

Annexes

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Annex A

TERMS OF REFERENCE

Background

- A1. Health and social services are essential to the health and social well-being of the people of Northern Ireland and it is important that they are resourced appropriately and that they are delivered efficiently and effectively. Inevitably, they are a major call on the resources available for public spending in Northern Ireland and, as such, it is important that the money allocated is used economically and that it properly reflects the levels of need.
- A2. The need for health and social care resources is determined by the complex interplay of a number of factors including age, deprivation, spatial distribution of the population, the consequent economies of scale achieved in health and social care facilities, and ability to contribute towards health and social care costs. Northern Ireland has historically had higher levels of per capita public expenditure on health and social care than England (although less than Scotland and similar to Wales). However, there are contributing factors in terms of high levels of morbidity and mortality from major diseases, such as heart disease, a number of different forms of cancer, and respiratory illness. There are also higher levels of disability, social disadvantage, deprivation and structural issues such as rurality.
- A3. The Government has sought to address these needs through continued priority for health and social services in public expenditure. In October 2004, the Northern Ireland Finance Minister, Ian Pearson, announced a substantial increase in health and social services spending when he published the 2005-2008 Draft Priorities and Budget. Between 2004-05 and 2007-08 the resources allocated to the Department of Health, Social Services and Public Safety are planned to increase by 25.1% (this compares with a 32.1% uplift in England over the same period).
- A4. However, it is clear that the demand for services continues to rise and there are significant cost pressures facing the health and social services in the coming years. These pose considerable difficulty in relation to funding and the current levels of growth in funding cannot readily be sustained. It is also the case that there are a number of deep-seated problems in the provision of services, with lengthy waiting lists, trolley waits and difficulties in meeting the demand for care and treatment. There is therefore a need to examine both the resources available to health and social services and how these resources are actually utilised. Significant reform in service delivery (particularly in the acute sector) in England has resulted in improved performance and the study should assess how to apply these lessons to Northern Ireland.
- A5. In April 2002, HM Treasury published an independent review (by Derek Wanless) of the long term resource requirements for the UK Health Service '*Securing Our Future Health: Taking A Long-Term View*'. Subsequently the National Assembly for Wales also commissioned a review (with Wanless acting

as adviser) to examine how the resources for health and social care in Wales could be reformed and services improved.

- A6. Professor John Appleby, Chief Economist on Health Policy at the Kings Fund has been invited by the Finance Minister, Ian Pearson, to conduct an independent review of health and social care provision in Northern Ireland. The review will consider the implications of the Wanless studies and the developments in policy in hospital services, primary care and community care in Northern Ireland. The work carried out previously by Wanless will form an integral basis for the review. It will focus on helping to ensure that resources allocated to health and social care are being translated into improved and more cost effective service delivery.

Project Brief

- A7. The overall aim of the review is to look at the resourcing of health and social services and to consider how reforms leading to targeted and sustainable investment, effective and efficient delivery structures and appropriate incentive systems can result in improved service delivery. The specific objectives of the review are based on those previously undertaken in Wales and at the UK-wide level. The review will need to consider and make recommendations in the following areas:
- the current position in levels of demand in relation to the levels of funding available;
 - the demands of the population for health and social services in NI, taking account of its distinctive characteristics, in terms of long term and sustainable resourcing;
 - technological, demographic, medical and other trends over the next two decades that may have implications for the future resource needs of the HPSS sector in NI consistent, where possible, with the approach adopted in the Wanless Review;
 - the extent to which resources are being used effectively and efficiently and, if there is evidence of sub-optimal resource utilisation, the issues which are impairing the most efficient and effective use of resources;
 - the scope for a more effective use of resources (human, revenue and capital) to bring about a significant improvement in access to, and quality of, services in the HPSS and specifically the optimum balance between prevention, community-based care and acute hospital care;
 - ways in which the interactions between the health and social care systems can be improved to maximise performance and the use of resources
 - the effectiveness of the organisational and incentive structures, decision-making and accountability processes in health and social care in NI;
 - further measures to improve health and well-being which can reduce the demand for health and social services;

Methodology

- A8. The review will need to consider the present distribution of resources and the outcomes achieved for the level of spend. It will also be instructive to consider service delivery in terms of comparison with leading practice in England. Performance measures and indicators will also be an important part of the issues to be taken into consideration, and the establishment of incentives to encourage best practice. The review will take evidence from key stakeholders, including those with experience of delivering cutting edge reform in England, with a focus on gathering evidence of best practice and what works.
- A9. The review will take written and oral evidence from the key stakeholders in health and social care provision in Northern Ireland and England including:
- Representatives of patients, clients, carers and service users
 - The HPSS family of organisations
 - Staff, professionals and unions
 - Relevant independent and private sector organisations
 - Local political representatives
 - Community and voluntary Sector
 - ‘Change implementers’ in England’s NHS
- A10. This review will not revisit areas where reviews have already been conducted or a policy decision has already been made. The review will, however, seek to utilise the broad consultations and analyses which have been undertaken in support of this work. In particular, the review will build on recent work undertaken to develop a twenty year strategy for health and well-being.
- A11. Professor Appleby will be supported in conducting the review by a small team of officials drawn from the DHSSPS, DFP and EPU. In addition, advice and guidance will be sought from a formal reference group including local stakeholders and individuals with direct operational experience of the HPSS sector in GB. An informal advisory group of respected academics in the field of health economics will also advise on the direction and outputs of the review.

Output

- A12. The product of the review will be a report to the Finance Minister advising on the optimal use of financial resources to deliver and sustain whole system health and social care services for the people of NI over the next 10 years. The report will also highlight the performance indicators and information requirements needed for successfully monitoring delivery of health and social care services.

A13. It is intended that the review will report in late spring 2005 in time to inform the production of the Draft NI Budget.

Review Steering Group

Dr Andrew McCormick, DFP
Clive Gowdy, DHSSPS
Paul Simpson, DHSSPS

Review team

Prof John Appleby, Chief Economist, King's Fund
Michael Brennan
Robert Clulow
Gary Fair
Paul Montgomery,
Anne Tohill
Tadhg O'Briain
Leah Sloan
Sarah Benton

In addition, the team were able to call on help from other staff in the Department of Health, Social Services and Personal Safety and the Department of Finance and Personnel.

Informal Reference Group

Anthony Harrison, King's Fund
Prof Nancy Devlin, Department of Economics, City University
Prof David Parkin, Department of Economics, City University
Dr Diane Dawson, Centre for Health Economics, University of York
Prof Charles Normand, Trinity College, Dublin
Prof Martin Knapp, Chair and Co-Director, LSE Health and Social Care
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Dr Nigel Rice, Centre for Health Economics, University of York.
Dr Sean Boyle, LSE Health and Social Care
Prof Ciaran O'Neill Professor of Health Economics and Policy, School of Policy Studies, University of Ulster

Annex B

Respondents to consultation

Bryan Harty	Blackrock Clinic, Dublin
Brian Best	British Medical Association
Brian Patterson	British Medical Association
Helen Ferguson	Carers N Ireland
Alan Braden	Causeway Health & Social Services Trust
Brian Dornan	Causeway Health & Social Services Trust
Margaret Gordon	Causeway Health & Social Services Trust
Neil Guckin	Causeway Health & Social Services Trust
Dr Windsor Murdock	Causeway Health & Social Services Trust
Nevil Oliver	Causeway Health & Social Services Trust
Stephen Mathews	Cedar Foundation
Eileen Thompson	Cedar Foundation
Pip Jaffa	Childcare N Ireland
Pauline Leeson	Childcare N Ireland
Tonya McCormack	Childcare N Ireland
Elaine McElduff	Childcare N Ireland
Christine Best	Crossroads Caring for Carers
Jillian Anderson	DHSSPS
Professor David Bamford	DHSSPS
Clive Gowdy	DHSSPS
Andrew Hamilton	DHSSPS
Fiona Hodgkinson	DHSSPS
Dorothy Jeffrey	DHSSPS
Jim Livingstone	DHSSPS
Dr Norman Morrow	DHSSPS
Nuala McArdle	DHSSPS
Denis McMahan	DHSSPS
Heather Robinson	DHSSPS
Paul Simpson	DHSSPS
Kevin Doherty	Disability Action
John Compton	Down Lisburn HSS Trust
Dr Paula Kilbane	Eastern Health & Social Services Board
Richard Black	Eastern Health & Social Services Board
Quentin Coey	Eastern Health & Social Services Board
Pam Garside	Eastern Health & Social Services Board
Patricia Gordon	Eastern Health & Social Services Board
Sean Donaghy	Eastern Health & Social Services Board
William McKee	Eastern Health & Social Services Board
Anne Lynch	Eastern Health & Social Services Board
Angela Paisley	Eastern Health & Social Services Board
Dr David Stewart	Eastern Health & Social Services Board
Hugh Connor	Eastern Health & Social Services Board
Cecil Worthington	Eastern Health & Social Services Board
Jane Graham	Eastern Health & Social Services Board
Dr Peter Beckett	General Practitioner
Dr Tom Black	General Practitioner

Dr Ian Buchanan	General Practitioner
Dr Ian Clements	General Practitioner
Dr Robin Crawford	General Practitioner
Dr Hubert Curran	General Practitioner
Dr Harold Jefferson	General Practitioner
Dr David Ross	General Practitioner
Joleen Connelly	Help the Aged
Duane Farrell	Help the Aged
Pamela McCreedy	KPMG
Norma Evans	Homefirst Community Trust
Alan Gilbert	NHS Confederation
Katherine McDonald	NHS Confederation
Terry Woodhouse	NI Audit Office
Pat McCartan	NI Confederation for Health and Social Services
Bernard Mitchell	NI Confederation for Health and Social Services
Michael Wood	NI Confederation for Health and Social Services
Pauline Stanley	NI Confederation for Health and Social Services
Dr George O'Neill	North & West Health & Social Care Group
Pat Cullen	North & West Health & Social Care Group
Ian Deboys	North & West Health & Social Care Group
Noel Graham	North & West Health & Social Care Group
Linda Wilson	Office of the First Minister and Deputy First Minister
Barney McNeany	Office of the N Ireland Commissioner for Children and Young People
Nigel Williams	Office of the N Ireland Commissioner for Children and Young People
David Finnegan	Review of Public Administration
Gordon Kennedy	Royal College of General Practitioners (NI)
Martin Bradley	Royal College of Nursing (NI)
John Knappe	Royal College of Nursing (NI)
William McKee	Royal Group of Hospitals & Dental Hospital Trust
Jillian Anderson	Service Improvement Unit, DHSSPS
Breandan MacCionnaith	Sinn Fein
Stiofan Long	Sinn Fein
John O'Dowd	Sinn Fein
Carmel Hanna	Social, Democratic and Labour Party
Colm Donaghy	Southern Health & Social Services Board
Mairead McAlinden	Southern Health & Social Services Board
Sean McKeever	Southern Health & Social Services Board
Dr Anne Marie Telford	Southern Health & Social Services Board
Stella Cunningham	Southern Health & Social Services Board
Eleanor Hayes	Ulster Community & Hospitals HSS Trust
Alan McFarland	Ulster Unionist Party
Thomas McHaffy	UNISON
Patricia McKeown	UNISON
Dr John Jenkins	United Hospitals HSS Trust
Dominic Burke	Western Health & Social Services Board
Steven Lindsay	Western Health & Social Services Board
Peter McLaughlin	Western Health & Social Services Board
Maggie Reilly	Western Health & Social Services Council

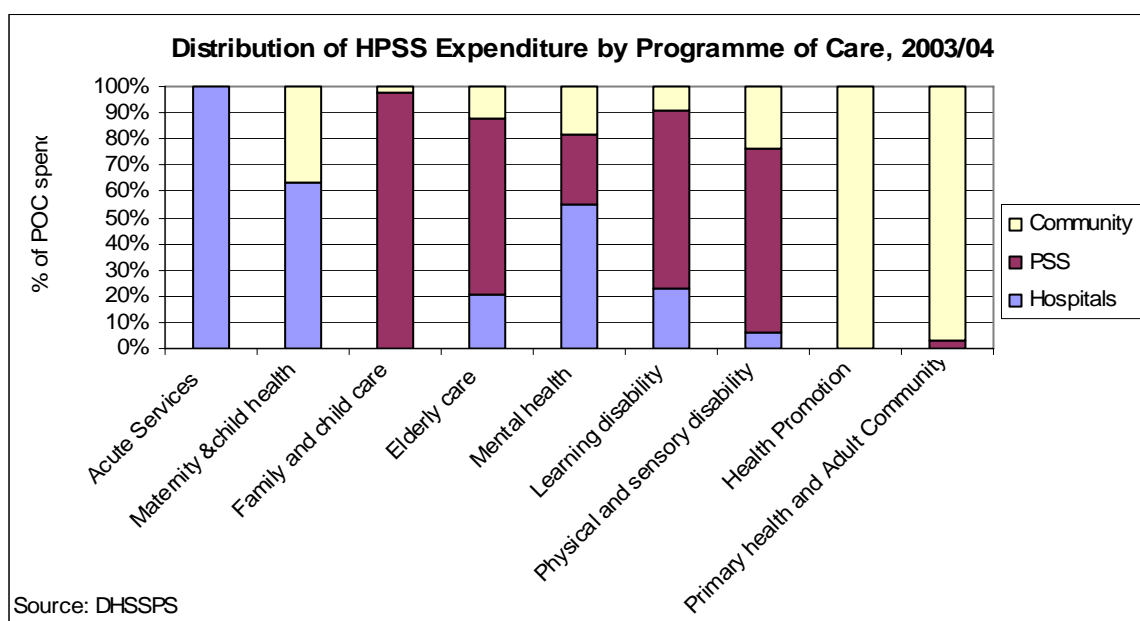
Annex C

TRACKING SPENDING

Hospital, social and community services

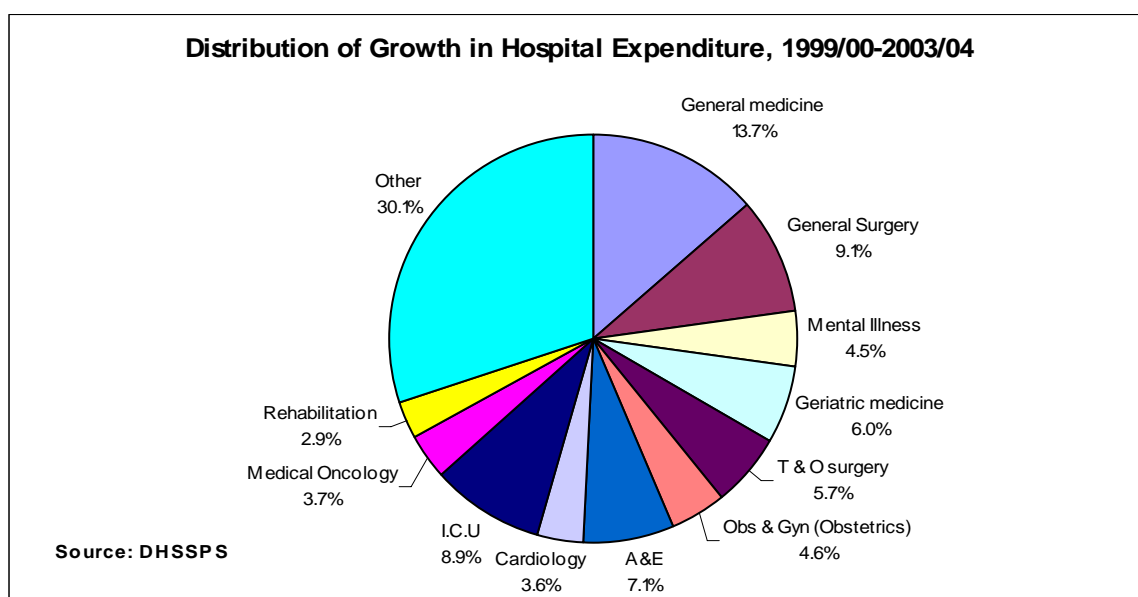
C1. In 2003/04 Hospitals accounted for 54% of Trust spend reflecting the importance of the Acute Programme of Care followed by Personal Social Services (33%) and Community Services (12%). However, Figure C.1 shows that for four POC's (Family and Child Care, Elderly Care, Physical & Learning Disability) the greatest amount of expenditure was in Personal Social Services whilst almost all expenditure for Health Promotion and Primary Health was through Community Services. Over the period 1999/00-2003/04 growth in Hospital expenditure was less than both PSS and Community Services. The greatest contribution to the increase in Trust spend over this period was from Hospital Acute Services (41% of total growth) followed by Social Services for the Elderly (17%) reflecting their overall importance in total spend.

Figure C.1: Whilst hospitals account for most of the HPSS expenditure, they make a relatively minor contribution in terms of most Programmes of Care 2003/04.



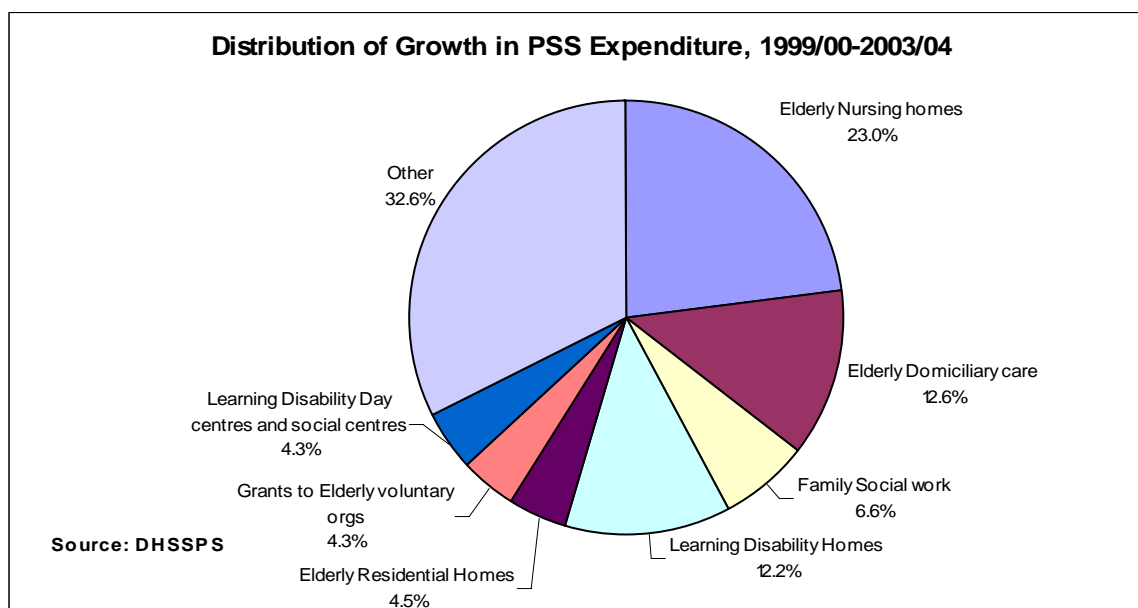
C2. Figure C.2 shows that the largest contributions to the increases in hospital spending during 1999/00-2003/04 came from general medicine and general surgery. Whilst mental illness and geriatric medicine also made a significant contribution to the overall growth, both these specialties experienced lower rates of growth in spend than the hospital average. In comparison, expenditure on A&E and intensive care units grew at a significantly faster rate than the hospital average.

Figure C.2: Contribution to Growth in Hospital Expenditure (+£316m) by Specialty, 1999/00-2003/04



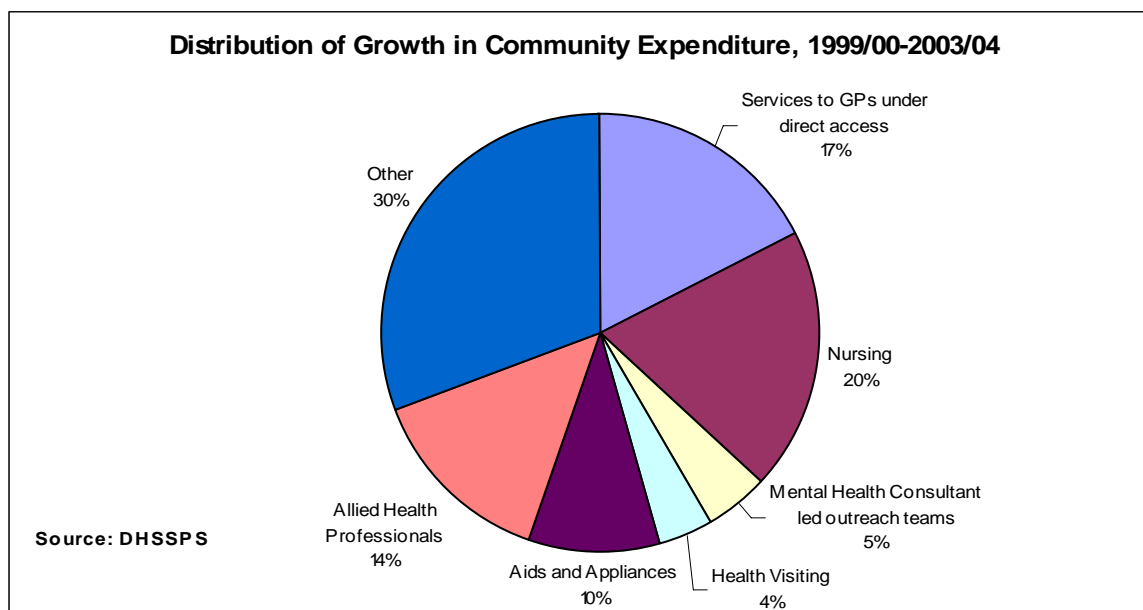
C3. Figure C.3 shows that the largest contribution to the growth in personal social services expenditure over 1999/00-2003/04 came from care for the elderly either in nursing/residential homes or in their own residence. Over this period elderly care expenditure increased on nursing homes (+56%) at a faster rate than residential homes (+16%) and own home (+45%). Indeed, the increase in spend on nursing homes (+£51.7m) was greater than that for general medicine (+£43.2m).

Figure C.3: Contribution to Growth in Personal Social Services Expenditure (+£225m) by Category, 1999/00-2003/04



C4. The growth in expenditure for community services is more widely distributed with only five categories individually accounting for more than 4 per cent of the total increase in spend. Figure C.4 shows that around a fifth of the increase in expenditure on community services went to payments to GP's with direct access payments increasing by 177% over the period compared to 60% growth for all community services.

Figure C.4: Contribution to growth in community services expenditure (+£92m) by category, 1999/00-2003/04



Annex: D

FURTHER DETAILS OF ASSUMPTIONS USED IN CALCULATING FUTURE RESOURCE REQUIREMENTS OF NI HEALTH & SOCIAL CARE SECTOR

- D1. A number of options were considered in estimating the long-term sustainable resource requirements of the Health & Social care sector in Northern Ireland. At the extreme, the Wanless analysis could have been rejected completely and an entirely new model of future resource requirement been developed for Northern Ireland specifically. However, given the resource and time constraints on the Review this would not have been practical. It had been hoped to take the Wanless model which had been based on English data only and populate with Northern Ireland equivalents. Under advice from HM Treasury this approach was also rejected as the model was no longer fit for such a purpose.
- D2. Therefore, it was decided that the approach would be to take the Wanless spend projections for the UK and estimate Northern Ireland's need adjusted share. One of the questions for consultation set out in the Interim Report of the Wanless Review related to whether health trends would effect different parts of the UK in different ways. In general, the consultation responses indicated that the impact of health trends would be similar throughout the UK but that there would be some differences related to population characteristics. In particular there were differences in population growth, age structure and morbidity. In terms of technology and workforce issues however, international trends were expected to dominate.
- D3. The Wanless projections of health spend are presented in terms of both public spending and total health spending as a share of GDP i.e. including the private sector¹²¹. It could be argued that total health spending should be the focus of attention and that the public sector in Northern Ireland should receive additional funds for the relatively under-developed level of private provision. However, as shown in Section 3.3.2 it is not clear how far Northern Ireland is behind the rest of the UK in this respect, whilst the consultation process indicated that the private sector was growing in Northern Ireland.
- D4. The first stage of the analysis was to calculate the baseline figure for England in 2002/03. Although Wanless produced figures for the UK as a whole, the subsequent 2002 Budget set out the comparable figures for England¹²². A further complicating factor is that subsequent Budgets in both Northern Ireland and the UK as a whole for the period up to 2007/08 have diverged from the expenditure projections sets out by Wanless. This could have been taken

¹²¹ Private health spending is assumed in the Wanless Review to remain at 1.2 per cent of GDP throughout the forecast period although in figures presented as part of the 2004 Spending Review HM-Treasury increased the share to 1.4 per cent.

¹²² The UK baseline figure was not used as this would have required the needs adjusted shares for Scotland and Wales to also have been calculated. In addition, the HM Treasury figures for England were used in preference of taking a simple population share to reflect that health spend per head is currently lower in England than in the rest of the UK. The HM treasury figures show however, that England's share of total UK spending was projected to increase by 0.1pp a year over period 2002/03 to 2007/08.

account of through, for example, assuming that growth would change in the subsequent periods to compensate, with the result that overall growth up to 2022/23 would have remained the same. However, given that the long-term perspective is being considered it was decided not to consider any short-term variations from the Wanless projections.

- D5. The treatment of Personal Social Services was more complicated as the Wanless projections covered only 60% of total PSS expenditure. In addition, the projections presented in the Final Report represent core resource requirements on the basis of the present position adjusted for population and changes in the level of ill health. As a consequence, it is acknowledged that the projections under-estimate the additional resources required. In particular, they do not take into account the resources required to deliver a higher quality service. Whilst the growth rates for health expenditure may be higher than that which would be expected for more fully developed social services spend projections it was considered reasonable to assume that the growth rate for social services expenditure would be the same as that for health services.

Annex: E

CRITIQUE OF NI REVISIONS TO NAS MODEL

In order to inform the Reviews examination of allocation models in the context of providing a guide to future spending on health and social care in Northern Ireland, an initial critique of the revisions to the NAS model was commissioned from Dr Nigel Rice, at the Centre for Health Economics, University of York.

The following report is based on material supplied by DHSPSS, including background statistical work in support of the revisions suggested.

SUMMARY

- E1. The Northern Ireland Executive's Needs and Effectiveness Evaluation (NEE) study is an attempt to evaluate the assumptions underlying the Treasury Needs Assessment Study (NAS) model and to compare these to perceived current knowledge and evidence of the need for health care in Northern Ireland (NI). This exercise resulted in a set of suggested revisions to the NAS model that benefits NI compared to England.
- E2. The Needs Assessment Study carried out by the Treasury in 1979 looked at how the need for health care in Scotland, Wales and Northern Ireland compared to England. This exercise resulted in a model (the NAS model) that has been used to inform thinking about the distribution of resources but has not thus far been used to set actual allocations. Since 1979 the NAS model has been updated, the last complete update related to November 1994.
- E3. Currently, allocations to NI are based on historical allocation decisions augmented by the Barnett formula. The Barnett formula is a mechanism used to allocate new monies to the devolved administrations based on population shares. It is not weighted for need.
- E4. Should the use of the Barnett formula be challenged as an appropriate mechanism to allocate monies then the NAS model would be a needs-based approach readily available to the Treasury. On the basis of the results from the 1994 update of NAS, Health and Personal Social Services (HPSS) in Northern Ireland was estimated to be *over-funded* by £74 million.
- E5. The NEE contains two fundamental pieces of analysis. The first is a routine update of the NAS model. This simply updates the population, morbidity and deprivation data together with updates to the weights attached to these (based on evidence from English resource allocation). The assumptions behind the updates appear sensible. Updating the NAS model suggests that HPSS is *over-funded*, relative to its current funding position (based on the Barnett formula), by around £35million.
- E6. The second analysis suggests fairly substantial revisions to the NAS model made on the basis of judgement informed by research evidence. A key component to the revisions is the change in emphasis away from morbidity and

towards deprivation as exerting influence on the need for health care and the percentage of total expenditures that should be weighted by these needs factors. A further important element is the suggested increased weighting afforded to sparsity which is intended to reflect the greater costs associated with providing services to rural and remote areas.

- E7. Revisions to the model are more ambitious and result in HPSS being *underfunded* by an estimated £135 million relative to its current funding position.
- E8. More speculative adjustments are also noted which if implemented would raise the estimated *underfunding* to as much as £233 million. However, it is stressed that further probing of these issues is required before these additional adjustments are recommended.
- E9. The main difficulty is that the revisions offered to the NAS Treasury model are based largely on informed judgement and interpretations of research evidence. This is particularly the case for arguments made to shift the emphasis from morbidity towards deprivation factors. I am not of the opinion that the arguments presented are sufficiently well advanced to suggest these fundamental revisions to the model represent a serious candidate for an alternative needs based approach.
- E10. At best, the arguments made would form the basis of initiating a dialogue with the Treasury about the most appropriate needs-based mechanism for allocating resources. This is not to say that the claims are without foundation but further evidence, backed by empirical analysis, would need to be presented to support the revisions offered before they can be taken seriously.
- E11. Other fundamental revisions to the NAS model are supported by research evidence of a more robust nature and, there does appear to be *prima facie* evidence of a case for claiming the costs of providing health and social care services in remote and rural areas in NI is more expensive than England. However, I feel that further research is required to support these assertions.
- E12. In its present form, it is difficult to see how the judgements underlying the revisions could be used to gain a consensus among interested parties that these offer a more appropriate means of assessing relative needs. In my view, should a needs based approach be adopted then an analysis of need supported by empirical evidence obtained through a statistical analysis of relative health care needs across the countries of the UK is required. However, it is recognised that such a study would be data intensive requiring information measured at a meaningful level of aggregation and of a comparable nature across each of the devolved administrations.
- E13. While the evidence on NI comparative levels of morbidity and deprivation suggests a needs weighted approach as an appropriate mechanism to ensure an equitable allocation of resources, the evidence presented is not, in my opinion, of sufficient scientific quality and objectivity to suggest the revised model as a credible alternative to the NAS model. Ultimately both the NAS and the revised model are based on informed opinion and judgement and

arguments concerning the plausibility of the NAS model could just as easily be aimed at the revised model offered by the NEE exercise.

E14. In short, whilst the NAS model may itself be imperfect, it has the support of the Treasury as a needs based approach for potentially informing relative health care allocations across the devolved administrations. Convincing the Treasury that the revisions offered by the NEE exercise are a credible alternative to NAS would, in my opinion, prove difficult.

E15. In the absence of a thorough statistical analysis of the relationship between need and health care use across the devolved administrations, I would suggest that the *routine update* to the NAS model provides the most appropriate currently available method for NI to assess its potential funding position under needs weighting.

MAIN REPORT

Introduction

E16. An interdepartmental study on the relative public expenditure needs of England, Scotland, Wales and Northern Ireland was carried out by HM Treasury in 1979. The exercise, known as the Needs Assessment Study, resulted in a model, the NAS Model, which looked at how need for health care in each of the devolved administrations compared to England. It was not intended to measure absolute need. Since 1979 the NAS model has been updated, the last complete update related to November 1994. The model has been used to inform thinking about the distribution of resources but has not thus far been used to set actual allocations. The 1994 update of NAS indicated that, on the basis of the model assumptions, Health and Personal Social Services (HPSS) in Northern Ireland was over-funded by £74 million.

E17. The current system of allocations to Northern Ireland (NI) is based on historical allocation decisions augmented by the Barnett formula. During the 1960s and 1970s, public expenditure plans for Scotland, Wales and NI were settled collectively and by negotiation within the wider public expenditure framework.¹²³ This set the precedent for funding to the devolved administrations and forms the core of the budgets allocated. It has been claimed that this core reflects the higher needs, which it is argued the devolved administrations have, because it was, at least in part, determined by arguments over need relative to England².

E18. The Barnett formula is a mechanism used to allocate new monies for comparable (to England) programmes to the devolved administrations based on their population shares. It only applies to changes on spending plans and the underlying core remains unaffected.

E19. A criticism of a strict application of the Barnett formula is that it will result in convergence in per capita spending as the core is diluted by new monies which

¹²³ See Edwards, T. (2001) *The Barnett Formula. House of Commons Library, Research Paper 01/108.*

is allocated on a population basis alone. Presently there appears to be little evidence that convergence is taking place.¹²⁴

- E20. Should the use of the Barnett formula be challenged as an appropriate mechanism to allocate monies then the NAS model would be a needs-based approach readily available to the Treasury. The NI Executive's Needs and Effectiveness Evaluation (NEE) study is an attempt to evaluate the assumptions underlying the NAS model and compare these to perceived current knowledge and evidence of the need for health care in NI.
- E21. The NEE contains two fundamental pieces of analysis. The first is a routine update of the NAS model. This simply updates the population, morbidity and deprivation data together with updates to the weights attached to these (for example by updating the cost-weights attached to population demographic data). The second analysis suggests fairly substantial revisions to the NAS model made on the basis of judgement informed by research evidence. A key component to the revisions is the change in emphasis away from morbidity and towards deprivation as exerting influence on the need for health care and the percentage of total expenditures that should be weighted by these needs factors. A second important element is the suggested increased weighting afforded to sparsity which is intended to reflect the greater costs associated with providing services to rural and remote areas.
- E22. The simple update of the 1994 NAS model results in an estimated *over-funding* of HPSS of around £35m (needs index of 108 for NI compared to England index of 100). Revisions to the model are more ambitious and result in NI being *underfunded* by £134m (the needs index increases to 117). These revisions are based on what is termed "clear and objective evidence".
- E23. More speculative adjustments are also noted which if implemented would raise the *underfunding* to as much as £233m. These adjustments are based on what is termed "professional judgement supported by research". However, it is stressed that further probing of these issues is required before these additional adjustments are recommended.¹²⁵
- E24. The purpose of this note is to assess the validity and robustness of the suggested revisions to the NAS model.

The NAS model

- E25. The NAS model calculates NI expected need for health care compared to England on the basis of population size and structure, their health and social care needs and cost factors due, for example, to rurality. Each of the needs and population factors are expressed as a ratio to their equivalent English factor. For example, since SMRs are greater in NI compared to England this needs factor would attain a ratio greater than 1.

¹²⁴ See Midwinter, A. (2002) *Northern Ireland's Expenditure Needs: A Preliminary Assessment*. Research Paper 81/02; Research and Library services, Northern Ireland Assembly.

¹²⁵ P A21.33: Appendix 2.5. Review of Needs Assessment Study (NAS) Model – Hospital and Community Health Services (HCHS), Family Health Services (FHS), Personal Social Services (PSS), and Capital.

- E26. Individual factors may be given a weight between 0 and 1 to indicate its assumed influence on the need for health care. For example, SMR < 75 is weighted by 0.6 as a morbidity indicator for Health and Community Health Services (HCHS); composite deprivation indices are derived by weighting individual deprivation variables and summing across these.
- E27. The individual indicators are then multiplied by the proportion of expenditure to which it is assumed to relate. For example, for HCHS morbidity factors are applied to 77% of expenditure, whereas population demographic factors are applied to 100% of expenditure. Accordingly morbidity is afforded less relative weight in determining putative allocations than demographics. These are then multiplied by each other to produce a composite needs, population and cost (rurality) factor. It is this composite factor that could form the basis of future allocations.
- E28. Details of the NAS model for each of the programme components, HCHS, Family Health Services (FHS) and Personal Social Services (PSS) are provided in Appendix I.
- E29. The NAS model methodology is *normative* and *judgemental*. It is assumed that the indicators chosen to reflect need have a causal relationship with expenditure or service use. These indicators were selected on the basis of plausibility and judgement and were not chosen or indeed weighted on the basis of a statistical analysis of the relationship between need and the use of health care. In this respect the NAS methodology departs from modern resource allocation models employed to distribute monies across trusts, regions and health boards within England, Wales, Scotland and NI.

Routine update to 1994 NAS Model

- E30. The routine update to the 1994 NAS model consists of applying current or more recent data than those used previously. Accordingly, the population data and data on morbidity and deprivation indicators are updated. Also, the weights applied to the population demographics are updated to reflect recent evidence from HCHS work in England. The key routine updates are outlined below.
- E31. The rationale for updating the population data from 1994 to 2001 (and maintaining updated data) is NI's faster growing population and changing age profile, such that (taken from Chapter 2⁴):
- By 2010 the population aged 65+ is expected to grow by 15%: the corresponding figures for England, Scotland and Wales are 8%, 7% and 7% respectively.
 - Growth rates for the 85+ years age group are expected to show even greater differences between NI and the rest of GB (to 2025).¹²⁶
 - However, it ought to be noted that by 2025, older people will still make up a smaller proportion of the population in NI compared to the proportion of population in the rest of GB.

¹²⁶ Chapter 2 – Assessing the needs of the population.

- NI has a young population with 30% aged under 20 years compared to 25% in England. It also has a higher birth rate (11% higher), although this gap is narrowing.

E32. The population demographic structure has implications for needs assessment as the very young and elderly have higher than average health care expenditures. Based on expenditures per head in 1997/98 on HCHS, it is claimed that it would take a 1% increase in resources per year in real terms to meet the additional costs associated with demographic growth and change up to 2015 and at least as much thereafter.¹²⁷ Note that Midwinter points to similar calculations for Scotland resulting in an increase of only 0.23% over three years.¹²⁸

E33. The second adjustment relates to the weights applied to the age profiles (paragraphs (iii) and (iv), pA2.82 of Appendix 2.5.). These are updated to reflect the weight used for HCHS resource allocation in England (using 1997-99 data). It is claimed that updating the cost-weights would lead to a reduction in the 1994 NAS calculated over-funding of NI.

E34. It is further claimed that UK wide weights should be applied (as opposed to weights from England only). This would increase allocations to NI (paragraph (iv)) due, it appears, to NI and Scotland having greater per head expenditures for the 45+ age groups compared to England (although weights for younger age groups would decrease).¹²⁹ However it is not clear what proposals are made to calculate UK weights. If these were calculated on the basis of a population-weighted average of England, Scotland, Wales and Northern Ireland then they would be heavily influenced by English cost weights due to the superior population and the benefit to NI of using UK weights may not be as great as assumed. However, in principle it appears sensible to base weights on a UK average rather than a single country alone.

E35. The simple update of data and age cost-weights is of little contention and appears to be a suitable way to proceed to gauge NI comparative level of need within the context of the NAS approach.

Model revisions

E36. Model revisions are based on the above routine updates to the 1994 NAS model together with various changes to the individual indicators within each of the expenditures programmes, changes to the relative weight that morbidity and deprivation factors are afforded and revisions to the amount of expenditure to which need is applied.

E37. The main features of the recommended revisions are outlined below.

¹²⁷ Appendix 2.2. Study 2 – Needs and Effectiveness Evaluation: Relationship between Age and Cost of Service. Section: Summary of Detailed Analysis: Hospital, Community and Health Services.

¹²⁸ P20, para. 63. Midwinter, A. (2002) *Northern Ireland's Expenditure Needs: A Preliminary Assessment*. Research Paper 81/02; Research and Library services, Northern Ireland Assembly.

¹²⁹ See Annex 1, Table 1: Expenditures (£) per head of population by age (HCHS excluding maternity services), Appendix 2: Detailed Papers on Factors Affecting Need.

Need in relation to morbidity and deprivation

E38. The major revisions with respect to need are:

- an adjustment to the proportion of expenditure to which needs factors are applied such that this becomes 100% for HCHS, FHS and all 3 PSS components. Currently the NAS model applies needs factors to 90.5% of expenditure for HCHS, 76% for FHS, 52% for PSS Elderly, 62% PSS Children and 32% PSS Other,
- a shift in emphasis within programmes such that expenditure factors for morbidity and deprivation are afforded equal weight. For example, for HCHS morbidity is given an expenditure weight of 77% and deprivation a weight of 13.5%. A shift to equal weight together with needs factors being applied to 100% of expenditure would necessarily imply weights of 50% and 50% respectively.

E39. Shifting the emphasis from morbidity factors towards deprivation and increasing the amount of expenditure to which needs factors are to be applied benefits NI due to it having higher levels of deprivation compared to England. For example, the following comparisons are noted:

- SMR < 75 – NI Standardised Mortality Ratio for those aged under 75 is 4% above the UK average (England is 3% below UK average).
- NI has the lowest proportion of the working age population in employment – 66% compared to 76% in England. Rates for the very long term unemployed (5 years or more) is higher in NI (18.3%) compared to England (highest figure across English regions is 11.7% in the North East).
- Income Support Benefit – The level of recipients is 68% higher in NI compared to England.
- Disadvantaged children – The proportion of lone parent households is higher in NI (12.6%) compared to England (9.1%).

E40. The overall effect of the revisions is that per capita spending in NI should be at least 17% higher than that of England. This is equated to an additional £190m for 2000-01.¹³⁰

E41. The recommendations of applying needs factors to 100% of expenditure and shifting the emphasis from morbidity towards deprivation are based on a review of resource allocation models in the UK and how these have been implemented. The arguments are set out in the document “Health and social care needs: The impact of deprivation”.

E42. For example, it is claimed that the mix of deprivation, morbidity, and mortality indicators in the Acute Needs Index for HCHS expenditures in England suggests that their relative influence is in the ratio 40%: 40%: 20%. The ‘Arbuthnott Index’ used in Scotland comprises of a composite indicator of need consisting of three deprivation indicators and one mortality indicator (all of equal weighting) suggesting a ratio of 75% to 25% in favour of deprivation.

¹³⁰ Paragraph 8, page 5: Needs and Effectiveness Evaluation: Health and Social Care: Executive Summary, July 2002.

- E43. The paper rightly states that “direct measures of ill-health or morbidity would be used within the HCHS and FHS components of the NAS model as the link between such indicators and this type of service need is clear and direct.” (p1, paragraph 3.) It also notes that evidence on morbidity is often limited in routinely collected data sources and that the morbidity data collected is often problematic through biases inherent in self-reported measures. This is often the case when using small area statistics (the basis of many resource allocation models) where area socio-economic and deprivation data are by comparison more abundant.
- E44. As a consequence, the majority of resource allocation models use, alongside limited morbidity data, mortality, socio-economic and deprivation data. These are often viewed as proxies for morbidity. However, they can also be seen as determinants of the underlying social causes of the need for health care.¹³¹
- E45. Given that morbidity data is often in short supply and that socio-economic and deprivation data is relatively abundant it is not surprising that resource allocation models contain relatively more deprivation indicators compared to morbidity indicators.
- E46. The approach often adopted in resource allocation models is to view both morbidity and socio-economic or deprivation variables as drivers of health care need. The relationship between these factors is derived from a regression model of service use on such indicators. Many factors combine to influence the outcome of such a process including the assumptions made in specifying the model, the degree of collinearity between the variables and the order in which variables are added to a model. The weight afforded to morbidity and deprivation is determined by the regression model estimates.
- E47. The NAS model appears to view deprivation and morbidity as having distinct influences on the need for health care and on this basis they are provided with weights based on judgement. If it is assumed that deprivation influences the need for health care largely through its impact on morbidity, then a normative analysis would place greater weight on legitimate measures of morbidity. This appears to be the case with NAS allocations for HCHS expenditures where mortality is applied to 77% and deprivation to 7.5% of expenditure.
- E48. The basic problem with the revisions is that they are largely judgemental but based on interpretations of research evidence that employs a different (regression based) approach to assessing relative needs. In the absence of a statistical analysis of relative health care needs across the countries of the UK, it is difficult to see how the judgements underlying the revisions could be used to gain a consensus among interested parties that these offer a more appropriate means of assessing relative needs.
- E49. While the evidence on NI comparative levels of morbidity and deprivation suggests a needs weighted approach is required to ensure an equitable allocation of resources, the evidence presented is not, in my opinion, of

¹³¹ For example, the presence of carers in the home will influence demand for health care, or high earning households may have a greater predisposition to use private health care.

sufficient scientific quality and objectivity to support the revised model as a credible alternative to the NAS model.

E50. Ultimately both models are based on informed opinion and judgement and arguments concerning the plausibility of the NAS model could just as easily be aimed at the revised model offered by the NEE exercise.

E51. At best, the arguments made could form the basis of initiating a dialogue with the Treasury about the most appropriate needs-based mechanism for allocating resources to the devolved administrations. However, I am not of the opinion that the arguments are sufficiently well advanced to suggest the revised model is a serious candidate for an alternative needs based approach.

Sparsity

E52. The NAS model includes a 'sparsity factor' to compensate for the additional cost of providing services in sparsely populated areas. The sparsity factor is calculated as follows:

- For HCHS sparsity is based on the proportion of people living in District Council areas with a population density of less than 1 person per hectare compared to the equivalent proportion in England. The factor weight afforded this variable is 12.5%. It is unclear what the rationale was applied to determine this weight.
- For FHS the sparsity is calculated by expressing total GMS expenditure including expenditure on Rural Practice Payments (RPPs) as a percentage of GMS expenditure without RPPs. This is then expressed as a ratio to the equivalent English figure.
- For PSS the same sparsity variable and weight as applied to HCHS is used.

E53. The sparsity factor is then applied to 12.5% of HCHS expenditures, 28% of FHS expenditures and 50% of each of the components of PSS expenditures. These sparsity expenditure weights are intended to reflect the travel-related elements of each of the health and social care components. For example, it is estimated that 12.5% of HCHS expenditure involves travel-related services (ambulance and community health services).

E54. The Executive's NEE study, drawing on research into the additional costs of providing health and social care to sparsely populated areas, suggests that a sparsity cost premium of 20%, rather than the 12.5% assumed for HCHS would be justifiable for NI. A more ambitious estimate of 30% is also suggested. For PSS the same estimate of 30% (again rather than 12.5%) is also suggested.

E55. These estimates are derived from a study by MSA Ferndale¹³² that involves estimating the travel related costs that would be incurred if equality of access to services (independent of location) were to be achieved in all areas. The costs are then related, via regression based methods, to relevant characteristics of areas considered. This relationship between cost and area characteristics allows the researchers to impute the travel costs for other areas not included in the original research.

¹³² MSA Ferndale. (2001) The Costliness of Rurality in the Provision of Health and Social Services, Internal Project Paper.

E56. This research provides evidence that the travel cost of providing health and social care to remote areas in NI is more expensive per head than in England. The research contains a couple of fundamental assumptions - for example, that NI Health Boards can be considered operationally equivalent to Districts in England, and that the ratio of travel costs for Home Care Services between NI and England can be applied to all other health and social care services - and it would be useful to assess the materiality of these assumptions. However, there does appear to be prima facie evidence of a case for claiming the costs of providing health and social care services to remote and rural areas in NI is more expensive than England.

More speculative revisions (to be further probed)

E57. These, more speculative, adjustments concern the influence that individual deprivation indicators exert on the overall deprivation index for each of the expenditure programmes. These are summarised in Appendix II.

E58. It is further suggested that NI should be compensated for the additional costs faced by the DHSS due to lower levels of provision of private health care in NI compared to England. The argument appears to be that in England the private sector releases the burden on the publicly provided health service (hence the public sector receives a greater allocation than it needs) and that this is not the case in NI, at least not to the same extent. It is claimed that an appropriate compensation could amount to £25m.

E59. A more detailed analysis of the comparative use of private nursing homes was provided as supporting evidence for the differential cost NI faces per capita compared to England. A survey of self-funding of nursing home places in NI suggests this represents 15% of all nursing homes places. The comparable figure for England is estimated at 33%. Reasons provided for the lower level of self-financing in NI include higher historical levels of unemployment, lower wages and lower property values. The analysis suggests there is prima facie evidence of a higher burden placed on the public sector in NI to provide nursing home care.

E60. A further adjustment is suggested to compensate for the perceived additional costs arising from the tensions in NI resulting in higher levels of stress and an increased burden on the health service. An estimate of £18m is claimed as an appropriate amount. This appears to be based largely on an analysis of anti-depressants and ulcer healing drugs. It is claimed that the higher use of these drugs in NI compared to England is related to the NI "Troubles". It is unclear why these additional costs are not accounted for through increased levels of morbidity and why a separate adjustment as proposed is required.

E61. It is claimed that should the above factors be accounted for NI would currently be *underfunded* by as much as £233m.

E62. The proposed revisions are largely judgemental and not grounded on strong evidence. It is noted that the report¹³³ lists these revisions as “Other Issues to be Probed (identified through professional judgement supported by research)”. Further research on these issues is required before firm recommendations for changes to the NAS model should be made.

Conclusions

E63. Currently the system of allocating HPSS funding to NI is based on the Barnett formula. This system allocates monies on the basis of a baseline that forms the core of the budget together with a formulaic element that applies to new monies. The baseline reflects historic allocations to devolved administrations while the formulaic element allocates on the basis of population shares alone. It only applies to changes on spending plans and the underlying baselines remain unaffected. The Barnett formula has been criticised on the grounds that it does not reflect needs, and that over time the formulaic element will ensure convergence in spending across the devolved administrations.

E64. The Treasury 1994 NAS model is suggested as a readily available alternative to the Barnett formula that has the benefit of containing a weight for need. Under needs weighting, it is argued that NI, which has higher levels of morbidity and deprivation, would benefit comparatively to England. However, an application of the 1994 NAS model indicates that NI is currently *over-funded* by £74m. A simple update of the model using currently available data suggests an *over-funding* of £35m. The revisions to the NAS model suggest that NI is *under-funded* by £135m.

E65. The suggested revisions to the NAS Treasury model are based largely on informed judgement and interpretations of research evidence. This is particularly the case for arguments made to shift the emphasis from morbidity towards deprivation factors. I am not of the opinion that the arguments presented are sufficiently well advanced to suggest these fundamental revisions to the model represent a serious candidate for an alternative needs based approach. At best, the arguments made would form the basis of initiating a dialogue with the Treasury about the most appropriate needs-based mechanism for allocating resources. This is not to say that the claims are without foundation but further evidence, backed by empirical analysis, would need to be presented to support the revisions offered before they can be taken seriously.

E66. Other fundamental revisions to the NAS model are supported by research evidence of a more robust nature and there does appear to be prima facie evidence of a case for claiming the costs of providing health and social care services in remote and rural areas in NI is more expensive than England. However, I feel that further research is required to support these assertions.

¹³³ P A21.31: Appendix 2.5. Review of Needs Assessment Study (NAS) Model – Hospital and Community Health Services (HCHS), Family Health Services (FHS), Personal Social Services (PSS), and Capital.

E67. Overall, while some elements of the proposed revisions are supported by empirical research providing prima facia evidence for a claim for increased funding support, there is a general lack of rigorous statistical analysis offered from which an independent analyst could assess with any great degree of certainty the validity of the claims made.

E68. In the absence of a thorough statistical analysis of the relationship between need and health care use across the countries of the UK, I would suggest that the updated NAS model provides the most appropriate available method for NI to assess its potential funding position under needs weighting.

Nigel Rice
Centre for Health Economics
February 2005

Appendix I

The NAS model employs a similar methodology for HCHS, FHS and PSS components of expenditure but differs in the groupings used to define population demographics, the chosen indicators of need and the costs of delivering services. The key components to the NAS model are:

HCHS –

- Population structure - the population is broken down by births and 7 selected age bands (0-4 through to 85+) and weighted by English HCHS expenditure weights.
- Morbidity - measured using SMR < 75 with a weighting of 0.6.
- Deprivation – based on a composite indicator consisting of 3 equally weighted factors: Isolated Elderly, Housing Conditions, and Income Support.
- Fertility – a measure of the average number of children that women would have over child bearing years assuming age-specific fertility rates.
- Sparsity – Proportion of people living in District Council areas with a population density of less than 1 person per hectare.
- Resource cost differences – based on additional HCHS expenditure experienced in Thames regions of England compared to total English HCHS allocation.
- Teaching Expenses adjustment

The factors are applied to the following percentage of expenditure:

Population structure: 100%
Morbidity: 77%
Deprivation: 7.5%
Fertility: 6%
Sparsity: 12.5%

FHS –

- Population structure – Similar procedure to HCHS but using five age categories (0-4, 5-15, 16-64, 65-74, 75+) and weighted by English FHS expenditure weights.
- Morbidity – combination of SMR < 75 and an indicator of the percentage of population in physically demanding (manual) occupations. The two factors are weighted in ratio 0.8:0.2.
- Deprivation – based on a composite index consisting of the following factors: Isolated Elderly, Housing Conditions, IS recipients, Children in Lone Parent Families on IS, and Children in Lone Parent Families. The relative weightings applied to these are 0.3, 0.1, 0.4, 0.1, and 0.1 respectively.
- Fertility – as HCHS
- Sparsity - calculated by expressing total GMS expenditure including expenditure on Rural Practice Payments (RPPs) as a percentage of GMS expenditure without RPPs.

The factors are applied to the following percentage of expenditure:

Population structure: 100%
Morbidity: 40%
Deprivation: 30%
Fertility: 6%
Sparsity: 28%

PSS –

(1) Elderly (population aged 65+):

- Population structure – divided into 3 sub-groups (65-74, 75-84, 85+) and weighted using weights 1.0, 4.5 and 14.2 respectively.
- Deprivation – Composite index consisting IS recipients, Isolated Elderly and Housing Amenities. The three factors are weighted in ratio 0.3, 0.6, 0.1 respectively.
- Disability – prevalence of disability among adult population.
- Sparsity – as with HCHS
- Resource cost differences – based on comparison of average earnings of PSS professionals.

The factors are applied to the following percentage of expenditure:

Deprivation: 50%
Disability: 2%
Sparsity: 50%

An overall index is calculated by multiplying the following factors: Population; Deprivation, Disability and Sparsity; and Resource cost differences.

(2) Children (< 18):

- Population structure – single weight applied to under 18 age group.
- Deprivation – composite index consisting of IS recipients in under 60 age group, Children in Single Parent Families (2 versions of), Housing Conditions, Population density. These factors are weighted in ratio: 0.2, 0.125, 0.125, 0.05 and 0.5 respectively.
- Disability – as per PSS Elderly.
- Sparsity – as per PSS Elderly
- Resource Cost Difference – as per PSS Elderly.

The factors are applied to the following percentage of expenditure:

Deprivation: 60%
Disability: 2%
Sparsity: 50%

An overall index is calculated by multiplying the following factors: Population; Deprivation, Disability and Sparsity; and Resource cost differences.

(3) Other:

- Population structure – single weight applied to 18 to 64 year age group.
- Deprivation – composite index consisting of IS recipients in under 60 age group, Children in Single Parent Families (2 versions of), Housing Conditions. These factors are weighted in ratio: 0.5, 0.2, 0.2, and 0.1 respectively.
- Disability – as per PSS Elderly.

- Sparsity – as per PSS Elderly
- Resource Cost Difference – as per PSS Elderly.

The factors are applied to the following percentage of expenditure:

Deprivation: 30%

Disability: 2%

Sparsity: 50%

An overall index is calculated by multiplying the following factors:

Population; Deprivation, Disability and Sparsity; and Resource cost differences.

An overall need factor for PSS is calculated by averaging the needs factors for the three sub-programmes using weights that are proportions of total PSS spending in England on each group. The weights are 46% for elderly, 34% for children and 20% for other adults.

Appendix II

These, more speculative, adjustments concern the influence that individual indicators exert on the overall deprivation indicators for each of the expenditure programmes.

These are summarised as follows¹³⁴:

HCHS –

- Isolated Elderly – increase weight from 0.33 to 0.40
- Poverty – increase weight from 0.33 to 0.50
- Housing Conditions – reduce weight from 0.33 to 0.10

FHS-

- Isolated Elderly – reduce weight from 0.30 to 0.20
- Poverty – retain at 0.40
- Lone Parent Families – increase weight from 0.10 to 0.15
- Lone Parent Families in Poverty – increase weight from 0.10 to 0.15
- Housing Conditions – retain at 0.10

PSS –

Elderly

- Isolated Elderly – reduce weight from 0.60 to 0.30
- Elderly Poverty – increase weight from 0.30 to 0.60
- Housing Amenities – retain weight at 0.10

Children

- Population Density – reduce weight from 0.50 to 0.30
- Adult Poverty – increase weight from 0.20 to 0.30
- Lone Parent Families – reduce weight from 0.125 to 0.10
- Lone Parent Families in Poverty – increase weight from 0.125 to 0.20
- Housing Conditions – increase weight from 0.05 to 0.10

Other

- All weights remain unchanged

¹³⁴ P A21.31: Appendix 2.5. Review of Needs Assessment Study (NAS) Model – Hospital and Community Health Services (HCHS), Family Health Services (FHS), Personal Social Services (PSS), and Capital.

Annex: F

EQ-5D: Summary measurement of population health

- F1. The Health Survey for England (2003) provides EQ-5D data for some 16,000 adults sampled as part of a national survey conducted in the recent past. The EQ-5D data in this survey are unfortunately limited to the reported problem levels on each of the dimensions of EQ-5D since the English survey omitted self-rated health status recorded on a 0-100 visual analogue scale (VAS). These data are available for the Northern Ireland survey however.
- F2. To enable comparison of health status at a population level, EQ-5D data were first converted into an index form (EQ-5D_{index}). This index is computed by applying *social preference weights* to the self-reported level of problem on each of the five dimensions. These weights were previously established by surveying a representative sample of the UK population using Time Trade-Off (TTO) procedures as part of the Measurement and Valuation of Health (MVH) project commissioned in 1993 for the then Department of Health and Social Security. These TTO-based social preference weights have been widely reported and form part of the reference case methodology advocated for technology appraisals conducted by the National Institute for Clinical Excellence.
- F3. Mean EQ-5D_{index} values were computed separately for men and women in the HSE (2003) survey. Values were computed for successive 10-year age groups in each case. Hence for each cell in this 7 by 2 matrix it is possible to identify a mean EQ-5D_{index} and its corresponding standard deviation. This process establishes a set of normative population values for EQ-5D, in effect defining the *expected* value for an individual of a given age and gender.
- F4. The *observed* EQ-5D_{index} for each respondent in the Northern Ireland survey was standardised using the normative population values obtained from the HSE(2003) survey using the following transformation

$$EQ-5D^* = 1.0 - [(EQ-5D_{obs} - EQ-5D_{exp}) / EQ-5D_{sd}] \quad \dots (1)$$

Where:

EQ-5D_{obs} is the observed value of EQ-5D index for an individual respondent

EQ-5D_{exp} is the mean EQ-5D_{index} for an individual of the same age/gender

EQ-5D_{sd} is the standard deviation of that expected mean EQ-5D_{index}

- F5. When this standard transformation is applied to the HSE(2003) survey it yields a mean of 1 and a standard deviation of 1.0. A summary measure of population health (SMPH) can be constructed by computing the mean EQ-5D* for a given group of n individuals whose normative EQ-5D_{index} values are

known, that is $SMPH = \sum (EQ-5D^*) / n$.

- F6. When applied to subgroups of interest this index takes a value greater than 1 where health status is higher than that of an equivalent normative age/gender

sample of the target comparative population. The index is lower than 1 where that health status is poorer.

F7. The SMPH index values for the four Northern Ireland Health Boards and the whole Northern Ireland survey is given in Table F.1

Table F.1 : Standardised summary population health by Health Board

<i>Health Board</i>	<i>Valid N</i>	<i>Mean</i>	<i>Standard Error of Mean</i>
EHSSB	674	0.809	0.052
NHSSB	396	0.991	0.055
SHSSB	333	1.107	0.052
WHSSB	348	1.045	0.055
ALL	1,952	0.959	0.026

F8. The SMPH index for the Northern Ireland survey data is 0.959 - indicative of a health status that is some 4% lower than that of an equivalent population group resident in England.

Table F.2 : Standardised summary population health by Strategic Health Authority (sorted by SMPH index)

<i>Strategic Health Authority</i>	<i>Mean</i>	<i>Count *</i>
Dorset and Somerset	1.186	407
Thames Valley	1.157	703
Surrey and Sussex	1.150	827
North West London	1.109	542
South West Peninsula	1.097	528
Norfolk, Suffolk and Cambridgeshire	1.094	732
North and East Yorkshire and Northern Lincolnshire	1.087	524
Essex	1.082	595
Hampshire and Isle of Wight	1.068	528
Bedfordshire and Hertfordshire	1.065	586
North Central London	1.059	269
South West London	1.049	364
Leicestershire, Northamptonshire and Rutland	1.039	491
Avon, Gloucestershire and Wiltshire	1.011	667
West Midlands South	1.011	585
Kent and Medway	.965	449
Shropshire and Staffordshire	.956	543
West Yorkshire	.950	657
South East London	.949	370
Trent	.945	1,040
Birmingham and the Black Country	.922	678
Cumbria and Lancashire	.918	682
Greater Manchester	.909	878
Cheshire & Merseyside	.862	764
County Durham and Tees Valley	.860	473
North East London	.844	543
South Yorkshire	.825	372
Northumberland, Tyne & Wear	.807	522

* The number of observations per PCT recorded in the HSE(2003) survey

F9. The corresponding SMPH statistic computed for Strategic Health Authorities (SHA) using the HSE(2003) survey data are listed in Table F.2. The lowest SHA value (Northumberland, Tyne and Wear) corresponds to the value recorded for Eastern HB. The 4th highest SMPH index (North London) corresponds to that recorded for Southern HB. Three SHAs record SMPH index values greater than the best recorded for a Health Board. Given that that the managed population of an SHA is more likely to approximate the total Northern Ireland population rather than that of the individual Health Boards, a fairer comparison might be made by locating the Northern Ireland SMPH value within those seen in Table F.2. On this basis, Northern Ireland equates with Kent and Medway, which is ranked 16/28 amongst SHAs.

Annex G

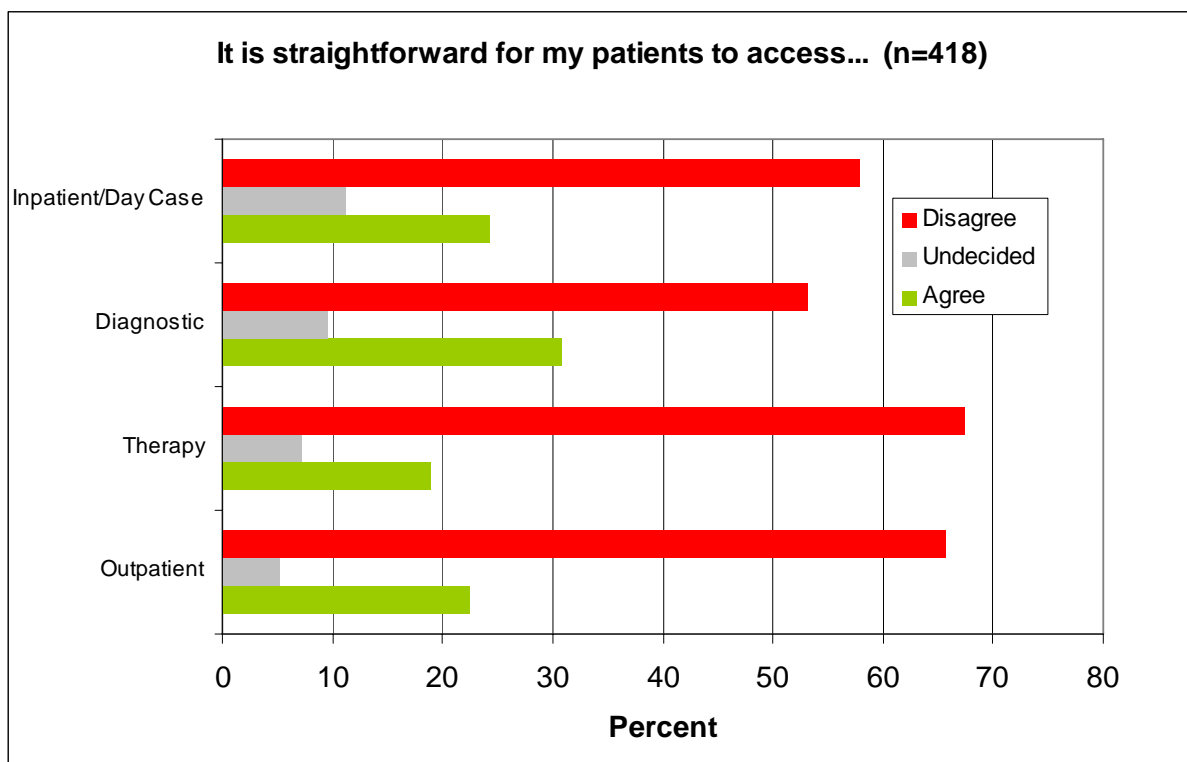
Survey of General Practitioner views and experience of waiting lists and times in Northern Ireland

As part of this Review's investigation, a special survey was carried out by the Review team of GPs experiences and views of waiting times and lists. The questionnaire used was adapted from one used by the National Audit Office in Wales, for whom we are grateful for advice on the survey.

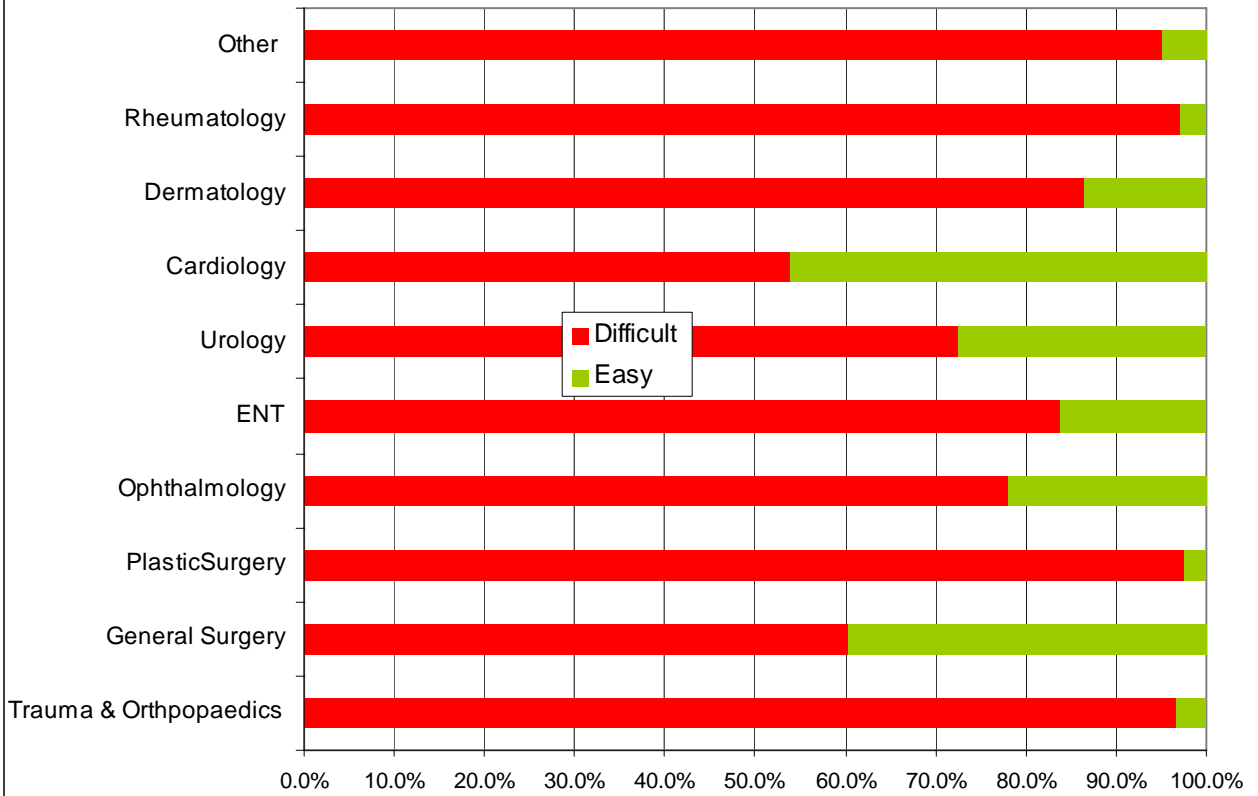
Over 400 GPs returned completed surveys - representing 39% of the total number practising in Northern Ireland.

Here we present a basic descriptive analysis of the results. We have not included additional written comment received by GPs. These will be available at a later date.

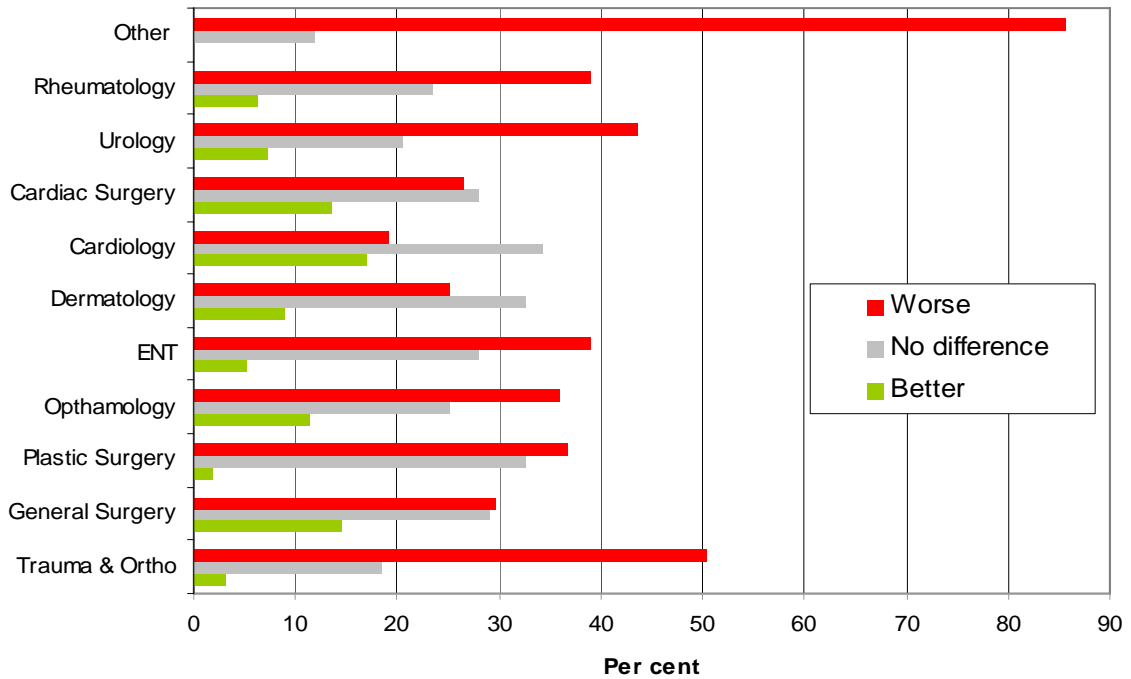
A: Ease of access



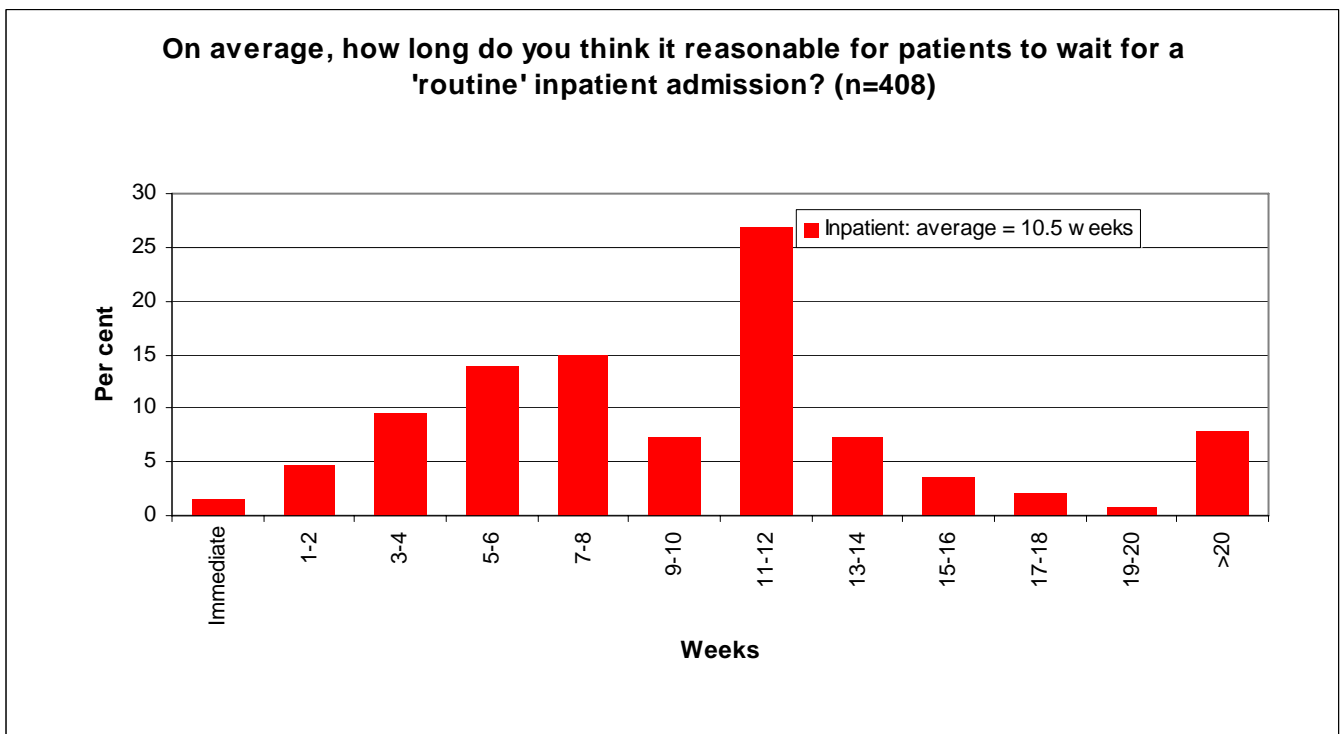
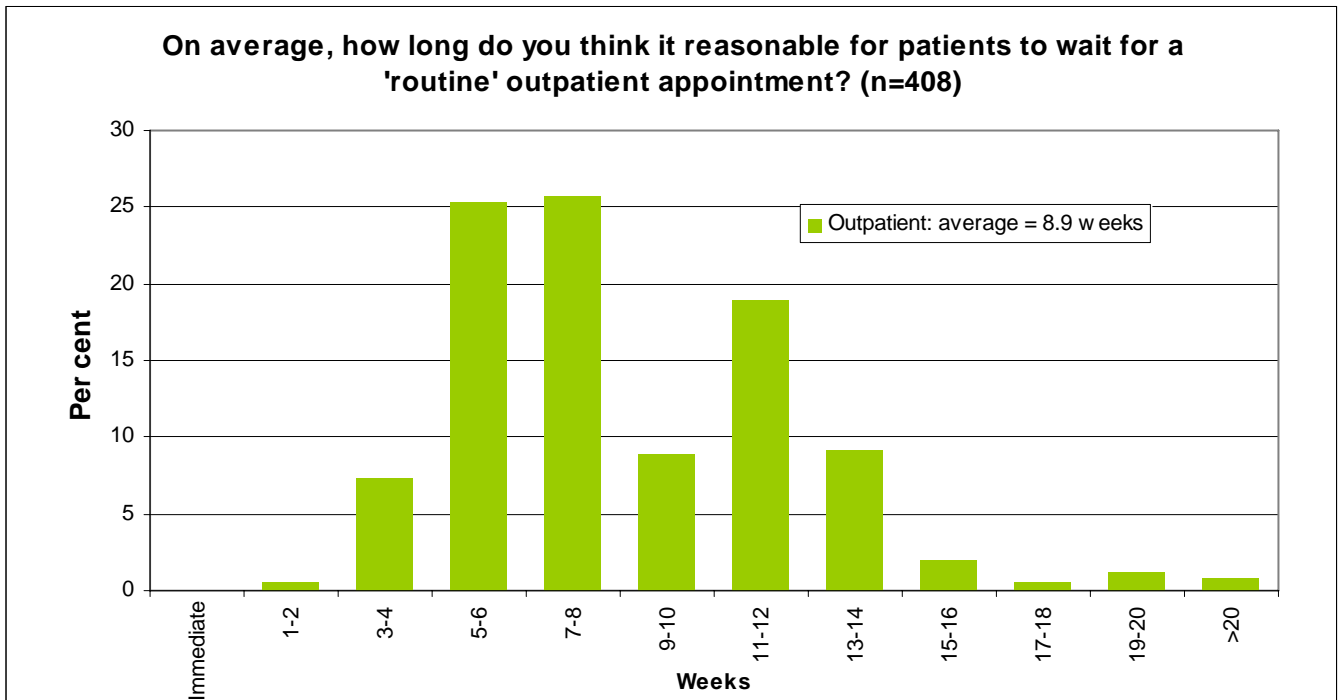
How difficult or easy is it to access particular specialties? (n=418)



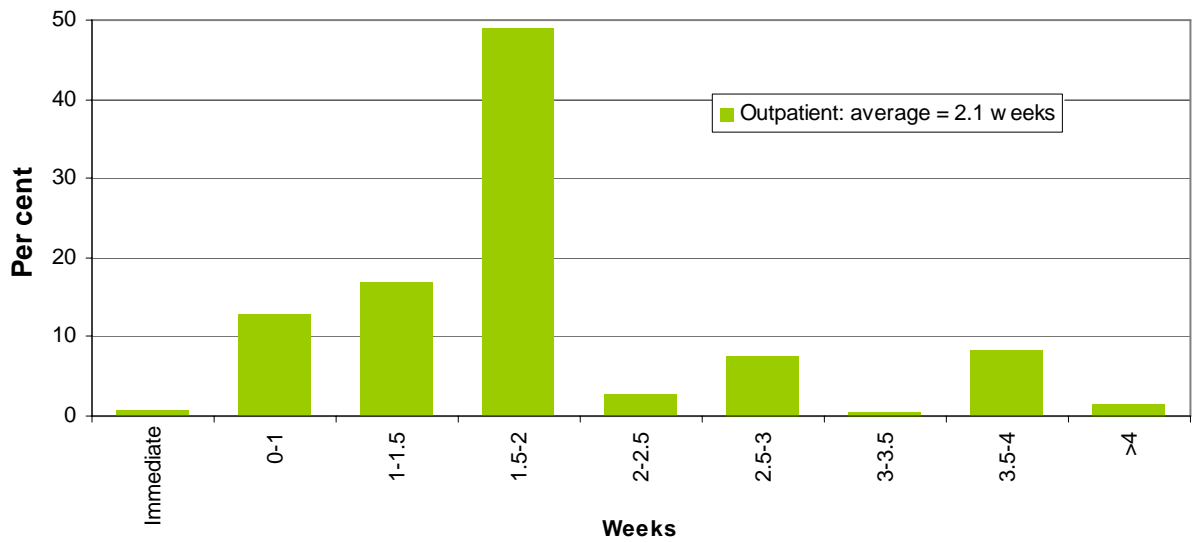
How much have waiting times for inpatient/day cases changed over the last two years? (n=418)



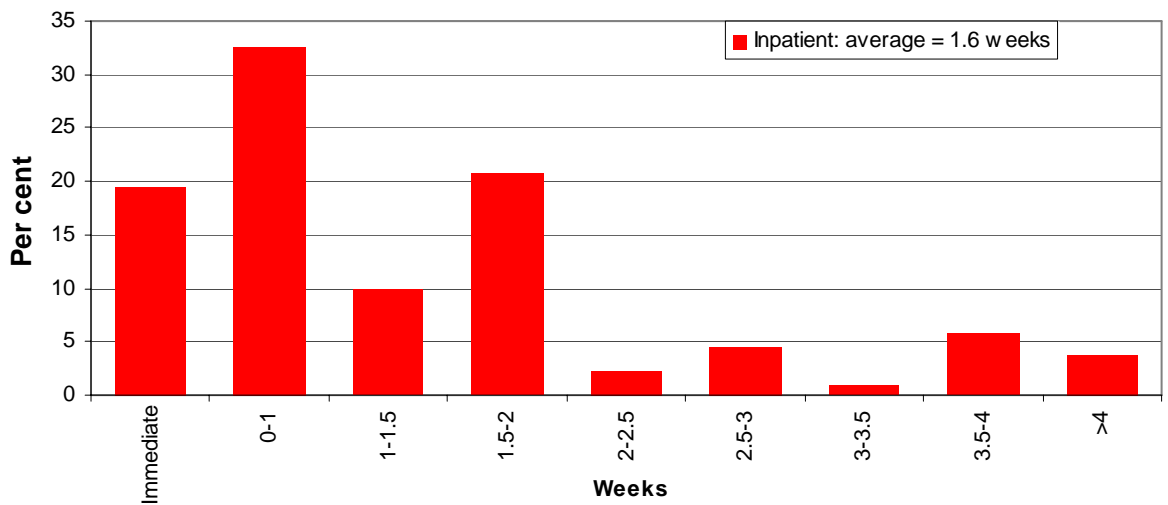
B: 'Reasonable' waiting times



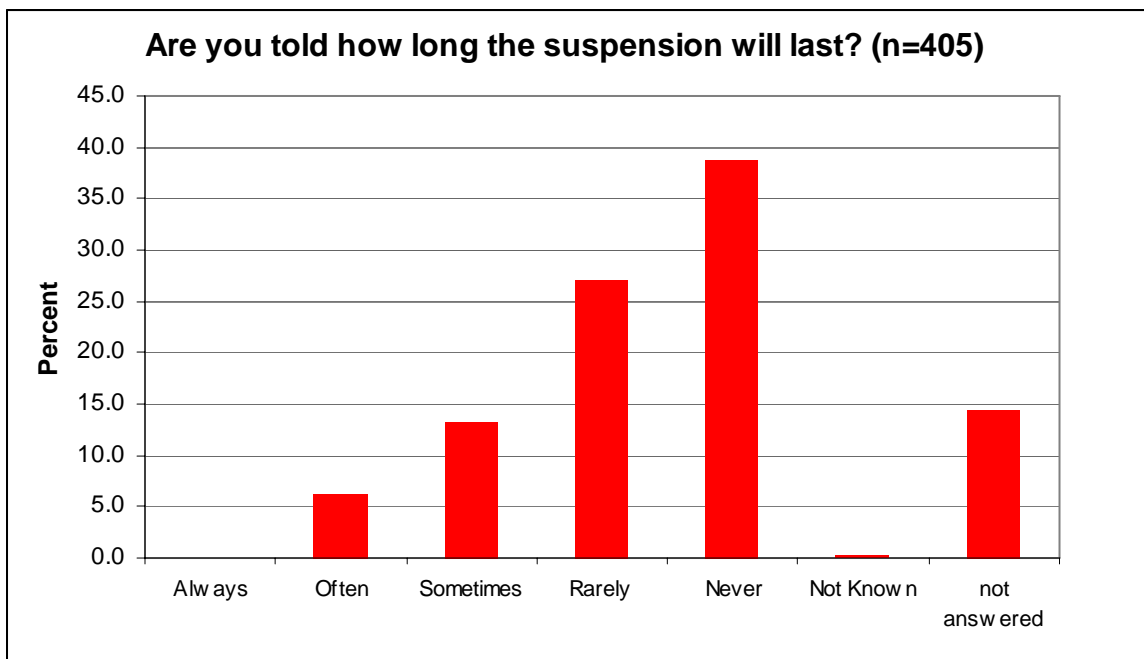
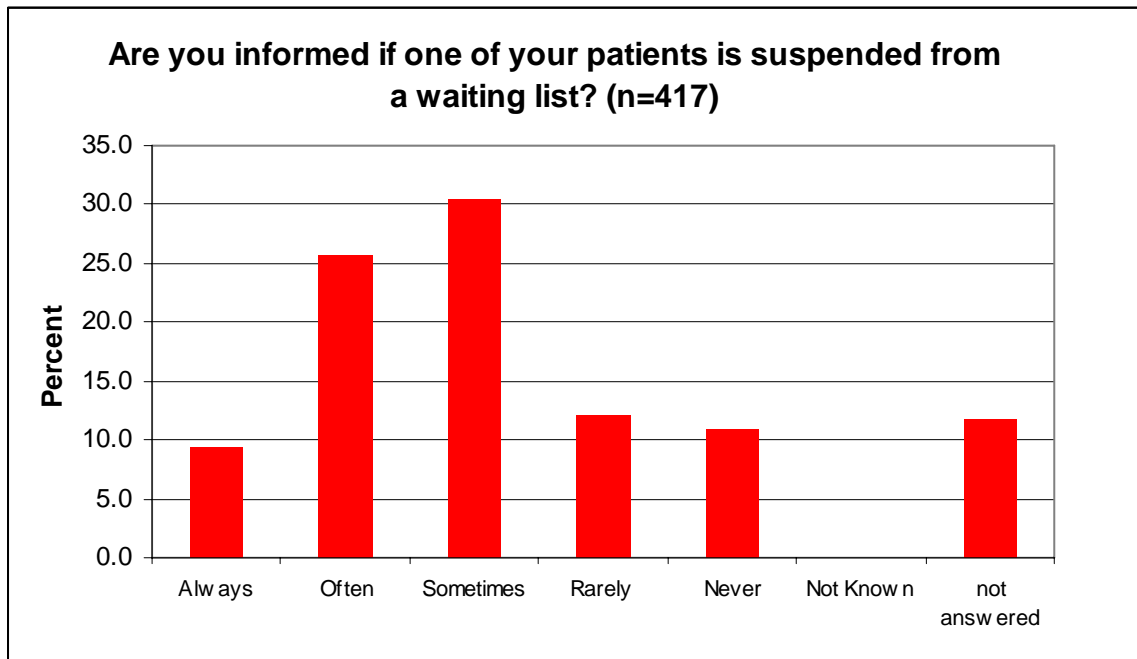
On average, how long do you think it reasonable for patients to wait for an 'urgent' outpatient appointment? (n=408)

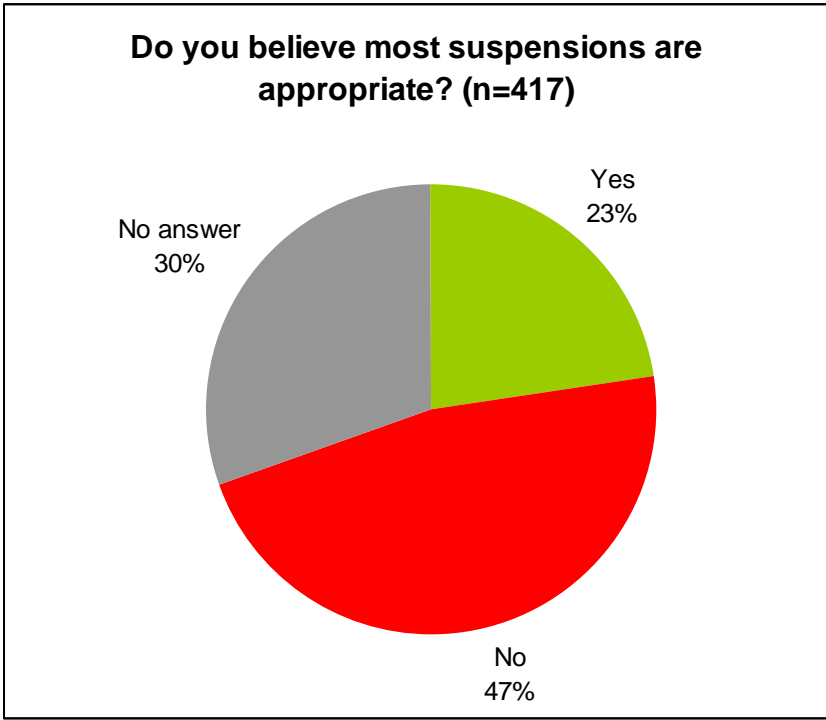
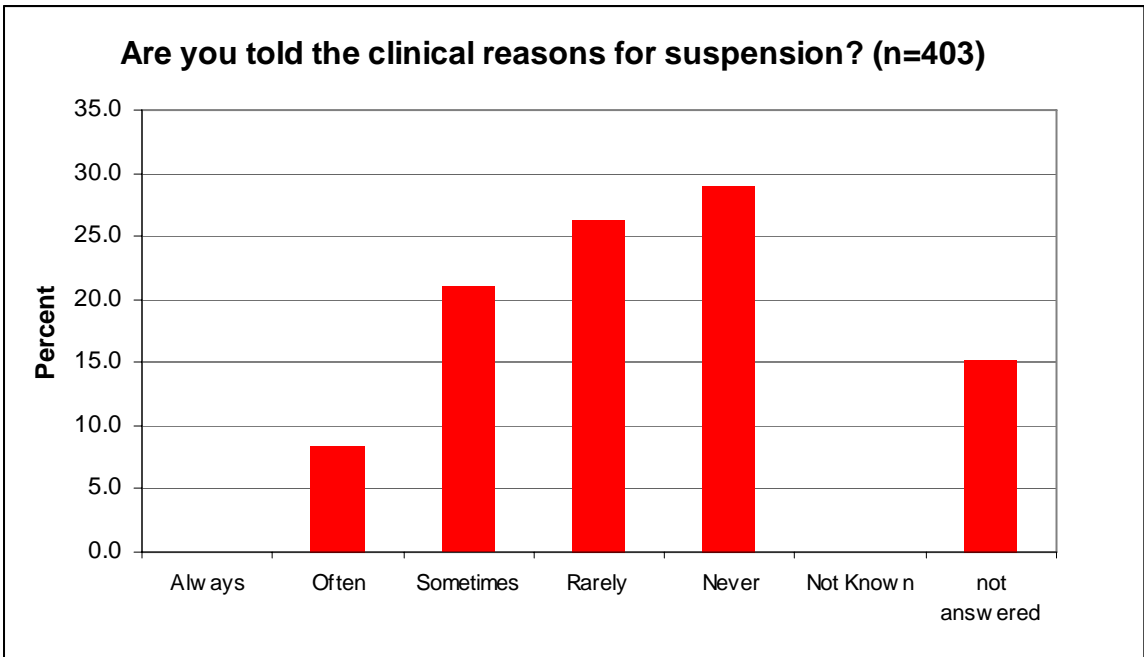


On average, how long do you think it reasonable for patients to wait for an 'urgent' inpatient admission? (n=408)

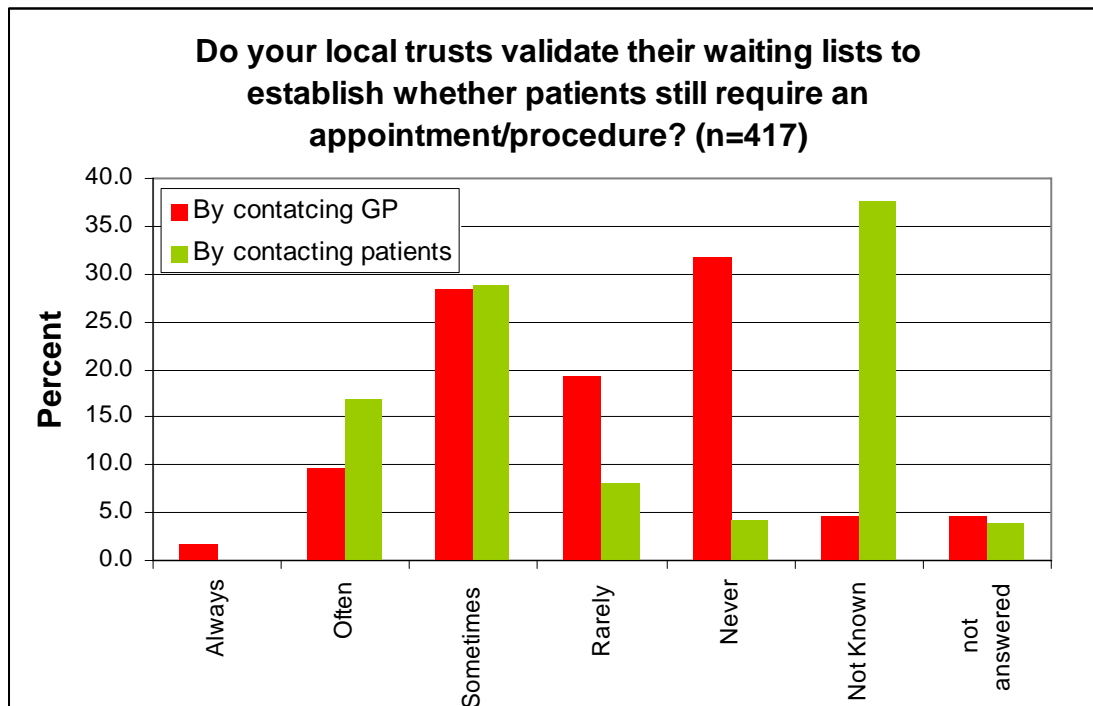


C: Suspensions from lists

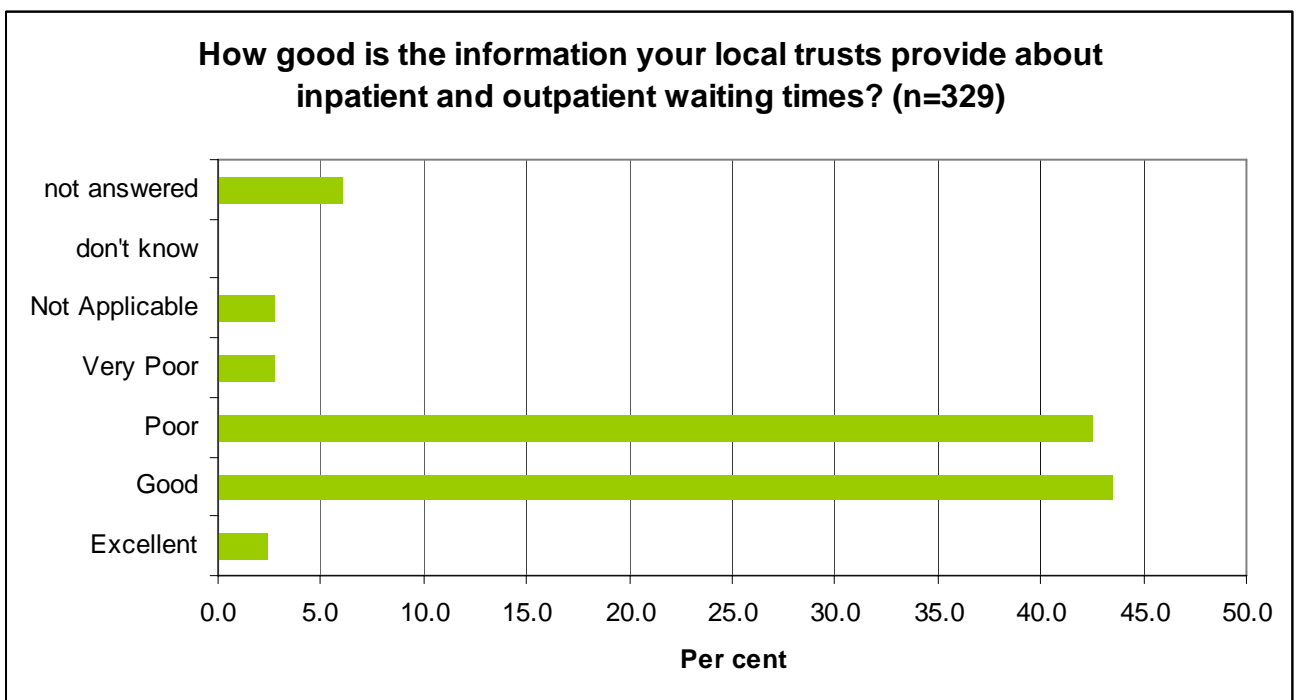
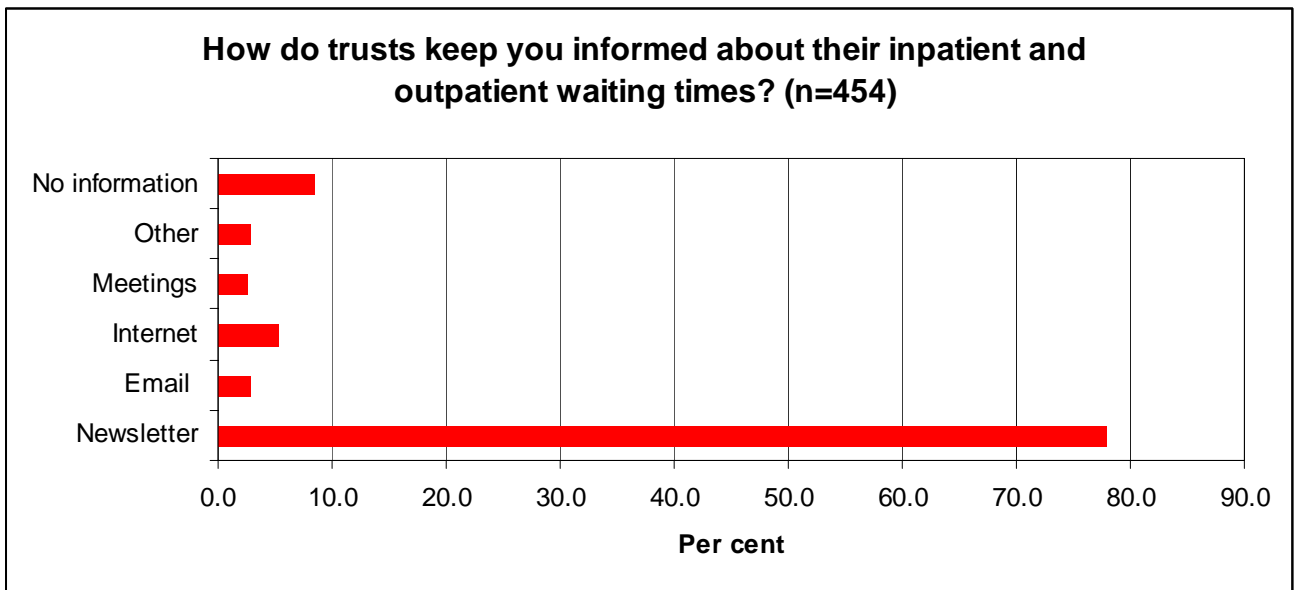




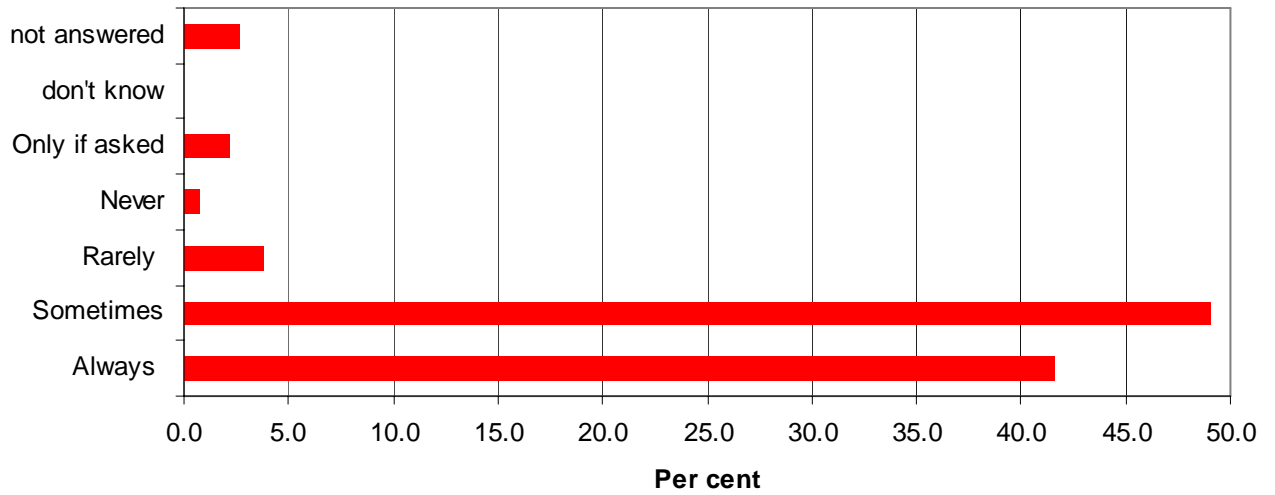
D: Validation of waiting lists



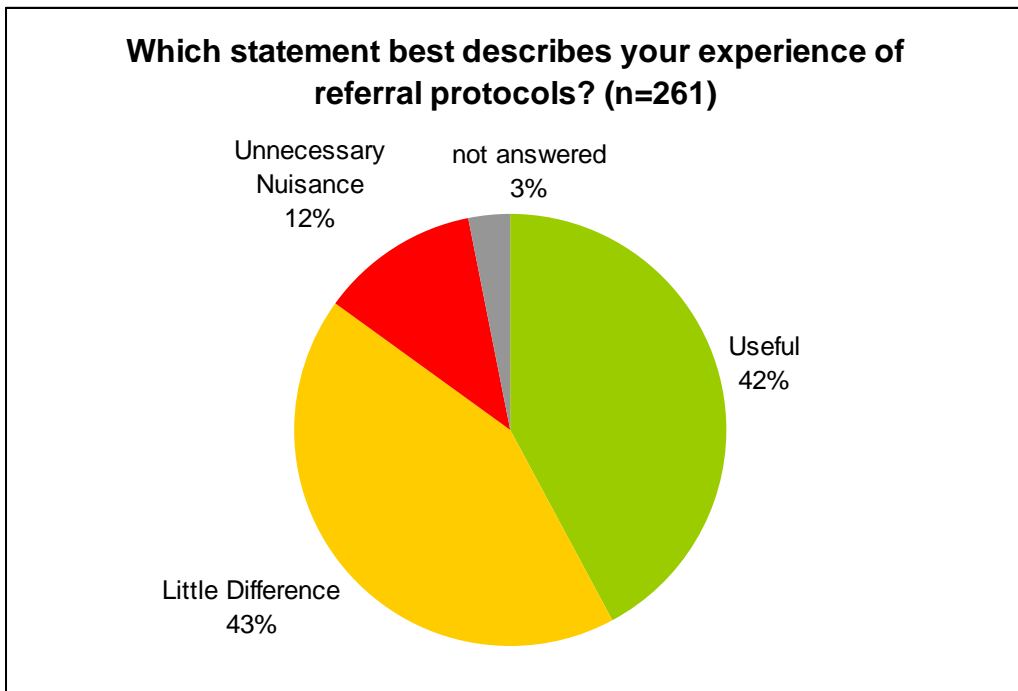
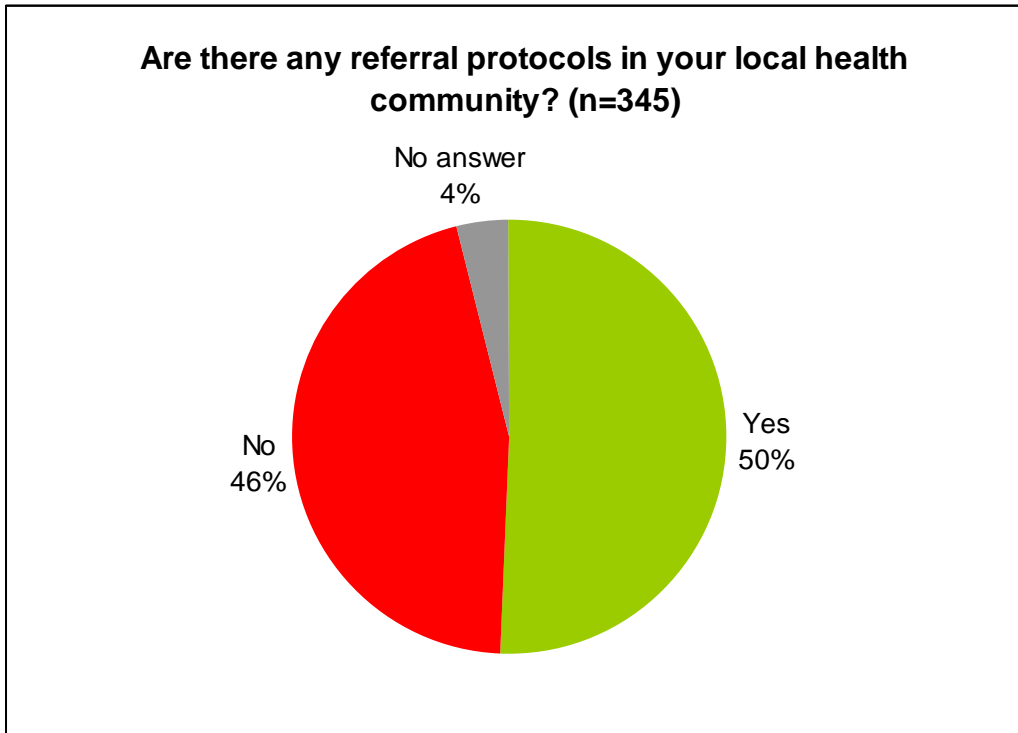
E: Information about waiting



When referring for specialist consultation, do you tell your patients how long they are likely to wait?

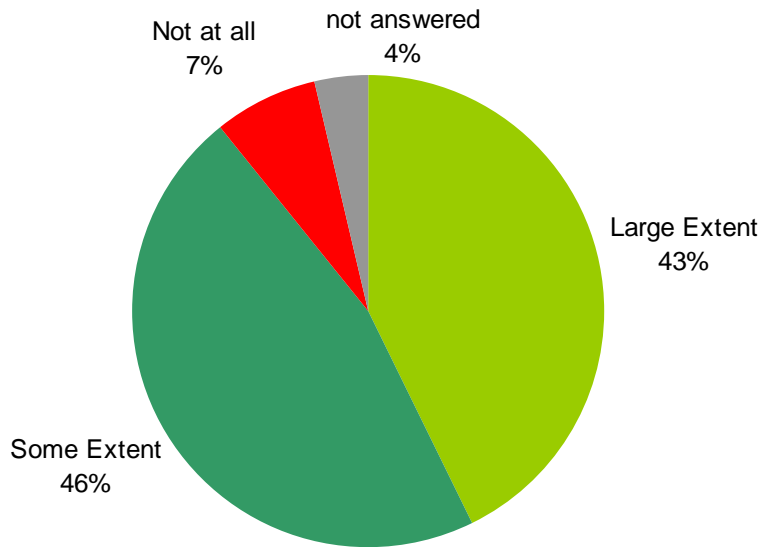


F: Referral protocols

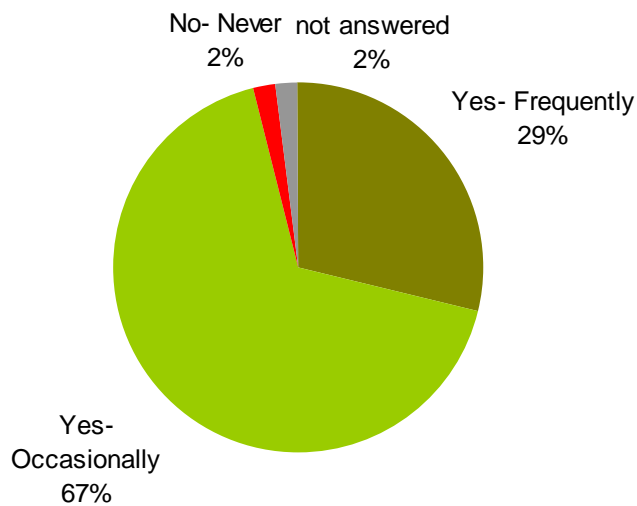


G: Referral decisions

To what extent do waiting times influence your referral decisions? (417)

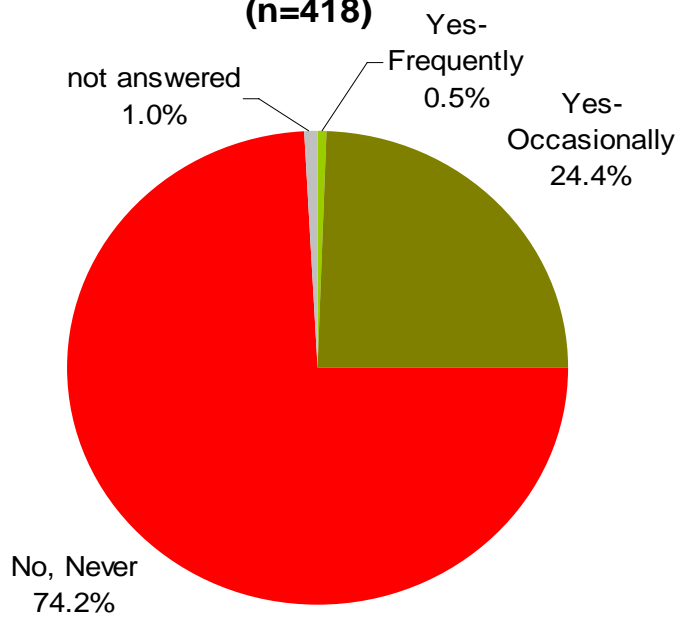


Do you ever contact a consultant directly in order to have a particular patient treated as a higher priority? (n=417)



Do consultants provide feedback about the quality of, or problems with, your referrals?

(n=418)



Annex: H

PERFORMANCE MANAGEMENT ARRANGEMENTS

Description supplied by the DHSPSS:

Background

H1. In recent years, the Department has given priority to ensuring the development of effective arrangements for managing and monitoring service performance in the HPSS. In line with the Secretary of State's *Priorities and Budget* and the Department's Public Service Agreement (PSA) and Business Plan, the Department's main annual planning document for the HPSS is *Priorities for Action*. It translates the PSA into an annual working agenda for the HPSS which must be implemented in a context of financial stability.

Priority Setting and Performance Assessment

H2. On foot of *Priorities for Action*, Boards and Trusts are required to submit Health and Wellbeing Investment Plans and Trust Delivery Plans respectively, detailing how they intend to deploy their resources to meet the identified priorities. A range of measures are in place to monitor their progress against these plans and to provide a clear line of accountability to the Minister and Department. These include annual meetings at Ministerial level with each of the Boards, which provide an opportunity to review the delivery of services in the preceding year, to focus on priority areas for the year in question and to discuss key challenges facing the service.

H3. Departmental officials also conduct a series of progress review meetings with Boards and Trusts during the year, at which quarterly reports detailing progress against targets in *Priorities for Action* are reviewed.

H4. Earlier this year, the Department began a review of performance arrangements in place in the rest of the UK and elsewhere to inform the development of a new high-level performance assessment and reporting framework for the HPSS. The objectives of the framework will include:

- the broadening of the performance focus to embrace the totality of investment in the HPSS;
- the establishment of credible baselines for benchmarking across key areas of financial, organisational and clinical and social care performance; and
- the identification of areas for performance improvement and the development of suitable targets.

H5. Work to date has identified a pool of potential performance indicators, which are currently being evaluated by the Department. It is planned to bring forward proposals for Ministerial consideration in the near future.

Improving Standards

H6. The Department is at present implementing a programme of legislative and organisational change designed to address unacceptable variations in standards of treatment and care and to raise the quality of service provision. This includes:

- placing a statutory duty of quality on Boards and Trusts which will underpin accountability at local level for the quality of services. This duty has been in place since April 2003;
- devising minimum standards of care against which services will be inspected and monitored in the future. A range of standards are currently being developed in preparation for public consultation from autumn 2004; and
- the creation of a new and independent HPSS Regulation and Improvement Authority. The Authority, which is currently being established, will be operational from April 2005 and will be responsible for regulating services, conducting reviews and undertaking inspections.

Governance

H7. In March 2002, the Department adopted the internationally-recognised risk management standard AS/NZS 4360:1999 (already in use in the NHS in England) for itself and all of its associated bodies. The Department sees the adoption of a single model for risk management as an important step towards providing the right environment for the development of effective controls for the range of risks facing the HPSS.

H8. Controls assurance standards supplement this system of risk management by focusing on key areas of risk and providing HPSS bodies with a vehicle to report the extent to which those risk are being managed effectively. An initial six standards were published in 2003/04 and HPSS bodies are due to submit compliance reports against these standards in May 2004. A further 15 standards are being developed.

H9. In addition, the Department has been promoting the development of clinical and social care governance as a framework through which HPSS bodies are accountable for continuously improving the quality of their services and safeguarding high standards of care by creating an environment where excellence in clinical and social care will flourish. This process will be facilitated and supported by a Clinical and Social Care Governance Support Team.

Annex: I

PERFORMANCE MANAGEMENT ARRANGEMENTS

Selected extracts from 2004 Board/DHSPSS Annual Accountability Review meetings:

Northern Board

'The Board reflected that the continued development of good communication between the Department and the HPSS helped make Priorities for Action a successful way of establishing and pursuing key priorities.'

'The Department emphasised the continuing importance of action to reduce waiting lists and invited the Board to comment on its ability to meet the waiting list targets set out in Priorities for Action. The Board pointed to the value of central drive by the Department and urged consistency of focus on this [waiting times] area with trusts but said that it thought the targets were achievable, provided, of course, that trusts can deliver their part of the agenda. Given joint accountabilities for delivering the waiting list agenda, the Department encouraged the Board to continue to work collaboratively with trusts to effect improvements in this area.'

Western Board

'The Department asked the Board to comment on its performance. The Board highlighted 3 areas where progress had been difficult, the first of these was in relation to waiting lists where the total numbers of people had increased, causing the Board to miss its target for reduction in numbers waiting by 27. The Board explained that problems had arisen at Altnagelvin where efforts to tackle outpatient waiting in ENT and ophthalmology had had a knock-on effect on inpatient waiting numbers. The Department emphasised the need to maintain focus and momentum on hospital waiting and noted the efforts now being made by the Board and trust to tackle this problem in 2004/5.' [This is the full extent of minted discussions about waiting lists/times performance for this Board]

Southern Board

The Department underlined that the HPSS must aspire to the standards being delivered in England and Wales and emphasised that the Board and local trusts should not aim to simply satisfy the targets this year but should be creative in the use of resources to deliver the best outcome possible on waiting times and numbers. The Board undertook to work to exceed the targets wherever that was possible and provided the meeting with a copy of an internal Board report on the Secondary Care targets contained in Priorities for Action.'