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The management of chronic conditions by NHS Wales



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I have prepared this report for presentation to the National Assembly under the Government of Wales Acts 1998 and 2006.

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**Report presented by the Auditor General to the National
Assembly on 4 December 2008**



	Summary	6
	Recommendations	11

1	Too many patients with chronic conditions are treated, in an unplanned way, in acute hospitals	14
	Prevalence of chronic conditions is high and forecast to increase	14
	Chronic conditions account for at least one in six emergency medical admissions with wide variation across health communities	15
	Deprivation and age do not fully explain admission patterns	20
	Admissions for chronic conditions use nearly a quarter of hospital bed days, although shorter hospital stays are more common	21

2	The large number of community services, which are intended to reduce the reliance on the acute sector, are fragmented and poorly co-ordinated	27
	Provision of chronic condition and intermediate care services is poorly co-ordinated with gaps and inconsistencies in provision	27
	Community hospitals do not divert acute hospital admissions and their role in chronic conditions management is unclear	29
	There are missed opportunities for identifying patients at risk of readmission or those who may benefit from additional support on discharge	31
	Provision of patient education to support self care is insufficient given the high prevalence of chronic conditions	32

3	Planning and development of services for patients with chronic conditions have been insufficiently integrated	35
	Inadequate assessment of demand makes identifying planning and commissioning priorities difficult	35
	Service development has been dependent on short-term funding with limited consideration of long-term viability and a lack of integrated and mainstreamed service provision	36
	NHS organisations have inadequate financial and activity data to enable evaluation of existing services and planning for new ones	38
	The new model for chronic conditions management requires different ways of working to be established and embedded	40
<hr/>		
	Appendices	43
	Appendix 1 - Wales Audit Office Methodology	43
	Appendix 2 - Total number of emergency medical admissions to acute hospitals by condition in 2006-07	50

Summary

- 1 One-third of the adult population in Wales, an estimated 800,000 people, report having at least one chronic condition, such as diabetes, emphysema or heart disease, including 13 per cent of these adults with two or more conditions. The prevalence of chronic conditions increases with age and two-thirds of the population of Wales aged 65 or older report having at least one chronic condition while one-third have multiple chronic conditions¹. These rates are higher in Wales than the other parts of the United Kingdom.

Box 1 - Definition of chronic conditions

Chronic conditions, such as diabetes, bronchitis and emphysema or heart disease, are often life-long and limiting in terms of quality of life. Such conditions can not be cured but can be controlled and actively managed.

Source: Wales Audit Office

- 2 Chronic conditions place considerable demand on healthcare services. People with chronic conditions account for 80 per cent of all General Practitioner (GP) consultations, are twice as likely to be admitted to hospital and stay in hospital disproportionately longer than those patients without chronic conditions². The Department of Health estimates that 69 per cent of the total health and social care spend in England is for the treatment and care of those with long-term chronic conditions³. Given that the population aged 65 and over in Wales is projected to

grow by 33 per cent by 2020⁴, the prevalence of chronic conditions is likely to place an increasing burden on health and social care services in the future.

- 3 The Welsh Assembly Government (Assembly Government) recognises the likely impact of chronic conditions and has been active in promoting a change of emphasis from treating patients with chronic conditions in hospital to preventing conditions arising and, where possible, providing services in, or close to, individuals' homes. Individuals are also being helped to become 'expert patients' in taking a high degree of control over their own care. The Assembly Government's approach is set out in a number of key documents, starting with *Designed for Life*⁵ its 10-year strategy published in 2005 and followed in 2007 by its framework for action: *Designed to Improve Health and the Management of Chronic Conditions in Wales: an Integrated Model and Framework for Action*.
- 4 This report outlines the key conclusions drawn from our audit undertaken in 2006 and 2007 across the 12 NHS trusts that provided acute and community healthcare services and the 22 Local Health Boards (LHBs) that either commissioned them or, in some cases, directly provided them. We concluded that the way in which the NHS currently provides services does not fully support the effective management of adults with a chronic condition.

1 National Public Health Service for Wales, *A profile of long-term and chronic conditions in Wales*, 2005.

2 British Household Panel Survey 2002, quoted in the *Department of Health Chronic Disease Management: A compendium of information*, 2004.

3 Department of Health, *Raising the Profile of Long Term Conditions Care: A Compendium of Information*, January 2008.

4 Assembly Government, 2007, *SB 49/2007, 2006 National Population Projections*, 2007.

5 Assembly Government, 2005, *Designed for Life: Creating world class health and social care for Wales in the 21st century*.



5 We reached that conclusion because:

- too many patients with chronic conditions are treated, in an unplanned way, in acute hospitals;
- the large number of community services, which are intended to reduce the reliance on the acute sector, are fragmented and poorly co-ordinated; and
- planning and development of services for patients with chronic conditions have been insufficiently integrated.

6 The Assembly Government was developing its framework for action for the management of chronic conditions throughout the time of our audit fieldwork. We shared our emerging findings during this period to help inform its development. Since then the Assembly Government has continued to implement this framework publishing the associated Service Improvement Plan⁶ in January 2008 and making available £15 million of additional resource for the next three years, to support improved chronic conditions management and community-based models of care. Three national demonstrator sites have also been established to champion the changes and provide a basis for further learning and accelerated improvements across Wales. Furthermore, the development of a predictive risk tool is being progressed to support a more proactive, systematic and better planned approach to chronic conditions management.

Too many patients with chronic conditions are treated, in an unplanned way, in acute hospitals

- 7 Most admissions for a chronic condition are unplanned, with more than two-thirds (68 per cent) of these being emergency medical admissions. Chronic conditions account for one in six of all emergency medical admissions each year, with cardiovascular and respiratory conditions making up the biggest share. In addition, one in nine emergency medical admissions is for other symptoms and signs that could suggest chronic conditions, and when these patients are taken into account, demand is considerably higher, at one in three of all emergency medical admissions⁷.
- 8 There is considerable variation in the proportion of chronic condition admissions across Wales and while the number of emergency medical admissions for chronic conditions has fallen since 2003 in some trusts, admissions have increased in others, suggesting limited alternatives to admission to hospital. Furthermore, patients who are readmitted with a chronic condition account for more than one-quarter of emergency medical admissions.
- 9 Nearly two-fifths of emergency medical admissions for chronic conditions result in a length of stay of two days or less with an increasing proportion of patients staying for less than 24 hours. Such very short lengths of stay are not necessarily a bad sign: they may reflect more efficient systems for rapid assessment and diagnosis, avoiding the need for extended hospital admission. But short hospital stays may also point to patients being managed in the wrong place, due to a lack of timely community-based alternatives for diagnosis and assessment or to help avoid admissions.

⁶ Assembly Government, *Designed to Improve Health and the Management of Chronic Conditions in Wales, Service Improvement Plan 2008-2011*, January 2008.

⁷ The analysis of emergency medical admissions for 'chronic conditions' includes only those admissions with a definitive primary diagnosis for a chronic condition. Admissions attributed to a symptom-based admission code, which may suggest an underlying chronic condition, are identified separately as 'other symptoms and signs'. (Appendix 1 provides further details).

10 Whilst we know that people with chronic conditions place significant demand on hospital services, the figures are likely to understate the real demand. There is a large and growing proportion of patients admitted for symptoms and signs suggestive of a chronic condition. Three-quarters of these patients have very short lengths of stay, with a third staying in hospital for less than a day. Identifying patients at risk of readmission is made more difficult without a clear primary diagnosis, and the measurement of demand and associated costs may be underestimated, if both primary diagnostic and symptom-based codes are not included in analysis. Furthermore, issues about data quality, including the accuracy with which admissions are coded, are likely to have an impact on the availability of consistent and reliable information to measure hospital demand.

11 Over the last few years NHS trusts have been set targets to reduce emergency medical admissions and the associated lengths of stay and the bed days used. In addition, the Assembly Government's Service Improvement Plan for improving health and managing chronic conditions in Wales is clear that NHS bodies need to identify the release of hospital resources to support chronic conditions management in the community. Reductions in occupied bed days could help release resources to support community-based care, although realising the full potential saving will be difficult to achieve, as some patients with very complex care needs may need to have a longer hospital stay.

12 In 2006-07, 37 per cent of emergency medical admissions for chronic conditions had a length of stay in excess of six days and the average length of stay was 20 days. These

admissions accounted for 257,000 occupied bed days or 17 per cent of all acute medical beds, at a cost of £84 million⁸. If excess lengths of stay for these admissions were reduced by just one day, 13,000 occupied bed days could be saved, the equivalent of 35 of the daily available beds in 2006-07⁹, at a cost of £4.2 million.

The large number of community services, which are intended to reduce the reliance on the acute sector, are fragmented and poorly co-ordinated

13 NHS trusts and LHBs are providing an increasing number of services for people with chronic conditions as well as services for intermediate care. Intermediate care is a short period of intensive rehabilitation and treatment. The aim is to make sure that people, for example those with chronic conditions who would otherwise be admitted to hospital, or would need to stay in hospital longer, are helped to recover and become more independent either in their own home or outside an acute hospital setting. The majority of chronic condition and intermediate care services provided by NHS trusts and local health boards were established from 2000 onwards and evolved on an ad hoc basis resulting in gaps and inconsistencies in provision.

14 While the primary purpose of many chronic condition and intermediate care services is to prevent admissions to hospital, to facilitate early discharge from hospital or to provide rehabilitation, the way in which such services are provided is poorly co-ordinated. We found that two-thirds of these services were available on weekdays only, even though more than half of the admissions to hospital were outside these hours. Furthermore, not all services were provided consistently across all

⁸ This is based on an acute bed cost of £120,000 per year. (Assembly Government, 2003, *The Review of Health and Social Care in Wales*, The Report of the Project Team advised by Derek Wanless).

⁹ Assembly Government, *NHS Beds, 2006-2007*, SDR 159/2007, October 2007.



health communities, with limited geographic cover in some areas and duplication of services in others.

- 15 Community hospitals represent a significant resource to the NHS. They are used primarily for patients who need continuing hospital care to recover fully once the acute phase of their illness is over, for example, following a stroke. They are not used, however, to prevent or divert admissions from the acute sector, which may be due to the varying levels of clinical support available. In addition to providing inpatient care, community hospitals also provide the premises where patients can access around a fifth of the community-based services for chronic conditions and intermediate care.
- 16 We found little evidence that hospital staff systematically identify patients who might benefit from additional support from community-based services on discharge, or those at risk of readmission. By using simple information, such as the number of previous admissions, whether patients live alone, receive any health or social care support or the numbers of prescription medications used, hospital staff could identify these patients and co-ordinate and integrate their care more effectively, preventing avoidable readmissions.
- 17 In future, health communities will be expected to stratify or group their populations using the four tiers of care identified in the Assembly Government's Integrated Model and Framework. Stratification, based upon an assessment of health needs and the risk of hospitalisation will make it easier to identify those who would benefit from additional support or care.

Box 2 - The Integrated Model and Framework for Chronic Conditions Management

The Model and Framework sets a clear direction for the management of chronic conditions, signalling a need to rebalance services on a whole-system basis and providing more care in community settings. The Model is based on providing integrated services to meet population needs, across four tiers of care:

- ill-health prevention and health promotion;
- population management;
- high risk management; and
- complex case management.

In 2008, the Assembly Government made available £15 million of transitional funding to support local implementation and has set up three demonstrator sites to provide accelerated learning on implementation across NHS Wales.

Source: Wales Audit Office

- 18 Self care support, such as the Expert Patients Programme, can help patients manage their own condition more effectively but referral or signposting to these programmes or schemes was poor. The number of Expert Patients Programmes has increased over the last few years with 345 courses delivered since 2003-04. However, the number of courses needs to increase even further if more individuals are to become 'expert patients'. Based on the current capacity of Expert Patients Programmes, we estimated that 500 Expert Patients Programme courses are needed each year in Wales to support just one per cent of the adult population with a chronic condition. In addition to patient education schemes NHS bodies will need to take account of wider strategies to support self care, such as information prescriptions, peer support groups and telehealth.

Planning and development of services for patients with chronic conditions have been insufficiently integrated

- 19** We found that planning of services for people with chronic conditions was undermined by a lack of consistent assessment and analysis of local population health needs, the likely demand for services and the extent to which services currently provided would meet those needs and demands. We also found both gaps and duplication of services, and a mismatch between the services provided in the community and the levels of demand placed on the acute sector.
- 20** Many community services were developed to meet the needs of patients with coronary heart disease and diabetes as these conditions were subject to National Service Frameworks, although in some health communities other chronic conditions placed greater demand on the acute hospital sector.
- 21** Short-term funding made available by the Assembly Government for specific initiatives supported the development of many individual community-based chronic conditions and intermediate care schemes in local health communities. However, at the time of our audit, there was an absence of overarching local strategies for the management of chronic conditions or long-term plans for community services, resulting in many unconnected and disparate services. This short-term approach to funding and service development has led to little change or integration of existing services and therefore has not supported longer-term service improvement. Based on the financial information provided by local health boards, short-term funding for specific initiatives accounted for nearly one-quarter of the budget they set to fund chronic condition and intermediate care services. Short-term funding raises significant challenges for ensuring the future sustainability of these services once that funding ceases.
- 22** Not all NHS bodies hold comprehensive and reliable information, necessary for them to establish the total expenditure on services for people with chronic conditions, including the number of staff delivering these services and the number of patients treated and supported. In many cases there were no formal contracts or long-term agreements for chronic condition and intermediate care services. The paucity of financial information and activity data for chronic condition and intermediate care services undermines the ability of NHS bodies to benchmark service costs and their relative value for money.
- 23** Where service evaluations have been carried out, these were predominantly about patient satisfaction, admissions avoided, and/or bed days saved. Few chronic condition and intermediate care services were evaluated in terms of clinical outcome, patient experience, cost-effectiveness or against the stated aim of the service, although the decommissioning of duplicated services or services that are not cost-effective could support reinvestment of resources into new or refocused services.
- 24** A change in the balance between hospital and community services has been difficult to achieve so far, and progress in developing joint working and better coordination of care across partner organisations have been variable but generally slow. The NHS commissioned few services for chronic conditions and intermediate care from outside the NHS, and the use of primary care contracts to support the management of chronic conditions was also limited.
- 25** The Assembly Government recognises these challenges. It has made £15 million of transitional funding available for three years from 2008 (see paragraph 6). The funding is



substantial and equates to four-fifths of the current annual spend on chronic condition and intermediate care services.

The transitional funding is intended to assist health communities improve the planning and integration of services and enable change to happen. It is also intended to help strengthen community-based services and manage the shift of appropriate services from hospital to community. First year funding to NHS bodies is for establishing a baseline analysis of local need and demand and current service provision, as well as preparing for the co-ordination of chronic condition services and the core community team. Subsequent funding for each of the next two years is to support service improvements and help with the potential double running costs of developing community services while reducing demand on hospital services. The funding has also enabled the establishment of the three national demonstrator sites, to help inform and support learning, change and improvement across Wales, providing particular focus on the key themes of workforce planning, service improvement, public participation and information technology in an integrated and co-ordinated way.

Recommendations

- 1 NHS bodies do not have a sufficiently detailed understanding of the healthcare needs of their local populations or the likely demand for services to help inform future planning decisions about the services needed to support patients with chronic conditions. NHS bodies should:
 - profile their local populations, assess current need and future demand and identify the types and levels of interventions required;
 - proactively engage with patients and local communities in the planning and delivery of services; and
 - take account of the flow of patients across health community and unitary authority based services when planning services.
- 2 The short-term approaches to planning and funding have led to the ad hoc and fragmented development of community-based chronic condition and intermediate care services, and the availability of these services does not match demand. NHS bodies should:
 - comprehensively map the services currently provided, assessing their capacity and any gaps or duplication in services or mismatch between the availability of, and demand for, individual services;
 - incorporate community-based chronic condition and intermediate care services into core NHS service delivery and models of care; and
 - ensure systems for the ongoing monitoring of services are established to inform planning processes.
- 3 Health communities provide very different ranges of chronic condition and intermediate care services, and the level of service provided varies between services of a similar type. NHS bodies should:
 - consider all relevant aspects of population need across the four tiers of care, as set out in the Assembly Government's Model and Framework for Chronic Conditions Management, providing a consistent level of service for patients with similar needs; and

- establish co-ordination of chronic condition services and core teams as set out in the Assembly Government's Model and Framework.
- 4 Referral practices, availability of appropriate services and information available to patients and professionals affect the extent to which community services meet patients' needs. NHS bodies should:
- specify the role and contribution of existing community hospitals and community-based staff as part of a defined chronic conditions management service;
 - make all relevant staff across the NHS and partner organisations aware of what services are available in the community and how to access them; and
 - ensure wider approaches to support self care, such as patient education and access to information, are an integral part of the services provided, from prevention through to complex care needs.
- 5 NHS bodies make decisions on service provision and investment in services for patients with chronic conditions on the basis of inadequate financial, performance and clinical information. NHS bodies should:
- develop a good understanding and respond to the factors that precipitate admission or readmission and the reasons for the variations in admission rates across their communities;
 - implement a system to identify patients at risk of admission or readmission or those who might benefit from support on discharge;
 - identify the substantial and growing proportion of patients admitted with symptoms and signs indicative of a chronic condition, so that true demand and the full associated costs can be accurately measured;
- regularly assess the completeness and quality of data, including the accuracy with which hospital admissions are coded, so that information for planning and performance management is consistent and reliable;
 - develop robust and reliable datasets for community based services as well as systems for ongoing monitoring and evaluation of these datasets to support planning and performance management; and
 - fully evaluate the clinical outcomes and cost-effectiveness of existing chronic condition and intermediate care services to ensure their continuous improvement.
- 6 NHS bodies have struggled to find sustainable funding solutions to support the reconfiguration of services between acute hospitals and the community. Notwithstanding the Assembly Government's funding for the coming three years, NHS bodies should:
- reassign the resources spent on duplicated or cost-inefficient services;
 - establish the actual bed days that can be released and redirect these resources to support care in non-hospital settings;
 - reinvest in early interventions and targeted prevention programmes for high-risk patient groups; and
 - make greater use of pooled budgets and integration of services with partner organisations.



- 7 The Assembly Government's Integrated Model and Framework for the Management of Chronic Conditions is predicated upon providing joined-up packages of care. However, in practice, chronic condition services are not managed in a holistic and sustainable way. NHS bodies should:
- strengthen multi-disciplinary and joint working through the core community team across the many agencies involved in providing care, including local authorities and the voluntary and independent sectors;
 - put arrangements in place to coordinate the availability of and easy access to services across health, social care and voluntary sector providers;
 - align local plans to promote and support community-based models of care with the strategic frameworks and plans of unitary authority partners; and
 - develop workforce planning aligned to the Integrated Model and Framework and whole-system models of care, establishing the right roles, skills and workforce capacity across health and social care communities to make the best use of staff resources.

Part 1 - Too many patients with chronic conditions are treated, in an unplanned way, in acute hospitals

1.1 Managing chronic conditions is one of the biggest challenges facing the NHS. The Assembly Government's policy sets out a clear agenda for addressing this challenge, with care provided closer to home where possible. This part of the report considers the current demand on acute hospitals for managing patients with chronic conditions and identifies the following issues:

- there is a high prevalence of chronic conditions among the population of Wales, which is predicted to increase and is likely to add to the demand for healthcare services;
- large numbers of patients are accessing acute hospital care as a medical emergency for the management of chronic conditions;
- a wide range of factors besides age and deprivation influence admission rates; and
- patients admitted for a chronic condition use nearly a quarter of occupied bed days in acute hospitals and, although short hospital stays are becoming more common, some patients may be admitted due to a lack of community-based alternatives.

Prevalence of chronic conditions is high and forecast to increase

- 1.2** Some 800,000 people, one-third of the adult population in Wales, report having at least one chronic condition, such as diabetes, emphysema or heart disease, including 13 per cent with two or more conditions. The prevalence of chronic conditions increases with age and two-thirds of the total population of Wales aged 65 or older report having at least one chronic condition, while one-third of people aged over 65 years have multiple chronic conditions.
- 1.3** The prevalence of chronic conditions is higher in Wales than in the rest of the United Kingdom¹⁰. The prevalence also varies according to where in Wales you live, with 22 per cent of Gwynedd residents reporting a limiting long-term illness compared with 33 per cent for residents in Merthyr Tydfil and Blaenau Gwent¹¹.
- 1.4** Accounting for current demographic trends and disease prevalence, the number of adults with one chronic condition is expected to grow by 12 per cent by 2014. Such an increase would increase the pressure on the health service. The NHS will need to improve demand and admission management and proactively manage the impact of changing demographics.

¹⁰ Office for National Statistics, 2001 Census.

¹¹ Assembly Government, 2008, SB47/2008, Welsh Health Survey 2004/06, Local Authority Results.



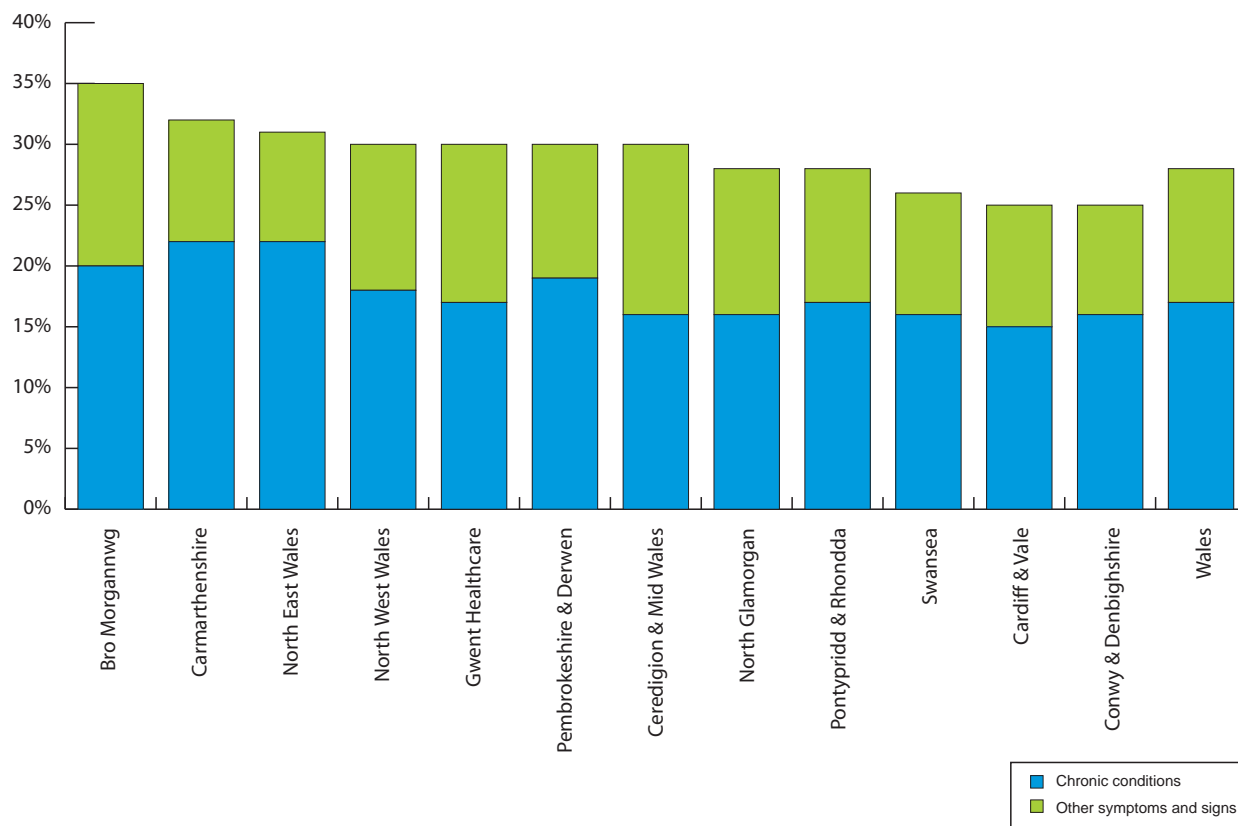
Chronic conditions account for at least one in six emergency medical admissions with wide variation across health communities

1.5 There are around 200,000 emergency medical admissions to acute hospitals in Wales every year. We have used the phrase 'emergency medical admissions' to describe unplanned admissions to a district general hospital medical specialty throughout the report unless described otherwise. More than

two-thirds (68 per cent) of admissions for chronic conditions are categorised as an emergency medical admission and most (93 per cent) are for patients aged 16 or older.

1.6 Based on our analysis, chronic conditions account for one in six (17 per cent) emergency medical admissions in 2006-07 ranging from 15 per cent in Cardiff and Vale NHS Trust and 22 per cent in Carmarthenshire and North East Wales NHS Trusts (Figure 1)¹². Three-fifths of these admissions were for patients aged 65 or older. In addition, one in nine acute

Figure 1 - Percentage of emergency medical admissions to acute hospitals for chronic conditions and other symptoms and signs* suggestive of chronic conditions in 2006-07

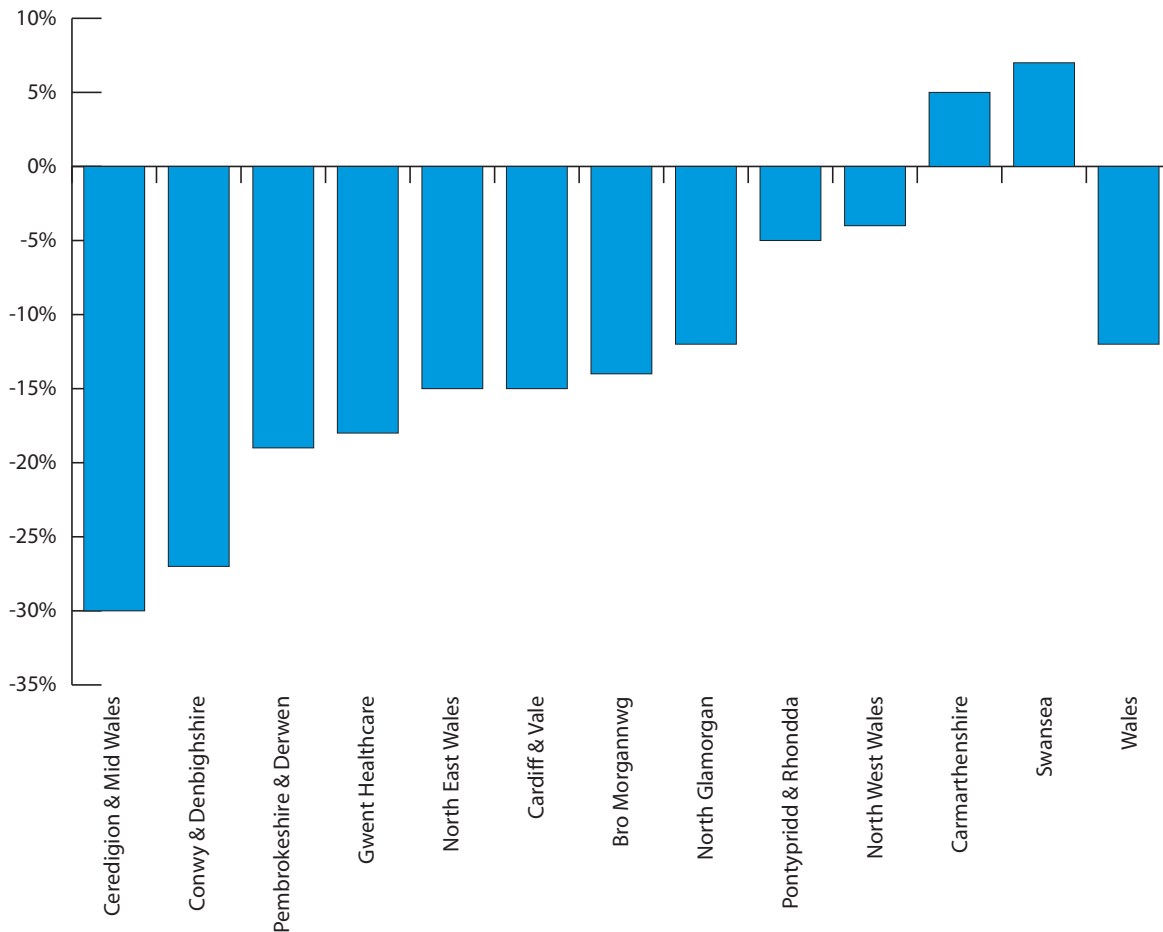


* Note that the term 'Other symptoms and signs' is used throughout the report and figures to mean symptoms and signs suggestive of a chronic condition.

Source: Wales Audit Office analysis of data from Health Solutions Wales, Inpatient Episode Data for Wales, 2006-07

¹² Appendix 2 provides a breakdown of the number of emergency medical admissions by groups of conditions for each NHS trust in Wales, with the exception of Powys Teaching LHB and Velindre NHS Trust.

Figure 2 - Percentage increase/decrease in the number of emergency medical admissions for chronic conditions between 2003-04 and 2006-07



Source: Wales Audit Office's analysis of data from Health Solutions Wales, Inpatient Episode Data for Wales, 2003-04 and 2006-07

emergency medical admissions were for other symptoms and signs, which might suggest a chronic condition and when these patients are taken into account, demand is considerably higher, at one in three of all emergency medical admissions.

1.7 Findings from our census of medical inpatients found that most patients (71 per cent) admitted as an emergency to an acute medical ward were admitted for treatment of an acute illness or because of an exacerbation or worsening of a chronic condition. One in ten patients were admitted

for rehabilitation while one in eight were admitted for diagnosis and assessment. A few patients (3 per cent) were admitted as an emergency for social care reasons, such as the hospitalisation of a carer or to provide respite for carers, with some of them hospitalised two or more times in the preceding six months. Patients admitted for treatment of an acute illness, or exacerbation of a chronic condition, are best treated at acute hospitals. However, admissions for some aspects of care, such as rehabilitation, might be provided more appropriately in community settings.



1.8 The Assembly Government's 10-year strategy, *Designed for Life*, set out the key milestones in relation to emergency medical admissions, namely that by the end of March 2006, there would be a five per cent reduction in emergency medical admissions against the 2003-04 baseline. However, the total number of emergency medical admissions in acute hospitals, where nearly all (96 per cent) of these admissions take place, actually rose by one per cent over this two-year period with another small increase (0.7 per cent) by the end of March 2007.

1.9 In comparison, emergency medical admissions specifically for chronic conditions fell year on year across Wales with a 12 per cent reduction between 2003-04 and 2006-07, with Ceredigion and Mid Wales and Conwy and Denbighshire NHS Trusts showing the biggest reductions (Figure 2). Six trusts – Cardiff and Vale, Gwent Healthcare, North East Wales, North Glamorgan, Pembrokeshire and Derwen, and Pontypridd and Rhondda – maintained year-on-year reductions or no growth (Figure 3).

Figure 3 - Percentage increase/decrease in the number of emergency medical admissions for chronic conditions each year between 2003-04 and 2006-07

NHS Trust	Percentage increase/decrease in the number of emergency medical admissions for chronic conditions		
	2003-04 to 2004-05	2004-05 to 2005-06	2005-06 to 2006-07
Bro Morgannwg	5%	-6%	-13%
Cardiff & Vale	-11%	-5%	0%
Carmarthenshire	6%	-4%	3%
Ceredigion & Mid Wales	-16%	-18%	2%
Conwy & Denbighshire	0%	2%	-28%
Gwent Healthcare	-9%	-2%	-8%
North East Wales	-6%	-8%	-3%
North Glamorgan	-3%	-5%	-4%
North West Wales	-3%	-7%	7%
Pembrokeshire & Derwen	-11%	-4%	-5%
Pontypridd & Rhondda	-5%	0%	0%
Swansea	4%	0%	3%
Wales	-4%	-4%	-5%

Source: Wales Audit Office's analysis of data from Health Solutions Wales, Inpatient Episode Data for Wales, 2003-04 to 2006-07

Figure 4 - Percentage increase/decrease in the number of emergency medical admissions by condition group between 2003-04 and 2006-07

Conditions	Number of emergency medical admissions		Percentage change
	2003-04	2006-07	
Cardiovascular	12,674	10,407	-18%
Stroke	4,278	3,527	-18%
Diabetes	2,539	2,125	-16%
Neurological	2,941	2,610	-11%
Respiratory	13,553	12,517	-8%
Atrial fibrillation	3,525	3,643	3%
Alzheimer's disease	149	165	11%
Other symptoms and signs	20,683	22,814	10%
All emergency medical admissions	196,405	200,283	2%

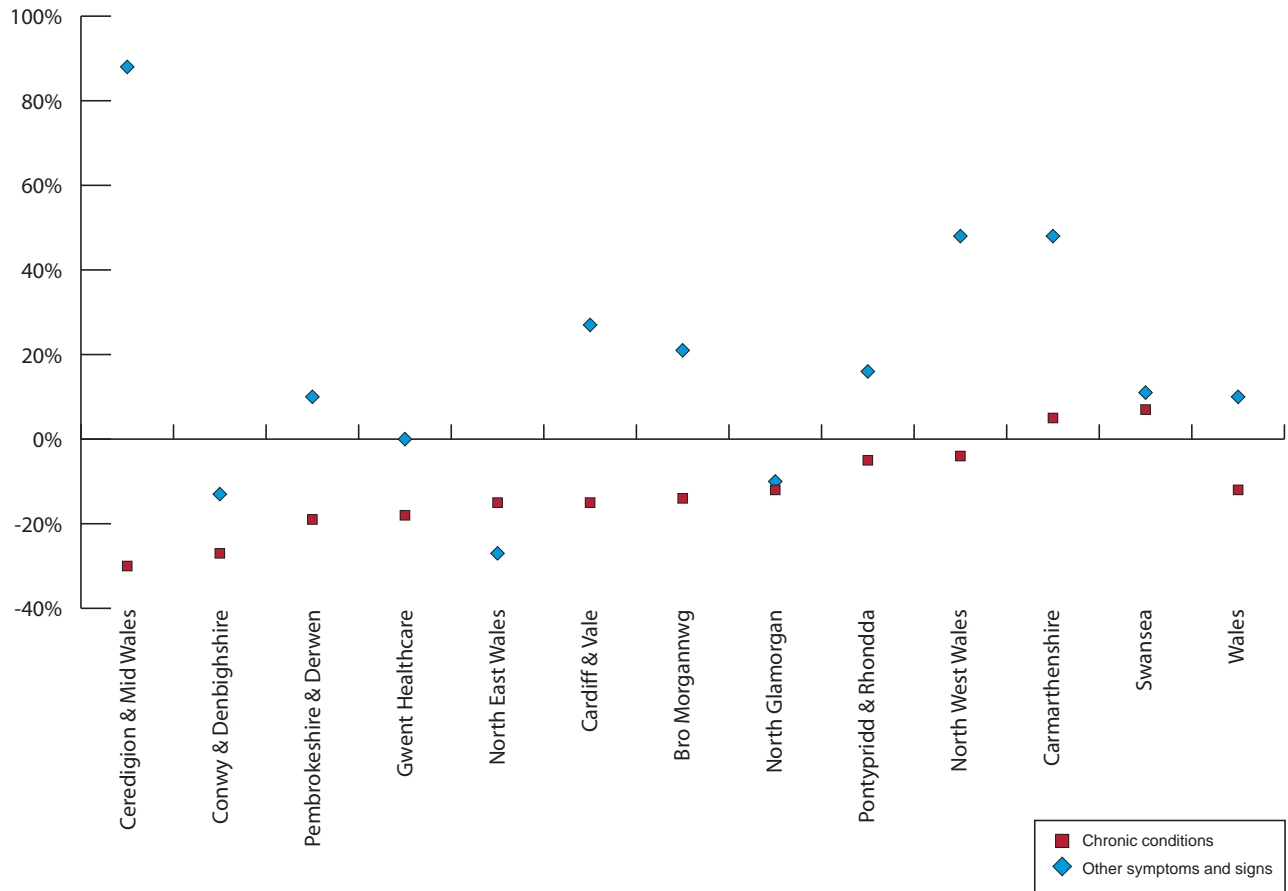
Source: Wales Audit Office's analysis of data from Health Solutions Wales, Inpatient Episode Data for Wales, 2003-04 and 2006-07

1.10 Cardiovascular and respiratory conditions accounted for 11 per cent of all emergency medical admissions while the same proportion (11 per cent) were attributed to 'other' symptoms and signs suggestive of a chronic condition, such as 'abnormal heart beat' and 'pain in throat and chest'. The lack of a clear primary diagnosis is likely to make it more difficult for trusts to identify patients at greater risk of readmission and take appropriate action. It may also mean that true demand for services could be underestimated if symptom based codes are excluded from analysis. Furthermore, issues about data quality, including the accuracy with which admissions are coded, are likely to have an impact on the availability of consistent and reliable information with which to measure hospital demand.

1.11 Over the last three years, the total number of emergency medical admissions for cardiovascular and respiratory conditions, which together accounted for 65 per cent of admissions for chronic conditions, fell by 18 per cent and eight per cent respectively, (Figure 4). Although some other chronic conditions, such as stroke, diabetes and neurological conditions make up a very small proportion of total emergency medical admissions, there were also big reductions in emergency medical admissions for these conditions. However, emergency medical admissions for other symptoms and signs increased by 10 per cent. In some trusts the number of emergency medical admissions for other symptoms and signs rose as much or greater than the reductions in emergency medical admissions for chronic conditions (Figure 5).



Figure 5 - Percentage increase/decrease in the number of emergency medical admissions for chronic conditions and other symptoms and signs between 2003-04 and 2006-07

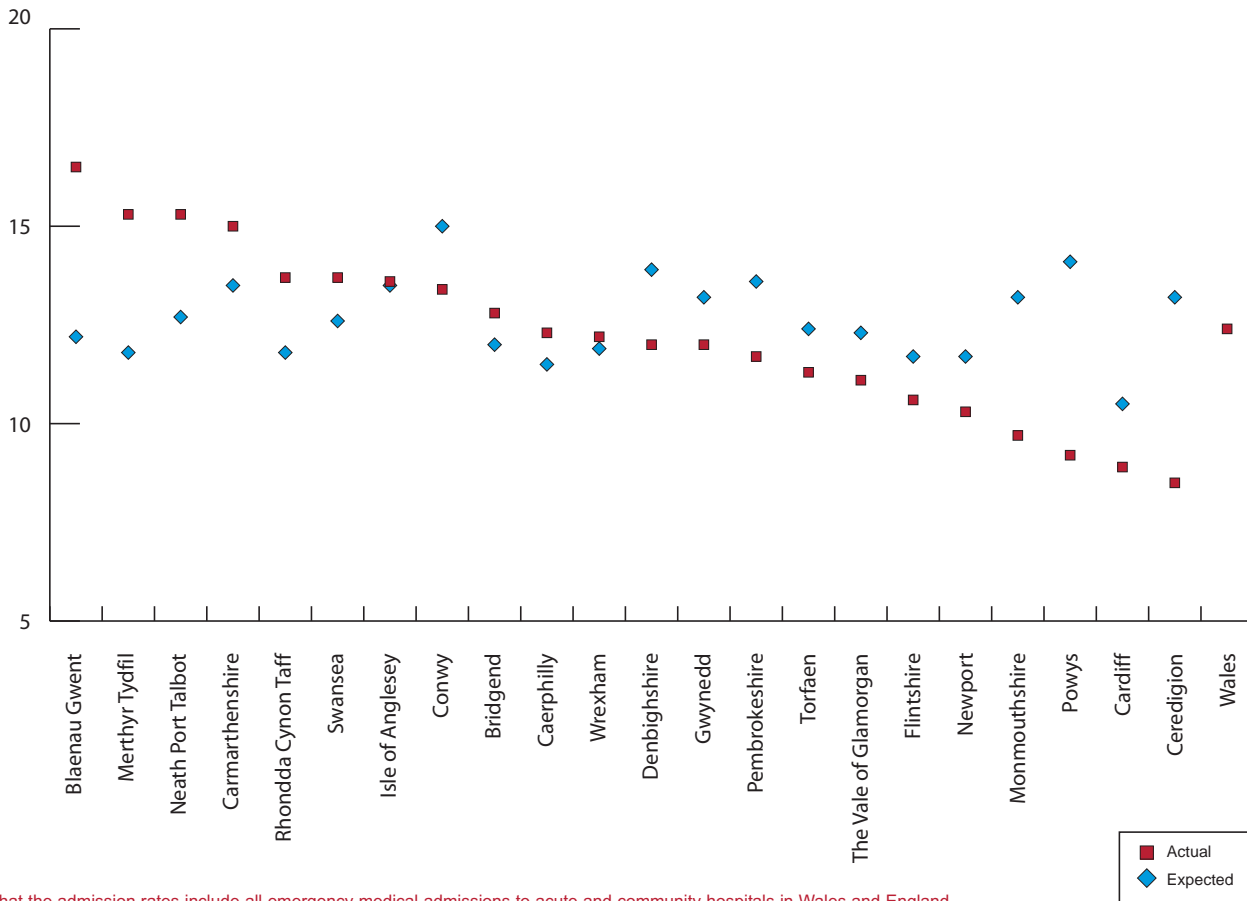


Source: Wales Audit Office's analysis of data from Health Solutions Wales, Inpatient Episode Data for Wales, 2003-04 and 2006-07

1.12 At the time of our audit we found that one in eight patients admitted as a medical emergency to hospital with a chronic condition had been admitted on more than one occasion within a 12 month period. These patients accounted for more than one-quarter (27 per cent) of all emergency medical admissions in 2004-05. A small number of patients can account for a large number of admissions, with some chronic conditions resulting in a higher number of multiple admissions. For example, one in five patients admitted with a respiratory condition were

admitted multiple times and accounted for two-fifths of the emergency medical admissions for respiratory conditions. Figures monitored by the Assembly Government show that the rolling 12-month multiple admission rate for three specific chronic conditions (coronary heart disease, chronic obstructive pulmonary disease and diabetes) was 15.9 per cent in 2007-08.

Figure 6 - Actual versus expected emergency medical admission rates* for chronic conditions per 1,000 LHB population in 2006-07



*Note that the admission rates include all emergency medical admissions to acute and community hospitals in Wales and England.

Source: Wales Audit Office analysis of data from Health Solution Wales, Inpatient Episode Data for Wales, 2006-07; LHB populations are based on the Assembly Government's mid-year population estimates for each unitary authority in 2006.

Deprivation and age do not fully explain admission patterns

1.13 In comparing emergency medical admission rates attributed to chronic conditions for LHB areas (including admissions to English trusts), we calculated rates to take account of differences in the age structure of local populations (age-standardisation). The age-standardised emergency medical admission rates for each LHB were then compared to what we would expect if LHBs

experienced the same admission rate as the all-Wales population average¹³. We found that in some LHBs the actual admission rate for chronic conditions was higher than the expected rate (for example, Merthyr Tydfil LHB) while others were lower (for example Powys Teaching LHB). This is illustrated by the two sets of data in Figure 6.

1.14 Factors which might explain the differences in actual and expected rates of emergency admissions for patients with chronic conditions include:

¹³ Age-standardisation facilitates comparisons across geographical areas by controlling for differences in the age structure of local populations. Expected rates were calculated by using Assembly Government mid-year population estimates for 2006 and applying the Wales age-specific admission rate to the LHB's population profile.



- higher prevalence of chronic conditions;
- variation in the management of chronic conditions within primary and community care settings to prevent unnecessary admissions;
- differing levels of support available in the community, and which is accessible, to help people stay in their own homes;
- difficulties in accessing health and social care services because of rurality or deprivation;
- hospital admission policies; or
- incomplete datasets on the number of admissions, including admissions to English trusts.

1.15 Those LHBs with higher rates of admission tended to be those areas with higher levels of deprivation, self-reported ill health and the least healthy lifestyles. However, the association between emergency medical admission rates and deprivation is not clear cut and there is likely to be a combination of factors at play.

1.16 Figure 7 presents our analysis of the emergency admission rates for chronic conditions by GP practice. This shows large variation in emergency medical admission rates across GP practices within LHBs and across Wales, even when controlling for the age profile of practice populations. In Merthyr Tydfil LHB, for example, emergency admission rates ranged from 38.1 per 1,000 registered practice population aged 65 or older in one practice to 99.7 per 1,000 registered practice population aged 65 or older in another. The median value across the 13 practices in Merthyr Tydfil was 61.9 per 1,000 registered practice population aged 65 or older.

1.17 The variation at a practice level could be due to a number of factors not already mentioned, such as:

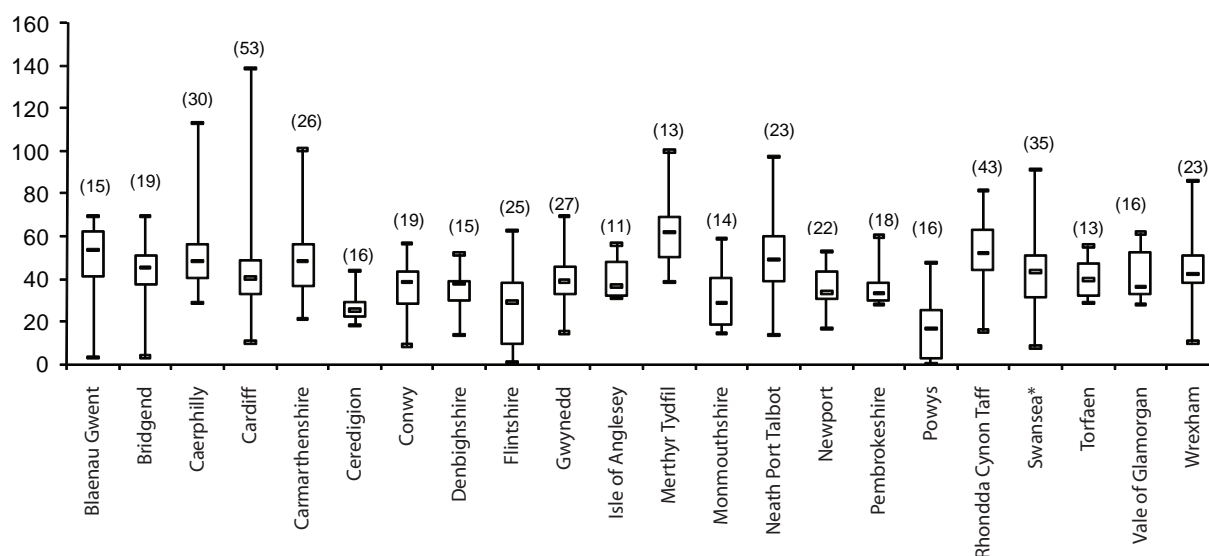
- local culture or clinical behaviour, for example, some General Practitioners (GPs) always refer their patients to hospital;
- a GP's inclination to make a referral, particularly if an Accident and Emergency unit is in close proximity to the practice;
- whether practices have access to other clinical expertise within the practice, for example, practice nurses and physiotherapists, or clinical expertise within hospitals; and
- the impact of enhanced services provided by some GP practices for patients with chronic conditions.

Admissions for chronic conditions use nearly a quarter of hospital bed days, although shorter hospital stays are more common

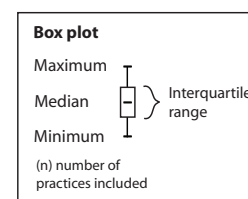
1.18 Our analysis found that chronic conditions accounted for 23 per cent of occupied bed days for emergency medical admissions (ranging across trusts from 20 per cent to 27 per cent). Cardiovascular and respiratory conditions and strokes account for one-fifth (20 per cent) of all occupied bed days for emergency medical admissions.

1.19 Between 2003-04 and 2006-07, the numbers of occupied bed days for all emergency medical admissions increased by less than one per cent, while those for chronic conditions reduced by 12 per cent. In contrast, occupied emergency medical bed days for other symptoms and signs increased

Figure 7 - Emergency medical admission rates* for chronic conditions per 1,000 registered patients aged 65 or over in GP practices across Wales, 2006-07



* One practice is excluded as it served the university population.



*Note that the admission rates include all emergency medical admissions to acute and community hospitals in Wales and England.

Source: Wales Audit Office's analysis of data from Health Solutions Wales, Inpatient Episode Data for Wales, 2006-07; registered GP practice populations at 1 April 2006, provided by the Business Services Centre, were used to calculate the denominators.

by 11 per cent. However, there were big variations between trusts with North West Wales NHS Trust reducing occupied bed days for chronic conditions by nearly half while in North Glamorgan NHS Trust occupied bed days for chronic conditions nearly doubled (Figure 8).

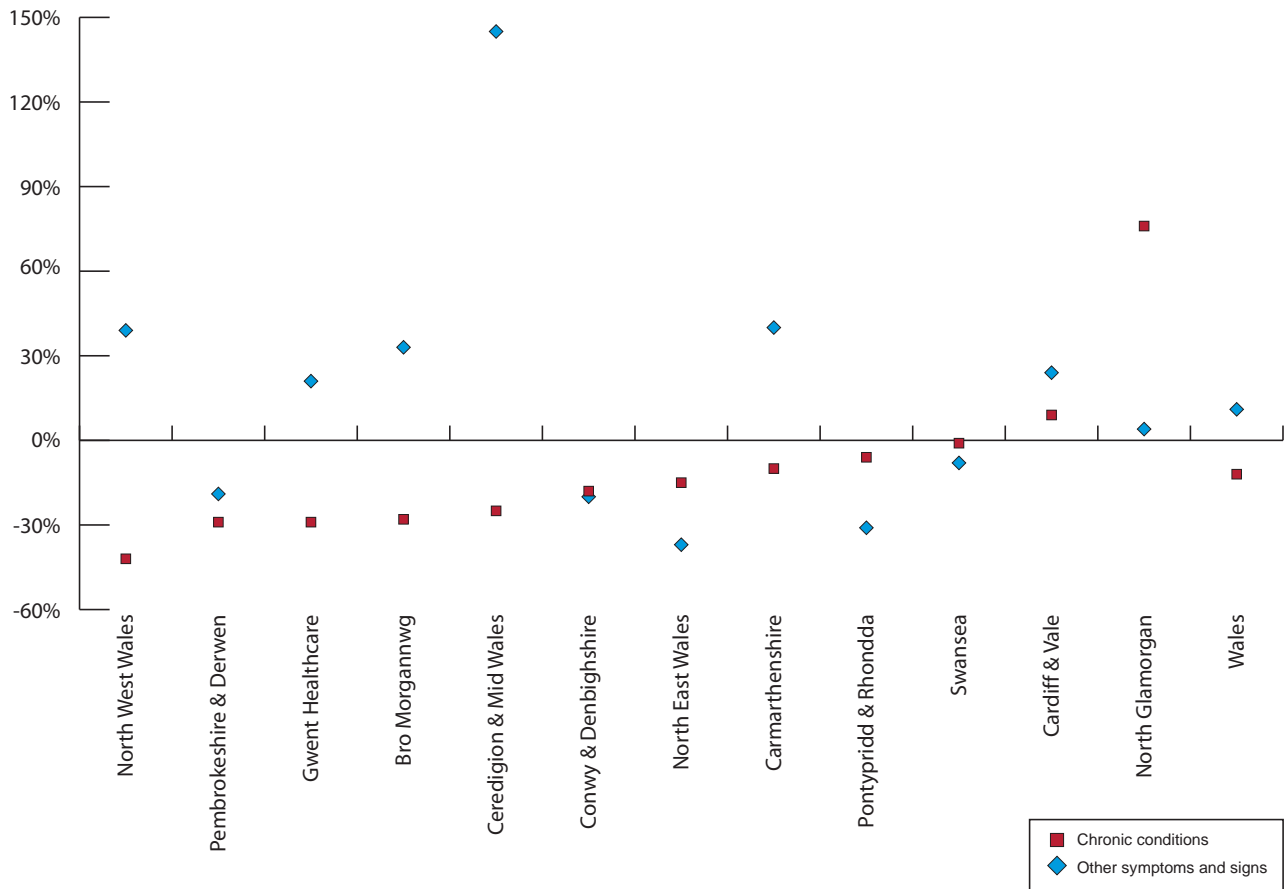
1.20 The general reduction in occupied bed days for chronic conditions may reflect the reduction in admissions or the rise in short lengths of stay. Nearly two-fifths of emergency medical admissions for chronic conditions in 2006-07 resulted in a length of stay of less than two days compared with only 31 per cent in 2003-04 (Figure 9). Lengths of stay in

excess of six days showed smaller reductions over the same period.

1.21 The increase in short lengths of stay may reflect more efficient and effective systems for rapid assessment and diagnosis, thereby avoiding the need for extended hospital admission. Equally, a number of these short stay admissions may reflect a lack of alternatives to hospital-based emergency assessment services or the need for improved management of chronic conditions by primary care and community care services. While hospital may be the best place for assessing, treating and managing some patients, particularly those with complex care



Figure 8 - Percentage increase or decrease in the number of occupied bed days for emergency medical admissions to acute hospitals for chronic conditions and other symptoms and signs between 2003-04 and 2006-07



Source: Wales Audit Office's analysis of data from Health Solutions Wales, Inpatient Episode Data for Wales, 2003-04 and 2006-07

Figure 9 - Length of stay for emergency medical admissions to acute hospitals for chronic conditions and other symptoms and signs between 2003-04 and 2006-07

Length of stay	2003-04		2004-05		2005-06		2006-07	
	Chronic conditions	Other symptoms and signs	Chronic conditions	Other symptoms and signs	Chronic conditions	Other symptoms and signs	Chronic conditions	Other symptoms and signs
Less than 24 hours	8%	25%	8%	26%	9%	31%	11%	34%
1-2 days	23%	46%	24%	45%	24%	44%	26%	42%
3-6 days	29%	19%	27%	18%	27%	16%	26%	14%
In excess of 6 days	40%	10%	40%	12%	40%	10%	37%	10%

Source: Wales Audit Office analysis of data from Health Solutions Wales, Inpatient Episode Data for Wales, 2003-04 to 2006-07

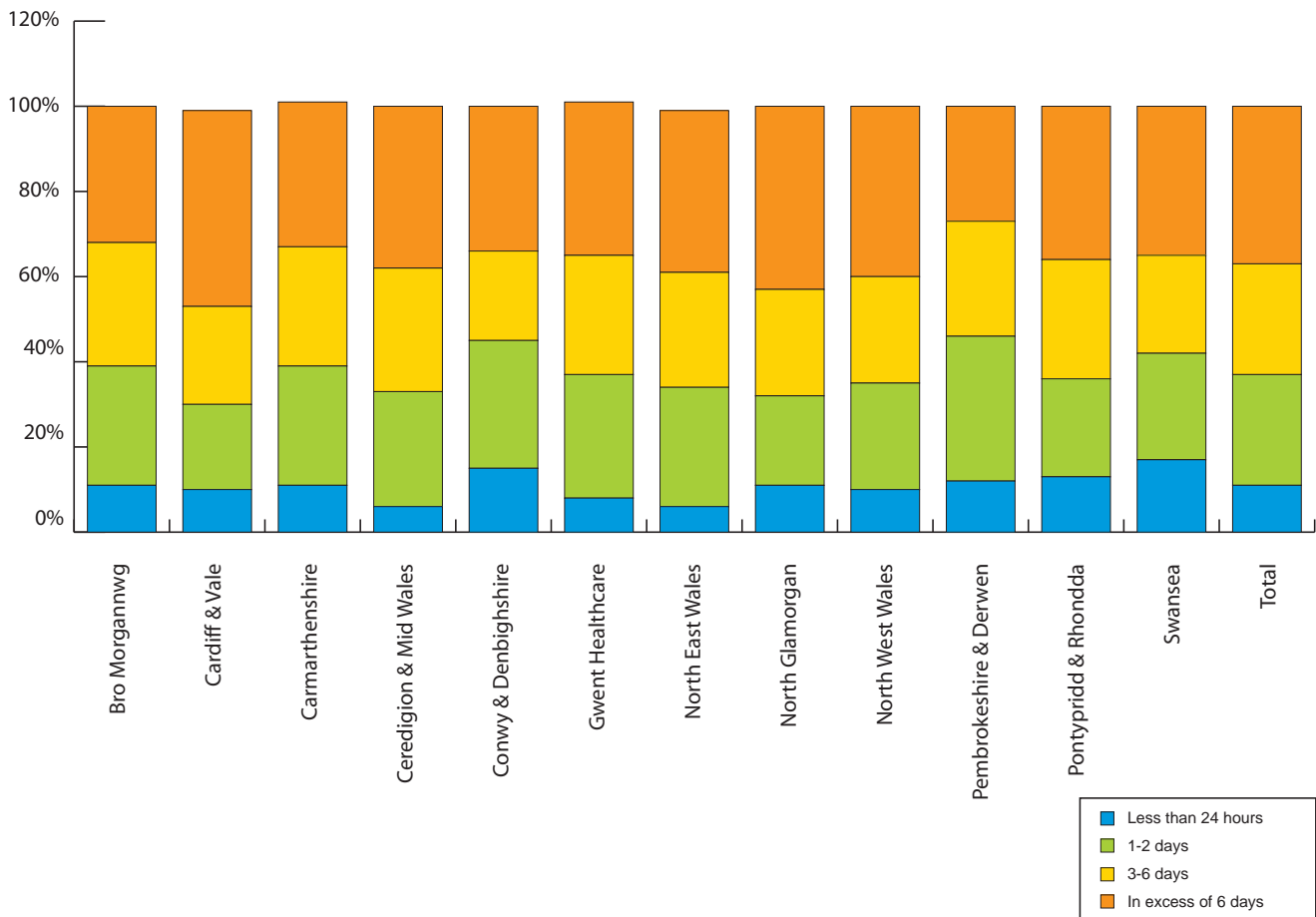
needs, a lack of community services may mean that some patients are being managed in the wrong place.

1.22 We found marked variations in the lengths of stay for emergency medical admissions for chronic conditions between trusts. For example, at five trusts – Cardiff and Vale, Ceredigion and Mid Wales, North East Wales, North Glamorgan and North West Wales – the proportion of admissions with a length of stay in excess of six days was greater than those with short lengths of stay (Figure 10). These extended lengths of stay may reflect clinical need but may also be influenced by other

factors, including delayed transfers of care or the inclusion of rehabilitation beds in some acute hospitals. Furthermore, inconsistencies in the way in which some trusts record admissions to medical assessment units means that the true impact on the acute sector may be underestimated, distorting average length of stay.

1.23 Lengths of stay varied by age - the elderly having longer lengths of stay - and by condition (Figures 11 and 12). For example, 12 per cent of emergency medical admissions for respiratory conditions resulted in a very short stay, that is, less than 24 hours,

Figure 10 - Length of stay for emergency medical admissions to acute hospitals for chronic conditions, 2006-07



Source: Wales Audit Office's analysis of data from Health Solutions Wales, Inpatient Episode Data for Wales, 2006-07



Figure 11 - Average length of stay for emergency medical admissions to acute hospitals for chronic conditions, 2006-07

Age	Average length of stay (days)
0-15	1.3
16-24	2.5
25-34	3.3
35-44	4.0
45-54	5.5
55-64	6.8
65-74	9.0
75 and over	12.7
All	8.8

Source: Wales Audit Office analysis of data from Health Solutions Wales, Inpatient Episode Data for Wales, 2006-07

compared with just three per cent for stroke. However, one-third (34 per cent) of admissions for other symptoms and signs indicative of a chronic condition resulted in a stay of less than 24 hours. Despite the general increase in very short lengths of stay and the variations between conditions, more than one-third (37 per cent) of emergency medical admissions for a chronic condition resulted in a length of stay in excess of six days.

1.24 Over the last few years NHS trusts have been set targets to reduce emergency medical admissions and the associated lengths of stay and the bed days used. In addition, the Assembly Government's Service Improvement Plan for managing chronic conditions in Wales is clear that NHS bodies need to identify the release of hospital resources to support chronic conditions management in the community. Reductions in occupied bed days could help release resources to support community-based care,

Figure 12 - Length of stay for emergency medical admissions to acute hospitals by condition in 2006-07

Chronic condition	Length of stay			
	Less than 24 hours	1 to 2 days	3 to 6 days	In excess of 6 days
Alzheimer's disease	5%	16%	9%	69%
Atrial fibrillation	14%	31%	28%	26%
Cardiovascular conditions	10%	26%	25%	39%
Diabetes	11%	29%	31%	29%
Neurological conditions	21%	39%	19%	21%
Respiratory conditions	12%	26%	28%	34%
Stroke	3%	10%	21%	67%
Other symptoms and signs	34%	42%	14%	10%

Source: Wales Audit Office's analysis of data from Health Solutions Wales, Inpatient Episode Data for Wales, 2006-07

although realising the full potential saving will be difficult to achieve, as some patients with very complex care needs may need to have a longer stay in hospital.

1.25 In 2006-07, 37 per cent of emergency medical admissions for chronic conditions had a length of stay in excess of six days¹⁴ and the average length of stay for these admissions was 20 days. These admissions accounted for 257,000, occupied bed days or 17 per cent of all acute medical beds at a cost of £84 million. If excess lengths of stay for these admissions were reduced by just one day, 13,000 occupied bed days could be saved, the equivalent of 35 of the daily available beds in 2006-07, at a cost of £4.2 million.

¹⁴ The Assembly Government's Annual Operating Framework for 2008-2009 sets out the target that health communities are expected to deliver in relation to the management of chronic conditions, namely to achieve an average length of stay of no more than 6.1 days for emergency medical admissions for qualifying conditions.



Part 2 - The large number of community services, which are intended to reduce the reliance on the acute sector, are fragmented and poorly co-ordinated

2.1 This part of the report considers the adequacy of services provided in the community for people with chronic conditions. We found that chronic condition and intermediate care services are being developed in increasing numbers across parts of Wales although:

- service development has been on an ad hoc basis resulting in gaps and inconsistencies in provision;
- community hospitals are not typically used to prevent or divert acute hospital admissions or to facilitate early discharge home from hospital for patients with chronic conditions;
- patients at risk of readmission to hospital are not consistently identified or offered adequate support to reduce that risk; and
- services to help people manage their own conditions in the community are inadequate to meet the level of demand.

Provision of chronic condition and intermediate care services is poorly co-ordinated with gaps and inconsistencies in provision

2.2 We found a total of 238 NHS services for chronic conditions and intermediate care¹⁵, with the majority (165) of these provided by NHS trusts. The remaining 73 services were provided by LHBs, with 17 out of 22 LHBs providing chronic conditions and intermediate

care services. Most (70 per cent) of these services were established in the five years leading up to our audit. However, many services had limited capacity and around one-third operated waiting lists, with patients waiting on average 14 days for an assessment of their needs and access to services.

2.3 The primary purpose of chronic conditions services provided by trusts and LHBs aimed to provide disease management, patient education and in some cases prevent hospital admissions while those for intermediate care services were to prevent avoidable admissions, facilitate early hospital discharge and provide rehabilitation. Three-fifths of services were only available during normal working hours, that is weekdays 9 am to 5 pm. However, our census of medical inpatients found that just over half of patients admitted as an emergency were admitted outside of these hours, indicating a lack of alternatives to acute admission outside normal working hours.

2.4 We found a lack of integration and co-ordination of chronic condition and intermediate care services between commissioners and providers, particularly where more than one LHB commissioned services from a provider trust. We had difficulty reconciling the information provided by LHBs on services commissioned from the Trust with those identified by the Trust as being funded by LHBs for their local population. The difficulties in reconciling service information provided by trusts and

¹⁵ These include 123 chronic condition specific services, for conditions such as coronary heart disease, chronic obstructive pulmonary disease and diabetes, 58 intermediate care services, such as rapid response and reablement and rehabilitation services, and nine palliative care services.

LHBs, and in some instances, the information provided by trusts and their staff delivering individual services, might be due in part to using different names for the same service or the different arrangements for managing and delivering these services. Nonetheless, a lack of clarity about current provision is indicated, which may account for the apparent duplication of rapid response service provision in the Gwent healthcare community (Case Study A).

Case Study A - Rapid response services in Gwent

Gwent Healthcare NHS Trust provided three different rapid response services for three out of the five LHBs commissioning its services. Two of the services operated 24 hours a day, seven days a week and were not time limited whereas the third was time limited (three to five weeks) and operated 12 hours a day, seven days a week. One of the three LHBs also provided its own rapid response service at the weekend. If not intended to duplicate services, these arrangements could lead to confusion for healthcare professionals when deciding where to refer patients and/or restricting access to those who could benefit, if the same cohort of patients moves between services or indeed across unitary authority boundaries. Subsequent to our audit, a rapid response service is now provided in all but one of the Gwent LHBs.

Source: Wales Audit Office

- 2.5** Not all services were provided consistently across health communities, with limited geographic cover in some areas. Only two-fifths of trust-provided services were delivered trust wide while the remainder were provided within specific LHB boundaries as a result of the commissioning decisions or GP practice catchment areas. Variation in the range and coverage of services may reflect differing population needs although variation between services of the same type is less well understood. Case Study B shows the differences in service provision in two health communities.

Case Study B - Local service provision in Bridgend and Neath Port Talbot

The Bridgend and Neath Port Talbot health communities have developed a number of schemes to meet identified local needs in specific geographical areas. One example is the reablement services provided in Neath Port Talbot and north of the M4 in Bridgend, but these services were not available elsewhere in the catchment area. In addition to geographical variation, there was variation in service provision within schemes designed to deliver similar services. The Bridgend reablement service provided support post-discharge for 12 weeks, while the Neath Port Talbot service provided support for six weeks. Following service changes since our audit, both services now provide support for six weeks and the Bridgend service has been extended to other areas within the county borough.

Source: Wales Audit Office

- 2.6** For some trusts, coordinating services across geographical boundaries is potentially more difficult than for others, particularly if the commissioners and providers have different approaches to the way in which services are commissioned, funded and provided. While the reorganisation of NHS Wales into a reduced number of integrated health bodies may minimise these issues within future health communities, coordinating services across unitary authorities will still present challenges. Case Study C highlights some of these difficulties in the former North Glamorgan NHS Trust.

Case Study C - Co-ordinating services across geographical boundaries in North Glamorgan NHS Trust (now part of Cwm Taf NHS Trust)

Nearly all emergency medical admissions treated at North Glamorgan NHS Trust came from the Merthyr, Rhondda Cynon Taff and Caerphilly county boroughs (39 per cent, 35 per cent and 25 per cent respectively). Discharge arrangements, however, were dependent upon coordinating health and social care services outside its boundaries for patients who live in the Caerphilly or Rhondda Cynon Taff counties. For example, district nursing services would be provided by Gwent Healthcare NHS Trust for those patients who lived in Caerphilly, while Pontypridd and Rhondda NHS Trust would provide district nursing services for patients from Rhondda and Taff Ely.

Source: Wales Audit Office



Community hospitals do not divert acute hospital admissions and their role in chronic conditions management is unclear

2.7 The 65 community hospitals in Wales providing general adult care represent a significant resource for the NHS in Wales. At the time of our audit there were more than 2,000 community hospital beds representing approximately 16 per cent of all available beds in hospitals in Wales. **Figure 13** shows how these beds were used, with over 60 per cent allocated for elderly care and rehabilitation. Very few community hospital beds in Wales were designated as step up or step down, that is beds designed to prevent admission to acute hospitals (step up) or accelerate discharge into services between acute hospitals and home or residential care (step down).

2.8 We found that community hospital beds were not typically used to prevent or divert acute hospital admissions or facilitate early discharge. A small proportion (four per cent) of medical admissions for chronic conditions goes directly to a community hospital (ranging from nil to 10 per cent across Welsh NHS trusts). Our census of medical inpatients found that three-quarters of medical inpatients in community hospitals had been transferred from the acute hospital, primarily for rehabilitation or the next stage of care, rather than for treatment or management of a chronic condition. Some patients were waiting for the commencement of a community care package or a bed in a nursing or residential home, having been transferred to manage delayed transfers and to release acute hospital capacity.

Figure 13 - Profile of community hospital beds in 2006

Community hospital beds classified according to use	
Elderly care	41%
Generic rehabilitation	22%
Other, eg, continuing healthcare	12%
Orthopaedic rehabilitation	6%
Mental health (including rehabilitation)	6%
Stroke rehabilitation	5%
Convalescence	4%
Respite	2%
Palliative care	1%
Step-down beds	<1%
Step-up beds	0%
Total number of beds	2,274

Source: *Wales Audit Office, Mapping of Community Hospital Beds, Spring 2006*

2.9 Referrals for admission to community hospital beds were predominantly made by consultants in elderly care or other medical or surgical specialities, as well as by GPs. Accident and Emergency consultants could only refer patients to a handful of community hospitals. While nurse specialists could refer patients to a community hospital bed, typically elderly care, general rehabilitation and palliative care, allied healthcare professionals could not make direct referrals. These arrangements may impact on the ability of acute hospital staff to access community hospital beds either to divert an admission to an acute hospital or effect a timely transfer from acute to community hospitals for the next stage of care, such as rehabilitation.

Figure 14 - Clinical support services available in community hospitals in 2006

Number of community hospitals with clinical support services	
Physiotherapy	58
Occupational therapy	57
Speech and language therapy	48
Podiatry	43
Conventional radiography	42
Dietetics	39
Pharmacy	21
Minor illness service	12
Haematology	12
Biochemistry	11
Microbiology	11
Total community hospitals	65

Source: Wales Audit Office, *Mapping of Community Hospital Beds, Spring 2006*

2.10 The limited use of community hospitals in preventing or diverting admissions from acute hospitals may be due to the varying levels of clinical support provided at each community hospital. For example, we found that conventional radiography services were available in two-thirds of the community hospitals but this was mainly during weekdays. Even fewer pathology services, such as haematology, were available and again these operated mainly during the day (Figure 14).

Case Study D - South Pembrokeshire Hospital Health and Social Care Resource Centre

The South Pembrokeshire Hospital Health and Social Care Resource Centre in Pembroke Dock, which opened in January 2007, is one of the first in Wales to provide a range of integrated health and social care services for adults requiring treatment, care or rehabilitation. Services include:

- a day care unit with 70 places for rehabilitation and reablement care in the community (and also available to inpatients);
- 40 inpatient beds, including 35 for health care, rehabilitation, wound management and palliative care and five beds for reablement support for community patients;
- a full range of physiotherapy, occupational therapy, speech and language therapy, dietetic support, audiology and podiatry services;
- a base for the social care assessment and care management team, the home care administration team, district nurse evening service and the Macmillan nurses;
- a minor injury department;
- outpatient department;
- radiology services;
- Pembrokeshire Care on call out-of-hours medical service; and
- others, such as a sensory garden, a physiotherapy gym, computer and craft activity rooms and complementary services.

Source: Hywel Dda NHS Trust (the former Pembrokeshire & Derwen NHS Trust)

2.11 The lack of diagnostic services may be one reason for the small number of emergency medical admissions to community hospitals, particularly if these services are needed out of hours. Our census of medical inpatients found that over half of patients were admitted out of hours, including at night and weekends. However, in some areas community hospitals are being developed to provide an integrated range of health and social care services, as illustrated in Case Study D.



There are missed opportunities for identifying patients at risk of readmission or those who may benefit from additional support on discharge

2.12 Research by the National Public Health Service for Wales reported that identifying and targeting individuals at high risk of readmission is cost-effective and improves clinical outcomes¹⁶. However, our census of medical inpatients found that such an approach has not been widely developed in primary or community care settings and that opportunities to identify patients at risk of readmission, or those who might benefit from support on discharge, are missed.

In undertaking the medical inpatient census we found that:

- a large minority (43 per cent) of medical inpatients lived alone and over half (53 per cent) of medical inpatients did not receive support or services from health, social care or community and voluntary services prior to admission; one-fifth (20 per cent) not only lived alone but also received no support;
- medical inpatients used on average six prescription medicines with three-quarters (74 per cent) using four or more; and
- a large minority of patients (39 per cent) were hospitalised two or more times for the same or other chronic conditions in the preceding six months, with one in three of these patients expected to be self managing on discharge.

2.13 In future, health communities will be expected to stratify their populations using the four tiers of care identified in the Assembly Government's Integrated Model and Framework. At a national level a project called the Predictive Risk Stratification Model (PRISM) is underway to make it easier to identify patients who might benefit from additional support or care, dependent upon their health needs and their risk of hospitalisation, using information derived from primary care disease registers and hospital data such as inpatient admissions (**Case Study E**). The addition of social care data in the future would further strengthen the predictions of risk.

Case Study E - PRISM

A new tool called PRISM is being developed by Informing Healthcare, an Assembly Government programme to improve health services by introducing new ways of accessing, using and storing information. As part of this programme, PRISM is being developed to support a more systematic approach to planning and managing patient care in the community.

PRISM is a computer-based information tool that utilises population and health data to group GP practice populations into one of four tiers based on the Assembly Government's strategy for chronic conditions and to stratify GP practice populations against their risk of having an emergency admission.

By sorting patient populations into the four tiers it should be easier to co-ordinate planning, service delivery and care for the individuals as they move across the different tiers.

The information is intended to be used by GPs, community nurses and social services to provide additional care, increased support or preventative treatments to help avoid deterioration in an individual's health and ensure patients are helped to continue living at home and look after themselves, and not hospitalised unnecessarily.

PRISM will be tested and evaluated at GP practices across a number of LHBs during the autumn of 2008, before the system is implemented more widely during 2009.

Source: Wales Audit Office and Informing Healthcare

¹⁶ National Public Health Service for Wales, 2005, *International Overview of the Evidence on Effective Service Models in Chronic Disease Management*

Provision of patient education to support self care is insufficient given the high prevalence of chronic conditions

2.14 Commissioning a range of self help/care services and condition-specific programmes is an integral part of the Assembly Government's approach to promoting independence and self care for people with chronic conditions, with the long-term aim of embedding self care as a core element of community services. Developing and promoting self care is also a key action for social services in partnership with other organisations. In addition, the Assembly Government is committed to developing and promoting cost-effective best practice for self care and maintaining independence, making the promotion of self care a prime strand across all services within a framework of careful risk management.

2.15 Expert Patients Programmes are self management programmes intended to help individuals become experts in managing their own care and conditions more effectively, as well as reducing their symptoms and improving the quality of their daily life. There has been a gradual implementation of the Expert Patients Programme across all LHB areas since the first pilots in Gwynedd and Swansea LHBs in 2003-04.

2.16 We found that LHBs supported and funded a total of 20 Expert Patients Programmes, offering individuals living with a chronic condition access to a self-management course. National targets now require LHBs to increase the number of Expert Patients Programme courses, and the number of participants completing courses, to support patient needs on a local basis. Recent figures

Box 3 - Definition of Expert Patients Programmes

Expert Patients Programmes provide generic, self-management courses for people living with a long-term health condition. The courses are led by people who have personal experience of either living with or caring for someone with a long-term health condition. These courses provide an opportunity for people to learn new coping skills, which can help improve the quality of daily life by managing the effects of their long-term condition. The aim of the Expert Patients Programme is to give course participants the confidence to take responsibility for their own care, whilst also encouraging them to work in partnership with health and social care professionals. Courses are provided free of charge and are held in community venues. An Expert Patients Programme provides a group of 8 to 16 participants access to a course of 6 weekly sessions, with each session lasting 2 to 2.5 hours.

Welsh Assembly Government

(May 2008)¹⁷ show that the roll out of the Expert Patients Programme is ongoing with:

- 345 Expert Patients Programme courses delivered across Wales since 2003-04;
 - 2,676 people have completed an Expert Patients Programme course;
 - 130 volunteer tutors have been trained; and
 - 17 local Expert Patients Programme co-ordinators and trainers have been employed to help support the volunteers and to manage and arrange the courses locally.
- 2.17** However, we found a heavy reliance on more traditional health and social care services when making discharge arrangements for patients, with missed opportunities to refer patients onto appropriate services or support, including patient education programmes. Our census of medical inpatients found that nearly half of patients referred to community services were likely to be referred to social services and one-quarter to community

¹⁷ Expert Patients Programme Wales website <http://www.eppwales.org/>.



nursing services. One-third of patients were expected to self manage following discharge from hospital with no additional support, even though two-fifths of these patients had experienced at least two hospital admissions in the previous six months.

- 2.18** These patients might have benefited from attending an Expert Patients Programme, but referral or signposting to Expert Patients Programmes, or other forms of self-care schemes on discharge from hospital was poor. Our census of medical inpatients found that only a few patients (6 per cent) were referred to Expert Patients Programmes. However, more (14 per cent) were referred to specialist nursing services, which usually provide patient education as part of the care process.
- 2.19** The Assembly Government has recognised the need to raise awareness of skills training, such as Expert Patients Programmes, amongst healthcare professionals and is working with key agencies to implement a national signposting and information service. These actions should improve knowledge amongst health and social care professionals as well as patients themselves.
- 2.20** The information needs of individuals will vary depending upon their overall health and care needs, ranging from ill-health prevention, maintenance and crisis prevention through to complex care needs, where improving the quality of life within the limitations of the chronic condition(s) has greater focus. Self care and patient education programmes therefore need to address the broad range of information required in addition to providing sufficient capacity to promote the self care agenda, given the prevalence of chronic conditions.

2.21 In addition to the generic Expert Patients Programme, our audit found LHBs supported and funded 26 self-management education schemes for specific chronic conditions. These schemes included:

- 11 schemes for diabetes, such as the Diabetes Xpert (a structured education programme for patients with Type 2 diabetes) and DESMOND (Diabetes Education and Self Management for Ongoing and Newly Diagnosed);
- six schemes for individuals with respiratory conditions, such as asthma and chronic obstructive pulmonary disease;
- three schemes for individuals with coronary heart disease; and
- other schemes including those for pain management, Alzheimer's disease and arthritis.

Case Study F provides an example of a self-management education scheme for individuals with Type 2 diabetes.

- 2.22** Patient education and self-management should be an integral part of all service provision in order to support as many patients as possible in the most cost-effective way. However, we found that few chronic condition and intermediate care services included aspects of patient education.
- 2.23** Budgetary information was available for more than two-thirds (31 out of 46) of the Expert Patients Programmes and self care schemes. The Expert Patients Programme budgets across all LHBs totalled £416,000 in 2005-06, ranging from £4,500 to £55,000 (an average of £24,500 per programme), while the budgets for self care schemes totalled more than £1 million, ranging from £7,000 to £260,000 (an average of £68,000 per scheme although the median value was £28,000).

Case Study F - X-pert, A Structured Diabetes Education Programme, Torfaen LHB

In June 2005 Torfaen LHB established X-pert, a Structured Diabetes Education programme for individuals with Type 2 diabetes or their carers. The programme is run by a Diabetes Specialist Nurse at the LHB, who can support 18 participants at any one time. Individuals or carers can refer themselves to the scheme or be referred by a wide range of healthcare professionals, such as GPs, hospital consultants or community nurses, as well professionals from social services. Practice nurses and dieticians tend to target patients they see either in general practice or hospital. It is widely advertised via the LHB website, the local authority Webster web site, posters in GP surgeries and local hospitals, the LHB's newsletter and the Keep Well winter brochure. It is also promoted through local voluntary diabetes support groups.

The X-pert programme aims to enable people with Type 2 diabetes to develop the knowledge, skills and confidence to make informed decisions regarding their lifestyle and managing their condition. The programme runs three times a month. It is made up of six sessions lasting 2.5 hours. Participants need to attend four of the six sessions in order to get a certificate of completion. Refresher courses are not run currently but if participants miss a session they can attend the 'missing' session on a subsequent programme. During 2005-06 a total of 65 individuals were supported through the programme and although primarily directed at individuals with Type 2 diabetes, people with Type 1 diabetes have attended and reported that they had benefited from attending.

Source: Wales Audit Office and Torfaen LHB

- 2.24** While the number of Expert Patients Programmes has increased since 2003-04, with 348 courses delivered up to May 2008, these programmes support only a small number of individuals with a chronic condition at any one time. Based on the current capacity, we estimate that the NHS in Wales needs to provide 500 Expert Patients Programme courses each year in order to support just one per cent of the adult population with a chronic condition.



Part 3 - Planning and development of services for patients with chronic conditions have been insufficiently integrated

3.1 This part of the report considers the barriers that local health service planners and providers need to overcome in order to deliver improvements to chronic conditions management. We identified four key areas which affect the ability of NHS Wales to deliver holistic, integrated models of care and make effective use of resources:

- a lack of understanding and analysis of need and demand for services;
- the reliance on short-term funding to develop services, with limited consideration or evaluation of how to mainstream successful programmes;
- gaps in financial information and activity data, which limit the ability to evaluate existing services or to plan for new ones; and
- despite greater collaborative working across NHS bodies and with partner organisations, better joint working and further workforce development are still needed.

Inadequate assessment of demand makes identifying planning and commissioning priorities difficult

3.2 For effective planning of services there needs to be a clear understanding of the health needs of the population and the demand for local services. However, assessment and analysis of needs and demand has not been consistently or comprehensively undertaken

across health communities. We found that services for chronic conditions had predominantly developed around the national service frameworks for coronary heart disease and diabetes, with more limited development of services for other conditions, which place a higher demand on acute services.

3.3 Across Wales, services for chronic conditions developed in a seemingly unrelated way to demand as expressed by occupied bed days or numbers of admissions. **Case Study G** sets out an example whereby services for chronic conditions developed in an unrelated way to occupied bed days at Gwent Healthcare NHS Trust. Across Wales, 23 community-based services for respiratory conditions were in place compared with 37 for cardiovascular and 34 for diabetes, despite the number of emergency medical admissions for respiratory conditions (12,513) equating to the combined total for cardiovascular and diabetes (12,527).

Case Study G - Community-based services in Gwent

While respiratory conditions accounted for the greatest proportion of chronic condition related occupied bed days in acute medical specialties at Gwent Healthcare NHS Trust, proportionately more community-based services were in place for cardiovascular conditions and diabetes. These chronic conditions accounted for the following occupied bed days in acute medical specialties:

- Respiratory: 26 per cent of occupied bed days with six community services;
- Cardiovascular: 20 per cent of occupied bed days with 12 community services; and
- Diabetes: four per cent of occupied bed days with eight community services.

Source: Wales Audit Office

Some health communities were not providing any separate NHS community-based services for respiratory, cardiovascular or diabetic conditions. Instead, services for these conditions were accessible via rapid access clinics in acute hospitals or outreach clinics in community hospitals.

- 3.4** In addition to the apparent mismatch of the provision of community services and the levels of demand placed upon the acute sector, the planning of services has not been informed by an understanding of the full range of services already provided across local communities. We found both duplication and gaps in the services provided, indicating that health communities need to carry out a systematic assessment of primary and community services, analysis of any gaps in provision and service capacity. Planning decisions about the types and levels of services and interventions required also need to be more fully informed by measurement of current and future demand for services.

Service development has been dependent on short-term funding with limited consideration of long-term viability and a lack of integrated and mainstreamed service provision

- 3.5** New short-term funding streams, such as 'Wanless' monies¹⁸ in 2004, while supporting the development of individual community-based schemes, led to the introduction of many unconnected and disparate services across Wales, resulting in duplication of service provision in many health communities, with comparatively few services developed in others. The variation in short-

term funding and service developments across LHBs has led to differences in provision across and between LHBs that may not necessarily be related to population need.

- 3.6** Approximately one-quarter of the total budget (£18.5 million) that LHBs identified to fund chronic condition and intermediate care services in 2005-06 was derived from short-term, initiative monies, with some LHBs able to pump prime a significant number of these services using this source of funding. In Torfaen LHB, for example, more than two-thirds of the budget (£2.9 million) identified to fund chronic conditions and intermediate care services was derived from Wanless implementation monies.

- 3.7** Although Health, Social Care and Well-being Strategies¹⁹ were used by most health communities to identify areas for service development, the introduction of initiative funded services resulted in fragmented service development in the absence of long-term plans or an overarching strategy for chronic conditions management. Services have generally been bolted onto existing mainstream service provision with little alteration to pre-existing patterns of care or co-ordination across services. Furthermore, opportunities to achieve economies of scale were not taken. This is illustrated in [Case Study H](#) where a single NHS trust is the major provider of community services for a number of commissioning LHBs.

- 3.8** While many services started with short-term funding have been built into recurrent funding streams, and therefore are secure at present, services in some communities have not been sustained or mainstreamed, that is incorporated into core service delivery, when the short-term funding ceased ([Case Study I](#)).

¹⁸ Assembly Government funding to support local health and social care communities implement the reforms identified in the review of health and social care services by Derek Wanless.

¹⁹ Health, Social Care and Well-being Strategies set out the plans of LHBs and local authorities for meeting the health and well-being needs of their local populations.



Case Study H - Missed opportunities to achieve economies of scale across the Gwent health community

Gwent Healthcare NHS Trust provides services commissioned by Torfaen, Newport, Blaenau Gwent and Monmouthshire LHBs and Caerphilly Teaching LHB. Notwithstanding the need for LHBs to account for local population needs, and although the Trust had involvement in the development of local LHB action plans, the lack of a pan-Gwent approach to chronic conditions management at the time of our local audits meant that services for common areas of need were provided on a county-by-county basis. This approach resulted in duplication of the same or similar types of services provided by the Trust and some LHBs (for example, Rapid Response services highlighted in Case Study A). Adopting a pan-Gwent approach may have provided better value for money and minimised differences in service provision. Differentials in funding levels across LHBs may also have extended differences in services between populations rather than reduced them.

Source: Wales Audit Office

3.9 Continued reliance on short-term funding for pump priming services is likely to hinder future service development. The challenge facing many LHBs and NHS trusts is how to mainstream services when short-term funding ceases. LHBs and NHS trusts will need to work with partners to find sustainable funding solutions to support service reconfiguration, developing new or refocused services. Possible ways in which appropriate allocation of resources can be made include:

- priority-based budgeting;
- decommissioning duplicated services or services that are not cost-effective; and
- reinvesting resources, including those freed up in hospitals through improved inpatient efficiency.

Case Study I - Early Discharge Scheme for Patients with Chronic Obstructive Pulmonary Disease – Pembrokeshire & Derwen NHS Trust (now part of Hywel Dda Trust)

A six-month early hospital discharge pilot scheme for patients with chronic obstructive pulmonary disease commenced in January 2004, with £57,790 of non-recurrent funding from the Assembly Government's Innovations in Healthcare initiative. The objectives of the scheme were: to provide early discharge support and reduce lengths of stay; to reduce admissions and readmissions; to improve a patient's ability to self manage; to improve the quality of life for patients; and foster multidisciplinary working. The multidisciplinary team comprised a consultant respiratory physician, an occupational therapist, physiotherapist and respiratory nurse specialist. Patients admitted with an uncomplicated exacerbation of their condition were assessed for suitability for early discharge by the consultant. Patients (and carers where appropriate) consented to take part in the pilot.

The scheme supported 39 patients but a further 17 patients, who were not eligible to join the scheme, were given additional support from the occupational therapist and physiotherapist in hospital. In the six months that the pilot ran, an estimated 202 bed days were saved based on the overall reduction in lengths of stay. Only four patients being supported by the scheme were readmitted after discharge due to changes in their overall medical condition. More generally, three-fifths of patients reported improvements in their level of mobility, while two-thirds were provided with equipment and aids for daily living or access to services such as home care.

As part of managing the termination of the service, patients were not accepted onto the scheme beyond the end of May. When funding ceased in June 2004 the scheme was discontinued.

Source: Wales Audit Office

3.10 The Assembly Government recognises these challenges and has made £15 million of transitional funding available over three years from 2008, to help health communities rebalance services on a whole system basis. The funding is intended to support NHS bodies in achieving more sustainable, effective and efficient health and social care services, through better planning and integration of services and resources,

strengthened community-based services and a shift in the balance of care between hospital and community settings where safe and appropriate. The funding, which is not intended for short-term projects but to enable change to happen, acknowledges potential double running costs in building community based services while reducing demand for hospital care. Allocation of funding to NHS bodies is to be on a funding formula basis, with clearly defined requirements, including the involvement of partner organisations and evidence of the evaluation of outcomes.

3.11 First year funding of £1.5 million across NHS bodies in 2008-09 is for establishing a baseline analysis of local needs, demand and current service provision, as well as preparing for co-ordinating chronic condition services and the core community team. Subsequent funding of £4.5 million for each of the next two years broadly equates to a quarter of the annual spend that we identified on chronic condition and intermediate care services and is to support health communities strengthen community services. A further £4.5 million has been used to establish three demonstrator sites with the aim of providing accelerated learning across the NHS about the implementation of the Model and Framework, and supporting health and social care partners develop and deliver sustainable improvements.

3.12 In addition, the use of primary care contracts to support the management and prevention of chronic conditions, funded through General Medical Services (GMS) and pharmacy allocations to LHBs was also limited. We found that only five LHBs commissioned a handful of local GMS enhanced services for chiropody, physiotherapy, osteopathy, palliative care, weight management, smoking cessation and extended diabetes services, accounting for just one per cent of the total expenditure on enhanced services, at a cost

of £263,000. Community pharmacies can now provide a greater range of services other than dispensing prescriptions but the use of local enhanced pharmacy services was also limited. The Medicines Use Review and Prescription Intervention Service provided by 42 per cent of community pharmacies, was the only Advanced Service available.

3.13 Further opportunity for securing sustainable funding and provision of community based services may also exist through greater alignment between performance plans, as set out in Annual Operating Frameworks, financial plans and service strategies. Such alignment is particularly important for those communities where Strategic Change and Efficiency Plans to manage financial pressures or financial recovery apply. However, the lack of consistent and reliable information may be hampering progress. Nevertheless, financial pressures are one of the main reasons for, rather than barriers to, service reconfiguration. While financial constraints may apply, there are opportunities to work with partners to release and better share resources to bring about service reconfiguration and redesign as part of long-term financial solutions.

NHS organisations have inadequate financial and activity data to enable an evaluation of existing services and planning for new ones

3.14 Comprehensive information about NHS community services is relatively limited, particularly in comparison to that for acute hospital activity. As part of our audit we asked NHS trusts and LHBs about the cost of providing chronic condition and intermediate care services. The lack of comprehensive, robust financial information and activity data



Figure 15 - LHB Budgets for Chronic Condition and Intermediate Care Services in 2005-06

Type of service	Budgetary range	Median	Total
Chronic condition	£2,000 to £1.6 million	£66,485	£5.5 million
Intermediate care	£100,000 to £1.5 million	£93,226	£13 million

Source: Wales Audit Office, LHB Survey, March 2006

undermined our ability to determine the total cost of these services across Wales and prevents benchmarking of service costs, assessment of the relative value for money, and identification and the sharing of good practice. In addition, many services were unable to provide information about their capacity, in terms of case load and the numbers of staff providing the service.

3.15 In many cases there were no formal contracts or specific service level agreements for chronic conditions and intermediate care services. Instead, funding for these services is tied up in long-term agreements between LHBs and NHS trusts for the provision of hospital and community based healthcare services. This makes it difficult to disaggregate costs and spend and does not support effective financial assessment of services provided.

3.16 Quantifying both current service capacity and that which will be required to meet assessed health needs and demand for services, is critical for effective future service planning. Work to develop more comprehensive community information is urgently required to support the transition of services and resources from acute to community sectors. The Assembly Government recognises the urgency of this task with LHBs expected to utilise some transition funding in 2008 to establish current service provision and resource utilisation. In addition, the Assembly Government has established a project on community health information, with statistics

and health policy departments working in partnership. The aim of the project is to help inform the development of more robust and reliable datasets relating to chronic conditions and strengthen other related community information. The work will also inform future information needs and requirements.

3.17 Local Health Boards reported to us that they funded 97 services for chronic conditions and more than 100 intermediate care services. Where budgets for these services could be identified (63 per cent of chronic condition services and 80 per cent of intermediate care services) there was very wide variation in funding levels. The LHB budgets for chronic condition services were a modest £5.5 million while the total budget for intermediate care services totalled £13 million. The identified budgets for individual services are illustrated in **Figure 15**.

3.18 Four-fifths of the chronic condition and intermediate care services provided by NHS trusts and LHBs were established prior to 2005, but few have been comprehensively evaluated. Where service evaluations have been carried out, these predominantly concentrated on patient satisfaction, admissions avoided and/or bed days saved, with little evaluation of clinical outcome, patient experience or cost-effectiveness.

3.19 Therefore the wide variation in service costs is poorly understood in terms of cost benefit, and, despite the known total of £18.5 million having been committed across Wales, the

relative value for money of these services and their impact on community based chronic conditions management have not been fully established. For the majority of services, robust baseline data and formal evaluation strategies were not put in place prior to the establishment of individual services, and this has compounded the difficulties in assessing the efficiency and effectiveness of services.

- 3.20** Robust evaluation is also necessary to inform future investment (and potential disinvestment) decisions, and when identifying the release of hospital resources to support chronic conditions management in the community. This is particularly important where the evidence of effectiveness is inconclusive, or where demand on acute services continues despite the introduction of community-based schemes. The Assembly Government has recognised the need for systematic evaluation of services and in 2007 commissioned the All Wales Alliance for Research and Development (AWARD) to develop a service evaluation framework and guidance for LHBs. Formal evaluation frameworks are also a requirement for transitional funding.

The new model for chronic conditions management requires different ways of working to be established and embedded

- 3.21** Trusts and LHBs need to work in partnership with other statutory bodies as well as the voluntary and independent sectors to address cross-sector issues affecting health and improve the planning and delivery of community-based services for people living with chronic conditions. However, we found that progress in developing joint working and shared services had been variable and generally slow. Conflicting organisational

policies, priorities and performance management arrangements across health and social care organisations reportedly make this difficult.

- 3.22** However, performance management frameworks have not been used as a lever for driving effective partnership action and change, with limited use of pooled funding and Section 31 partnership arrangements made possible through the Health Act 1999. These arrangements enable NHS bodies and local government to pool budgets, integrate services and/or delegate the commissioning or management of provision of particular services to a lead partner. While many organisations see these agreements as overly complex to establish, they offer opportunities for co-ordinating resources and supporting new ways of working by sharing skills and expertise across organisations.
- 3.23** Barriers to joint working also need to be overcome to enable more seamless or joined-up provision of services to individuals, removing what can be perceived as artificial divisions between services or professionals from a service user perspective. While very few services have achieved such joined-up working, [Case Study J](#) illustrates how the borough of Neath Port Talbot has applied these principles to the supervision of medicines management and the provision of basic foot care. The training and use of social service care staff and other carers have simplified the number of contacts with individual services and professionals for service users and maximised resources.
- 3.24** There are comparatively few services currently commissioned from the independent or voluntary sectors, with only 13 per cent of LHB-funded chronic condition and intermediate care services provided by voluntary and community organisations, such as Age Concern, the British Red Cross,



Case Study J - Working in partnership to improve patient care in Neath Port Talbot LHB

Prescribing support for domiciliary care settings

In 2005, the LHB deployed a domiciliary pharmacist, and subsequently a medicines management nurse, to improve medicines management for the users of homecare services and residents of care homes, to ensure that organisations complied with the National Minimum Standards in administering medication and to improve links between the health and social care sectors. This post, reportedly the first of its kind, was funded initially with Wanless monies. The initiative was the result of partnership working between the LHB, social care staff, private sector providers and local trade unions representing social care staff. More than 1000 carers have been trained to date and a 'train the trainer system' is now in place for training new recruits.

The introduction of domiciliary support for medicines management has led to improvements in the way medicines are stored, administered and recorded, including a development with community pharmacists to provide medication administration record sheets. In addition, assessment of medicines management needs for identified vulnerable patients takes place in their own homes with appropriate liaison with other healthcare professionals when issues are identified. From the LHB's perspective the benefits of such partnership working include risk reduction for patients and organisations, clear accountability and governance arrangements, improved patient participation and better health for individuals through improved medicines management.

Foot care at home

Four years ago it was necessary to revise the specification for the delivery of chiropody services across the Neath Port Talbot area following complaints from service users and GPs that there were long waits to see a chiropodist. The chiropodist was carrying out fairly simple procedures, which could be done safely by others with the appropriate training, as well as more complex procedures. In the meantime home care workers and residential care staff were frustrated that they could not do more to assist clients with their foot care, such as toe nail cutting.

The LHB and local authority established a joint group to address the issue. A Foot Care Policy for home care and residential and day care staff was implemented. The chiropodist provides training and regular updates for care staff and services. As a result, the chiropody service is able to meet its targets and clients receive the appropriate care at the right time and by the right staff.

Source: Wales Audit Office

Crossroads, the Stroke Association or the Alzheimer's Society. However, the Assembly Government estimates that the voluntary sector in Wales provides around 2,727 health, social care and well-being services.

Therefore, LHBs could work more closely with the voluntary sector and other community care providers to deliver community-based services, as these partners can play a key role in providing flexible and responsive services, delivered 'in the right place, to the right person, at the right time'. They can also help to shift the balance of services provided closer to where people live. These opportunities have been identified in the 2008 Assembly Government strategy, *Designed to Add Value – a third dimension*²⁰.

3.25 In addition to developing joint working and more collaborative approaches to service provision, better coordination of care and cross-sector responses are needed to meet service user needs across the four tiers of care described in the Integrated Framework and Model. For individuals with complex care needs (tier four), active case management has been advocated. However, we found that case management had not been widely developed, with just six LHBs and two NHS trusts providing a total of eleven case management schemes²¹. Seven of the schemes were generic while the others were condition specific, namely, chronic obstructive pulmonary disease, heart failure, coronary heart disease and diabetes. Most schemes were available weekdays only. While some services were able to provide caseload data,

²⁰ Assembly Government, 2008, *Designed to Add Value - a third dimension: A Strategic Direction for the Voluntary and Community Sector in supporting Health and Social Care*

²¹ These are Caerphilly Teaching LHB, Flintshire LHB, Monmouthshire LHB, Newport LHB, Swansea LHB and Torfaen LHB, Gwent Healthcare NHS Trust and North Glamorgan NHS Trust.

the limited information available on caseload size or the number of patients supported across services made direct comparisons of cost impossible. The LHBs and trusts reported wide differences in budgets for these schemes, ranging from £94,000 to £925,000, and did not appear to be related to the size of the team.

3.26 Workforce planning and development is also recognised as crucial for delivering new patterns of service, with the Assembly Government setting out the overarching context for workforce development in its workforce strategy, *Designed to Work*²². The strategy refers specifically to chronic conditions and the need to develop new and widened roles alongside developing Primary Care to support implementation of the Integrated Framework and Model. To progress these aims the National Leadership and Innovation Agency for Healthcare, in their role of supporting NHS organisations to deliver change and embed effective leadership and innovation, are working with primary care to develop new models of working. In addition, the Workforce Development and Education Contracting Unit are supporting LHBs to strengthen primary care workforce planning.

3.27 Ensuring the right numbers of appropriately skilled staff is a fundamental building block for enabling new ways of working, although roles and working practices need also to extend across organisational and professional boundaries. New and joint roles are slowly emerging but their development remains largely limited to individual community-based services and the pace of development across primary care has been slower. Although some services are provided on a multi-disciplinary basis, these are mainly associated with rehabilitation and reablement services and

development of generic worker roles has been very limited. In shaping future workforce plans, these patterns of working should also be considered and lessons from successful application of alternative staffing models in health communities examined and applied to health economy workforce plans.

3.28 Health communities will need to identify the skills they need for future models of care compared to those they have now, addressing where there are gaps. We asked LHBs if any GPs or other clinical staff working in general practice, provided specialist clinical services, particularly those for chronic conditions, as a GP with a Special Interest or Extended Scope Practitioner. While most LHBs planned to support an increase in numbers of specialist staff in primary care, they reported that few practice based staff worked as GPs with a Special Interest (13) or Extended Scope Practitioners (9). These were mainly for chronic obstructive pulmonary disease and musculoskeletal conditions, although in Torfaen LHB, a GP with a Special Interest for diabetic patients was established. Development of, or access to, specialist skills in primary care needs to be accounted for in local service improvement plans in addition to wider cross-sector workforce issues.

²² Assembly Government, 2006, *Designed to Work: A workforce strategy to deliver Designed for Life*.



Appendix 1 - Wales Audit Office Methodology

- 1 Our audit was carried out at the 12 NHS trusts that provided acute and community health services in Wales and at all LHBs during 2006-07. Formal reports were prepared and presented to trusts and LHBs between February 2007 and July 2007. The audit examined whether service provision supported the effective management of chronic conditions, in particular:
 - Was there a reliance on acute hospitals for managing chronic conditions?
 - Were the required community services in place to manage chronic conditions?
 - Would local strategies address the challenges of chronic conditions management?
- 2 The audit methodology included the following activities:
 - analysing the number of inpatient admissions to Welsh NHS trusts and the number of inpatient admissions by LHB of residence using the Patient Episode Data for Wales (PEDW);
 - conducting a census of medical inpatients in March 2006;
 - mapping services for chronic conditions and intermediate care provided by the NHS trusts and LHBs, which relied on these bodies identifying the services;
 - collecting information from LHBs about the commissioning and funding arrangements for chronic conditions and intermediate care services;
 - reviewing strategic documents and operational plans at NHS trusts and LHBs; and
 - Conducting semi-structured interviews with key staff in each NHS trust and LHB and in some communities interviews were conducted with social services staff.
- 3 A more detailed breakdown of the activities is given below.

Inpatient admissions
- 4 In order to assess the impact of chronic conditions on hospital admissions Health Solutions Wales provided data extracts from the PEDW. The data were extracted on the following dates:
 - 2003-04 – 13 May 2005.
 - 2004-05 – 1 November 2005.
 - 2005-06 – 6 December 2006.
 - 2006-07 – September 2007.
- 5 The data include figures on all hospital episodes for patients admitted to NHS Trusts in Wales and all residents of Wales admitted to NHS Trusts in England between 1 April and 31 March over the last four years: 2003-04, 2004-05, 2005-06 and 2006-07. Table 1 shows the data fields extracted from PEDW by Health Solution Wales for us while Table 2 shows how we used the data fields.

Table 1 - Data fields extracted from PEDW

Data fields extracted				
patient_identifier	hospital_name	part postcode	admission method	primary diagnosis
spell_identifier	episode number	output area code	source of admission	referrer_name
trust code	referrer_code	length of episode	patient class	referrer_org_name
trust name	referring_org_code	age_at episode_start_years	speciality function code	gpprac
hospital_code	ward	admission date	consultant speciality	reggmp

Table 2 - How the PEDW data fields were used

PEDW data fields	Used to construct
Patient_identifier and spell_identifier	Episodes were converted to spells using the unique spell ID and anonymised patient ID fields.
Trust code and Trust name	Bro Morgannwg NHS Trust Cardiff and Vale NHS Trust Carmarthenshire NHS Trust Ceredigion NHS Trust Conwy and Denbighshire NHS Trust Gwent Healthcare NHS Trust North East Wales NHS Trust North Glamorgan NHS Trust North West Wales NHS Trust Pembrokeshire and Derwen NHS Trust Pontypridd and Rhondda NHS Trust Swansea NHS Trust Powys Teaching Local Health Board
Hospital_code and hospital_name	Type of site: <ul style="list-style-type: none"> ■ district general hospital i.e. acute hospital; ■ community hospital; and ■ mental health hospital.
Episode number	The primary diagnostic code recorded on the first episode was used to categorise the whole spell as chronic condition related or non-chronic condition related.
Output area code	These fields were aggregated to Lower Layer Super Output Areas to allow comparison of emergency medical admission rates across an LHB area.
Length of episode	The lengths of each episode were totalled to give the length of stay for each spell.
Age_at episode_start_years	This field was used to describe the age profile of patient spells in years.



PEDW data fields	Used to construct
Admission method (code) <ul style="list-style-type: none"> ■ Elective ■ Emergency ■ Maternity ■ Other 	This field was used to describe the number of spells by admission method, in particular those coded as an emergency using the NHS Data Dictionary. Admission method codes were: <ul style="list-style-type: none"> ■ Elective (11, 12, 13); ■ Emergency (21, 22, 23, 24, 28); ■ Maternity (31, 32); and ■ Other (81, 82, 83).
Speciality function code <ul style="list-style-type: none"> ■ GP Practice ■ Medical Specialties ■ Obstetrics & Gynaecology ■ Other ■ Pathology ■ Psychiatry ■ Radiology ■ Surgical Specialties 	This field was used to describe the number of spells by speciality, in particular those coded as medical specialties using the NHS Data Dictionary. Medical Specialties codes were 300, 301, 302, 303, 304, 305, 310, 311, 312, 313, 314, 315, 320, 330, 340, 350, 360, 361, 370, 371, 400, 401, 410, 420, 421, 430, 450 and 460.
Primary diagnosis	Primary diagnostic codes recorded on the first episode record were used to categorise each spell as a chronic or non-chronic condition eg, respiratory conditions.
Gpprac (GP practice) and reggmp (patient's registered or referring general medical practitioner)	These fields were used to estimate emergency medical admission rates for patients registered with GP practices in Wales, particularly those aged 65 or older. In some cases a very small number of practices were excluded from the analysis due to problems matching GP practice codes recorded on PEDW with registered GP practice population data provided by the Business Services Centre.

6 We identified admissions attributed to chronic conditions using the first primary diagnostic code (3-digit ICD-10 code) of the first patient episode record. Chronic conditions were grouped into broad categories loosely based on the broad categories used by the National Public Health Service in its report *A Profile of Long-term and Chronic Conditions in Wales*. For the purposes of this review cancers and mental health conditions were excluded from the chronic condition groupings with the exception of Alzheimer's disease. Cancers were excluded from this review as they did not fit easily into definitions of either acute or chronic conditions. Mental health conditions were also excluded, as mental health services had been the subject of a Wales Audit Office report in 2005. We included Alzheimer's disease as a stand-

alone condition as the National Public Health Service had included it in their 'neurological category'. For the purposes of this report we did not include musculoskeletal conditions as most of these admissions are directed to surgical specialties. Table 3 shows the 3-digit ICD-10 codes used to compile the chronic conditions groupings.

- 7 The broad categories used in this report are:
- atrial fibrillation;
 - Alzheimer's disease;
 - cardiovascular;
 - diabetes;
 - neurological;

- respiratory;
- stroke; and
- other symptoms and signs, which may be indicative of a chronic condition, such as 'pain in throat and chest'.

Table 3 - 3-digit ICD-10 codes used to group chronic conditions

Chronic Conditions Grouping of 3-digit ICD-10		
Groups	3digit ICD	Diagnosis
Atrial fibrillation	I48	Atrial fibrillation and flutter
Alzheimer's disease	F00	Dementia in Alzheimer's disease
	G30	Alzheimer's disease
Cardiovascular	I05	Rheumatic mitral valve diseases
	I06	Rheumatic aortic valve diseases
	I07	Rheumatic tricuspid valve diseases
	I08	Multiple valve diseases
	I09	Other rheumatic heart diseases
	I10	Essential (primary) hypertension
	I11	Hypertensive heart disease
	I12	Hypertensive renal disease
	I13	Hypertensive heart and renal disease
	I15	Secondary hypertension
	I20	Angina pectoris
	I25	Chronic ischaemic heart disease
	I34	Non-rheumatic mitral valve disorders
	I35	Non-rheumatic aortic valve disorders
	I36	Non-rheumatic tricuspid valve disorders
	I37	Pulmonary valve disorders
I50	Heart failure	
I70	Atherosclerosis	



Chronic Conditions Grouping of 3-digit ICD-10

Groups	3digit ICD	Diagnosis
Diabetes	E10	Insulin-dependent diabetes mellitus
	E11	Non-insulin-dependent diabetes mellitus
	E12	Malnutrition-related diabetes mellitus
	E13	Other specified diabetes mellitus
	E14	Unspecified diabetes mellitus
Neurological	G20	Parkinson's disease
	G35	Multiple sclerosis
	G40	Epilepsy
Respiratory	J40	Bronchitis, not specified as acute or chronic
	J41	Simple and mucopurulent chronic bronchitis
	J42	Unspecified chronic bronchitis
	J43	Emphysema
	J44	Other COPD
	J45	Asthma
	J47	Bronchiectasis
Stroke	I63	Cerebral infarction
	I64	Stroke, not specified as haemorrhage or infarction
	I65	Occlusion and stenosis of pre-cerebral arteries, not resulting in cerebral infarction
	I66	Occlusion and stenosis of cerebral arteries, not resulting in cerebral infarction
Other symptoms and signs	R00	Abnormalities of heart beat
	R01	Cardiac murmurs and other cardiac sounds
	R03	Abnormal blood-pressure reading, without diagnosis
	R06	Abnormalities of breathing
	R07	Pain in throat and chest
	R10	Abdominal and pelvic pain

Census of medical inpatients

- 8 We carried out a census of medical inpatients in NHS trusts in Wales and Powys Teaching LHB. All adult inpatients on medical wards, elderly care wards, stroke rehabilitation units, medical admissions units and other specialist medical wards in district general hospitals across Wales, as well as wards in community hospitals, were covered by the census. We collected information on the reason for admission, presenting condition, co-morbidities, the main focus of care, whether patients had been hospitalised in the previous six months, the numbers of prescription medications used, living circumstances and the types of support received prior to admission and those likely on discharge.
- 9 A ward nurse completed one census form for each patient occupying a bed at midday on one Wednesday in March 2006 (in most cases this was 1 March). Patients admitted to mental health units and surgical wards were not included in the data collection exercise nor were patients admitted as a day case. A total of 5,540 census forms were completed.

Mapping chronic condition and intermediate care services

- 10 We undertook a data collection exercise in spring 2006 to gather information on the range of services provided by NHS trusts and LHBs to support patients with chronic conditions, as well as intermediate care services to prevent avoidable admissions, assist early discharge, maximise rehabilitation and recovery after illness and minimise dependence upon long-term health and social care services. NHS trusts and LHBs were asked to complete a pro forma for each chronic condition and intermediate care service they directly provided.

- 11 The aim was to map the diverse range of chronic condition and intermediate care services, including the primary purpose of the service, the availability and accessibility of services, where services were provided, fast track access to other services, use of referral and management protocols, funding arrangements, the numbers of patients supported, whether there were waiting lists for the service, the number and type of staff providing the service and whether services had been evaluated. NHS trusts, including Powys Teaching LHB, identified a total of 165 services while LHBs identified 73 services.

Mapping Medical Assessment Units

- 12 We asked NHS trusts to complete a pro forma for each medical assessment unit provided in their hospitals. Information was sought on the organisation of the medical assessment unit, in particular the availability of the unit, access to diagnostic and therapeutic services, referral pathways, lengths of stay, discharge arrangements, numbers of patients managed on the unit, staffing arrangements and whether the unit had been evaluated. A total of 14 completed pro formas were returned out of a possible 16.

Mapping Rapid Access Clinics

- 13 We asked NHS trusts and LHBs to complete a short pro forma which sought information on the types of clinics provided, their primary purpose, namely, urgent assessment or treatment, their availability and accessibility, fast track access to other services, use of referral and management protocols, numbers of patients supported, staffing arrangements and outcomes. NHS trusts and LHBs identified 42 services.



Mapping Community Hospitals

14 At the time of our audit there were 89 community hospitals providing inpatient or outpatient services, including those for mental health and learning disabilities or as an office base for healthcare teams. We asked NHS trusts and Powys Teaching LHB to complete one pro forma for each of their community hospitals, excluding those that provided only mental health services. The aim was to map the number and type of community hospital beds, referral rights to these beds, the type and availability of clinical support services, such as conventional radiography or pharmacy services, available at each community hospital and the type and availability of outpatient clinics provided on an outreach basis from the acute hospital. Sixty-five pro formas were returned and analysed.

Survey of LHBs

15 We asked all 22 LHBs to complete a pro forma telling us about the number and type of chronic condition and intermediate care services they commissioned as well as information on the arrangements for funding these services, including the budgets and projected expenditure for 2005/06. We also sought information on the type and number of services funded through the GMS, and pharmacy contracts and their related expenditure and information on the number of primary care staff providing specialist services as a GP with a special interest or extended scope practitioner. Twenty-one LHBs returned a completed pro forma.

Document Review

16 We reviewed key documents relevant to planning, commissioning and delivering chronic condition and intermediate care services. These included the following:

- service plans/strategies for chronic condition and intermediate care services;
- operational plans related to chronic condition and intermediate care services, including those for achieving 'Designed for Life';
- annual Service and Commissioning Plans;
- Health, Social Care and Well Being Strategies;
- reconfiguration plans for reshaping local services;
- Assembly Government documents related to chronic conditions;
- business cases for the establishment of chronic disease and intermediate care services; and
- evaluation reports for chronic condition and intermediate care services.

Following the local audits

17 We reported our detailed audit findings to each NHS organisation. The main datasets underpinning the audits were shared with all NHS trusts and LHBs and other key NHS stakeholders, such as the Assembly Government, the Health and Social Care Regional Offices and the National Public Health Service, in August 2007. These datasets included the analyses of the patient episode data for Wales, the census of medical inpatients and the findings from the service maps of chronic condition and intermediate care services.

Appendix 2 - Total number of emergency medical admissions to acute hospitals by condition in 2006-07

NHS trusts	Emergency medical admissions to acute hospitals									
	Alzheimer's disease	Cardio-vascular	Stroke	Diabetes	Atrial fibrillation	Neurological	Respiratory	Other symptoms and signs	All other conditions	Total
Bro Morgannwg	11	984	323	226	442	182	1236	2483	10809	16696
Cardiff & Vale	39	1324	531	256	398	341	1469	2936	21304	28598
Carmarthenshire	6	1056	317	198	265	203	802	1376	9015	13238
Ceredigion & Mid Wales	0	215	79	57	67	65	144	524	2697	3848
Conwy & Denbighshire	24	768	263	128	243	205	791	1344	11597	15363
Gwent Healthcare	30	1485	485	385	556	493	2536	4672	24750	35392
North East Wales	7	824	238	124	325	130	811	1004	7725	11188
North Glamorgan	6	550	216	150	199	166	970	1715	9816	13788
North West Wales	11	808	323	180	371	273	1013	1946	11333	16258
Pembrokeshire & Derwen	4	361	136	89	209	124	453	824	5130	7330
Pontypridd & Rhondda	11	686	244	129	184	130	1027	1526	10085	14022
Swansea	16	1346	372	203	384	298	1265	2464	18214	24562
Wales	165	10407	3527	2125	3643	2610	12517	22814	142475	200283

Source: Wales Audit Office analysis of data from Health Solutions Wales, Inpatient Episode Data for Wales, 2006-07