attenders in Wales.
However, during collection of data, it became apparent that there was potential for Trusts to interpret the categories for A&E activity in different ways depending on differing hospital policies. This clearly needs to be addressed in the future so that information is standardised in respect of new and follow-up attenders.

The percentage increase per year for new attenders is on average 1.3%. However, this average masks the fact that during the last 7 years every other year has seen significant rises (i.e. 97/98, 99/00 and 2001/02) with intervening years either falling or rising at a reduced rate.

Since 1999/00 there has been a 1% increase in new attendances. However, the decrease in follow-up attendances (as advocated by the Audit Commission (36)) has resulted in the overall number of attendances reducing by 1% during this 2 year period.

This would appear to mirror what is happening elsewhere within the UK. In a recent Department of Health review (37) identifying performance in England over the winter months for the last three years, a 0.7% decrease in overall Accident and Emergency attendances was noted.

Attendance rates by Health Authority per 1000 resident population showed marked variations, ranging from 267 in Gwent to 354 in Morgannwg.
Figure 36: Accident and Emergency Department Attendances by Health Authority (using Resident Population)

<table>
<thead>
<tr>
<th>Health Authority</th>
<th>New attenders per 1000 population</th>
<th>Follow-up attenders per 1000 population</th>
<th>Total attenders per 1000 population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bro Taf</td>
<td>314.9</td>
<td>54.69</td>
<td>369.62</td>
</tr>
<tr>
<td>Dyfed/Powys</td>
<td>296.7</td>
<td>58.9</td>
<td>355.66</td>
</tr>
<tr>
<td>Gwent</td>
<td>266.64</td>
<td>48.5</td>
<td>315.21</td>
</tr>
<tr>
<td>Morgannwg</td>
<td>354.04</td>
<td>36.5</td>
<td>390.5</td>
</tr>
<tr>
<td>North Wales</td>
<td>269.04</td>
<td>27.7</td>
<td>296.8</td>
</tr>
</tbody>
</table>

Source: QUEST1 April 2001 – March 2002 (provisional)

Further analysis on a more local level (by specific sites) demonstrates a range of changes in hospital sites over the last two years.

Figure 37: Percentage Change in New A&E Attendances: 1999/00 to 2001/02

Source: Patient Episode Database for Wales
The changes identified above are considerable, and though some may be the result of changes in the way in which data is captured, others may be linked with changes in practice. As an example, the reduction in new attenders at the Princess of Wales Hospital coincides with the introduction of several innovations including paediatric assessment centre, relocation of the GP co-operative on site, and introduction of a fast-track unit.

Figure 38: New A&E Attendances, Princess of Wales Hospital 1995-2002

![Graph showing changes in attendance]

Source: Bro Morgannwg NHS Trust

4.3.4 Factors Affecting A&E Attendance

**Key Theme 13: A&E attendance does not necessarily reflect population distribution and there are many other factors affecting attendance**

The differences in attendance rates could result from several factors and variables. On a UK scale, morbidity rates and the increasing ageing population within Wales contrasts with lower rates in England, which also has different supporting community services.

Within Wales, one of the major reasons for local variations is due to proximity and ease of access to A&E Departments across Wales. This is identified within the main factors contributing to A&E attendance and is known as “distance decay effect”.
Of the total population of Wales, it was approximated in the Acute Services Review that 45% live in locations that are more than 15 minutes from an A&E Department/Local Accident Centre and 12.2% live more than 30 minutes away. Those with such access are primarily resident in the more sparsely populated parts of north and mid Wales.

This means that the distance decay effect could potentially result in lower rates of A&E attendance for those areas where a significant part of the catchment population may be more than 30 minutes away. This may be a factor in the low rates of attendance in North Wales Health Authority and the higher rates in Bro Taf and Morgannwg Health Authorities.

Evidence from the Acute Services Review also suggests that ‘several hospitals have ‘exclusive’ catchment areas’. In other areas, population spreads may mean that patients have easy access to several A&E Departments and can choose which to attend.

It is clear from the data available that those A&E Departments designated as major trauma centres or sited within tertiary hospitals will have larger catchment areas and will deal with increased case-mix complexity. In addition, these Departments are usually situated within major cities, and have to deal with the additional effects of urban deprivation, high levels of transient population and higher proportions of people from ethnic minorities. These issues can create additional pressures within the A&E Department itself, but also impact on capacity within the main hospital. There is often increased pressure on critical care beds, and discharge arrangements are more difficult, as more complex packages of care may be required following discharge. This may lead to increased lengths of stays in such areas. Further work is required to fully appreciate the impact of such pressures in these centres.
4.3.5 Admission Rates from A&E

Key Theme 14: The proportion of A&E attendances that are admitted varies significantly between hospital sites, with opportunities for Trusts to share lessons and best practice

The average conversion rate from being a new A&E attender to an emergency admission was 16% in 2001/02 (an increase of 1% since 2000/01). If the number of new attendances continues to rise, and conversion rates stay the same, this will automatically place increased demand on acute hospital beds.

Conversion rates which are shown in figure 40 differ greatly between hospitals, with data from PEDW indicating a range of between 11% (UHW, though this A&E Department also refers to Llandough Hospital which could be misleading) and 36% (Singleton). Reasons for such differences may include data quality issues, access to other services, waits for diagnostic services and distance decay issues already highlighted.

Figure 40: Emergency Admissions via A/E as % of A/E Attendances

Source: Patient Episode Database for Wales
4.3.6 Trolley Waits

Key Theme 15: Pressure on hospital bed capacity causes bottlenecks within A&E Departments, with the numbers of patients waiting more than 4 hours on trolleys increasing

The ability to access beds in a timely fashion directly affects the A&E Departments in terms of trolley waits. Long trolley waits are unacceptable in terms of quality of care for patients. Between September 2001 and March 2002, there was an average of 1,574 patients per month waiting on trolleys for over 4 hours, with 1,235 of these being in three Trusts, as demonstrated in figure 41.

Figure 41: Average trolley waits per month over 4 hours: September 2001 to March 2002

![Bar chart showing average trolley waits per month over 4 hours across different regions.]

Source: SITREPs

During this same period, there have been monthly increases noted, with 1,186 patients waiting more than 4 hours in November and 2,818 in March 2002.

As the definition criteria have changed significantly, it is not possible to seek comparative data from previous years. However, it was noted in the Report of the Capacity Working Group (2000) that the percentage of patients admitted within 2 hours of decision to admit was approximately 85%.

Evidence shows that the same 4 Trusts which have the highest number of trolley waits over 4 hours, also have the highest number of outliers, highlighting capacity shortfall in beds and whole systems failure.
4.3.6 Reserving Elective Beds

**Key Theme 16: Increased expectations on Trusts to meet waiting times targets may lead to reserving of elective beds, which may in turn increase trolley waits further**

With the increased emphasis on reducing waiting times, Trusts are likely to develop strategies for reserving more beds for elective surgical treatment to ensure that elective throughput is not compromised. Such action without additional capacity in the system will result in longer trolley waits in the Accident and Emergency Departments throughout Wales. This matter is one already encountered within England, and in a recent report (39), the Department of Health’s Director of Access and Choice indicated that “…it will be very difficult to keep down waiting times in A&E if there aren’t enough beds available”. It is therefore important that Wales learns from the experience of others.

4.3.8 Innovation and Modernisation: reducing waiting times and diverting admissions

**Key Theme 17: Further work should be done to evaluate the advantages of implementing practices which alleviate pressure in Accident and Emergency Departments and to develop alternative pathways**

There is evidence across Wales, the UK and abroad of practices which streamline processes within the A&E Department, and of new ways of working which can reduce the numbers of admissions from A&E Departments, and hence reduce demand on inpatient capacity.

**Empowering Triage**

Triage is carried out differently in hospitals throughout Wales, with the depth of assessment of the presenting individual varying considerably. Empowering triage has been shown to reduce waiting times and unnecessary admissions, by facilitating rapid diagnosis and appropriate treatment. The principal objectives include:

- a consistent approach to assessment of all emergencies;
- rapid and appropriate direction of patients into the most appropriate care pathway for their needs;
- rapid treatment and discharge of those patients with minor injuries/illnesses with minimum number of duplication/hand-offs;
- rapid assessment of those patients requiring further tests in order to reach a robust diagnosis.

Empowering triage requires senior medical/nursing input to the process, and also a team-based approach to organise patient throughput. Core triage functions will include the ability to undertake minor treatment, request x-rays, administer oral analgesia, direct patients to self-care/GP/CPN from triage, direct patients to specialist
teams wards, and request beds on patient arrival if the patient is in obvious need of urgent admission.

**Streaming**

Following on from this, ‘streaming’ of patients is a concept that has been developed in many Accident and Emergency Departments throughout the UK (e.g. Kettering), and such changes in practice have had a significant impact upon waiting times for patients. The model reduces the role of initial triage, and, instead, streams patients into categories of minor injury/illness or more complex injury/illness.

Minor injuries services may be doctor or nurse-led. There is currently little robust evidence on the relative cost-effectiveness of each model, and the choice is likely to depend on local circumstances including casemix and staffing availability. Fast-tracking minor injuries has been shown to reduce the number of patients waiting over 1 hour by up to 30%. There is also some evidence that 30% of total A&E attendances are minor injuries which could be dealt with by an Emergency Nurse Practitioner.\(^{(40)}\)

The concept is to stream those with minor injury/ailment away from patients who are more seriously ill and who need further diagnostic tests or admission. This results in those patients with less serious complaints being taken through the system very quickly, treated and sent home, and the care of those with more serious problems is not compromised. In England it is expected that streaming will be fully operational in A&E Departments by 2003.

**Availability of Experienced Staff**

Only 1.8% of the total number of consultants in Wales is actually based in an Accident and Emergency Department. This contrasts with other parts of the world. For example, in the United States, an emergency department run primarily by junior medical staff would be inconceivable, and the use of Nurse Practitioners is far more advanced than is the case in Wales. It is believed that this may impact on admission rates.

**Closer working with General Practice**

The potential opportunity of working more closely with GPs and GP co-operatives should be considered. A number of Trusts now have GPs based within the Accident and Emergency Department. This has meant that patients requiring GP advice, diagnosis and onward treatment can be seen immediately. Several Trusts also have GP co-operatives located on site.
Additional Health Care Professionals based in A&E Departments

There is evidence to suggest that the impact of additional healthcare professionals (e.g. physiotherapists and occupational therapists) being based in A&E Departments is significant. In one survey undertaken in Bro Morgannwg NHS Trust, it was calculated that the input of occupational therapists alone saved 13 admissions per month, and that the development of falls clinics would further increase this number.

Fast Track/Assessment Units (Adult)

A small number of acute general hospitals within Wales have established fast track/assessment units. Successful units impact not only on A&E activity but also impact on inpatient services by reducing the number of admissions. These services allow patients to be fast-tracked on presentation, typically within 3-4 hours, with patients returning for other tests if necessary. These facilities aim to divert patients from the pathway of admission.

Examples of conditions (or groups of patients), which can be assessed and treated through fast-track units or services, and where benefits have been demonstrated, include:

- general medical patients (evidence suggests this can reduce admissions by 10%);
- DVT;
- Bleeding in early pregnancy;
- Asthma;
- Epistaxis.

Paediatric Fast Track/Assessment Units

A number of different models of Paediatric assessment units (and ambulatory centres) have also been established. These have been successful in reducing the number of paediatric attendances in Accident and Emergency Departments and some have reduced inpatient admissions by 9%. This has resulted in paediatric patients receiving their care in the most appropriate settings.

Most paediatric assessment centres are able to undertake initial assessment, diagnosis and treatment on a range of conditions presented by children, which could include:

- non-traumatic hip pain;
- abdominal pain;
- respiratory infections;
- children with throat infections;
- patients with elevated temperatures.
Assessment Beds in the Accident and Emergency Department

Assessment beds have also been established in some A&E Departments, and can have a positive impact on the department and other parts of the hospital. Where this has been implemented in Wales, bed management teams have indicated that it has resulted in patients being reviewed speedily, and discharges being effected more quickly where appropriate. This concept is in line with recommendations of the Audit Commission (41), which has previously indicated that certain patients, including those with head injuries or those having taken overdoses, should be cared for in such assessment beds.

Dynamic approaches to managing requests for urgent assessment

Often, in order to get emergency or urgent advice and consultation for a patient, the General Practitioner may feel that his or her only alternative is to admit the patient to an acute hospital. However, it is possible to offer a range of services that may result in a speedier response, a more appropriate outcome for the patient, and a reduction in demand upon acute beds already under pressure. This may include telephone triage, access to emergency outpatient appointments, direct access to investigations or admission to other facilities other than acute general hospitals.

Admission Units

Once the decision to admit has been made, patients in many hospitals may be initially admitted to an admissions ward. Various models operate throughout Wales, all of which have the aim of ensuring that patients are diverted quickly from the Accident and Emergency Department or are admitted quickly following GP referral to a more appropriate setting, where additional investigations may be undertaken whilst awaiting transfer to an appropriate ward.

The most successful admission units are those which are able to access diagnostic services rapidly, in order to expedite treatment, and those with the ability to move patients to an appropriate ward quickly thereafter.

Anecdotal evidence suggests that where such units are not working optimally, the unit becomes simply another bottleneck in the system. Generally, this is due to the inability to move patients on from the admission unit due to lack of appropriate bed capacity elsewhere in the hospital system.

Diagnostic Facilities and Services

Rapid access to diagnostic procedures and informed interpretation of the results is essential for timely assessment and direction of patients to the most appropriate care pathway. Lack of access may lead to patients being admitted whilst waiting for diagnostic procedures or results.

Most diagnostic and therapeutic services operate limited services with both emergency and elective services competing for the resource during daytime hours, and on-call provision during the evening/night.
Greater access to diagnostic facilities and services is already being achieved in some areas in a number of ways, which include:

- developing protocols by which nursing or other staff can request radiology examinations and other diagnostic tests;
- increasing capacity and availability of key diagnostic services to match needs of the emergency and elective workload, with, for example, 24 hour/7 day week access to pathology, radiology, pharmacy;
- extending role of clinical support services staff, for example, by developing protocols by which radiographers can provide interpretation of results for certain conditions;
- increasing use of new technologies, such as digital imaging with centralised reporting and near patient testing where appropriate, resulting in speedier delivery of results.

4.4 Recommendations

Trusts must continue to make improvements in the management of outpatient processes which will impact positively on patients flow and scheduling.

Further work should be undertaken at a local level to understand more fully current conversion rates from outpatients to inpatients and daycases, in order to understand and predict the impact which rising outpatient attendances will have on demand for acute capacity.

Further work should be undertaken locally to understand the factors which affect the rates of A&E attendance and ways in which these could potentially be reduced.

Commissioners need to understand the additional pressures faced by tertiary centres and major trauma centres as a result of increased numbers of out-of-area patients, complex case-mix and complex arrangements for aftercare packages.

The impact of reserving elective beds to maintain elective activity levels on the numbers of trolley waits in A&E must be fully understood and kept under review.

Trusts must implement schemes that reduce waiting times within Accident and Emergency Departments and streamline the patient pathway. Streaming should be considered across Wales, as it has been demonstrated to speed up diagnosis and reduce waiting times in A&E Departments by up to 30%.

Trusts must work with primary care to develop more dynamic approaches to the management of patients who require urgent assessment, but who do not need to be admitted. Consideration should be given to the introduction of:

- fast track assessment centres (adult), in which evaluated projects have demonstrated a 10% decrease in numbers requiring admission;
- paediatric assessment centres, which have reduced pressure on A&E and inpatient beds by 9%;
- telephone triage systems;
- emergency outpatients clinics.
Trusts must ensure that A&E Departments have rapid access to diagnostic procedures and informed interpretation of the results through extending availability of key services 24 hours a day, 7 days a week, extending the roles for clinical support services staff and introduction of protocols for nurse requesting procedures.

The impact of GPs, nurse practitioners and other health care professionals within the A&E setting can be significant, and further developments should be considered.
SECTION 5 - HOSPITAL BEDS: DEMAND AND CAPACITY

5.1 Introduction

The purpose of this section is to:

- identify the current situation in relation to activity, demand and capacity within the acute sector and to compare this with the situation previously described in the Report of the Capacity Working Group (2000);

- describe the indicators which measure effective utilisation of existing capacity, outline local variations in performance and suggest areas where best practice could be transferred across Wales.

5.2 Trends in Demand

5.2.1 Emergency and Emergency Medical Admissions

<table>
<thead>
<tr>
<th>Year</th>
<th>Non-Elective Inpatient Admissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998/99</td>
<td>314,182</td>
</tr>
<tr>
<td>1999/00</td>
<td>315,454</td>
</tr>
<tr>
<td>2000/01</td>
<td>318,637</td>
</tr>
<tr>
<td>2001/02</td>
<td>323,009</td>
</tr>
</tbody>
</table>

Source: Statistical Directorate: Welsh Assembly Government

The report of the Capacity Working Group (2000) identified a continuous rise in emergency admissions over a five-year period. Recent data from the Welsh Assembly Government (provisional) confirms that this trend has continued, with a further 2.4% increase in admissions between 1999/00 and 2001/02. This gives a total rise of 7% between 1995/96 and 2001/02 (PEDW extract). This equates to an additional 60 patients being admitted per day as emergency admissions in 2001/02.

In a study undertaken by the NHS Executive (42) the number of additional bed days required for emergency admissions was expected to rise by 2.5% per year (this projection was sensitive to assumptions about future trends in lengths of stay).

The Capacity Working Group Report also noted that the key pressure on bed availability had arisen from a significant increase in emergency medical admissions. This trend has again continued, with a further 2% rise in emergency medical admissions between 1999/00 and 2001/02.
It is also interesting to note the increasing numbers of surgical emergencies with, for example, a 7% rise in emergency admissions in General Surgery/Urology since 1995/96 (PEDW). The correlation between increased waiting times and increases in emergency admissions needs to be fully understood.

5.2.2 Variations in Demand

Key Theme 2: This overall rise in admissions masks significant daily variations and variations across hospitals

Though there is an overall increase in both emergency and emergency medical admissions, there are significant variations in the extent of the change across hospitals in Wales. The following figure identifies the range of the variations.

Figure 43: Emergency Admissions All Specialities: Variance by Hospital, 1999/00 to 2001/02

Source: Patient Episode Database for Wales
It should be noted that some of the variations can be accounted for by service transfers between hospitals, possible differences in accounting, and the impact of local service reconfigurations. However, clearly, some hospitals have been more affected by large-scale increases than others.

Similar variations are noted in the increases in emergency medical admissions. Figure 44 indicates that one hospital has experienced a drop of 10% in emergency medical admissions whilst another has experienced an increase of 16% between 1999/00 and 2001/02.

**Figure 44: Emergency Admissions General Medicine and Geriatrics: Variance by Hospital, 1999/00 to 2001/02**

Source: Patient Episode Database for Wales

There continues to be an unpredictable nature to emergency admissions in Wales, with large daily variations in total admissions. However, on average, the numbers are highest on Mondays and Fridays, and there are significantly lower numbers of admissions at the weekend as shown in figure 45. Further work will be required to establish the reasons for this drop at weekends.
Problems associated with emergency admissions have traditionally been considered as an issue that is mainly encountered during the winter period. However there is now evidence that this is a year-round phenomenon, which is demonstrated in figure 46. This premise is supported in trends for other parts of the UK, where evidence that the seasonal trends observed in the past are becoming less evident.
Key Theme 3: The changing age profile of emergency admissions may lead to increased lengths of stay

Evidence presented in Section 2 demonstrated that the proportion of people aged 65 and over is increasing in Wales. This is mirrored in the proportion of admissions that are elderly. Figure 47 shows the changes in numbers of admissions aged over 75 in the last 5 years, which have increased at a faster rate than total numbers of emergency medical admissions.

Figure 47: Number of medical emergency admissions aged 75+, All Wales, All Sites

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Admissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001-2002</td>
<td>64173</td>
</tr>
<tr>
<td>2000-2001</td>
<td>62990</td>
</tr>
<tr>
<td>1999-2000</td>
<td>62785</td>
</tr>
<tr>
<td>1998-1999</td>
<td>60790</td>
</tr>
<tr>
<td>1997-1998</td>
<td>58728</td>
</tr>
<tr>
<td>1996-1997</td>
<td>58239</td>
</tr>
<tr>
<td>1995-1996</td>
<td>56198</td>
</tr>
</tbody>
</table>

Source: Patient Episode Database for Wales

There is also evidence to suggest that the older a patient is, the longer the period of hospitalisation. In one analysis undertaken by the Health Statistics and Analysis Unit at the Welsh Assembly Government, it was highlighted that of all patients remaining in hospital over 4 days, approximately 76% were over the age of 75 years.
5.2.4 Elective Admissions

Key Theme 4: Elective inpatient admissions have continued to decrease overall, despite increased pressure to reduce waiting times. Variations are noted across hospital sites and over time

The Report of the Capacity Working Group (2000) indicated that there had been a reduction of 19% in elective inpatient activity over a 5-year period (between 1995/96 and 1999/00). Recent data (PEDW) indicates a further reduction of 10% took place between 1999/00 and 2001/02, which equates to 12,892 less patients being removed from waiting lists.
These changes may be partially explained by the planned increase in daycase surgery, but also by the increased numbers of medical emergency admissions impacting on the ability to admit elective inpatients.

Differences in the number of inpatient admissions per 1000 population by Health Authority are outlined in figure 50. Further work would need to be undertaken at a local level to understand these variations in performance.

As with emergency admissions, there is a pattern in the average numbers of elective admissions through the week, with Monday having the highest number, and with very few being admitted at the weekend. The graph below illustrates this, with the blue line illustrating what would happen if the admissions were ‘evened-out’ over a 7-day period.
5.2.5 Daycase Admissions

**Key Theme 5: Daycase admissions have continued to rise in overall numbers and as a proportion of total elective admission**

A recent exercise by Health Solutions Wales has “cleansed” (or validated) daycase data, so that the definition of a daycase is more in line with the definition in the rest of the UK. Despite this cleansing, it may be demonstrated that daycase numbers have risen generally over recent years, with an increase of 13% during the two years between 1999/00 and 2001/02.

**Figure 52: Daycase activity trends: 1998/99 – 2001/02**

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Daycases</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998/99</td>
<td>131,157</td>
</tr>
<tr>
<td>1999/00</td>
<td>127,041</td>
</tr>
<tr>
<td>2000/01</td>
<td>139,530</td>
</tr>
<tr>
<td>2001/02</td>
<td>143,955</td>
</tr>
</tbody>
</table>

*Source: Statistical Directorate Welsh Assembly Government*

Daycase admissions have also continued to rise as a proportion of total elective admissions, which is demonstrated in the figure 53 below.

**Figure 53: All Wales Elective Admission Trends: Inpatients and Day Cases**

*Source: Patient Episode Database for Wales*

The local variations in numbers of inpatients per 1000 population are mirrored in the cleansed daycase data recently made available (though Bro Taf daycase rates should soon be improved by the new ambulatory care centre).
5.2.6 Average Length of Stay (ALOS)

Key Theme 6: Average length of stay (ALOS) continues to rise, creating increased demand for inpatient beds

Over the last 2 years, the average length of stay in acute general hospitals for general medicine/elderly medicine has increased (by 0.3 days), though the variations across hospitals are marked.

Figure 55: Average Length of Stay (ALOS) General Medicine/Elderly Medicine
Acute General Hospitals

<table>
<thead>
<tr>
<th>Hospital</th>
<th>ALOS 1999/00</th>
<th>ALOS 2001/02</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bronglais</td>
<td>7.3</td>
<td>7.4</td>
<td>+0.1</td>
</tr>
<tr>
<td>Llandough</td>
<td>7.7</td>
<td>8.2</td>
<td>+0.5</td>
</tr>
<tr>
<td>Morriston</td>
<td>8.0</td>
<td>8.0</td>
<td>0</td>
</tr>
<tr>
<td>Neath General</td>
<td>6.7</td>
<td>6.3</td>
<td>-0.4</td>
</tr>
<tr>
<td>Nevil Hall</td>
<td>6.5</td>
<td>6.5</td>
<td>0</td>
</tr>
<tr>
<td>Prince Charles</td>
<td>7.0</td>
<td>7.5</td>
<td>+0.5</td>
</tr>
<tr>
<td>Prince Phillip</td>
<td>8.9</td>
<td>8.0</td>
<td>-0.9</td>
</tr>
<tr>
<td>Princess of Wales</td>
<td>7.7</td>
<td>7.9</td>
<td>+0.2</td>
</tr>
<tr>
<td>Royal Gwent</td>
<td>7.1</td>
<td>7.4</td>
<td>+0.3</td>
</tr>
<tr>
<td>Singleton</td>
<td>6.9</td>
<td>7.9</td>
<td>+1.9</td>
</tr>
<tr>
<td>Royal Glamorgan</td>
<td>6.5</td>
<td>5.9</td>
<td>-0.6</td>
</tr>
<tr>
<td>University Hospital of Wales</td>
<td>8.3</td>
<td>9</td>
<td>+0.7</td>
</tr>
<tr>
<td>West Wales</td>
<td>9.7</td>
<td>11.3</td>
<td>+1.6</td>
</tr>
<tr>
<td>Withybush</td>
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<td>0</td>
</tr>
<tr>
<td>Wrexham Maelor</td>
<td>9.2</td>
<td>10</td>
<td>+0.8</td>
</tr>
<tr>
<td>Glan Clwyd</td>
<td>5.7</td>
<td>6</td>
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</tr>
<tr>
<td>Ysbyty Gwynedd</td>
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<td>8.5</td>
<td>+0.8</td>
</tr>
<tr>
<td><strong>AVERAGE</strong></td>
<td><strong>7.5</strong></td>
<td><strong>7.8</strong></td>
<td><strong>+0.34</strong></td>
</tr>
</tbody>
</table>

This is significant as it has resulted in an additional requirement of more than 66,000 bed days per year since 1999/00.

Facilitating earlier discharge has the effect of increasing capacity available by reducing average length of stay. However, the potential for further sustained reductions in average length of stay is likely to be finite.
### 5.2.7 Delayed Transfers of Care

**Key Theme 7: Improved information demonstrates that numbers of Delayed Transfers of Care are increasing, putting an increasing pressure on acute sector beds**

The Report of the Capacity Working Group (2000) identified the need to routinely collect information on delayed transfers of care across Wales. An ad-hoc data collection exercise at that time revealed that approximately 600 patients per month were categorised as delayed discharges.

Since that time, a monthly census of delayed transfers of care has been implemented across Wales. Data collected in 2001/02 demonstrated that there was an average of 806 delayed transfers of care on any one day in Wales, approximately three quarters of which occupy acute and community beds. This equates to 220,632 bed days ‘lost’ per year, which in turn equates to an additional 28,288 medical patients ‘lost’ based on a 7.8 day ALOS.

Local variations are significant, ranging from an average of 18 delayed transfers of care (Ceredigion) to 186 (Gwent) per day between May 2001 and March 2002, as shown in figure 56.

**Figure 56: Average daily delayed transfers: May 2001 to March 2002**
The reasons for delayed transfers of care can be categorised into those where responsibility lies with social care (e.g. social care assessment not completed) or at the interface between health and social care, those where responsibility lies with the health service, and those that are the responsibility of the patient, carer or family (e.g. family choosing nursing home).

**Figure 57: Main Reasons Causing Delayed Transfers of Care (2001)**

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Care</td>
<td>57.1%</td>
</tr>
<tr>
<td>Healthcare</td>
<td>22.5%</td>
</tr>
<tr>
<td>Patient/Carer/Family</td>
<td>17.1%</td>
</tr>
<tr>
<td>Other</td>
<td>3.3%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

*Source: Welsh Assembly Government Delayed Discharges Information (provisional data)*

Issues at the interface between health and social care reasons are identified as the main reasons for delayed transfers of care, and this was analysed in some detail in section 3, which outlined where influences from social care and the independent care sector could assist in the reduction of delays.

All Local Authorities, in partnership with Trusts and Local Health Groups, are required to submit local plans for reducing the numbers of delayed transfers of care by 25% by March 2003. Funding has been made available to enable this target to be achieved. However, in the longer term, further reductions are essential.

Plans in England to allow cross charging of social services departments by NHS Trusts were published in “Delivering the NHS Plan” (43). However, such a move has been criticised by both the NHS Confederation and the Local Government Association. These two bodies have since produced an alternative model aimed at developing “constructive incentives…framed within a whole systems approach” and aimed at promoting older people’s independence. These centre on giving health and social care organisations joint targets and increasing the priority of indicators that boost services to prevent and divert hospital admissions, along with rehabilitation, intermediate care and support homes. (44)

These counter models have provoked some negative feedback from the Social Service Inspectorate in England, which indicates that by concentrating on delayed discharges there is potential for some to feel that the best way to find residential care is by admitting patients into the acute sector.
5.3 Outcomes of Increased Demand

Key Theme 8: Despite additional investment and action since 2000, pressures within the acute sector are still evident and are increasing

5.3.1 Bed Occupancy Levels

Key Theme 9: Bed occupancy levels remain unacceptably high

At first glance, overall occupancy figures in acute general hospitals may seem reasonable at an average of 81%. However, this is misleading, as it includes specialties whose beds cannot be used flexibly, such as obstetrics (averaging 45% bed occupancy) and paediatrics (averaging 49% bed occupancy).

A closer examination of general medicine/elderly medicine in acute general hospitals indicates high bed occupancy levels that are rising annually. In the Report of the Capacity Working Group (2000), average bed occupancy rates for general medicine and geriatrics rose from 86% in 1999/96 to 91% in 1999/00. Further rises are evident, as illustrated in figure 58.

Figure 58: Occupancy Levels (midnight) General medicine/Elderly medicine Acute General Hospitals

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Occupancy Levels 1999/00</th>
<th>Occupancy levels 2001/02</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bronglais</td>
<td>83.4%</td>
<td>90.3%</td>
</tr>
<tr>
<td>Llandough</td>
<td>96.2%</td>
<td>81.9%</td>
</tr>
<tr>
<td>Morriston Hospital</td>
<td>94.7%</td>
<td>97.8%</td>
</tr>
<tr>
<td>Neath General</td>
<td>86.1%</td>
<td>84.9%</td>
</tr>
<tr>
<td>Nevill Hall</td>
<td>80.9%</td>
<td>89.2%</td>
</tr>
<tr>
<td>Prince Charles</td>
<td>91.7%</td>
<td>97.3%</td>
</tr>
<tr>
<td>Prince Phillip</td>
<td>93%</td>
<td>85.1%</td>
</tr>
<tr>
<td>Princess of Wales</td>
<td>92.6%</td>
<td>94.4%</td>
</tr>
<tr>
<td>Royal Gwent</td>
<td>92.1%</td>
<td>95%</td>
</tr>
<tr>
<td>Singleton</td>
<td>94.4%</td>
<td>98.5%</td>
</tr>
<tr>
<td>Royal Glamorgan</td>
<td>86.7%</td>
<td>84.2%</td>
</tr>
<tr>
<td>University of Wales</td>
<td>90.8%</td>
<td>92.8%</td>
</tr>
<tr>
<td>West Wales</td>
<td>88%</td>
<td>93.8%</td>
</tr>
<tr>
<td>Withybush</td>
<td>87.5%</td>
<td>89.8%</td>
</tr>
<tr>
<td>Wrexham Maelor</td>
<td>90.1%</td>
<td>91.9%</td>
</tr>
<tr>
<td>Glan Clwyd</td>
<td>84.5%</td>
<td>93%</td>
</tr>
<tr>
<td>Gwynedd</td>
<td>100%</td>
<td>98.1%</td>
</tr>
<tr>
<td><strong>AVERAGE</strong></td>
<td><strong>90.2%</strong></td>
<td><strong>91.6%</strong></td>
</tr>
</tbody>
</table>

Source: SDB for 1999/00; QUEST for 2001/02; Glan Clwyd supplied by Trust

It is generally accepted that midnight bed occupancy figures do not adequately represent the pressures experienced in hospitals. Most patients are admitted between 8am and 8pm and the greatest pressure is experienced from midday until early evening. Not surprisingly, it is during this period that the trolley waits in Accident and Emergency Departments tend to be at their highest. SITREPs is now used to identify
the available bed capacity within Wales at 12 noon in acute general hospitals, and records far higher levels of occupancy (consistently around 97% across all specialties and often in excess of 100% occupancy against allocated beds for general medicine).

When bed occupancies (general medicine/elderly medicine) are calculated against beds allocated rather than average number of available beds (which may include areas designated for other specialties), the bed occupancy levels become even more acute. The average bed occupancy across Wales using this basis for calculation is 98%, with individual hospital ranging between 90% (Bronglais and Withybush) and 117% (Morriston).

Work funded by the NHS Executive (West Midlands) resulted in Coventry University (42) becoming involved in the design of a simple capacity model (Bagust et al). At 85% occupancy, the Bagust model indicates that the risks of being unable to admit emergency patients are discernible. A hospital which experiences a day on which no further admissions can be accommodated is expected to take at least 14 – 16 days to recover, disrupting the operation of the hospital for a considerable time. The Report of the Capacity Working Group (2000) therefore outlined the need to reduce bed occupancy levels for general medicine/elderly medicine in acute general hospitals to 85%. Current thinking outlined in a recent King’s Fund report (22) indicates that the level of occupancy should be in the region of 82%.

Failure to achieve occupancy levels of around 82% - 85% in general medicine/elderly medicine can and does result in hospitals regularly being unable to achieve the demand-capacity balance. Commissioners must understand and acknowledge the impact of Trusts not being able to maintain and balance elective and emergency beds, and the impact that this will have on waiting times.
5.3.2 Turnover Intervals and Bed Use Factors

**Key Theme 10:** Turnover rates and bed use factors also demonstrate the pressures under which acute hospitals continue to work.

The ‘turnover interval’ (the length of time, in days, that the bed is empty between patients) and ‘bed use factor’ (the average number of patients using each bed during the period under review), are good indicators of the efficiency within Trusts, but also indicate the level of pressure that each hospital is under.

**Figure 59: Turnover Interval and Bed Use Factor, General Medicine/Elderly Medicine: Acute General Hospitals**

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Turnover Interval 1999/00</th>
<th>Turnover Interval 2001/02</th>
<th>Bed Use Factor 1999/00</th>
<th>Bed Use Factor 2001/02</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bronglais</td>
<td>1.5</td>
<td>0.8</td>
<td>41.6</td>
<td>44.5</td>
</tr>
<tr>
<td>Llandough</td>
<td>0.30</td>
<td>1.8</td>
<td>45.6</td>
<td>36.6</td>
</tr>
<tr>
<td>Morriston</td>
<td>0.45</td>
<td>0.2</td>
<td>43.2</td>
<td>44.5</td>
</tr>
<tr>
<td>Neath General</td>
<td>1.1</td>
<td>1.1</td>
<td>46.7</td>
<td>49.1</td>
</tr>
<tr>
<td>Nevill Hall</td>
<td>1.5</td>
<td>0.8</td>
<td>45.6</td>
<td>50.2</td>
</tr>
<tr>
<td>Prince Charles</td>
<td>1.2</td>
<td>0.2</td>
<td>32.7</td>
<td>47.3</td>
</tr>
<tr>
<td>Prince Phillip</td>
<td>0.65</td>
<td>1.4</td>
<td>38.3</td>
<td>38.9</td>
</tr>
<tr>
<td>Princess of Wales</td>
<td>0.7</td>
<td>0.59</td>
<td>34.4</td>
<td>33.99</td>
</tr>
<tr>
<td>Royal Gwent</td>
<td>0.6</td>
<td>0.4</td>
<td>47.5</td>
<td>46.8</td>
</tr>
<tr>
<td>Singleton</td>
<td>0.41</td>
<td>0.12</td>
<td>49.9</td>
<td>45.6</td>
</tr>
<tr>
<td>Royal Glamorgan</td>
<td>1.0</td>
<td>1.1</td>
<td>48.4</td>
<td>52.5</td>
</tr>
<tr>
<td>UHW</td>
<td>0.83</td>
<td>0.69</td>
<td>40.1</td>
<td>37.7</td>
</tr>
<tr>
<td>West Wales</td>
<td>1.3</td>
<td>0.7</td>
<td>33.1</td>
<td>30.2</td>
</tr>
<tr>
<td>Withybush</td>
<td>1.06</td>
<td>0.8</td>
<td>43</td>
<td>44.5</td>
</tr>
<tr>
<td>Wrexham Maelor</td>
<td>1.0</td>
<td>0.88</td>
<td>35.9</td>
<td>33.7</td>
</tr>
<tr>
<td>Glan Clwyd</td>
<td>1.04</td>
<td>0.42</td>
<td>54.33</td>
<td>56.83</td>
</tr>
<tr>
<td>Gwynedd</td>
<td>0.05</td>
<td>0.2</td>
<td>47.9</td>
<td>42.3</td>
</tr>
<tr>
<td><strong>AVERAGE</strong></td>
<td><strong>0.86</strong></td>
<td><strong>0.72</strong></td>
<td><strong>42.8</strong></td>
<td><strong>43.2</strong></td>
</tr>
</tbody>
</table>

Source: Statistical Report 121/12000 for 1999/00 data QUEST for 2001/02 data Glan Clwyd 2002 information from Trust)
5.3.3 Outliers

Key Theme 11: Improved information on outliers demonstrates an increasing problem, which is particularly evident in three Trusts.

Since the introduction of SITREPs, more detailed information is now available on outliers. This indicates continued growth in the number of outliers, with 226 reported in September 2001, increasing to 395 in March 2002, with a peak at 527 outliers in January 2002.

The number of outliers in each Trust is one indicator of the pressure on beds and on medical beds in particular. There are, on average, 336 outliers in Wales each day. The average number of outliers for each Trust is illustrated in the graph below, which shows that over two thirds of the outliers are located within 3 areas.

Figure 60: Average daily outliers: September 2001 to March 2002

The consequences, for the Trust and for patients, of having outliers can potentially include:

- lengthier waits to see a doctor,
- increased waiting times for diagnostic tests requested by medical staff,
- increased average lengths of stay for these patients,
- compromised quality of nursing care, when nurses are unused to dealing with specialist requirements of certain medical patients;
- cancellation of operations of elective patients.
- wasted time spent by medical staff, attempting to locate all of their patients scattered throughout the hospital.
This issue was highlighted in the Report of the Commission for Health Improvement in respect of Cardiff and Vale NHS Trust\(^{45}\).

The impact of outliers on surgical activity is of particular importance to Trusts. The number of outliers equates to 122,640 bed days per year. Using an average length of stay for surgical patients, this would equate to 22,270 “lost” surgical cases per year (assuming that all other supporting infrastructure was available e.g. staff, operating time).

Links between the number of outliers and the waiting times over 4 hours in the Accident and Emergency Department are clear, with the four Trusts with longest waits also reflected as those having the greatest number of outliers.

Two Trusts (Cardiff and Vale and Gwent) are already undertaking significant work in targeting the reduction of outliers by reorganising beds and wards more appropriately. Other Trusts should emulate best practice and review how reductions can be achieved through these means.

5.3.4 Cancelled Operations

| Key Theme 12: Improved information on cancelled operations demonstrates an increasing problem, although the majority of cancellations are located in a small number of Trusts |

Another indicator of pressure on acute hospital beds is the number of cancellations of operations. This indicator is also important given the increasing emphasis placed upon elective throughput. Data is now collected via SITREPs, and the following graph (figure 61) identifies cancellations by Trust.
5.3.5 Impact on Other Elective Procedures

Key Theme 13: On-going lack of available capacity can also lead to the planned cancellation of elective procedures, which adversely affects waiting times

The figures above on cancellation of operations do not necessarily represent the whole picture in relation to cancellation of elective operations and procedures. Within Gwent Healthcare NHS Trust, for example, pressures from emergency admissions resulted in a planned cessation of all angiography from September 2001, and the University Hospital of Wales has also identified similar planned cancellations.

Further work is required to identify the extent of this additional problem, and the impact on key waiting times such as angiography.
5.4 Bed Management

Key Theme 14: Bed management plays a crucial role in the day to day management of these pressures, but there are opportunities to improve the co-ordination across Trusts

As staff have to grapple with the inherent difficulties in having a finite number of beds, increasing numbers of emergency admissions, and greater pressure to accommodate elective patients, bed management policies become critically important in deciding how to make optimal use of the total bed stock available to each Trust. The agenda for innovation and modernisation demands that Trusts should review all processes, in order to identify bottlenecks and eradicate these. New ways of working are therefore essential.

Many Trusts have introduced Discharge Lounges, which have proved to be useful and work well when staffed appropriately. One study in Gwent indicated an average of 16.1% of patients being discharged via this route in one hospital and 17.6% in another hospital. Trusts need to examine the advantages in the implementation and use of such facilities, as they are proven to improve discharge processes and to free up beds earlier in the day.

Another way of freeing up capacity can be linked to the timing of ward rounds which, if undertaken in the mornings, could potentially free up capacity much earlier in the day. In addition, the development of care pathways could take this further, with nurses and other health professionals able to discharge patients within agreed protocols, thus reducing reliance on ward rounds as the only mechanism for agreement on discharge.

The Report of the Capacity Working Group (2000) identified that the situation can be eased where local hospitals co-operate in pooling bed capacity. There is little evidence to show that this approach has been taken forward in a co-ordinated way across Trusts, although a more pro-active approach is evidenced in the use of local bed bureau, which operate successfully in a small number of Trusts within Wales. One notable example of good practice is the new approach to dynamic bed management within the Gwent Healthcare NHS Trust, which looks at controlling patient flow throughout the Trust, and making pro-active use of all bed stock. Similarly, work in Pontypridd and Rhondda NHS Trust in using community hospital beds more proactively for ‘step-down’ from the Royal Glamorgan Hospital, has resulted in reduced lengths of stay in the acute general hospital.

Work has been undertaken in England on planning and co-ordinating the bed pool across Trusts, and a number of schemes have already been implemented.

- Emergency Services Action Teams established, in which Chief Executives of Trusts work on an ‘on call’ basis to manage the process across several Trusts during times of greatest pressure;

- Hospitals and ambulance services in Surrey, Berkshire, Oxfordshire and Buckinghamshire are currently piloting an Emergency Capacity Management System. It is the only system in the UK that proactively informs ambulances which hospitals are best placed to receive emergency
patients. GPs can also access the system through the internet, call centres or pagers, so that they can refer patients to the least busy hospital.

These initiatives in themselves do not reduce demand, but attempt to equalise it across the system, and must therefore be accompanied with ways in which to reduce demand and increase capacity.

5.5 Current Bed Capacity

<table>
<thead>
<tr>
<th>Key Theme 15: In acute care, hospital beds are an important aspect of capacity, and increases have been seen in medical beds since 2000</th>
</tr>
</thead>
</table>

Wales has approximately 30% more beds in total than England (36% less than Scotland and 2% less than Northern Ireland) per 1000 resident population. Contributing factors for the difference between England and Wales are linked to the age profile of the populations and prevalence of ill health.

The wide domestic variation in bed availability is mirrored internationally e.g. a number of health care systems operate on hospital bed day rates that are low in comparison to those within the UK. However, this may owe much to the support structures available as alternatives, and the funding arrangements for accessing services.

The number of available beds in Wales has decreased significantly over the last 10 years (between 1990/91 and 2000/01, the total number of NHS beds decreased by 25%), and the number treated per 1000 resident population is comparable to that of England.

Within Wales, the Report of the Capacity Working Group (2000), identified variations in the ratio of allocated beds per 1000 population, based on Health Authority which appeared to demonstrate a link between acute bed availability and population density.

The situation in 2002 is unchanged in that areas which have greatest population density, tertiary centres, and major trauma centres continue to have higher numbers of acute beds (Morgannwg and Bro Taf Health Authority areas). However, the difference in availability of intermediate beds per 1000 resident population varies between 0.7 per 1000 population in Morgannwg and 1.5 per 1000 in North Wales.
Of the current 98 hospitals in Wales (excluding all mental health services), 62% have fewer than 51 beds, and only 14% of hospitals have over 300 beds (excluding mental health specialties).

The performance of smaller units as discussed later in this section (community and intermediate hospitals) indicates that consideration will need to be given to ensuring the most efficient use of these beds/hospitals, and that where necessary their operational policies should be reviewed to improve bed management.

Though the overall average available number of beds has reduced during the last two years, one specialty has shown an increase: the number of medical (acute and community) beds rose by 6% between 1999/00 – 2001/02. This is in line with the commitment made in the Partnership Agreement. However, this must be seen in the context of a decrease in geriatric beds – some of which is due to reclassification of beds to the medical sector, and some due to previous plans to rationalise beds.
Figure 64: Beds by Specialty: General Medicine/Geriatric and GP beds, Changes between 1999/00 – 2001/02

<table>
<thead>
<tr>
<th>Specialty</th>
<th>1999/00</th>
<th>2001/02</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Medical Beds (acute and community/intermediate)</td>
<td>2,833</td>
<td>3,008</td>
</tr>
<tr>
<td>Geriatric beds (acute and intermediate)</td>
<td>2,000</td>
<td>1,486</td>
</tr>
<tr>
<td>GP Beds (excluding maternity)</td>
<td>991</td>
<td>968</td>
</tr>
<tr>
<td>Rehabilitation (acute and intermediate)</td>
<td>153</td>
<td>367</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>5,977</strong></td>
<td><strong>5,830</strong></td>
</tr>
</tbody>
</table>

Source: QUESTI 2001/02 (provisional) and SBD 121/2000 for 99/00

Data highlights a number of changes over the last two years which explains the overall reduction. Most of these relate to the realisation of previously planned reductions in beds, for example, in peripheral hospitals.

Information gathered from Trusts confirms that there have been increases in the number of general medical/elderly medical beds in acute general hospitals since March 2000, though the exact number of additional beds is difficult to substantiate. Identifying the different bed availability for general medical/elderly medical beds (using the specified hospitals in line with in the Report of the Capacity Working Group (2000)) an increase of 114 beds in general medicine/elderly medicine can be identified within these hospitals.

Figure 65: Acute General Hospitals (as specified in previous capacity Report)
Allocated beds – General Medicine/Elderly medicine

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bronglais</td>
<td>67</td>
<td>81</td>
</tr>
<tr>
<td>Llandough</td>
<td>171</td>
<td>203</td>
</tr>
<tr>
<td>Morriston</td>
<td>199</td>
<td>155</td>
</tr>
<tr>
<td>Neath General</td>
<td>120</td>
<td>128</td>
</tr>
<tr>
<td>Nevill Hall</td>
<td>158</td>
<td>165</td>
</tr>
<tr>
<td>Prince Charles</td>
<td>173</td>
<td>174</td>
</tr>
<tr>
<td>Prince Phillip</td>
<td>132</td>
<td>130</td>
</tr>
<tr>
<td>Princess of Wales</td>
<td>230</td>
<td>236</td>
</tr>
<tr>
<td>Royal Glamorgan</td>
<td>184</td>
<td>198</td>
</tr>
<tr>
<td>Royal Gwent</td>
<td>251</td>
<td>282</td>
</tr>
<tr>
<td>Singleton</td>
<td>124</td>
<td>132</td>
</tr>
<tr>
<td>University of Wales</td>
<td>185</td>
<td>185</td>
</tr>
<tr>
<td>West Wales General</td>
<td>139</td>
<td>151</td>
</tr>
<tr>
<td>Withybush</td>
<td>126</td>
<td>143</td>
</tr>
<tr>
<td>Wrexham Maelor</td>
<td>227</td>
<td>253</td>
</tr>
<tr>
<td>Ysbyty Glan Clwyd</td>
<td>202</td>
<td>201</td>
</tr>
<tr>
<td>Ysbyty Gwynedd</td>
<td>166</td>
<td>151</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>2854</strong></td>
<td><strong>2968</strong></td>
</tr>
</tbody>
</table>

Source: Capacity Report 2000; QUEST 2001/02 (provisional)
Glan Clwyd 2002 data from Trust (corrected QUEST data)
As previously indicated, models for capacity planning often include an optimal bed occupancy level. Applying the Bagust model (first published in 2000) to current data, the requirements for general medicine/elderly medicine in specific hospitals would be as follows (identified at 85% bed occupancy and the now more widely accepted 82% occupancy):

**Figure 66: Acute General Hospitals – Additional Bed Requirements for General Medicine/Elderly Medicine 2002**

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Allocated Beds</th>
<th>Additional Beds Required At 85% Occupancy</th>
<th>Additional Beds Required At 82% Occupancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prince Phillip</td>
<td>130</td>
<td>-1</td>
<td>4</td>
</tr>
<tr>
<td>Royal Glamorgan</td>
<td>198</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>Bronglais</td>
<td>81</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Neath General</td>
<td>128</td>
<td>7</td>
<td>12</td>
</tr>
<tr>
<td>Withybush</td>
<td>143</td>
<td>7</td>
<td>13</td>
</tr>
<tr>
<td>Glan Clwyd</td>
<td>201</td>
<td>20</td>
<td>28</td>
</tr>
<tr>
<td>West Wales</td>
<td>151</td>
<td>12</td>
<td>18</td>
</tr>
<tr>
<td>Gwynedd</td>
<td>151</td>
<td>23</td>
<td>29</td>
</tr>
<tr>
<td>Wrexham Maelor</td>
<td>253</td>
<td>24</td>
<td>34</td>
</tr>
<tr>
<td>Nevill Hall</td>
<td>165</td>
<td>25</td>
<td>32</td>
</tr>
<tr>
<td>Singleton</td>
<td>132</td>
<td>27</td>
<td>33</td>
</tr>
<tr>
<td>Prince Charles</td>
<td>174</td>
<td>34</td>
<td>42</td>
</tr>
<tr>
<td>Llandough</td>
<td>203</td>
<td>36</td>
<td>45</td>
</tr>
<tr>
<td>Princess of Wales</td>
<td>236</td>
<td>46</td>
<td>56</td>
</tr>
<tr>
<td>Morriston</td>
<td>155</td>
<td>58</td>
<td>66</td>
</tr>
<tr>
<td>UHW</td>
<td>185</td>
<td>67</td>
<td>76</td>
</tr>
<tr>
<td>Royal Gwent</td>
<td>282</td>
<td>73</td>
<td>84</td>
</tr>
<tr>
<td>CaerphillyMiners</td>
<td>82</td>
<td>13</td>
<td>17</td>
</tr>
<tr>
<td>Llandudno</td>
<td>67</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>3117</strong></td>
<td><strong>479</strong></td>
<td><strong>610</strong></td>
</tr>
</tbody>
</table>

*Source: QUEST1 2001/02 (provisional) Glan Clwyd – Trust Data*

The above calculations are based on current levels of activity and length of stay against allocated beds (QUEST1 2001/02 provisional).

Altering the variables used in the calculations, such as average length of stay and occupancy levels, will give a range of outcomes. If average length of stay were to reduce to below that of the current all Wales average, then approximately 300 beds would be needed. If further rises in average length of stay are factored in, in line with recent increases over the last 2 years, then more than 700 beds are required.
Immediate and urgent action is essential to ensure that Trusts make arrangements to ensure that occupancy levels in general medicine/elderly medicine (acute general hospitals) do not exceed 82% - 85% bed occupancy levels in order to bring the hospital system into balance.

5.6 Utilisation of Available Capacity and Resources

| Key Theme 16: Variations in performance should be identified and understood, and Trusts should demonstrate that they are effectively utilising their available bed stock |

5.6.1 Elective Admissions Profiling

| Key Theme 17: Trusts should profile elective admissions to ensure best use of available capacity |

Mondays are the most difficult day of the week for most acute general hospitals. A large proportion of discharges are held over from the weekend, emergency admissions peak as GPs do their rounds, and the number of patients attending an A&E Department also peaks, with a surge of self-referring patients who are unable to book appointments to see their GPs until later in the week.

Figure 67 demonstrates the fact that Trusts are admitting more elective patients on average on Mondays, despite the fact that this is busiest day in terms of emergency admissions. In many cases these elective admissions are the most complex surgical cases requiring critical care beds.

It could be argued that hospitals are therefore ‘planning to fail’, and that effective use of available resources is not evidenced, with Trusts failing to anticipate known peaks of pressure. Further work will need to be undertaken by Trusts on profiling elective admissions appropriately.

There would be considerable benefit in further investment in 7 day working, which would, potentially, impact considerably on capacity requirements, and aid in the balancing of the acute hospital system. The opportunity to look at this in more detail is provided through the proposed changes to the consultant contract, and the recruitment of all new staff in general.
In England, the concept of ‘streaming’ is being advocated to reduce the number of elective operations cancelled at short notice (because of emergency admissions). The strategy is based on ensuring that patients flow through the system, making sure that diagnostic tests are undertaken quickly, and ensuring that occupancy levels are not too high.

Streaming on such a scale means separating elective and emergency streams so that patients who need different treatments get the appropriate care e.g. through use of treatment centres, elective centres etc. This requires detailed planning of the annual elective programme.

It is not unusual for Commissioners and Trusts to still be negotiating the elective programmes in the middle of a financial year, causing greater pressure in trying to meet targets later in the year. Commissioners and Trusts must sign off their elective programme prior to the commencement of each financial year, to allow for better annual scheduling of elective activity.
### 5.6.2 Effective Use of Daycase Work

**Key Theme 18: Trusts should increase day case rates to meet targets in order to release acute bed capacity**

Significant variations are noted across Trusts in relation to the proportion of day cases undertaken within the Audit Commission’s basket of procedures. Figure 68 indicates current performance for each Trust against a number of these procedures, which should be considered against the target rate of 75%.

**Figure 68: Daycase Rates (%) Examples of those within Audit Commission Basket Financial year 2000/01**

<table>
<thead>
<tr>
<th>Trust</th>
<th>Inguinal Hernia %</th>
<th>Exc. Breast Lump %</th>
<th>Exc. Dupuytren contracture %</th>
<th>Arthroscopy %</th>
<th>Reduction of Nasal Fissure %</th>
<th>D&amp;C %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bro Morgannwg</td>
<td>37</td>
<td>76</td>
<td>20</td>
<td>36</td>
<td>87</td>
<td>71</td>
</tr>
<tr>
<td>Cardiff &amp; Vale</td>
<td>34</td>
<td>21</td>
<td>74</td>
<td>43</td>
<td>93</td>
<td>65</td>
</tr>
<tr>
<td>Carmarthen</td>
<td>30</td>
<td>54</td>
<td>8</td>
<td>54</td>
<td>98</td>
<td>81</td>
</tr>
<tr>
<td>Ceredigion</td>
<td>36</td>
<td>21</td>
<td>10</td>
<td>69</td>
<td></td>
<td>74</td>
</tr>
<tr>
<td>Conwy &amp; Denbighshire</td>
<td>13</td>
<td>40</td>
<td>60</td>
<td>66</td>
<td>50</td>
<td>84</td>
</tr>
<tr>
<td>Gwent</td>
<td>24</td>
<td>46</td>
<td>24</td>
<td>44</td>
<td>40</td>
<td>38</td>
</tr>
<tr>
<td>North East Wales</td>
<td>46</td>
<td>63</td>
<td>29</td>
<td>42</td>
<td>83</td>
<td>65</td>
</tr>
<tr>
<td>North Glamorgan</td>
<td>14</td>
<td>47</td>
<td>20</td>
<td>57</td>
<td>33</td>
<td>50</td>
</tr>
<tr>
<td>North West Wales</td>
<td>19</td>
<td>19</td>
<td>51</td>
<td>65</td>
<td>70</td>
<td>50</td>
</tr>
<tr>
<td>Pembrokeshire</td>
<td>5</td>
<td>37</td>
<td>0</td>
<td>48</td>
<td>100</td>
<td>43</td>
</tr>
<tr>
<td>Pontypridd &amp; Rhondda</td>
<td>31</td>
<td>81</td>
<td>41</td>
<td>61</td>
<td>91</td>
<td>86</td>
</tr>
<tr>
<td>Powys</td>
<td>36</td>
<td>100</td>
<td>60</td>
<td>83</td>
<td></td>
<td>73</td>
</tr>
<tr>
<td>Swansea</td>
<td>25</td>
<td>23</td>
<td>14</td>
<td>63</td>
<td>83</td>
<td>53</td>
</tr>
</tbody>
</table>

*Source: Welsh Assembly Government*

This suggests that there is further work to be done in many Trusts to achieve target levels for daycases (75%). However, this must be done in order to release inpatient bed capacity.
5.6.3 More Effective Use of Community / GP Beds within Trusts

Key Theme 19: Integrated Trusts have the opportunity to utilise their total bed stock in managing emergency pressures. However, evidence demonstrates that the community and GP bed stock is not fully utilised, and further work is needed to establish in each Trust how this can be improved.

There are a total of 3,122 community beds (excluding all mental health services) across Wales. This includes 969 GP beds and a further 35 GP Maternity beds. These provide a valuable resource for the health care system within localities.

Though not dealt with in any detail, it was suggested in the Report of the Capacity Working Group (2000) that there was also an opportunity to consider more effective use of community beds. In 1999/00, community beds were reported to have a 76% occupancy level. The current rate of occupancy remains relatively low, with an all Wales average occupancy level of around 77% for 2001/02.

Figure 69 illustrates differences in occupancy rates and average length of stay by Trust. All beds not already identified within the ‘acute hospital beds’ have been included (including GP beds), with the only exceptions being beds identified for mental illness and leaning disabilities (which have been excluded altogether). Those Trusts with highest occupancy levels are the areas with the smaller number of community beds available to them. Bed occupancy levels range from 66% in Conwy and Denbighshire to 90% in Swansea.

Average length of stay is of course longer than that in acute hospitals, averaging 24 days for the whole of Wales, due to the nature of the patients occupying these beds. There are significant variations in the average length of stay within Wales, ranging between 13 days in Powys to more than 40 days in Ceredigion.

Within the general increase in length of stay in both acute general and community hospitals, there is some evidence that in particular, lengths of stay for elderly medical patients are increasing, reflecting the increased case-mix complexity and more complex discharge packages.
Turnover intervals and bed use factor also indicate a significantly reduced pressure in these hospitals. Local variation in this area is considerable, as figure 70 demonstrates.

**Figure 70: Turnover Interval and Bed Use Factor 2001/02 (Community/GP Hospitals)**

<table>
<thead>
<tr>
<th>Trust</th>
<th>Turnover Interval</th>
<th>Bed Use factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bro Morgannwg</td>
<td>5.96</td>
<td>14.29</td>
</tr>
<tr>
<td>Cardiff and Vale</td>
<td>17.2</td>
<td>7.03</td>
</tr>
<tr>
<td>Carmarthenshire</td>
<td>6.74</td>
<td>10.66</td>
</tr>
<tr>
<td>Ceredigion</td>
<td>7</td>
<td>7.68</td>
</tr>
<tr>
<td>Conwy and Denbighshire</td>
<td>8.8</td>
<td>14.15</td>
</tr>
<tr>
<td>Gwent</td>
<td>8.5</td>
<td>9.2</td>
</tr>
<tr>
<td>North East Wales</td>
<td>9.03</td>
<td>8.33</td>
</tr>
<tr>
<td>North Glamorgan</td>
<td>5.19</td>
<td>11.29</td>
</tr>
<tr>
<td>North West Wales</td>
<td>6.56</td>
<td>12.65</td>
</tr>
<tr>
<td>Pembrokeshire and Derwen</td>
<td>4.79</td>
<td>14</td>
</tr>
<tr>
<td>Pontypridd and Rhondda</td>
<td>4.62</td>
<td>12.69</td>
</tr>
<tr>
<td>Powys</td>
<td>5.68</td>
<td>19.52</td>
</tr>
<tr>
<td>Swansea</td>
<td>4.52</td>
<td>8.8</td>
</tr>
<tr>
<td><strong>ALL WALES</strong></td>
<td><strong>7.4</strong></td>
<td><strong>11.6</strong></td>
</tr>
</tbody>
</table>

*Source: QUEST1 2001/02 (provisional)*

Bed use factor (the average number of patients using each bed during the period under review) indicates that 11.6 patients use each available bed during one year. The local variation is again considerable with Bro Morgannwg using each bed for more than 14 patients, whilst Cardiff and Vale have a little over 7 patients in each bed per annum.
In addition the turnover interval (the number of days on average a bed is unoccupied between patients) is on average over 7 days, when acute hospitals are struggling to accommodate emergency patients. Again, local variations are considerable ranging from beds being unoccupied between patients for 4.5 days (Swansea) to more than 17 days (Cardiff and Vale).

It is also interesting to consider use of GP beds separately. The way in which these beds are used can vary considerably, and the District Audit Report (6) suggested that operational policies could be reviewed to maximise their impact.

The following figure identifies bed utilisation rates for GP beds in Wales.

**Figure 71: GP Beds – Utilisation rates 2001/02**

<table>
<thead>
<tr>
<th>% Bed Occupancy</th>
<th>ALOS</th>
<th>Turnover Interval</th>
<th>Bed Use Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>71%</td>
<td>17.5</td>
<td>7.25</td>
<td>14.7</td>
</tr>
</tbody>
</table>

*Source: QUEST1 2001/02 (provisional)*

The above data clearly indicates that not all Trusts have made optimal use of their community hospitals at a time when acute hospitals have been struggling. Trusts who have been the most successful are likely to have been those who have reviewed the roles and criteria for admission. The beds will be used effectively as ‘step-down’ facilities (thereby reducing the average length of stay in acute hospitals) in addition to being pro-actively used for direct admission, thus diverting admissions from the acute sector as part of a more dynamic range of options for GP admissions. Pontypridd and Rhondda NHS Trust have been successful in achieving this for example.

The District Audit Report(6) also suggested that potentially, the fact that Wales had implemented integrated acute and community Trusts should provide an advantage in terms of facilitating practical whole systems working. Integrated Trusts should now work to ensure that this advantage is realised, with their bed management policies all operating to assure effective utilisation of community and GP beds, thus releasing pressure on acute hospital beds.
5.6.4 More Effective Use of all Speciality Beds within Trusts

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Hospital with lowest average length of stay</th>
<th>Lowest Average Length of Stay</th>
<th>All Wales Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Surgery</td>
<td>Princess of Wales</td>
<td>3.8</td>
<td>6.06</td>
</tr>
<tr>
<td>Urology</td>
<td>Princess of Wales</td>
<td>2.7</td>
<td>4.73</td>
</tr>
<tr>
<td>T&amp;O</td>
<td>Glan Clwyd</td>
<td>4.0</td>
<td>7.10</td>
</tr>
<tr>
<td>ENT</td>
<td>Prince Charles</td>
<td>1.2</td>
<td>2.05</td>
</tr>
<tr>
<td>Ophthalmology</td>
<td>Prince Charles</td>
<td>0.9</td>
<td>2.15</td>
</tr>
<tr>
<td>Paediatrics</td>
<td>Royal Glamorgan</td>
<td>1.4</td>
<td>2.09</td>
</tr>
<tr>
<td>Dermatology</td>
<td>Royal Gwent</td>
<td>4.4</td>
<td>9.95</td>
</tr>
<tr>
<td>Obstetrics</td>
<td>Llandough</td>
<td>1.3</td>
<td>2.0</td>
</tr>
<tr>
<td>Gynaecology</td>
<td>Glan Clwyd</td>
<td>1.7</td>
<td>2.64</td>
</tr>
</tbody>
</table>

Source: QUESTI 2001/02 (provisional)

Figure 72 identifies the lowest ALOS by speciality in Wales. Though this report does not include an in-depth analysis of reasons for the apparent success in these areas, further work could be undertaken which may offer examples of good practice that may be adopted in other localities within Wales. Some of these variations may be due to the fact that more complex procedures are carried out on another site.

5.6.5 Average Length of Stay

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Hospital with lowest average length of stay</th>
<th>Lowest Average Length of Stay</th>
<th>All Wales Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Surgery</td>
<td>Princess of Wales</td>
<td>3.8</td>
<td>6.06</td>
</tr>
<tr>
<td>Urology</td>
<td>Princess of Wales</td>
<td>2.7</td>
<td>4.73</td>
</tr>
<tr>
<td>T&amp;O</td>
<td>Glan Clwyd</td>
<td>4.0</td>
<td>7.10</td>
</tr>
<tr>
<td>ENT</td>
<td>Prince Charles</td>
<td>1.2</td>
<td>2.05</td>
</tr>
<tr>
<td>Ophthalmology</td>
<td>Prince Charles</td>
<td>0.9</td>
<td>2.15</td>
</tr>
<tr>
<td>Paediatrics</td>
<td>Royal Glamorgan</td>
<td>1.4</td>
<td>2.09</td>
</tr>
<tr>
<td>Dermatology</td>
<td>Royal Gwent</td>
<td>4.4</td>
<td>9.95</td>
</tr>
<tr>
<td>Obstetrics</td>
<td>Llandough</td>
<td>1.3</td>
<td>2.0</td>
</tr>
<tr>
<td>Gynaecology</td>
<td>Glan Clwyd</td>
<td>1.7</td>
<td>2.64</td>
</tr>
</tbody>
</table>

Source: QUESTI 2001/02 (provisional)

Trusts should consider a variety of actions in relation to reducing the length of time that patients remain in acute hospital beds:

Pre-assessment clinics: Several Trusts report within their bed management policies that pre-assessment clinics have had an impact on average length of stay. However, in one hospital currently studying this issue, approximately 36% of patients reported that they had spent an average of between 1 and 3 days pre-operatively in hospital. This suggests that further work needs to be undertaken in this area.
Review of numbers of patients with inpatient stay of between 0 and 2 days:
Several Trusts have had some success in diverting the number of low length of stay admissions to another care option. It is recommended that all health and social care economies should review patients with an inpatient stay of 0 – 2 days, in order to ascertain whether alternative pathways could be agreed and services developed to avoid them having to be admitted e.g. assessment units, reablement teams, and rapid response teams.

Improve internal processes to ensure that there are no delays in the patient pathway: in addition to patients categorised as delayed transfers of care, research in England has demonstrated that nearly 29% of all inpatients (in the 21 hospitals surveyed) could be safely cared for in other settings. Reasons included:

- patients awaiting diagnostic procedures/tests;
- patients awaiting test results;
- patients awaiting take home medication;
- non-availability of transport;
- patients not seen over weekend by medical staff;
- policies in regard to who may discharge patients and availability of designated person;
- issue about ability to transfer to other areas except on certain days;
- ability to access ‘routine’ services during evenings/weekends e.g. social services;
- equipment issues.

It should be noted that increases to the average length of stay may not always reflect poor performance by Trusts. Trusts which have already taken action to divert certain patients from hospital may have reduced the number of patients who would normally have been admitted for a short period of time. This action will result in an overall increase in the average length of stay.

5.7 Recommendations

Local Authorities with their partners must indicate as soon as possible and before this winter whether the target reduction of 25% will be achieved by March 2003.

Contingency arrangements must be agreed with Trusts for providing alternative options for patients delayed within acute beds, if this overall target is not achieved.

A longer-term target to reduce delayed transfers of carer by 75% should be set. This would still mean that there were approximately 200 beds in acute and community hospitals across Wales occupied by delayed transfers of care. The Welsh Assembly Government must work with Local Authorities and Local Health Groups / Boards to develop plans for how this can be achieved.

Trusts should target the reduction of outliers by reorganising beds and wards more appropriately.

Bed management policies should be reviewed, and procedures or services put in place to improve patient throughput during the day. This may include the implementation of
appropriately appointed and staffed discharge lounges, development of patient pathways and morning ward rounds.

New approaches to dynamic bed management should be implemented by this winter, through the planning and co-ordination of the acute and community bed pool across Trusts, within health and social care economy areas.

Commissioners and Trusts must take urgent action to develop plans for each area to ensure that general medical /elderly medical beds in acute hospitals operate at optimal bed occupancy levels (no more than 85%).

If no other changes are implemented to the whole system, this will require a minimum of 479 additional medical beds for main acute general hospitals (Bagust model). Details of the exact numbers for each health community must be agreed between the Regional Director, Local Health Boards and Trusts. It is estimated that the minimum cost for each bed will be approximately £35,000 (this is dependant upon configuration, support services etc.).

Trusts must be given the go-ahead to proceed with commissioning of the agreed number of additional beds as soon as possible, and will have to work to meet the challenge of recruiting staff and if necessary using the revenue set aside for the additional capital infrastructure if this is the only option available.

Commissioners must justify alternative investment strategies where target bed numbers are not supported.

Trusts must demonstrate that they have systems in place to allow them to programme elective admissions through the week to make maximum use of available capacity. This will include a consideration of 7-day working.

Commissioners and Trusts must sign off their elective programme prior to the commencement of each financial year, to allow for better annual scheduling of elective activity.

Daycase rates must be increased to meet Welsh Assembly targets (75%) in order to maximise elective capacity. Each health community must indicate the level of capacity that will be released by meeting this target.

Trusts must be able to demonstrate to commissioners, the effective use of their community and GP bed stock, ensuring that the beds are a fully integrated and utilised part of the system through which the patient flows. Operational policies for the use of both community and GP beds should be reviewed and refined.

Occupancy levels in obstetrics and paediatrics must be reviewed in the light of reducing numbers of births and alternative forms of paediatric care.

Length of stay should be analysed further at a local level, and Trusts should take opportunities to reduce length of stay by streamlining internal processes, and further developing the use of pre-assessment clinics.
SECTION 6 – A WHOLE SYSTEMS APPROACH

6.1 Introduction

The purpose of this section is to:

- consider the importance of a whole systems approach in developing strategies and plans for each local area;
- describe how capacity modelling can be utilised within a whole systems approach;
- outline how modelling techniques are being used to inform and help future planning.

6.2 A whole systems approach

Key Theme 1: A whole systems approach is essential in developing strategies and plans for local areas, which will bring the system into balance

The previous sections in this report have demonstrated the complex interrelationships between demand, capacity and activity in the primary care, community, social care, independent and acute sectors. Practices or changes in one area have a significant impact on each of the other parts of the whole system. It has also been demonstrated that the system is not currently in balance, with many pressure points and bottlenecks described.

Therefore, in order for the system to move towards a better-balanced position, all partners in health and social care must work closely together. There is a need for whole system strategies and action plans to be developed, which are agreed by all relevant statutory and non-statutory bodies. Robust data on all parts of the system will be required in producing these strategies and plans.

A number of local health and social care communities have made good progress in this area, with Partnership Boards established and robust mechanisms for joint planning and joint commissioning. However, further work must be undertaken across Wales to improve these cross-organisational arrangements. This will be particularly important in the light of the requirement to implement health and well-being partnerships at a Local Health Board / Local Authority level, and secondary care commissioning partnerships at Trust level, as outlined in ‘Improving Health in Wales’.

There are challenges in developing this level of close collaboration, not least because of the differing priorities and targets that each organisation will need to address. However, the structural changes to be implemented in the NHS in Wales will provide an excellent opportunity for fostering whole systems working through improved partnership working at a local level between Local Health Boards, Local Authorities, Trusts and the voluntary sector level, with the Regional Offices providing a useful over-arching, facilitating role.
6.3 Whole Systems Capacity Mapping

| Key Theme 2: Whole system capacity mapping can help to identify demands, bottlenecks and capacity shortages, and should be implemented as soon as possible |

‘Improving Health in Wales’ states that “Best practice requires that NHS Trusts plan both elective and emergency work throughout the year, predict peaks and troughs and rapidly detect, analyse and tackle changes in the environment”.

As outlined previously, very little data is consistently collected across Wales on local capacity across the whole system. One of the first tasks in establishing whole systems plans should therefore be to put in place plans to undertake dynamic capacity mapping. This will assist communities in understanding demands, trends, resources, and constraints, bottlenecks and reserves across the whole system, and promote a proactive approach to capacity planning, highlighting areas of risk and where future resources should be targeted.

The Welsh Assembly Government has proposed that, during 2002, Local Capacity Mapping Groups (LCMGs) be established with a remit to plan capacity for the whole system. LCMGs should include all relevant partners, and as a minimum Ambulance Services, NHS Trusts, Local Health Boards, representatives from Primary Care and out-of-hours primary care provider, NHS Direct, Local Authorities, the whole range of local independent sector providers and the voluntary sector.

As part of this initiative, communities will be required to produce a capacity map showing predicted demand and available capacity, on a week by week basis, at a number of designated dates during the year for the whole health and social care community. This map is to be agreed with all partners and supported by clear escalation plans and risk assessments. The capacity maps will be monitored via SITREPs and other existing returns. Guidance and training sessions will be made available and run by the Welsh Assembly Government in the summer of 2002.

This capacity data will provide the starting point for the development of whole system strategies and plans, and the initiative is therefore to be welcomed.
6.4 Using Modelling Techniques

Key Theme 3: The use and refinement of dynamic modelling techniques could help to improve understanding of how whole systems operate, and depend on robust information from all parts of the system.

A number of models have been developed, which seek to increase understanding of how whole systems work, and to give broad indications of the effect of certain interventions, such as changes in practice or changes in resources and capacity. In this way, they can form an important part of the development of long term strategies and plans at a local level.

A number of different models were utilised in the development of the recent Wanless Report (14). These helped the authors to reach an over-arching view of the cost of services as foreseen in 2022.

Clearly though useful, modelling depends on accurate and complete data, and as described in earlier sections of this report, there are concerns across Wales that a basis of good capacity information is lacking, particularly in the primary care and community sectors. In addition, it is important that models provide opportunities for scenario planning, so that communities can evaluate the impact of changes in demand or potential changes in practice.

Modelling is not an end in itself. It must lead local partners to implement change and modelling should then become an on-going dynamic process, mapping changes to the system as variables and assumptions change over time.

It must also be recognised that modelling techniques can involve the use of complex data and statistical analysis, requiring expertise in their development and use. The Welsh Assembly Government has a part to play in ensuring that this expertise is available across Wales.
6.5 What Can Models Achieve?

There are several key points for consideration in the use of predictive capacity models. These include the facts that:

- modelling is an **aid only** to understanding some of the inter-relationships and different agents involved;
- modelling is an **aid only** to understanding future requirements;
- models **cannot** be expected to provide a foolproof answer;
- models can only **at best** give a range of predicted requirements;
- the greater the detail, the greater the number of assumptions and therefore the model is not necessarily more accurate;
- many relationships are multi-factorial. Associations are not necessarily causal relationships;
- detailed work looking at one area can only be carried out at a local level, as high-level modelling cannot hope to capture the sensitivities present.

**Figure 73: Modelling capacity – what is involved?**

### Issues of data quality

- **Current demand**
- **Factors affecting future demand**
- **Utilisation rate**
- **Projection of capacity required**

### Underpinning assumptions
6.6 Types of Model

### Key Theme 5: The types of model available are many and varied

A number of models have been considered, with no single evaluated model meeting all requirements for a whole systems modelling approach. Each type is summarised below.

#### 6.6.1 Simple Bed Capacity Model

### Key Theme 6: Simple models are limited in the variables taken into consideration

One example of a simple bed modelling framework is as prescribed by Bagust et al (3). The model identifies that hospitals are at risk of bed shortages if the mean bed occupancy level rises above 85% occupancy. Subsequent development of the same model indicates that 82% bed occupancy is a more acceptable level. The model calculates the bed capacity requirements using average length of stay, deaths and discharges and percentage bed occupancy as the variables. The strength of this model is the fact that it is simple to use. However, it is limited by the fact that many variables are not considered and it concentrates purely on the hospital bed capacity in isolation.

#### 6.6.2 Multi-variable Bed Capacity Model

### Key Theme 7: Multi-variable models allow for more sophisticated modelling, but make a greater number of assumptions, which can affect the outcome

The range of variables used in these types of model is more extensive than those in simple models described above. Models of this type have been developed locally in Wales, which include the following variables:

- waiting times (including effects of meeting outpatient targets);
- conversion rates for outpatient to inpatients/daycases;
- LTA requirements;
- total demand (emergency and elective);
- bed occupancy levels.
- average lengths of stay
- beds/bed equivalents required by specialty

These have been used to analyse bed requirements in specialties, and work has concentrated on specialties with long waiting times/lists. The strength of these models is in their ability to take a larger range of variables into account. They also provide an opportunity to consider the impact of changes in scenario, such as increased waiting times targets. The weakness is that they only consider capacity within the hospital system.
6.6.3 Targeted Models

| Key Theme 8: Targeted models concentrate on one area of the pathway, and can be useful in detailed examination of specific areas once bottlenecks have been identified |

These models do not attempt to look at the whole system within an organisation (let alone a whole systems approach), but consider only one specific aspect. They are best applied when analysing bottlenecks such as outpatients waiting lists. An example of this type of model is ‘Checklist’ (35) which can be used to predict the numbers of outpatient clinics required to meet waiting times targets. Another example is the predictive workload model e.g. the MET Office (46) gives a range of predictions in terms of emergency demand, based on forthcoming weather conditions, theoretically allowing Trusts to plan according to their capacity.

The strength of such models is that they are able to look in detail at one particular aspect of the patient pathway (e.g. waiting times or emergency admissions affected by weather), and their weakness is that this is not a whole systems approach.

6.6.4 Benchmarking Models

| Key Theme 9: Benchmarking models allow organisations to look at outcomes against other similar organisations/systems, and once analysed, provide opportunities to learn from the reasons behind local variations |

Where a baseline of information is established, there are opportunities to benchmark one area against another in terms of capacity, demand, performance or outcome.

The example used in recent years in England is “Modelshire”. (47) Despite some useful comparative data, the level of detail available for certain indicators is limited (particularly bed occupancy and projected requirements).

A local example of this would be to consider two Trusts in Wales which appear to be coping better in relation to emergency pressures, and to compare the demand and capacity in that area with others in Wales. Indicators could include population statistics, catchment numbers for treatment (which could vary from the above), current capacity levels across the whole system, utilisation of established facilities, primary care and community set-up for area (including out of hours), and the alternatives to admission and options available.

Performance against key indicators may be expressed as follows:
Figure 74: Performance against Emergency Pressure Indicators 2001/02

<table>
<thead>
<tr>
<th>Indicator</th>
<th>North West Wales</th>
<th>Pontypridd and Rhondda</th>
<th>All Wales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trolley waits in excess of 4 hours as a % of all emergency admissions</td>
<td>0.08%</td>
<td>0.08%</td>
<td>0.61%</td>
</tr>
<tr>
<td>Trolley waits in excess of 4 hours per 100,000 population</td>
<td>7.65</td>
<td>6.65</td>
<td>37.05</td>
</tr>
<tr>
<td>Outliers per day as a % of general medical/elderly medical beds (acute general hospitals)</td>
<td>4.6%</td>
<td>3.5%</td>
<td>10.75%</td>
</tr>
<tr>
<td>Outliers per day per 100,000 resident population</td>
<td>5.47</td>
<td>2.91</td>
<td>11.45</td>
</tr>
<tr>
<td>Delayed transfers of care per 100,000 population</td>
<td>24.05</td>
<td>20.38</td>
<td>27.47</td>
</tr>
<tr>
<td>Cancellations of operation as a % of inpatient/daycase operations</td>
<td>0.04%</td>
<td>0.12%</td>
<td>0.39%</td>
</tr>
<tr>
<td>Cancellations of operation per 100,000 population</td>
<td>9.84</td>
<td>9.98</td>
<td>34.08</td>
</tr>
</tbody>
</table>

Source: QUEST/SITREPs/PEDW (projected); Digest of Welsh Local Area Statistics

This data demonstrates that both Trusts are performing better than the all Wales average.

In analysing the possible reasons for this performance, measures of demand for acute services should be compared. One such measure would be the numbers of new and total A&E attendances. Figure 75 demonstrates that North West Wales NHS Trust has higher than average levels of new Accident and Emergency Department attenders per 1000 population, whereas Pontypridd and Rhondda NHS Trust has fewer than average attenders.
The total inpatient activity levels per 1000 resident population can also express demand. Both Trusts have less inpatient activity per 1000 population than is the case across Wales.

**Figure 76: Inpatients (all) Activity per 1000 resident population 2001/02**

<table>
<thead>
<tr>
<th>North West Wales</th>
<th>Pontypridd and Rhondda</th>
<th>All Wales</th>
</tr>
</thead>
<tbody>
<tr>
<td>152</td>
<td>125.3</td>
<td>158.96</td>
</tr>
</tbody>
</table>

*Source: Patient Episode Database for Wales (projected on 9 months)*

In applying this model fully, further measures of demand should be analysed, which would include the proportion of the population aged 65 and over, numbers of outpatient appointments per 1000 population and average length of stay.

In considering the reasons behind lower demand for beds, it would be important to identify the use of fast-track/assessment units, or more pro-active use of community interventions which may divert demand (and activity) away from acute hospitals.

In addition to measures of demand, indicators of effective resource utilisation should be considered, including average length of stay, bed occupancy rates, turnover intervals, and bed use factor. Figure 77 below indicates that this is an area in which Pontypridd and Rhondda NHS Trust performs well generally.
Figure 77: Bed Utilisation

<table>
<thead>
<tr>
<th></th>
<th>North West Wales</th>
<th>Pontypridd and Rhondda</th>
<th>All Wales</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALOS Acute medicine/elder</td>
<td>8.8</td>
<td>5.9</td>
<td>8.0</td>
</tr>
<tr>
<td>ALOS Community Hospitals</td>
<td>21.6</td>
<td>27.5</td>
<td>24.7</td>
</tr>
<tr>
<td>Turnover Interval Acute medicine/elder</td>
<td>0.5</td>
<td>1.1</td>
<td>0.7</td>
</tr>
<tr>
<td>Turnover Interval Community</td>
<td>7.2</td>
<td>17.3</td>
<td>7.5</td>
</tr>
<tr>
<td>Bed use factor acute medicine/elder</td>
<td>39.6</td>
<td>62.4</td>
<td>43.2</td>
</tr>
<tr>
<td>Bed use factor community</td>
<td>16.9</td>
<td>13.3</td>
<td>11.4</td>
</tr>
</tbody>
</table>

Source: QUEST1 (provisional)

Capacity is the final issue which needs to be considered. The following graph demonstrates that North West Wales NHS Trust has access to higher than average levels of bed stock, whilst Pontypridd and Rhondda NHS Trust have lower than average levels. It should be noted, however, that other areas of capacity could be compared, including numbers of GPs per 1000 population, resource levels within social services, and the numbers of community based schemes which avoid admission or facilitate earlier discharge.
However, other factors should also be taken into consideration, which may also influence the way in which the Trusts work:

- the use of community hospitals e.g. changes in the way in which some community hospitals are operated, though occupancy levels remain lower than many other parts of Wales. This is particularly evident in Pontypridd and Rhondda NHS Trust where average length of stay in the main acute general hospital for general medicine/elderly medicine are the lowest in Wales;
- proactive bed management policies which smooth out bottlenecks;
- well-developed interface between primary care and secondary care e.g. GP in A&E Departments;
- effective community services;
- integrated approach to care;
- well developed interface with Social Services and other partners e.g. formal structures to encourage joint planning.

Source: QUEST1 2001/02 (provisional); Health Statistics Wales, Social Services Statistics Wales (N.B. Nursing Home/Residential Homes approximated by identifying relevant unitary authorities)
This simplistic analysis appears to suggest that North West Wales NHS Trust performs well due to higher than average levels of bed capacity in the hospital and residential home sector, whilst Pontypridd and Rhondda NHS Trust may perform well due to high levels of utilisation of resources, despite lower than average levels of bed stock.

The advantages of this type of approach are that a wider range of variables may be considered, and they can be effective in identifying good practice. However, in the example used above, the aggregation of data to Trust level will mask local issues and sensitivities, and it cannot be assumed that other Trusts are operating from the same baselines, with the effect of tertiary services, population profiles and the distance decay effect having an influence.

6.6.5 Whole Systems Approach – The Ideal Care System for Medical Patients

Work in designing, testing and delivering the ideal care system for medical patients is currently being undertaken within Wales, lead by the Innovations in Care team.

The model used will look at patient flow, waiting times and bottlenecks, using a managerial learning approach (systems thinking and mapping approach), involving Bro Morgannwg NHS Trust, Local Health Boards, Local Authorities and all other relevant partners. The work will be facilitated by Eric Wolstenholme, Professor of Business Learning, Leeds Business School and Director of Cognitus Management Consultants.

The aims of the model will be to redesign emergency medical admissions systems for patients in Bro Morgannwg Trust catchment area in order to:

- reduce inappropriate admissions;
- improve patient satisfaction;
- reduce average length of stay;
- match capacity with demand.

This important piece of work will be formally evaluated, and if successful, other health and social care communities will be required to implement similar work to meet these challenging targets

6.7 Recommendations

Local health and social care communities must develop robust cross-organisational arrangements and ensure that whole systems strategies and plans are developed to bring the system into balance. This will include joint use of resources.

Commissioners must work towards developing a sustainable whole health and social system for their area, which provides an adequate balance for emergency and elective admissions throughout the year. They must understand and acknowledge the impact of Trusts not being able to maintain and balance elective and emergency beds and the impact of this on waiting times.
The Welsh Assembly Government should encourage and promote the use and refinement of dynamic modelling techniques, to be applied in each area which will inform decisions taken as part of the planning process including the SAFF round.

Further work must be undertaken as a matter of urgency to identify the data requirements for whole systems modelling in all sectors, and action taken to start routine collection.
SECTION 7 - CONCLUSIONS

7.1. Introduction

The purpose of this section is to draw together the main conclusions arising from the analysis within each of the main sections of the report.

7.2 Conclusions

This report has demonstrated that hospital capacity is affected by capacity in all other key sectors. Capacity issues can only be understood, capacity fully utilised and adequately planned through a whole systems approach.

A number of local health and social care communities have made good progress in this area, with robust cross organisational arrangements in place for joint working and planning. In other areas, more limited progress has been made, with problems in each sector dealt with in isolation and links within the system not always clearly understood. The Welsh Assembly Government has promoted closer working through the use of the Flexibilities and Delayed Transfers of Care Special Grants.

The structural changes currently being implemented in the NHS in Wales will provide an excellent opportunity for fostering whole systems working through improved partnership working at a local level between LHBs, Local Authorities, Trusts, the voluntary sector and the independent sector, with the Regional Office providing a useful over arching, facilitating role. The new arrangements must not be used as a reason for delaying taking forward the recommendations of this report within the defined timescales.

It is clear that current and planned capacity does not and will not meet demand. Despite additional investment and action in the last 2 years, pressures within the system are still evident, in some areas have increased, and are apparent throughout the year. Emergency admissions have increased, average length of stay have risen, bed occupancy levels are unacceptably high, outliers are creating additional pressures for staff, and large numbers of delayed transfers of care are blocking desperately needed acute beds. If these pressures remain, then elective capacity will also continue to be seriously affected and will impact on the ability of Trusts to improve waiting times.

New performance targets, including increasing emphasis on waiting times, are likely to lead to Trusts devising strategies for reserving more elective beds. One of the results of this could well be increased trolley waits in A&E.

There is a growing acceptance of the importance of understanding and changing the patient pathway. There needs to be an increasing emphasis on the importance of offering GPs and patients a range of options for avoiding admission where clinically appropriate, streamlining the patient’s journey and designing services around the patient’s needs.
However, the extent to which initiatives to improve capacity and divert demand from the acute sector have been implemented varies across Wales. New initiatives are not always carefully evaluated, and there are opportunities to share schemes that work more widely across Wales.

In short, Trusts and their partners must develop new ways of working. Challenging and improving every aspect of the patient pathway must become a day to day task, and partnership working should be regarded as the normal way of operation.

Evidence suggests that a proportion of patients are still treated in acute hospitals although they could be seen more appropriately in a primary or community care setting. However, there are limited alternatives to acute hospital admission in some parts of Wales.

There is also evidence to suggest that not all areas are making most effective use of their current resources. In particular, integrated Trusts do not all make the most effective use of their total bed stock, with very low occupancy rates and turnover intervals for community and GP beds.

Workforce issues affect capacity across the whole system, and need to be taken into consideration in both health and social care settings. In particular, the proposed new contract for GPs will have a major affect on the way in which primary care is organised and managed in the future.

The availability of relevant, timely and accurate data remains a problem, particularly to address whole systems capacity issues. There is a need for clarity of data required on an ongoing basis, which includes agreed data definitions and quality control.

Unless urgent action is taken to move quickly towards sustainable 82-85% occupancy levels in acute medical beds the hospital system will continue to be seriously out of balance. If nothing else in the system were to change, this would require an additional 479 beds. This report demonstrates, however, that there are many other factors that need to be addressed including, of course, the significant increase in delayed transfers of care. The challenge will be for the Regional Directors, LHBs and Trusts to urgently provide confirmation of the actions that are the most appropriate for meeting their local circumstances and ensuring that the flow of emergency and elective care runs as smoothly as possible.
EMERGENCY PRESSURES
AND CAPACITY PLANNING
- PROJECT PROPOSAL FOR
AN ALL WALES APPROACH

PROJECT PROPOSAL SUMMARY

The project proposal is to undertake a whole systems review and develop short, medium and long-term plans for sustainable capacity throughout health communities in Wales, which will be capable of absorbing emergency pressures and maintain planned elective workloads.

INTRODUCTION

During the last 3 years, significant progress has been made to increase capacity and more cohesive planning has taken place, led primarily by the Emergency Pressures Task Force established by Jane Hutt, Minister for Health and Social Services. Notable results include the Emergency Pressures Task Force Report on Capacity Planning (1), Emergency Pressures Planning Guidance (2), the establishment of the SITREPS system, the Keeping Well this Winter campaign, and the investment of £40 million by the National Assembly for Wales (NAfW) to address emergency pressures and waiting times, and recently funds directed at Social Services in Wales, in order that a whole system approach is encouraged in the form of Reduction in Delayed Transfers of Care and Supporting Care Home Sector Grants (3), and Flexibilities Special Grants (4).

In the report of the Emergency Pressures Task Force (2000), it was identified that in order to move towards an optimal bed model, Trusts should operate bed occupancy levels of 85% for medical/elderly inpatient beds. These calculations indicated that a further 463 beds would be required throughout Wales (subsequent studies suggest that 82% bed occupancy levels would be a more appropriate target (5)).

The report also identifies that critical care beds also need to be increased to cope with the bottlenecks in the system (with particular reference to surgical patients) and in order to ensure that patients are cared for appropriately within a graduated care model, with a short-term target of 30 additional critical care beds identified (overall requirement identified within the report of 42).

Precise numbers of additional beds actually in the system are difficult to ascertain, but it is estimated that between 100 – 140 additional acute medical/care of the elderly beds have been commissioned in Wales, and approximately 20 critical care beds in response report findings. One of the early pieces of work to be undertaken will be to identify actual numbers of beds commissioned and to assess their impact.
Despite the significant actions taken, emergency pressures continue to dominate the health agenda for Wales. It is recognised that in many parts of Wales this is an all year round phenomenon which is particularly exacerbated during the winter months, though certain approaches have already apparently had a positive effect e.g. the introduction of Paediatric Assessment Units. As emergency pressures have to take precedence, the impact on elective admissions is clear, causing Trusts to have difficulties in meeting their waiting times targets. This is evidenced in recent data collection (including data on delayed discharges, SITREPS \(^{(6)}\) and Waiting Times Information) e.g.

### No of Outliers (All Wales)

<table>
<thead>
<tr>
<th>PERIOD</th>
<th>No of Outliers</th>
</tr>
</thead>
<tbody>
<tr>
<td>3(^{rd}) September – 31(^{st}) December 2001</td>
<td>29015</td>
</tr>
</tbody>
</table>

*Source: SITREPs*

### No of Cancelled Operations (All Wales)

<table>
<thead>
<tr>
<th>PERIOD</th>
<th>No of cancelled operations up to 4 days prior to admission/on day of admission</th>
</tr>
</thead>
<tbody>
<tr>
<td>1(^{st}) October 2001 – 23(^{rd}) January 2002</td>
<td>3928</td>
</tr>
</tbody>
</table>

*Source: SITREPs*

### Delayed Transfers of Care – Summary Breakdown by Local Authority

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dyfed/Powys</td>
<td>109</td>
<td>96</td>
<td>90</td>
<td>127</td>
</tr>
<tr>
<td>Iechyd Morgannwg</td>
<td>133</td>
<td>136</td>
<td>155</td>
<td>122</td>
</tr>
<tr>
<td>North Wales</td>
<td>145</td>
<td>158</td>
<td>168</td>
<td>169</td>
</tr>
<tr>
<td>Bro Taf</td>
<td>218</td>
<td>174</td>
<td>176</td>
<td>182</td>
</tr>
<tr>
<td>Gwent</td>
<td>158</td>
<td>188</td>
<td>188</td>
<td>198</td>
</tr>
</tbody>
</table>

*Source: Welsh Assembly Government*
Casualty Watch in Wales – 28th January 2002-01-31 (Snapshot)

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Longest Wait</th>
<th>Number of people waiting</th>
</tr>
</thead>
<tbody>
<tr>
<td>UHW Cardiff</td>
<td>24.45</td>
<td>9.06</td>
</tr>
<tr>
<td>Prince Charles, Merthyr</td>
<td>2.37</td>
<td>6.30</td>
</tr>
<tr>
<td>Royal Glamorgan</td>
<td>5.37</td>
<td>6.03</td>
</tr>
<tr>
<td>Glan Gwili, West Wales</td>
<td>3.11</td>
<td>5.40</td>
</tr>
<tr>
<td>Royal Gwent</td>
<td>5.10</td>
<td>4.36</td>
</tr>
<tr>
<td>Wrexham Maelor</td>
<td>3.10</td>
<td>4.31</td>
</tr>
<tr>
<td>Prince Phillip, Llanelli</td>
<td>3.13</td>
<td>4.25</td>
</tr>
<tr>
<td>Ysbyty Gwynedd</td>
<td>0.34</td>
<td>4.13</td>
</tr>
<tr>
<td>Nevill Hall</td>
<td>3.30</td>
<td>4.13</td>
</tr>
<tr>
<td>Caerphilly Miners</td>
<td>.05</td>
<td>3.40</td>
</tr>
<tr>
<td>Withybush</td>
<td>4.47</td>
<td>2.01</td>
</tr>
<tr>
<td>Glanclwyd</td>
<td>2.43</td>
<td>2.00</td>
</tr>
<tr>
<td>Bronglais</td>
<td>0.27</td>
<td>1.40</td>
</tr>
<tr>
<td>Princess of Wales, Bridgend</td>
<td>*</td>
<td>4.55</td>
</tr>
<tr>
<td>Morriston Hospital, Swansea</td>
<td>*</td>
<td>4.44</td>
</tr>
</tbody>
</table>

Source: Community Health Councils

*: Both the Princess of Wales Hospital, Bridgend and Morriston Hospital, Swansea are undergoing major renovations of their A&E departments, and for this reasons, their local Community health Councils have decided that figures obtained would be unrepresentative. Casualty Watch was therefore not carried out at these hospitals

The impact on front line staff and their ability to cope with the steady rise in emergency admissions not only affect morale but is also an impediment to recruitment and retention. Demographic trends and analysis of admissions figures and case mix suggest that the problem is likely to continue, although the extent, pattern and indeed solutions may be different across Wales. This is evidenced and supported in several reports (7) and papers (8).

AIMS OF PROJECT

One of the principal aims of the project will be to review actions taken since the publication of the Capacity Planning Report, and to identify whether the projections for additional beds, if implemented in full, would result in sustainable systems capable of dealing with both emergency and elective admissions.

The Project will revisit the original assumptions, recalibrate projections in line with recent data and also review the literature to identify whether any other significant factors need to be considered in producing more robust planning scenarios for the future.

This work will require a whole systems approach which will form an integral part of the National Assembly for Wales’ 10 year plan to improve health and social care.
However, the early phases of the project will concentrate on an examination of how the newly established integrated Trusts in Wales have been effectively managing their internal patient flows.

Most Trusts in Wales are responsible for the delivery of a wide range of acute, intermediate and community services, and must be able to demonstrate cohesive responses to the cyclical pressures they face. This, together with issues around delayed discharges are a prime area for consideration in the early phases of the Project. This could lead to identification of the need to overhaul internal processes and/or additional capacity.

There is already evidence that bed numbers across Health Authorities vary greatly, with similar variations in nursing and residential homes (1). However, the apparent ability to cope may not always be directly linked to bed numbers per 1000 population (as is indicated in SITREPS status reports identified on a daily basis) and in other data collection. Such pressures are due to a variety of factors and/or variables, some of which include demands and expectation on health care; supply and approaches to access of health care; available resources; effective management of resources. Though Emergency Pressures Planning Guidance has been available, the approach for implementation has not been comprehensive.

As there are likely to be other factors at work, there would be merit in developing a template early on in the Project to try to establish whether there is any correlation between ideal distribution of facilities in those areas which appear to be coping with Emergency Pressures as indicated in SITREPS data (6).

There are a number of other areas which need to be pursued, particularly around the better organisation of services within Trusts that can have an effect on assumptions around capacity planning. These include models around cyclical planning, recovery rates, 7 day working, different options around management by condition and access points etc.

These factors will need to be examined through literature search and studies already undertaken e.g. it has been pointed out by one author that there is a need to take into consideration and to identify an “acceptable” occupancy/waiting periods, together with corresponding “refusal rate” (9). This is a complex function of case mix, size of bed compliment and variability in-patient Length of Stay (LoS), and this alone does not identify why certain areas in Wales cope better than others (which is clearly the case when looking at data routinely captured by the NAfW).

Other sources for reference will include the National Beds Inquiry and current developments and studies in respect of meeting similar demands in England (10) and models available in other countries, offering a wider perspective on the issues and possible solutions. The temptation of “one size fits all” solutions must be avoided – it is essential to recognise that no two areas are the same and that solutions are not necessarily transferable.

The historical interface between primary and secondary care has done little in the past to maximise patient care or provide alternatives to admission. In addition, the model
of intermediate care models, which provide a continuum of care is something, which requires further consideration to identify whether full use is being made of resources.

The Project proposal will build on existing work and involve those already engaged in dealing with these matters at a local level. Though the Project will need to be co-ordinated on an all-Wales basis, its success will depend upon engaging each of the local health and social care communities, who will need to appoint their own project co-ordinators.

The Project will require a pooling of existing work, a determination to eliminate duplication of effort, commitment by and input from all key stakeholders and a commitment to sustained additional resources.

INFORMATION REQUIREMENTS

The Project must be informed by robust data capture and analysis in order monitor the efficient use of existing resources; identify the benefits of recent innovations; assist in measuring the performance of whole systems and accurately predict the likely demands over the next ten years.

Data analysis will also be used to examine the existing capacity and performance in each area on a whole systems basis. This analysis will assess the ability of services in each area to meet existing and predicated demands, and the efficiency of existing provision will need to be benchmarked against best practice in order to have confidence that optimal performance is being delivered prior to proposals for further recommendations for investment in capacity. In order to undertake this, clearly the project would need to access information from health, Social Services and the independent sector.

The Project will build on information already available e.g. current data indicates that attendance at Accident and Emergency and Minor Casualty Units in Trusts increased over the 5 years between 1995/96 – 1999/2000 (with large variations between Hospitals within Wales). This includes an 8% rise in new A&E attendances contributing to increased pressures on A&E facilities throughout Wales (1) including problems resulting from unaccepatble trolley waiting times for patients which is also reflected in the Casualty Watch data previously identified.
Over the same 5 years an increase of 18% in emergency admissions across all specialties is identified:

**Emergency Admissions – All Wales**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Admissions</td>
<td>250704</td>
<td>258956</td>
<td>275213</td>
<td>288475</td>
<td>296440</td>
</tr>
</tbody>
</table>

*Source: Report of Capacity Working Group*

During the same period elective admissions fell by 19% - this is partly explained by the planned increase in day surgery (during the earlier years) however bed availability has been suggested as the main reason for a reduction in elective workload

**Elective Admissions – All Wales**

<table>
<thead>
<tr>
<th>Quarter</th>
<th>March 99</th>
<th>June 99</th>
<th>Sept 99</th>
<th>Dec 99</th>
<th>March 00</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of electives</td>
<td>33568</td>
<td>33547</td>
<td>34538</td>
<td>31515</td>
<td>28216</td>
</tr>
</tbody>
</table>

*Source: Report of Capacity Working Group*

Data available via the SITREPS site\(^6\) identifies that hospitals have difficulties in coping with the current level of demand placed upon them, despite recent investment (see previous information). This will avoid the “one size fits all” approach which may otherwise be attractive.

**STAGES OF PROJECT**

A phased approach will be required to undertake this project with three distinct stages:

**STAGE 1**

This will include:

- identification of project manager and lead co-ordinators in each area for the project;
- track progress of implementation of recommendations contained in Report of Capacity Planning Group;
- ascertain benefits delivered as a consequence of implementation
- identify current scale of problem;
- revisit assumptions in Capacity planning made in 2000;
- review literature in terms of other factors which may require consideration
- identify Expert Emergency Pressures Working Group as the reference group for the project
**STAGE 2**

This stage will include the development of a template to help identify different factors which may act as variables for different areas.

Consideration will be given to other factors and ways of working which could impact on capacity, including:

- changes required to data capture to better inform future plans, actions and analysis;
- impact of option planning for weekly/seasonal cycles;
- exploration of 7 day working models;
- management of conditions;
- intermediate care models/community models;
- identification of obvious gaps/blockages/refusal rates and re-engineering processes which may be of benefit;
- additional strategies to reduce ‘recovery’ rate;
- exploration of different access options for patients;
- human resource issues;
- identification of areas for further work e.g. dynamic modelling techniques,

At the end of this stage the Project will produce a set of proposals short to medium term to improve capacity for each of the health/social care economies.

**STAGE 3**

Engage in whole systems solutions. This is a significant and complex piece of work, which needs to include the work currently being developed by the Innovations in Care team involving the testing of a whole systems approach and established studies commissioned by Health Authorities. Opportunities for innovation and piloting new ideas will be built into this stage.

As part of the whole systems working approach, the importance of preventative measures and longer-term issues that influence the determinance of ill health for each area must be addressed. It is anticipated that this stage will be addressed in more detail later into the project. The aim of this stage will be to identify long term proposals for each of the health/social care economies.
CONCLUSION

In conclusion, this important piece of work needs to involve all stakeholders, as it requires the commitment and input of several key areas, with the identification of project champions for each of these areas. The work must not be hampered by structural change, and there is a requirement for a sustained approach rather than ad-hoc funding for projects. Robust data is essential to inform the process, and it may be necessary to identify additional data capture requirements for the future.

The work will need to tie in with all areas currently looking at local and national aspects of the proposal. This includes the requirement identified in the recently published Service and Financial Framework 2002/03, Planning and Guidance (SaFF) which states that it is incumbent upon partners to act on the findings of the all Wales capacity review (due for completion in July 2002)\(^{(11)}\).

It will need to transcend organisational relationships during a period of change within the NHS in Wales.

The difficulty in undertaking this should not be under-estimated, but with the commitment of all, the outcome should result in a valuable exercise, which will benefit patients within Wales.
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Iechyd Morgannwg  
Health Authority
South East Wales Capacity Planning
Group

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Welsh Health Survey
Improvement

District Audit

HOWIS

Institute of Health Management

University of Manchester, Institute
Of Science and technology

North Wales Health Authority

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Board

NHS Direct

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**Glossary of Terms**

**Activity:** the work undertaken at the step within the patient’s pathway

**Allocated beds:** the specific number of staffed, funded beds allocated to a designated specialty

**Average Daily available:** the average daily number of staffed beds in which in-Beds patients are being or could be treated without any change in facilities or staff being made.

**Average daily Occupied:** the average daily number of beds occupied by inpatients Beds under the care of a consultant in a particular specialty

**Average length of stay:** the length of time, on average, each inpatient physically occupies a bed (in days)

**Backlog:** previous demand that has not yet been dealt with, manifesting itself as a queue or waiting list

**Bed substitute/equivalents:** any action which removes the need for beds, expressed in terms of saved bed days etc.

**Bed use factor:** the average number of patients using each bed during the period under review

**Bottleneck:** any part of the system where patient flow is obstructed.

**Capacity:** The resources available to undertake work at a specific step in the patient’s pathway

**Demand:** The requests and referrals coming from all sources to the pathway step

**Discharges or Deaths:** all in-patients who have gone through the full admission procedure as an emergency or those admitted electively with the intention of staying in hospital at least one night, and have subsequently been discharged/transferred or have died in hospital

**Elective:** Planned work (non-emergency), for outpatient, daycase and inpatient activity usually emanating from referrals or waiting lists

**Follow-up/Repeat Outpatient attendance:** patient whose consultation is not the first for the particular ailment
New Out-patient attendance  a patient whose first consultation is the attendance of a continuous series (or whose single attendance if only one is needed) at an outpatient clinic department for the same ailment

Percentage bed occupancy  the percentage of time that beds are occupied Ratio of repeat to new out-patient attendances the mean number of repeat attendances by each new patient during the period under review.

Turnover interval  the age length of time, in days, that the bed is empty between each patient
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