Annual State of NHSScotland Assets and Facilities Report for 2013

December 2013

The Scottish Government
Riaghaltas na h-Alba

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Contents   Page

Foreword

This is the third year that the State of NHSScotland Assets and Facilities Report has been published. The report is now widely recognised as a key reference document which is used to inform decisions on the continuing investment in assets and facilities services to deliver the Scottish Government's "2020 Vision" for sustainable high quality in health. Getting the right assets and facilities services in place will be central to achieving the "2020 Vision" and will require major change to the type and distribution of assets and facilities services and the way in which we prioritise investment in the future.

This year's report builds on the work of previous years, focussing on monitoring and comparing year on year performance on a comprehensive basis across the totality of NHSScotland's assets and facilities services. The report presents a detailed and rigorous scrutiny of asset performance. In doing so it increases our understanding and knowledge of the contribution that ongoing investment in assets and facilities services is making to the delivery of the long-term goals of improving the quality of the healthcare environment, shifting the balance of care closer to home, meeting environmental commitments and delivering value for money through increased productivity and efficient use of resources.

The Report provides a range of information that should help Boards to target limited resources on achieving maximum benefit and value for money from investment.

As in previous years, Boards have been highly supportive in recognising the importance of this report and their willingness to support the detailed scrutiny of performance that underpins the report is to be commended.

Calum Campbell
Chair of Assets and Facilities Programme Board
Chief Executive NHS Borders

Paul Gray
Chief Executive NHSScotland

1.0 Introduction

1.1 Purpose

The "Annual State of NHSScotland Assets and Facilities Report for 2013" is the national strategic report on asset and facilities management for the Scottish Government and NHS Boards' and Special NHS Boards' use. Its purpose is to review asset and facilities management performance, highlight areas of best practice, set target areas for improvement and monitor performance against the targets. This is the third year that the report has been published.

The report will form part of the Scottish Government's formal performance review and investment planning process. It will inform the annual reviews of the Local Delivery plans (LDPs) through review of capital planning and infrastructure investment proposals. NHS Boards will be asked to use the performance framework set out in the report to demonstrate that assets are used efficiently, safely and support health care improvement. It will form the basis for setting target areas for improvement to be monitored by Scottish Government in partnership with Boards throughout the year. It will guide Capital Investment Group (CIG) investment approval decisions along with the Boards' annually updated and approved Property and Asset Management Strategies (PAMS).

The main body of the report provides key information and performance analysis on the full range of assets and facilities services covered by the scope of the report. More detailed information and analysis is provided in the Annexes to the report.

1.2 Scope

The first report in 2011 focused primarily on NHSScotland property and estate issues. In 2012 the scope of the report was extended to cover all NHSScotland owned and leased physical assets (property, vehicles, medical equipment, and IM&T). In addition, from 2012 the report has examined a range of facilities management services that are closely linked to asset ownership. This widening of the scope of the report is aimed at increasing the understanding of the opportunities for changing the balance of future investment between the different assets types. This is particularly important given the emerging landscape of new health & social care pathways which are increasingly being developed to deliver care outside of hospital environments.

1.3 Policy

The strategic agenda for healthcare services in Scotland is set by The Healthcare Quality Strategy for NHSScotland. This is the overarching strategic context for the direction, development and delivery of all healthcare services for the years to come both in terms

of securing improvement in the quality of healthcare services, and in achieving the necessary efficiencies.

The Asset Management Policy for NHSScotland [CEL 35 (2010)] establishes the policy environment and key performance indicators for asset management. It makes mandatory the use of the national asset management system to collect data and the requirement to submit annually updated asset management strategies to the Scottish Government. The policy establishes a robust framework against which the planning, delivery, management and disposal of property and other assets is undertaken and assessed. The policy seeks to establish asset management excellence in NHSScotland.

1.4 Context

Over the last two years Scottish Government has carried out a number of key pieces of work which have set out the approach to improving quality in healthcare, a governance structure to align national work around the approach, the 2020 vision for what the healthcare system will look like in the future, and the strategic priority areas to deliver the vision for achieving sustainable quality in healthcare across Scotland. This work confirms the Scottish Government's commitment to providing care in a home or community setting with a focus on prevention and self-management and where hospital treatment is required for day case treatment to be the norm. This 2020 vision will have a significant impact on the type and distribution of assets and prioritisation of investment in the future.

The Quality Unit has worked with Cabinet Secretary and the NHS boards to develop a route map to the 2020 vision for health and social care which identifies 12 priority areas for action in the three domains of the triple aim; quality of care, the health of the population and value and financial sustainability. It has been agreed that these form the basis for business planning, prioritisation, positioning and integration of all national work.

1.4.1 The 2020 Capital and Facilities Change Management Plan

The Annual State of NHSScotland Asset and Facilities Report for 2012 identified the need to consider capital investment and facilities management in the context of the quality strategy, health and social care integration and the drive to realise the "2020 Vision". Following discussion with Directors of Facilities and the Quality Unit it has now been agreed that this work should be developed as "The 2020 Capital and Facilities Change Management Plan". This work will aim to ensure:

- Clarity on the shape, size and distribution of a leaner acute estate.

- Support for the rationalisation of any estate that is no longer required under the 2020 vision.

- The right balance of investment across asset types – currently 80% property 20% others.

- An understanding of the extent of regional shared services that will be publicly acceptable given likely closures, staff changes etc.

- The impact of health & social care integration on all premises, including ownership & change that may be required to existing staff and facilities contracts

- The role of wider stakeholder groups and their contribution to the 2020 vision, including the private sector, third sector, etc.

The development of the 2020 Capital and Facilities Change Management Plan will be undertaken in partnership with all stakeholders to ensure that it reflects national priorities and local need, supporting quality ambitions whilst taking cognisance of issues relating to sustainability.

1.4.2 The Facilities and Shared Services Review

The Facilities and Shared Services Programme, established in 2011/12, is examining opportunities to improve efficiency and effectiveness through the development of strategic partnerships between Health Boards and, where appropriate, other public sector organisations. The areas of activity being examined are:

- Capital Planning/Project Management and Hard Facilities Management.

- Operational Management of PPP/PFI Contracts

- Decontamination of Medical Devices

- Transport.

- Waste Management.

All outcomes from these work streams will be considered by the Facilities and Shared Services Programme Board before being passed to the Efficiency Portfolio Board for approval.

1.4.3 Capital Planning and Prioritisation

As with other areas of Government spend, capital resources for physical health assets is under pressure for the foreseeable future which is driving a more formal approach to capital planning and prioritisation at NHS Board and national level. A Capital Planning and Prioritisation Short Life Working Group, which forms parts of the above Facilities and Shared Services Programme, has been established to take forward long term capital planning and prioritisation work to address capital constraints and fragmentation issues

identified in previous State of NHSScotland Assets and Facilities Reports. Successful delivery of the Group's work will result in clarity and direction on:

- The current state of capital planning process at board, regional and national level, capital planning roles and functions for Boards, HFS, SFT, Hub and SG,

- Current skill levels and staff turnover for capital planning

- An understanding of the NHS Scotland Capital Programme by project type & distribution and skills and staff numbers required to deliver programme

- Staff numbers and skills required to deliver the current PAMS, Capital Plans, LDPs, and the hubco and NPD project pipelines

- An understanding of the implications of policy changes, for example 2020 vision and community planning partnerships, which may have implications for the numbers and distribution of NHS capital planning staff

- The most appropriate model for delivering capital planning and asset management (disposals) services following an option appraisal exercise i.e. delivered locally / regionally / nationally.

1.5 Procurement Efficiencies

The Scottish Government and Health Facilities Scotland has recently procured a new framework (Frameworks Scotland 2) for use by NHSScotland bodies to deliver cost and time efficiencies for publicly funded health and social care projects across Scotland. Frameworks Scotland 2 will reflect a strategic and flexible partnering approach to the procurement of publicly funded construction work and complements other procurement initiatives for the delivery of health, social care and other facilities in Scotland. It is expected to have a project "pipeline" of approximately £110m per year.

Frameworks Scotland 2 will provide a route for the procurement of publicly funded construction, repair and maintenance projects in respect of health, social care and other facilities. It will sit alongside alternative procurement routes available, namely hub and NPD projects. The hub initiative is led by the Scottish Futures Trust on behalf of the Scottish Government and has been implemented across five geographical territories across Scotland. In each territory, the participating public bodies have joined with a private partner to form a new joint venture company known as a hubCo that will deliver a diverse pipeline of projects. Across Scotland the total value of projects is expected to be worth more than £1.4bn over the next ten years. Hub will typically be utilised for community services in particular primary care projects and health and social care projects involving multiple public sector organisations. NPD will be used to procure large projects which will be privately financed. The principal focus of the work under Frameworks Scotland 2 is anticipated to be around the acute sector, and will include both refurbishment and new build work along with programmes of backlog

maintenance and risk reduction work. It is anticipated that the majority of the work will be projects or programmes of work with construction costs in excess of £1 million.

1.6 Information Quality and Consistency

NHS Boards and Special NHS Boards are responsible for providing and maintaining information about the assets that they own and lease including ensuring that this information is accurate and up to date. They are supported and facilitated in this by Health Facilities Scotland and together they continually work to improve the quality of data so that it assists better quality analysis and performance monitoring. During the last couple of years NHS Boards have focused on updating and verifying their records on estate assets as part of the development and implementation of the new Estate and Assets Management System (EAMS). Similarly, information on energy and waste has been updated as part of an initiative to revise and update the Environmental Monitoring and Reporting Tool (eMART). This report makes extensive use of the information and data provided by Boards to the ISD Cost Book, EAMS and eMART. In addition, the report uses information specifically provided by Boards for this report using standardised information proforma.

In the 2011 and 2012 State of NHSScotland Assets and Facilities Reports, a number of issues in relation to the general quality and consistency of information of different information sources were identified. Since then a number of actions have been taken to improve the data:

- Short Life Working Groups were formed to examine the data collection proformas for vehicles and medical equipment which resulted in revised proforma being used for collection of data on these assets for this year's report

- Since the 2012 Assets and Facilities Report was published a comprehensive survey of overall IM&T expenditure by Scottish Government eHealth Division and Boards was completed in April 2013. Significant effort was put into validating the data for this report and there is a high level of confidence in the quality and consistency of this data. Therefore, it has been used as the source of data for IM&T expenditure used for this report

- Changes to the definitions and measurements of assets and facilities inputs to the ISD Cost Book have been implemented and were incorporated into the ISD Cost Book published in November 2012 and used to inform this 2013 Report

- EAMS is now used by the majority of Boards to hold and interrogate information on the estate condition and performance. This has led to a general improvement in the consistency of data presented by Boards in their PAMS and proformas

- Boards have generally been systematically reviewing their estate information, particularly in relation to backlog costs and risk, and this has resulted in an updated and more accurate picture of the current situation

- Additional property appraisal surveys have been completed over the last year resulting in more accurate condition and performance information for many of the hospital sites.

- Comparative analysis exercises have been undertaken to assess the degree of alignment between the various information sources. This has shown that, at national and Board level, the main property metrics (area and cost) are broadly comparable.
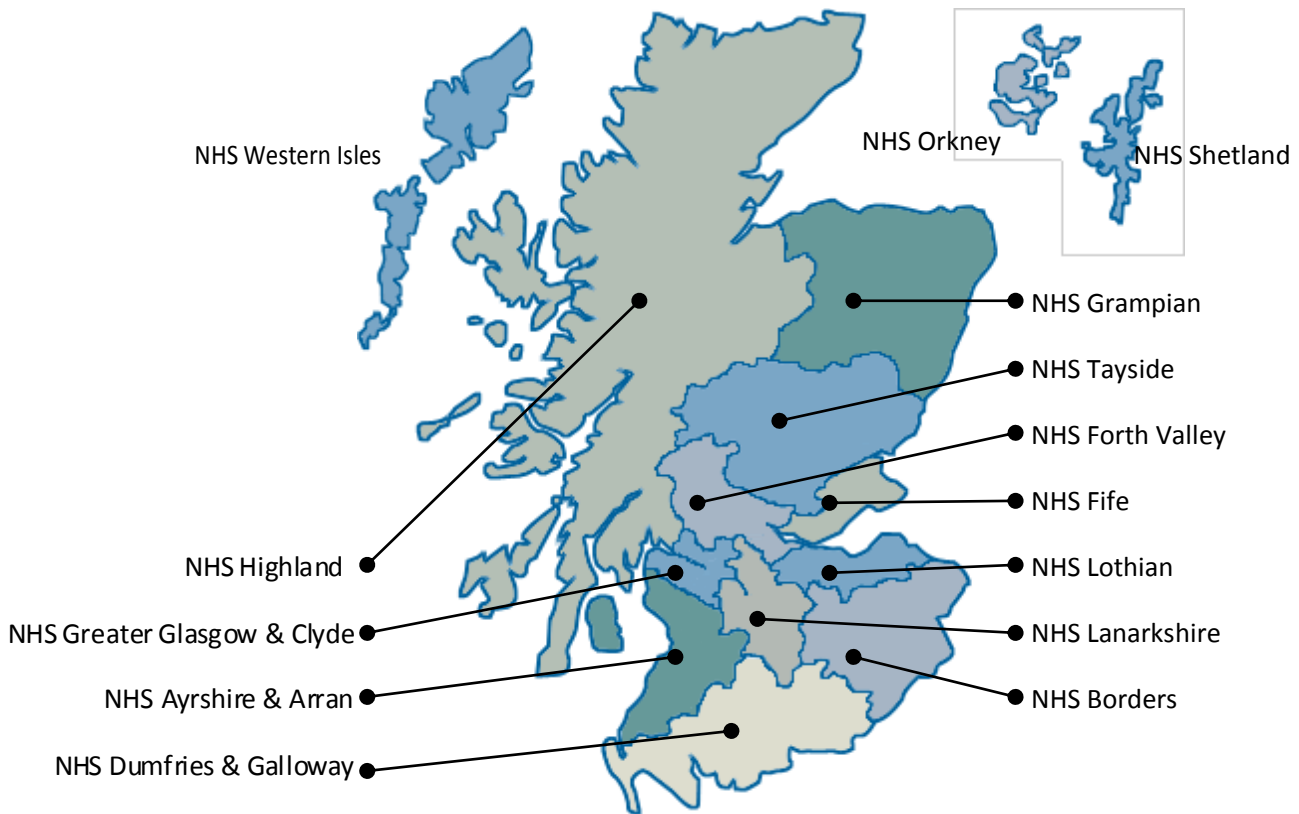
As a result of the above, most Boards are now reporting improved confidence in the quality and consistency of the property information that they submit for use in this report and in the National Asset Performance Framework.

However, the widening of the scope of the report in 2012 to cover vehicles, medical equipment and IM&T for the first time identified further issues on information quality and this remains a concern for these asset groups. The information systems for these assets are generally less well developed than those for property assets and this inevitably limits the conclusions that can be drawn from the analysis of performance in relation to these assets. Short-life working groups were set up in 2012/13 for medical equipment and fleet and these will continue into 2013/14 aimed at further improving and validating information received from NHS Boards for these asset groups. In reality, it is likely to take a number of years to bring the quality and consistency of the data for these asset groups up to the confidence level currently achieved for property assets.

Similarly, some of the information at hospital level provided by Boards to the ISD Cost Book remains of concern in terms of both its accuracy and consistency with other information sources. Particular concerns relating to individual Boards have been detailed in reports provided to Boards and were discussed at the interviews with each Board in June 2013. Boards have agreed to review their processes for ensuring consistency between the information submitted to the ISD Cost Book and other information sources and this will be monitored over the next year.

2.0 NHSScotland's assets

The responsibility for the management of NHSScotland's assets rests with 14 NHS Boards and 8 Special NHS Boards.

NHS Western Isles

NHS Orkney

NHS Shetland

NHS Grampian

NHS Tayside

NHS Forth Valley

NHS Fife

NHS Lothian

NHS Highland

NHS Lanarkshire

NHS Greater Glasgow & Clyde

NHS Borders

NHS Ayrshire & Arran

NHS Dumfries & Galloway

Special NHS Boards

NHS Education for Scotland	NHS Health Scotland
NHS National Services Scotland[1]	NHS National Waiting Times Centre (Golden Jubilee)
Healthcare Improvement Scotland	NHS 24
Scottish Ambulance Service	The State Hospitals Board for Scotland

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[1] References to Special NHS Boards should be read to include NHS National Services Scotland, which is the common name for the Common Services Agency.

NHSScotland owns physical assets that are worth circa £5 billion. Most of these assets relate to the estate (land and buildings) which are estimated to be worth circa £4.6 billion. Other significant fixed assets which are owned are vehicles, medical equipment and information management and technology (IM&T). An estimate of the Net Book Value of these owned assets is shown in the chart below.

Net Book Value of NHSScotland Assets (Total £5 billion)

- IM&T 2%
- Fleet 1%
- Medical Equipment 6%
- Property 91%
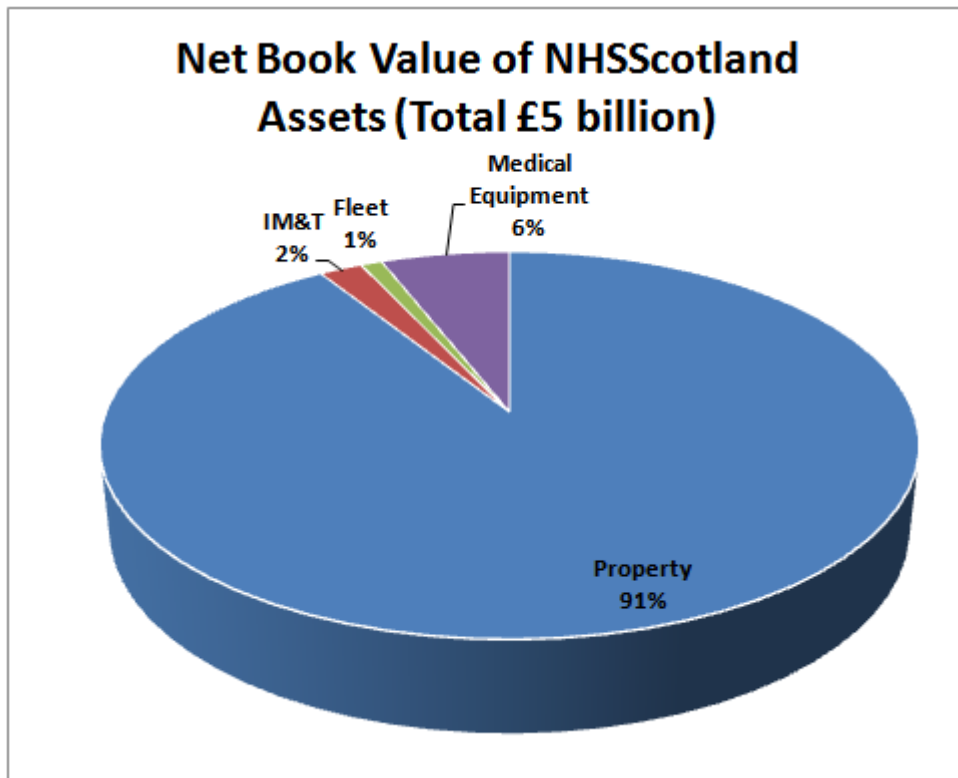
Taken from information returned by each NHS Board

The NHS also leases assets which it does not own including buildings, vehicles, medical equipment and IM&T. These leased assets are estimated to be worth a further £1.5 billion, the majority of which are hospitals and health centres leased under Public Private Partnerships (PPPs) agreements. The majority of cars used by NHSScotland staff are also leased with staff paying for their own non business element of these leased vehicles.

In addition to the NHSScotland owned and leased property assets, there are numerous smaller properties used to provide a range of community and family health services provided by GPs, Pharmacists, Dentists and Opticians, many of which are owned or leased by these independent practitioners themselves and paid for indirectly by the NHS through a range of charging and re-imbursement mechanisms.

2.1 Estate Assets

The NHSScotland estate comprises circa 4.5 million sq.m of building floor area encompassing buildings ranging in size from 40 sq.m to 200,000 sq.m. The majority (75%) of this is the hospital estate of the 14 NHS Boards and 2 Special NHS Boards (NHS National Waiting Times Centre and the State Hospitals Board). The 2012 ISD Cost Book records this hospital estate as 237 hospitals with a total building area of 3.4 million sq.m. Other property types that account for the further 1.1 million sq.m. include health centres & clinics, day centres, offices, residential accommodation, and industrial / storage units.

The charts that follow show an analysis of the hospital estate by type of hospital in terms of building area and the number of sites.

Analysis of Hospital Estate by the Number of Types of Sites (Total 237 sites)

- Other, 27
- Acute, 38
- Long Stay, 55
- Mental Health, 41
- Psychiatric & LD, 15
- Community, 61

Analysis of Hospital Estate Area by Hospital Type (Total Area 3.4 million sq.m)

- Other 7%
- Community 5%
- Psychiatric & LD 1%
- Mental Health 13%
- Long Stay 10%
- Acute 64%
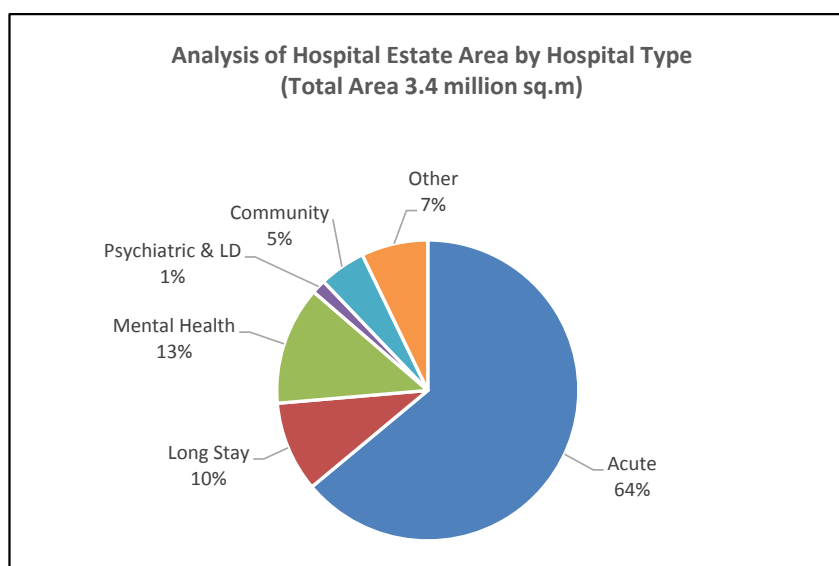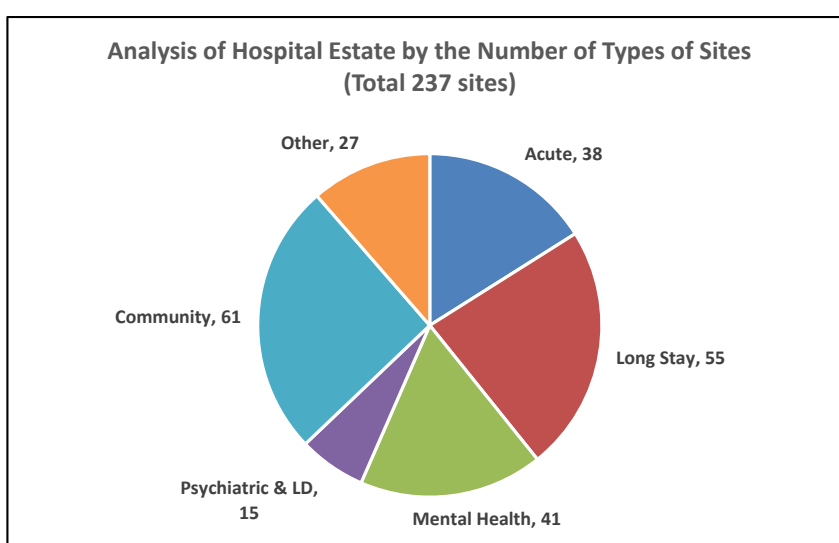
The above charts show that whilst community hospitals are the most numerous (61) they only represent 5% of the total hospital estate in terms of building area i.e. a large

number of small hospitals. In contrast, the 38 acute hospitals account for 64% of the total hospital estate in terms of building area.

The overall acute services property asset model (including community hospitals, specialist hospitals such as Golden Jubiliee, and ambulatory care hospitals) is shown diagramatically below.
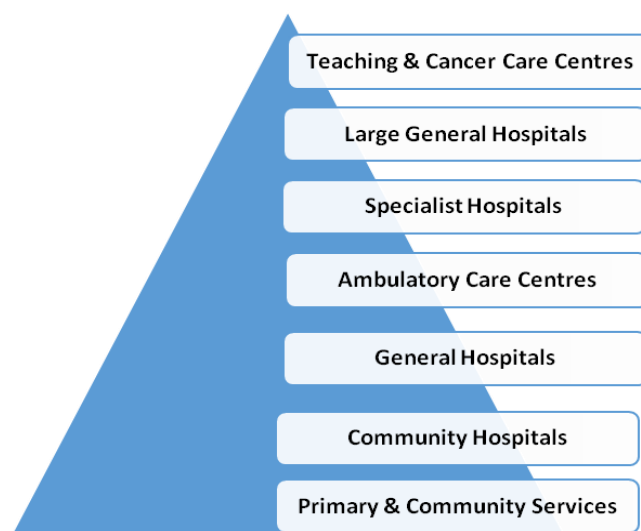
Analysis of this model is shown in the table that follows and clearly illustrates the importance of the Teaching and Large General Hospitals in terms of both their size and expenditure on property and facilities management services. These two hospital types account for 56% of the total hospital estate (area sq.m) and 60% of the total expenditure on property and FM services.

Acute Services					
		Area sq.m		Property & FM Costs	
Type	Number	sq.m	Percentage of Total NHS Scotland Hospital Estate	Annual £	Percentage of Total NHS Scotland Expenditure on Property & FM
Teaching	7	989355	29%	181,680,845	28%
Large General	16	918533	27%	210,371,579	32%
General	11	161682	5%	28,606,897	4%
Children's Hospital	3	93571	3%	13,685,664	2%
Golden Jubilee	1	42607	1%	7,356,647	1%
Stobhill ACH	1	27675	1%	15,784,855	2%
Victoria ACH	1	41722	1%	15,175,310	2%
Community	61	168717	5%	35,581,691	5%
Total	101	2,443,862	72%	508,243,489	77%
Percentage of NHSScotland All Hospitals Estate	43%	72%		77%	

The table below shows that the teaching hospitals are concentrated in the major cities of Scotland and particularly in Glasgow and Edinburgh which accounts for 70% of the total teaching hospital estate.

City	No Teaching Hospitals	Area of Teaching Hospitals sq.m	% of Total Area of Teaching Hospitals
Glasgow	3	431,558	44%
Edinburgh	2	250,767	26%
Dundee	1	198,670	20%
Aberdeen*	1	108,360	10%
Total	**7**	**989,355**	**100%**

* Area taken from the Cost Book / EAMS data but this does not cover the full Foresterhill Campus

The large general hospitals are more widely distributed across the NHSScotland Boards, as shown below.

Board	No of Large General Hospitals	Area of Large General Hospitals sq.m	% of Total Area of Large General Hospitals
Glasgow	3	183,805	20%
Lanarkshire	3	169,874	18%
Ayrshire & Arran	2	112,692	12%
Fife	2	106,836	12%
Forth Valley	1	95,115	10%
Lothian	1	67,004	7%
Highland	1	54,203	6%
Dumfries & Galloway	1	47,851	5%
Tayside	1	46,243	5%
Borders	1	34,910	4%
Total	**16**	**918,533**	**100%**

The table below shows that NHS Grampian and Highland account for over half of the community hospitals, with most located out with the major centres of population.

Board	No of Community Hospitals	Area of Community Hospitals sq.m	% of Total Area of Community Hospitals
Grampian	17	46,303	27%
Highland	14	41,130	24%
Fife	4	21,937	13%
Tayside	8	21,355	13%
Ayrshire & Arran	3	13,835	8%
Borders	4	12,350	7%
Dumfries & Galloway	4	4,470	3%
Lanarkshire	4	4,154	2%
Lothian	2	2,728	2%
Western Isles	1	455	0.3%
Total	**61**	**168,717**	**100%**

The chart below shows an analysis of the current NHSScotland hospital estate by building type and compares this to 2002.

Analysis of Change in the Hospital Estate over the period 2002 to 2012
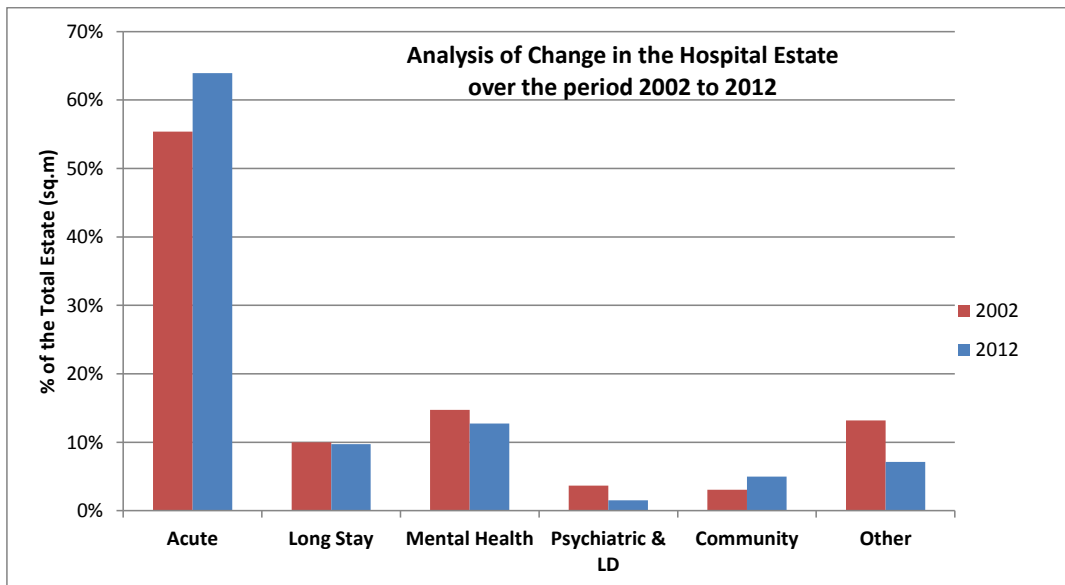
Data Source :ISD Cost Book

The chart shows that acute and community hospitals have both increased in terms of their percentage of the overall hospital estate since 2002 whilst all other types of hospitals have decreased as a percentage of the overall hospital estate.

The increase in community hospital accommodation reflects the extended role of community hospitals in delivering a wider range of services locally. However, the increase in size of the acute hospital estate reflects both higher space standards for new hospitals and the extended range of services required from within them. It is expected that trends towards providing services more locally will be an integral part of the 2020 Vision, and subsequent changes in the estate will continue to be monitored as part of SAFR in future years.

2.1.1 Estate Tenure

The majority of the NHSScotland estate is owned but PPP/PFI and leased properties are also significant as shown in the chart that follows.

Estate Tenure

Other 3%
PPP/PFI 12%
Leased 7%
Owned 78%
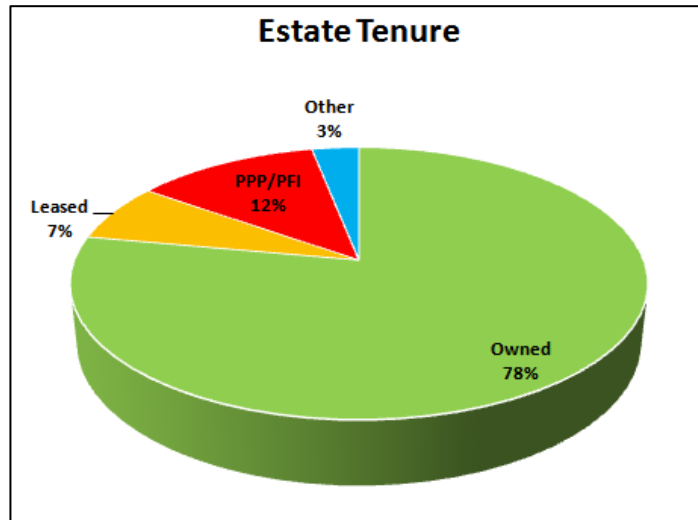
The majority of all office accommodation occupied by the Special NHS Boards is leased.

2.1.2 Estate Age Profile

The chart below shows the age profile of the NHSScotland Estate. It shows that, even though there has been substantial capital investment over recent years, 28% of the estate remains over 50 years old with a further 26% over 30 years old (note that some older properties are refurbished to modern standards rather than replaced). This age profile is similar to that reported in the 2012 SAFR report, with the percentage of properties less than 50 years old only marginally reducing from 73% to 72%.

Estate Age Profile

Up to 10 years old 20%
Over 50 years old 28%
10-29 years old 26%
30-50 years old 26%
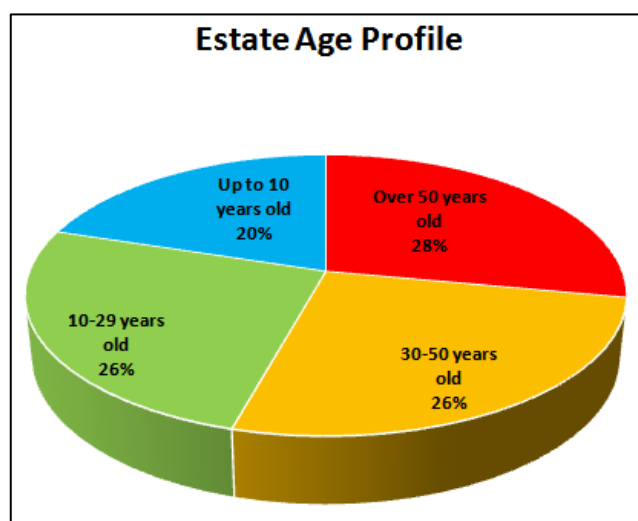
2.1.3 Estate Condition

Approximately 67% of the NHS Boards' estate is in good physical condition (category A or B) with 30% requiring investment to improve its condition (category C) and 3% being unsatisfactory and requiring major investment or replacement (category D).

Estate Physical Condition Profile

- D 3%
- A 10%
- B 57%
- C 30%
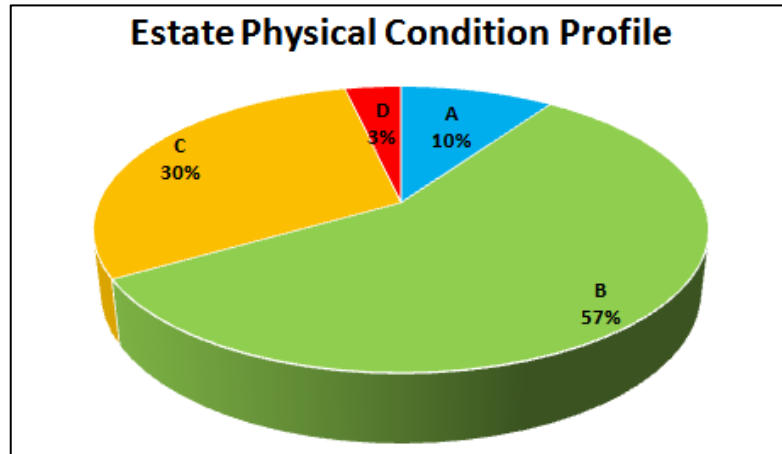
The proportion of the estate in good physical condition (67%) is similar to the proportion of the estate less than 50 years old (72%), thus suggesting that most properties up to 50 years old are capable of being maintained to a good standard.

NHS Boards which have buildings assessed as category D – "unsatisfactory" have indicated that they have plans in place to either dispose or replace these buildings over the next 10 years.

2.1.4 Estate Utilisation

The majority (77%) of the estate is fully utilised although some under utilisation and some overcrowding is evident as shown in the chart below.

Estate Utilisation Chart

- Over-crowded 9%
- Empty 5%
- Under-used 9%
- Fully used 77%
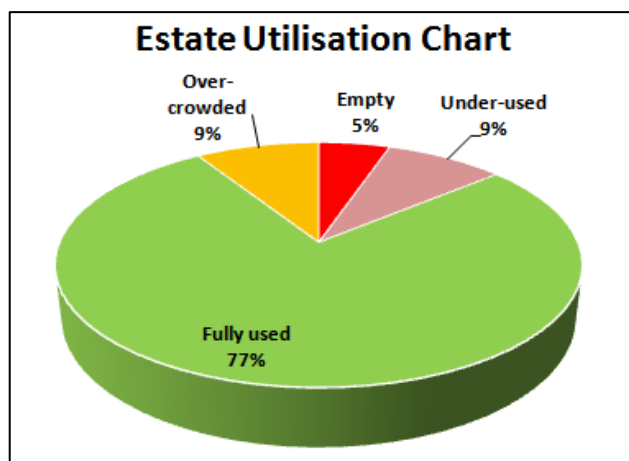
This profile has changed little over the last couple of years and is something that NHS Boards need to concentrate more on.

2.1.5 Estate Functional Suitability

The majority of the estate (68%) is functionally suitable for its current use (categories A and B) but 26% (category C) requires investment to improve its functional suitability and 6% (category D) requires major investment or replacement to achieve satisfactory functionality.
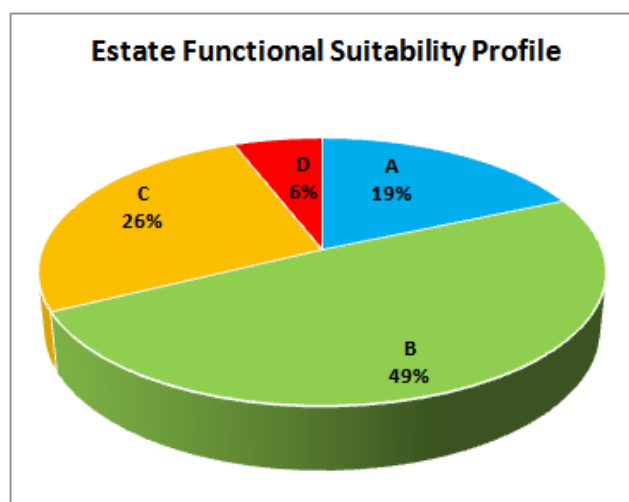

Estate Functional Suitability Profile

With 68% of the estate providing good, functionally suitable accommodation it is a further indicator that most properties up to 50 years old (72%) are capable of providing such a standard of accommodation.

2.1.6 Estate Backlog

NHSScotland's estate backlog maintenance expenditure requirement is the base cost required to bring those parts of the existing estate which are currently not in satisfactory condition, back to Condition B (satisfactory). It is an on-going challenge for the NHS to balance investment between that which is focussed on service improvement and development, and that which is necessary to maintain buildings in a good condition and ensure that they are safe, reliable and fit for purpose.

An analysis of the backlog expenditure requirement across NHS Boards is shown in the chart that follows and identifies a base backlog maintenance expenditure requirement of £858 million, which is a reduction of £152m since 2011, including a £90 million reduction since 2012.

**Backlog Maintenance Comparison -
NHSScotland Total is £858m**
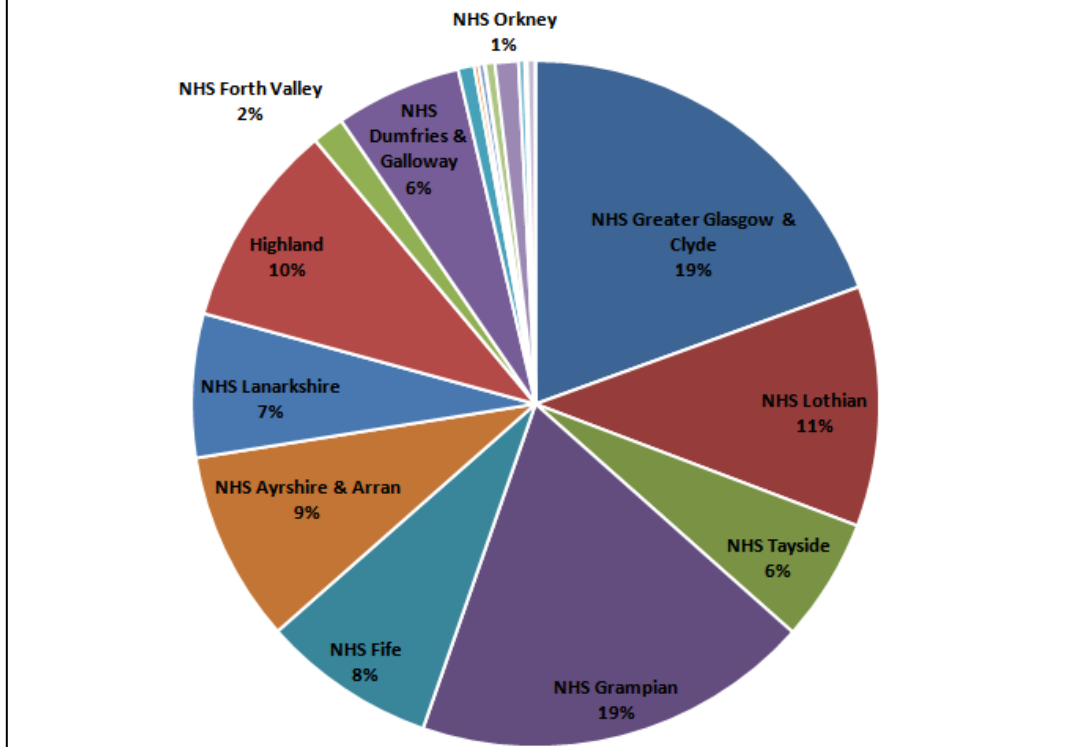
Note: the above chart includes all 22 NHS Boards and Special NHS Boards but those whose backlog is below 1% have not been separately identified for clarity of presentation reasons only.

There are various reasons for the overall reduction in backlog maintenance (£90m) since 2012 and the following summarises some of the more significant reductions across NHS Boards:

- NHS Lothian: £45m backlog reduction.
  Combination of completion of 2 capital investment schemes, estate rationalisation, and reassessment of survey data.

- National Services Scotland: £12m backlog reduction.
  Upgrade of SNBTS accommodation, and office accommodation in Glasgow.

- NHS Greater Glasgow & Clyde: £11m backlog reduction.
  Targeted backlog maintenance works, plus a reappraisal of part of the estate.

- NHS Tayside: £11m backlog reduction.
  More robust data reporting.

- NHS Dumfries & Galloway: £7m backlog reduction.
  Reappraisal of parts of the estate.

- NHS Orkney: £7m backlog reduction.
  Reappraisal of its hospital accommodation.

- NHS Ayrshire & Arran: £6m backlog reduction.
  Improvement works to existing accommodation and the reappraisal of parts of the estate.

- NHS Lanarkshire: £5m backlog reduction.
  Direct investment towards backlog maintenance works, particularly at Monklands Hospital.

Due to reasons of an aging estate and reappraisal of parts of the estate, some NHS Boards have seen an increase in their backlog maintenance.

The total backlog in the estate has been risk assessed and the results of this are shown in the chart that follows.

Backlog Maintenance Risk Profile

- High 11%
- Low 30%
- Moderate 27%
- Significant 32%
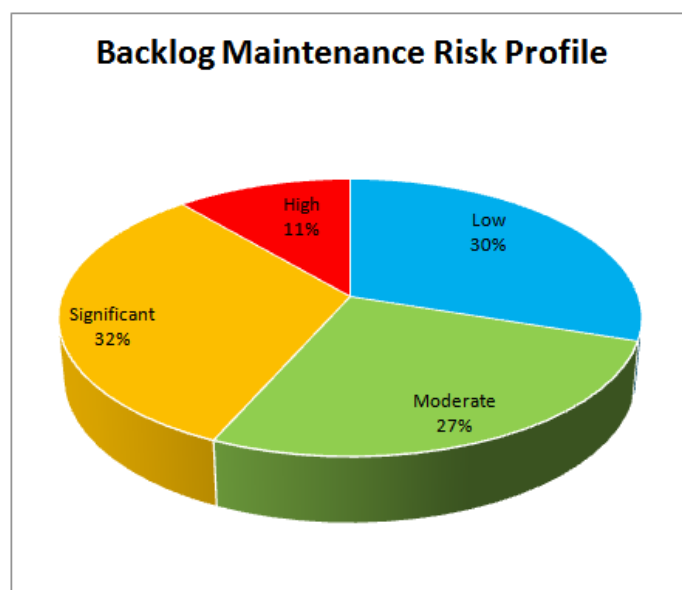
A significant amount of this backlog cost is in buildings which NHS Boards are planning to dispose of in the next ten years. It should also be recognised that around 21% of the current backlog maintenance expenditure requirement is in buildings which are classified as "non-clinical" and will have little impact on the patient's healthcare experience.

Although backlog is identified as expenditure requirement, in practice it is likely to be addressed by a combination of:

- Estate rationalisation and disposal of older properties avoiding the need for expenditure on backlog

- Replacing older properties with new facilities and avoiding the need for expenditure on backlog

- Incorporating backlog works within major modernisation and refurbishment projects

- Undertaking specific projects to target the high and significant backlog

- Incorporating backlog work within operational repair and cyclical maintenance

Therefore, whilst the base backlog expenditure requirement is useful for monitoring "year on year" change in backlog it does not necessarily represent cash requirement in terms of capital or revenue since it can be addressed through the different "non cash" approaches shown above.

Annex B of this report provides further information on the detailed analysis of estate condition and performance (including backlog) which has been undertaken to provide the information in this section of the report.

2.2 Office Accommodation

Properties that provide dedicated office accommodation account for circa 5% of NHSScotland's total property assets and play a vital supporting role towards the effective and efficient delivery of healthcare services. This excludes the office accommodation which is embedded within clinical and other accommodation, which would add further to the overall size of the office estate.

Office accommodation for NHS Boards accounts for 175,000sq.m (4%) of their estate, whereas for Special Health Boards it accounts for 60,000sq.m (40%) of their estate. NHS Boards own 82% of their office accommodation, whereas Special Health Boards lease 78% of their office space, as shown in the chart below.
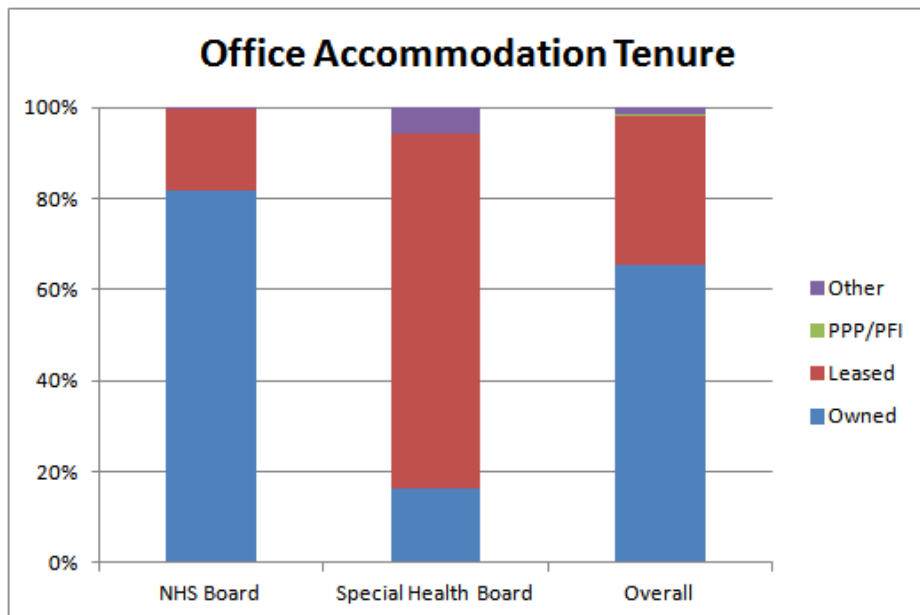
The chart below compares the age profile of office accommodation between NHS Boards and Special Health Boards.

Office Accommodation Age Profile

Legend:
- Up to 10 years old
- 10-29 years old
- 30-50 years old
- Over 50 years old

Categories: NHS Board, Special Health Board, Overall
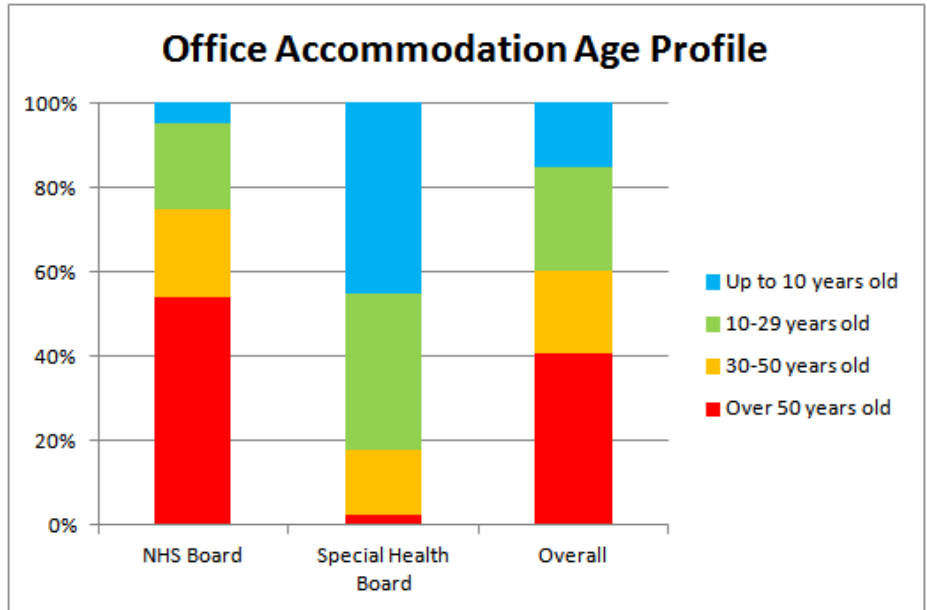
NHS Boards' office accommodation has a much older age profile than that of Special Health Boards. This may reflect the fairly common practice in NHS Boards of adapting older and unsuitable clinical accommodation into office accommodation. The impact of this older asset base in NHS Board office accommodation is also reflected in other performance criteria such as poorer physical condition and functional suitability.

Further details of this performance comparison can be found in Section 5.1.6 Asset Performance Framework for Office Accommodation. The 2014 SAFR will examine in more detail the relative benefits between the different approaches to office ownership.

2.3 Vehicle Assets

Analysis of vehicle assets is based on annual pro-forma information returned by each NHS Board. NHSScotland's vehicle assets comprise of approximately 10,900 vehicles, the majority of which are staff car scheme vehicles (61%) and operational cars (16%). The chart below provides a breakdown of NHSScotland's vehicle assets by type.

Analysis of Vehicle assets by type
(10,900 total vehicles)
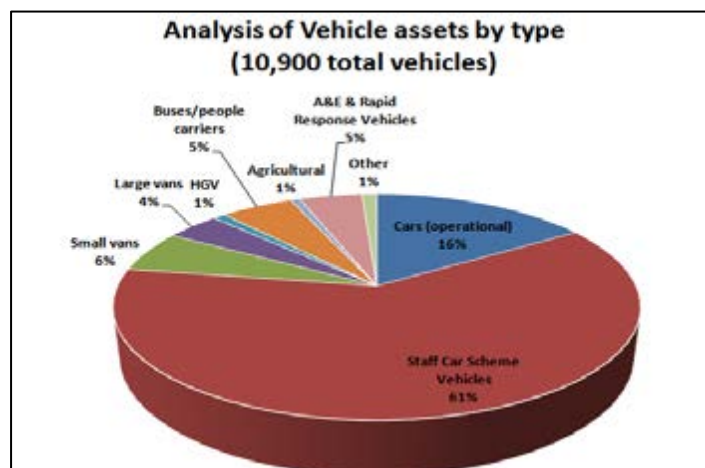
This excludes national logistics vehicles

The distribution of these vehicle assets, and their ownership arrangements across NHS Boards and Special Health Boards is shown in the following two charts:

Distribution of vehicles and ownership arrangements across NHS Boards

	NHS Greater Glasgow & Clyde	NHS Lothian	NHS Tayside	NHS Grampian	NHS Fife	NHS Ayrshire & Arran	NHS Lanarkshire	NHS Highland	Forth Valley	NHS Dumfries & Galloway	NHS Borders	NHS NWTC (Golden Jubilee)	NHS Western Isles	State Hospital Board	NHS Shetland	NHS Orkney
Long / short term hire	88	5	0	0	1	0	62	24	0	0	0	0	1	0	0	0
Staff Car Scheme Vehicles	2,007	431	156	455	214	715	1,060	440	245	274	267	0	11	5	13	0
Leased Vehicles	149	543	70	321	20	268	0	437	113	90	2	0	4	0	50	0
Owned Vehicles	110	10	215	25	83	1	10	12	3	2	63	0	17	20	1	0

Distribution of vehicles and ownership arrangements across Special Health Boards

	National Services Scotland	Scottish Ambulance Service	NHS Education for Scotland	Healthcare Improvement Scotland	NHS Health Scotland	NHS 24
Long / short term hire	0	0	0	0	0	0
Staff Car Scheme Vehicles	189	199	0	0	0	29
Leased Vehicles	34	0	0	0	0	0
Owned Vehicles	95	1,250	0	0	0	0

Overall, only 18% of these vehicle assets are directly owned by NHS Boards; the majority of which (65%) are attributed to Scottish Ambulance Service vehicles, 19% are leased, 2% form part of short / long term hire arrangements, and 62% form part of the staff car scheme. The charts above show, however, that these arrangements vary significantly between each NHS Board.

The vehicle age profile is shown below and highlights that circa 41% of the vehicles are less than two years, but with 18% over 5 years old. This represents a reasonable age profile for this asset group and indicates that investment is currently maintaining a reasonable standard of vehicle asset provision. This is also reflected in the overall good / adequate condition of these vehicles, with only 8% considered to be in poor condition, as reported in the further chart below:

Vehicle Age Profile

- > 5 years 18%
- Less than 2 years 41%
- 2 to 5 years 41%

Vehicle Condition (by number of vehicles)

- Poor 8%
- Acceptable 37%
- Good 55%
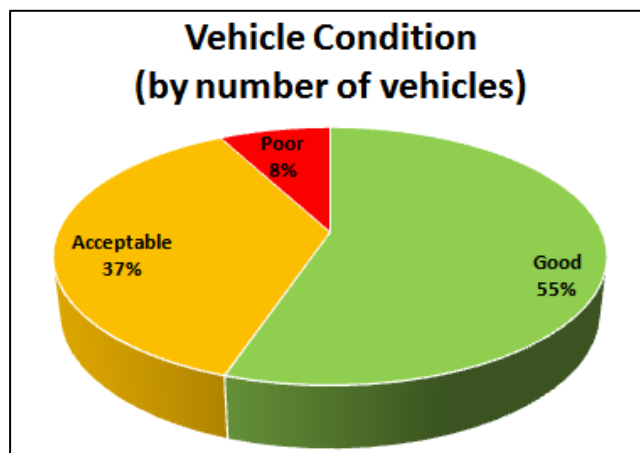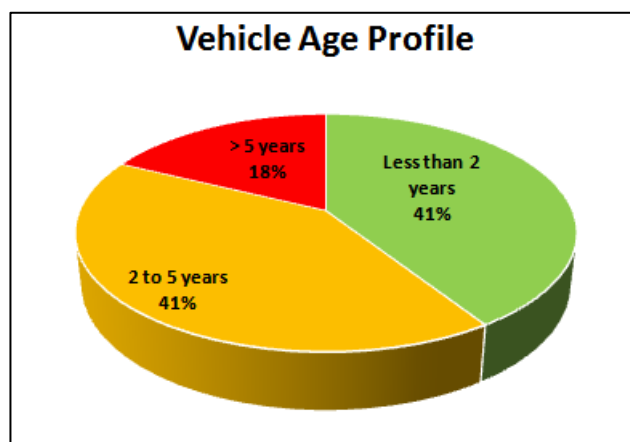
2.4 Medical Equipment Assets

Information has been gathered from each NHS Board and the national imaging and radiotherapy equipment groups to gain a more accurate understanding of the scope and value of medical equipment across NHSScotland. In addition to the global overview of the value of medical equipment, it also sought more detailed information on the following specific equipment types:

- Renal dialysis equipment.

- Cardiac defibrillators.

- Endoscopic equipment.

- Imaging equipment.

- Radiotherapy equipment.

This presented an overall estimated replacement value for Medical Equipment of £760m. The relative value of each equipment type as described above is shown in the following chart:

Replacement Value of all Medical Equipment (£760m)

- All other medical equipment 46%
- Renal Dialysis Equipment 2%
- Cardiac Defibrillators 1%
- Flexible Endoscopic Equipment 8%
- Linear Accelerators 7%
- Radiotherapy - CT 1%
- Imaging - MRI 6%
- Imaging - CT 6%
- Imaging - Gamma Camera 3%
- Imaging - Cath Lab 1%
- Imaging - Fluoroscopy 3%
- Imaging - X-ray 8%
- Other Imaging Equipment 8%
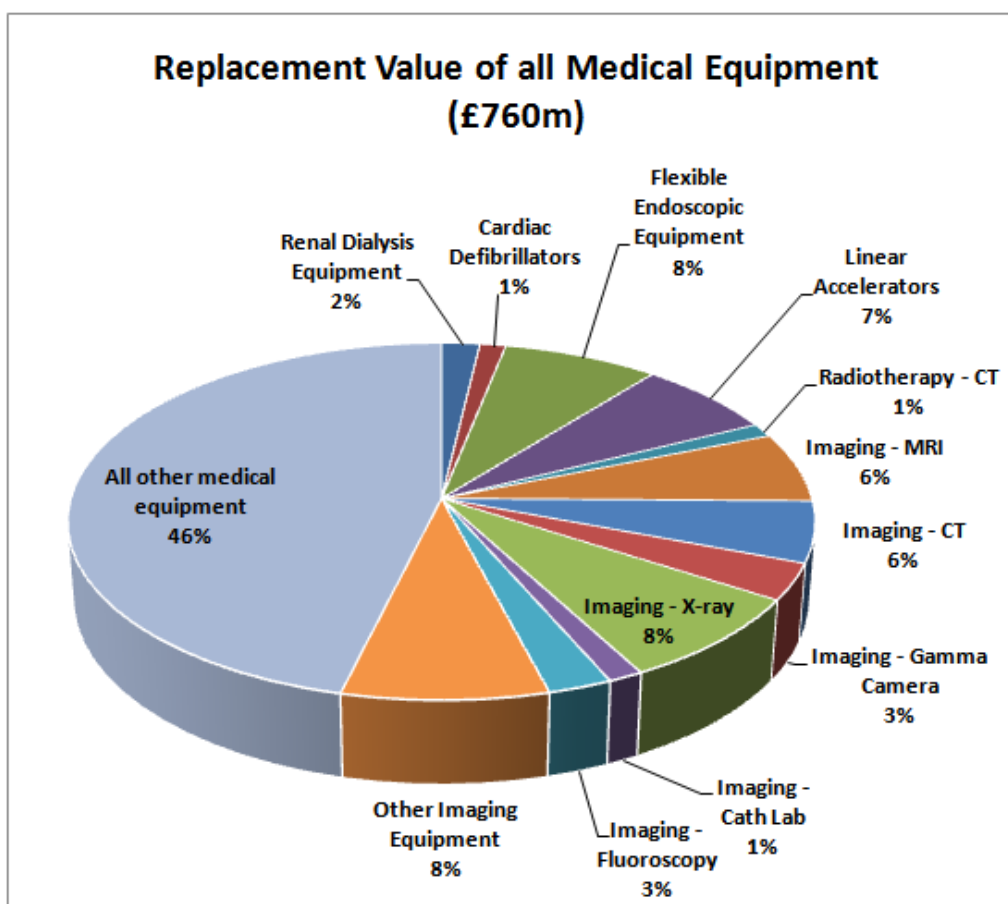
A brief summary of the scope, operational value and funding plans associated with these equipment types is described below:

Renal Dialysis Equipment

Renal dialysis units are life saving facilities for people with renal disorder providing renal replacement therapy. Dialysis machines are critical to these patients quality of life. Dialysis machines are used within acute hospitals and in patients' homes, enabling care in the community. The survey found approximately 930 dialysis machines across NHSScotland with a replacement value of c.£14.2m. These support nearly 200,000 patient sessions per year within dedicated Renal Dialysis Units, with nearly 50 patients dialysed at home. Approximately £2m (14%) was spent in 2012/13 on new equipment which would provide full replacement of this equipment type within 7.1 years (excluding inflationary adjustments). This is considered to be a reasonable investment profile but is tempered by concerns that 33% of units are currently over 7 years old.

Cardiac Defibrillators

A defibrillator is a life-saving machine that gives the heart an electric shock to restore normal heart rhythms in some cases of heart attack. There are 2,160 reported cardiac defibrillators based in hospital environments across NHSScotland, with an average of 8.9 defibrillators per 100 beds and a replacement value of c.£8.7m. Procurements are managed to ensure defibrillator standardisation is crucial to ensure staff familiarity. Approximately £1.3m (15%) was spent in 2012/13 on new equipment, which would provide full replacement of this equipment type within 6.7 years (excluding inflationary adjustments). Defibrillators are expected to have a lifespan of 10 years. The data shows a warning of need for considerable investment in defibrillator replacements over the next few years, with 32% of current units over 7 years old.

Endoscopic Equipment

An endoscope is an investigative and screening device used to examine the inside of the body and to diagnose various conditions. It enables minimal invasive procedures often allowing patients to be treated as outpatients. This survey examined the number of flexible endoscopes in use within Scotland, including those used for upper and lower (covering colonoscopy screening) gastrointestinal examinations. There are 2,647 reported flexible endoscopes across NHSScotland with a replacement value of c.£58m. Approximately £5.6m (10%) was spent in 2012/13 on new units which would provide full replacement of this equipment type within 10.4 years (excluding inflationary adjustments). This is considered to be a minimum acceptable investment profile for such important patient centred equipment. It is also noted that 26.5% of units are currently over 7 years old.

Imaging Equipment

Imaging equipment plays a significant and important role in the provision of healthcare to patients within both the acute and primary care sectors. Diagnostic procedures increased between 2003/04 and 2006/07 by 38% (according to Audit Scotland), and this trend has continued with an increase of 37% between 2006/07 and 2009/10 in the number of patients having a CT, MRI or ultrasound test.

In addition to diagnostic procedures, there is also an increasing number of interventional /therapeutic procedures carried out within imaging directorates. In many cases these have replaced major surgical procedures with minimally invasive procedures that have significantly reduced morbidity and length of hospital stay.

The National Imaging Inventory has an estimated replacement value of £265m (incl VAT and turnkey). The value of equipment out with RCR guidelines (beyond recommended life) is £73m (incl VAT), which has reduced due to national agreement on the asset lives of imaging equipment being stretched by 1 year and the reduced costs of replacing equipment. The annual maintenance charge is £12.4million across the inventory and remains static from previous year.

Radiotherapy Equipment

The 5 Cancer Centres in Scotland have had a co-ordinated national equipment replacement programme in place since 1998, which has been instrumental in ensuring the efficient and timely replacement of radiotherapy equipment across NHSScotland. The continued delivery of cancer access targets is in part due to the timely replacement of ageing equipment.

The timing of replacement of equipment reflects current national recommendations and the programme is managed and monitored by the National Radiotherapy Programme Board with the equipment financed from a ring fenced Scottish Government allocation.

The success of this programme in introducing leading edge technology to enable the best possible treatment for cancer patients; with equity of access across Scotland, is considered to be a best practice model for the management and procurement of medical equipment.

2.5 IM&T Assets

Information on IM&T assets is based on data collected from the eHealth IM&T survey carried out in 2012. The purpose of this survey was to provide a baseline of overall IM&T expenditure within NHSScotland in order that a better understanding could be gained on the current profile of investment in IM&T, identify priority areas for future development and shape future investment plans. The survey also collected information on client devices and peripherals (devices are items such as desktop computers, laptops, tablets etc; whereas peripherals are items that support these devices, such as printers).

Information gathered on client devices and peripherals related to the number of such devices and the following two charts provide a breakdown of this information.
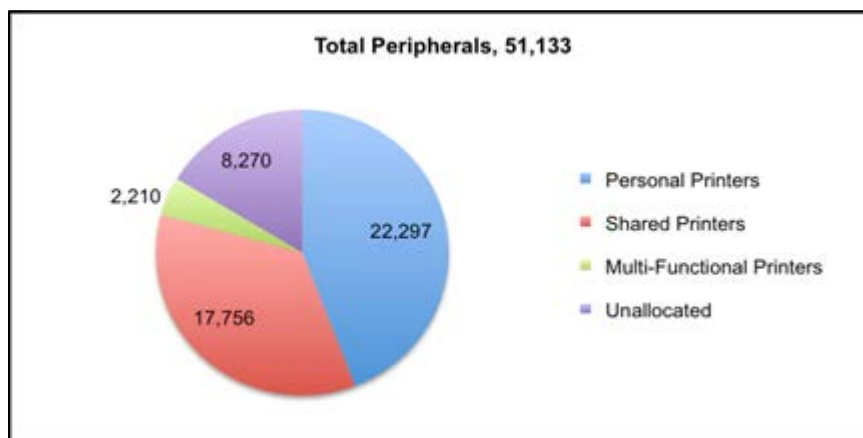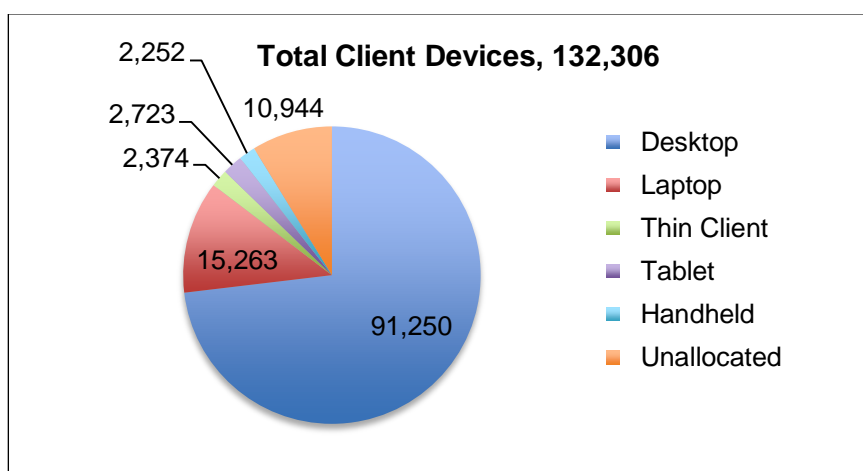
This information can be regarded as a baseline year which NHS Scotland can use to monitor future trends in the use of devices and peripherals. For example, NHS Scotland anticipates that the use of tablets and handheld devices will increase in future as the volume of care provided in the home environment increases and staff work on a more mobile / home working basis. By capturing this basic data, NHS Scotland will be able to monitor trends in device usage and use this information to inform future service planning.

3.0 The annual cost of assets and facilities services

The revenue and lifecycle costs associated with asset ownership and use represent a considerable proportion of NHSScotland budgets. This section of the report provides a summary of the annual cost of asset ownership and facilities management services.

3.1 Property Assets and Facilities Services - Annual Costs

There are significant annual revenue costs that are directly associated with property asset ownership including:

- Property Maintenance (regular day to day maintenance - excluding major capital expenditure on upgrading/refurbishment and backlog works)
- Energy
- PFI Facilities Management Costs (primarily Hard FM)
- Rates
- Cleaning

There are also a range of facilities management services costs that are closely associated with property asset ownership including:

- Catering
- Portering
- Laundry and linen
- Waste disposal

The table below provides an analysis of these costs for the Hospital Sector of NHSScotland for 2010/2011 and 2011/12 and shows a 3% overall increase on the year, which is below national RPI inflation of 3.6% at March 2012.

	Annual Property Asset and Facilities Services Costs		
	Expenditure £ 2010/11	Expenditure £ 2011/12	Percentage Change over Year
Property Maintenance (capital and revenue costs)	113,949,249	117,679,791	3%
Cleaning	117,128,872	117,425,095	0.3%
PFI Facilities Management Costs	101,674,478	106,949,026	5%
Catering	80,866,039	81,039,194	0%
Energy	72,311,800	89,688,057	24%
Rent	60,303,082	9,028,816	-9%
Rates		46,071,140	
Portering	47,285,685	47,532,728	1%
Laundry and linen	34,164,405	33,566,916	-2%
Waste Disposal	10,022,261	10,779,203	8%
Total	637,705,871	659,759,966	3%

Note: Excludes capital charges and depreciation on property asset; costs associated with Community and Family Health Services and energy costs exclude costs associated with environmental taxes and levies e.g. EU ETS Payments

Note: Although energy prices rose by 24% between 2010/11 and 2011/12, actual energy consumption (uncorrected for weather influences) reduced by c 9.5% over the same period. Utility energy prices continue to rise over the rate of inflation, and so future energy consumption reductions will seek to offset, rather than reduce, energy costs.

The chart below provides an analysis of these property asset and facilities services costs over the last decade and compares this with the changes in building area and consumer weeks (the number of patients occupying a hospital bed over a week i.e. a proxy measure for inpatient activity) over the same period. Within this period property asset and facilities services costs have increased by 100%, whereas general inflation based on the Retail Price Index (RPI) has only increased by 38% over the same period. One reason for this may be improved investments in assets and facilities over this period but further analysis will be carried out on these cost pressures for next year's SAFR report. Also, during the same period building area has reduced by 7% and consumer weeks has reduced by 25%.
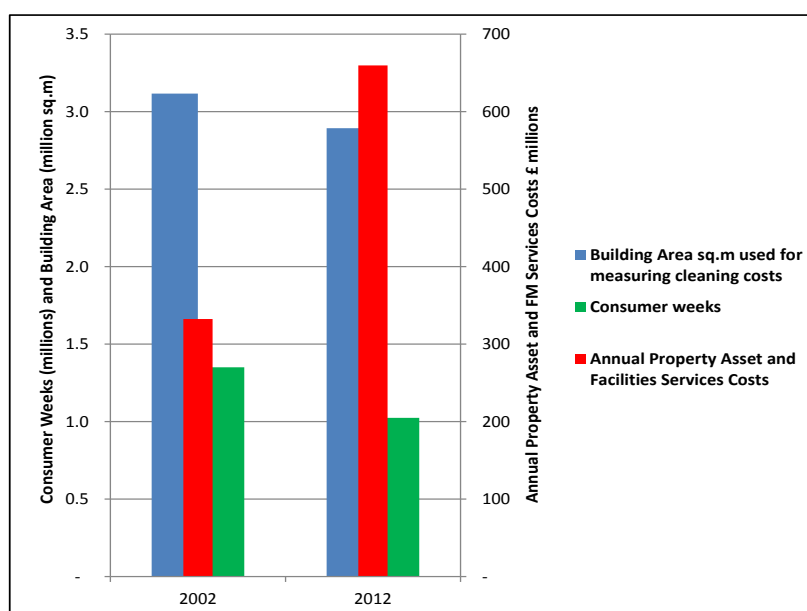
The chart below compares the reduction in building area (7%) with the changes over the same period in average staff beds (25% reduction), inpatient cases (14% increase) and A&E attendances (23% increase).
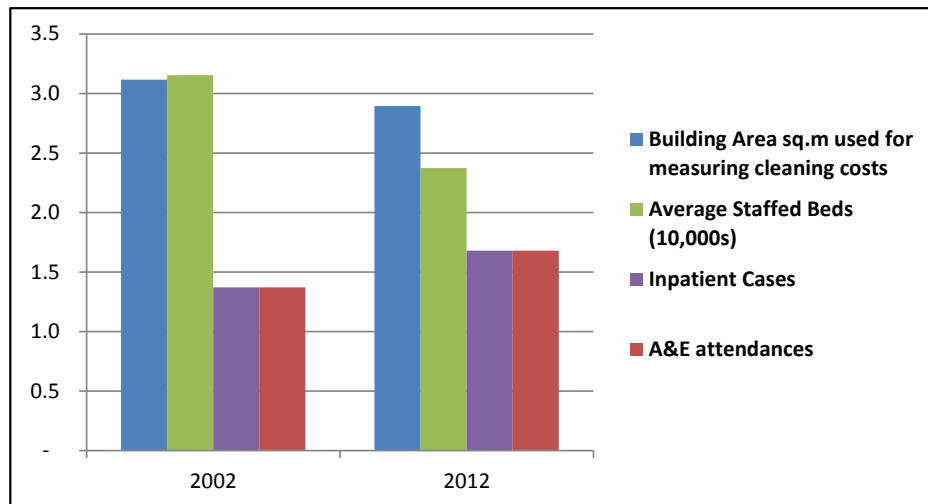
Given that staffed beds are a major driver of space requirements in acute hospitals (much more so than A&E attendances or inpatient cases) it is unexpected that the 25% reduction in staffed beds has not resulted in a greater reduction in the overall building area. This may be accounted for by increasing space standards i.e. greater numbers of single rooms, increased bed spacing etc. Further analysis of these issues are to be investigated further and incorporated into the 2014 SAFR report.

3.2 Property Assets – Lifecycle and Backlog Maintenance Costs

In addition to the regular day to day maintenance costs included in the annual property maintenance figures shown above, property assets require regular expenditure on lifecycle replacement of building and engineering elements of the estate. Historically, NHSScotland has invested too little on these lifecycle replacements, hence the build-up of a significant backlog maintenance expenditure requirement (currently £858 million). However, over recent years Boards have had a particular focus on reducing backlog through targeted expenditure on high and significant risk backlog and rationalisation of the estate. This has resulted in a £152 million reduction in the backlog expenditure requirement since 2011.

In addition, NHSScotland's substantial capital investment programme over recent years has reduced the backlog expenditure requirement through new-build projects which replace old buildings and refurbishment schemes which incorporate backlog within the works. Projections of planned future expenditure on backlog maintenance and replacement of the estate are provided later in this report (Section 4: Planned future investment in Assets).

3.3 Vehicles – Annual Costs

NHSScotland's estimated annual expenditure on its vehicles assets, as indicated through NHS Board information returns, is shown in the table below.

Annual Expenditure on Vehicle Assets				
Description	**£**	**% of Total**	**No. of Vehicles**	**Average per Vehicle**
Insurance & accident costs (net cost)	£5.10m	9.46%	10,909	£467
Fuel costs	£13.44m	24.92%	10,909	£1,232
Maintenance & servicing costs - owned vehicles	£5.96m	11.06%	1,917	£3,111
Leased vehicle costs (including maintenance)	£5.03m	9.33%	2,101	£2,395
Hired vehicle costs	£1.10m	2.05%	181	£6,092
Staff car scheme lease costs (including maintenance & mileage claims)	£23.28m	43.18%	6,710	£3,469
Staff contribution towards private use	-£12.72m	-	6,710	-£1,896
Total Net Costs	**£41.19m**	100%	10,909	**£3,776**

Note: excludes capital charges and depreciation on owned fleet.

In addition to the above, many NHSScotland staff use their private vehicles for official business and claim fuel and running costs of circa £23m through expenses claims.

The Transport & Fleet Management Review is looking at ways in which improvements can be made to the efficiency and effectiveness of this fleet aimed at reducing these operational costs.

3.4 Medical Equipment – Annual Costs

The annual expenditure on medical equipment by Boards is shown in the table below.

Description	**Total £**	**% of Total**
Revenue Expenditure (on medical equipment)	£16.6m	37%
Maintenance on renal dialysis equipment, flexible endoscopes, and cardiac defibrillators	£3.4m	8%
Maintenance on radiotherapy and imaging equipment	£13.5m	30%
Leases	£1.0m	2%
Managed equipment services	£10.2m	23%
Total	**£44.7m**	**100%**

Note: excludes capital charges and depreciation on owned equipment, and maintenance on general medical equipment. It also excludes capital expenditure on equipment replacement.

As with property assets, there is a need to balance investment between ongoing annual maintenance of medical equipment and investment in its lifecycle replacement. As equipment life is relatively short (often less than 15 years) the level of maintenance needs to be sufficient to ensure its continued availability and effectiveness within that period whilst accepting that other considerations, such as technical obsolescence, can influence the need to replace equipment earlier than planned; which can introduce benefits of new technology offering improved patient care, reduced radiation doses and reduced costs.

3.5 IM&T – Annual Costs

The IM&T survey identified that the overall level of expenditure by NHSScotland on IM&T in 2011/12 (the base date for the expenditure analysis), was £236.5m. Of this total, £213m was incurred on expenditure items of a revenue nature, with £23.5m incurred on capital expenditure. An analysis of the revenue expenditure is shown in the chart below.

Total Revenue Expenditure, £213m

- 11.2
- 52.7
- 149.1

- Geographical NHS Boards
- Special Health Boards
- Scottish Government eHealth
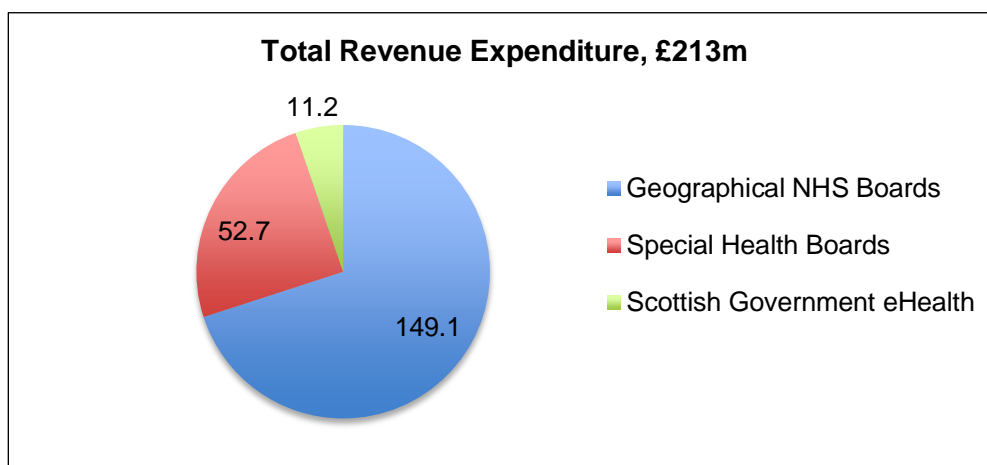
The capital expenditure on IM&T of £23.5 million in 2011/12 is similar to that planned by Boards over the next 5 years (£26 million per annum)

The total revenue expenditure of £213m is split as follows:

- £57.5m (27%) of non-recurring expenditure by NHS Boards to support national systems and deliver eHealth strategic priorities.

- £91.5m (43%) of revenue expenditure by NHS Boards.

- £53m (25%) of revenue expenditure by Special Health Boards.

- £11m (5%) expenditure by the Scottish Government eHealth Division.

The table that follows provides a summary of the overall total revenue expenditure incurred by NHSScotland expressed as a percentage of Revenue Resource Limit (RRL) for 2011/12. By taking RRL as a proxy for NHSScotland's overall annual revenue

expenditure it is possible to obtain an indicative measure of the level of overall revenue resource committed to IM&T by NHSScotland.

Revenue Expenditure by NHS Board	RRL Percentage (%)	Revenue Expenditure by NHS Board	RRL Percentage (%)
Geographical NHS Boards		**Special Health Boards**	
Ayrshire & Arran	1.82	NHS24	13.31
Borders	2.46	Golden Jubilee (NWTC)	2.34
Dumfries & Galloway	1.92	NHS Health Scotland	3.00
Fife	1.57	Healthcare Improvement Scotland	1.73
Forth Valley	1.31	National Education Services	0.61
Grampian	1.48	National Services Scotland	7.07
Greater Glasgow & Clyde	1.81	State Hospitals	2.11
Highland	1.75	Scottish Ambulance Service	6.05
Lanarkshire	1.63	**Average:**	**4.37**
Lothian	1.34		
Orkney	2.27		
Shetland	2.41		
Tayside	1.82		
Western Isles	2.27		
Average:	**1.67**		
Total: 2.11			

Based on information from the IM&T Survey on NHSScotland expenditure for 2011/12

The table identifies that in 2011/12 the overall level of revenue expenditure on IM&T incurred by NHSScotland was 2.11% of its overall RRL. The table also shows that NHS Boards spent between 1.31% and 2.46% of their RRL on revenue IM&T expenditure, while Special NHS Boards typically spent higher percentages reflecting the different nature of the services they provide. This is particularly evident in the case of NHS24, which spent 13.31% of its RRL on revenue IM&T expenditure.

3.6 Summary of Total Annual Asset and Facilities Costs

The chart below provides an analysis of the combined total asset and facilities annual expenditure that has been described earlier.

NHSScotland's Annual Revenue Expenditure on Assets and Facilities Services (Total Expenditure £959 million)

Vehicles, £41m, 4%

Medical Equipment, £45m, 5%

IM&T, £213m, 22%

Property and Facilities Services, £660m, 69%
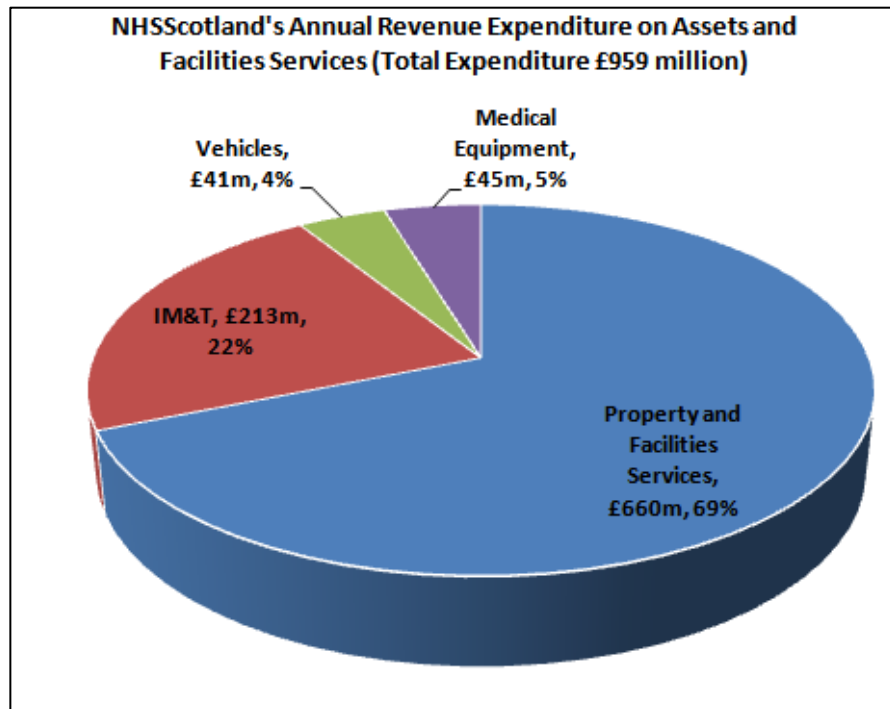
Notes: 1) Excludes capital charges and depreciation costs associated with asset ownership

2) Excludes any annual expenditure on lifecycle replacement and backlog maintenance

It should be noted that the above annual expenditure on assets excludes capital expenditure on:

- Replacement of existing assets – both major capital schemes (Board capital and NPD) and smaller schemes procured through hubco.

- Replacement of major existing equipment - medical equipment, vehicles and IM&T – procured through revenue or Board capital.

- Major lifecycle maintenance/backlog such as boiler and major infrastructure and backlog replacement – procured through revenue and Board capital.

4.0 Planned future investment in assets

Planned investment in NHSScotland's assets over the next 5 years is estimated to be circa £2.6bn (based on NHS Boards' 5 year investment plans). This will make a significant contribution to improvements in the condition and performance of these assets. It will also further enhance the important supporting role that assets play in the delivery of quality healthcare delivery. This investment will also enable the disposal of older properties which are expected to generate receipts of approximately £125m over the same period (subject to economic and market conditions).

This investment covers all asset types (property, medical equipment, IM&T, and fleet) and will be achieved through a combination of capital and revenue based investment. It should be noted, however, that some investment categories may overlap; for example, additional Medical Equipment, IM&T and Environmental investment can be incorporated within the other investment categories & projects. The following chart provides a breakdown of this investment.

NHSScotland's 5 Year Asset Investment Programme of £2.6bn
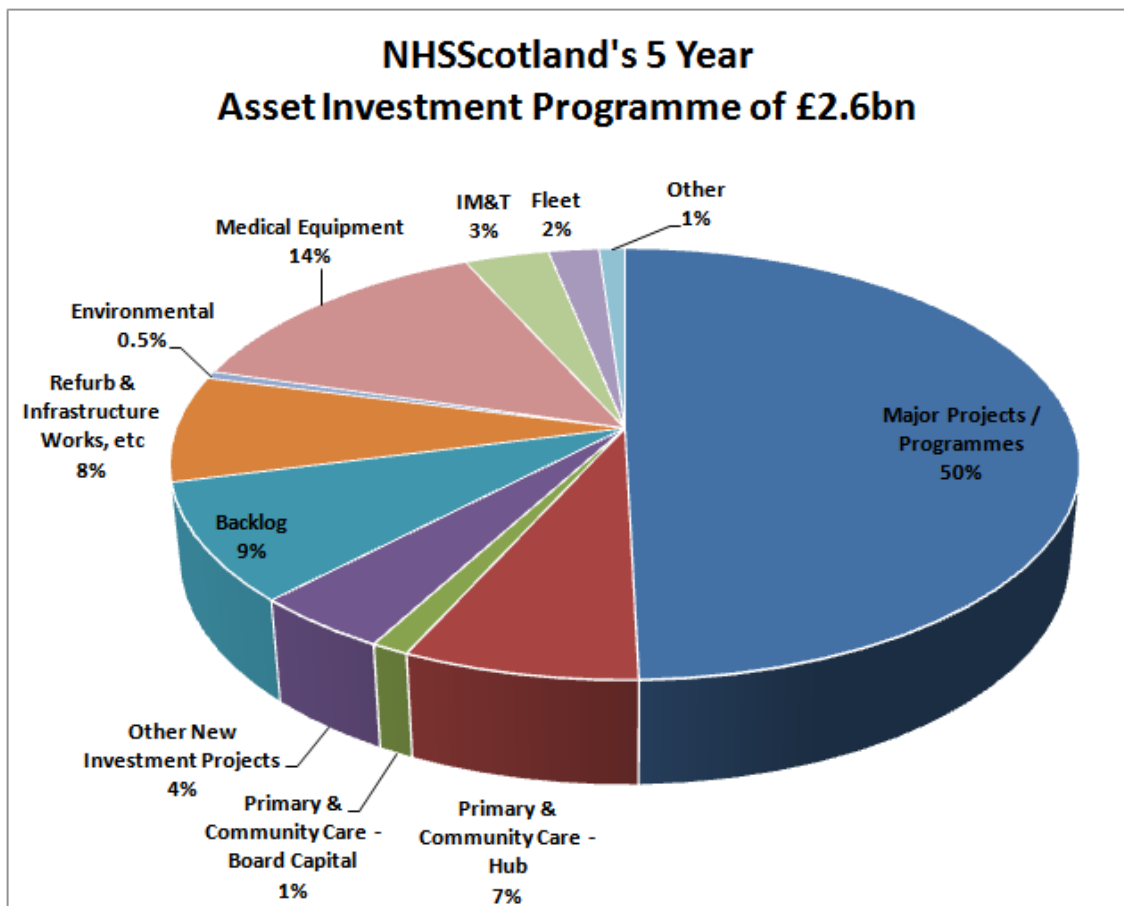
4.1 Investment in Major Projects / Programmes

Investment in 'Major Projects / Programmes' accounts for 50% of the overall planned future investment described above and includes the key strategic investments planned by each NHS Board. They will be funded mainly though NHS Board capital or NPD revenue based funding. The following chart provides a breakdown of the £1.3bn of investment associated with these major projects / programmes:
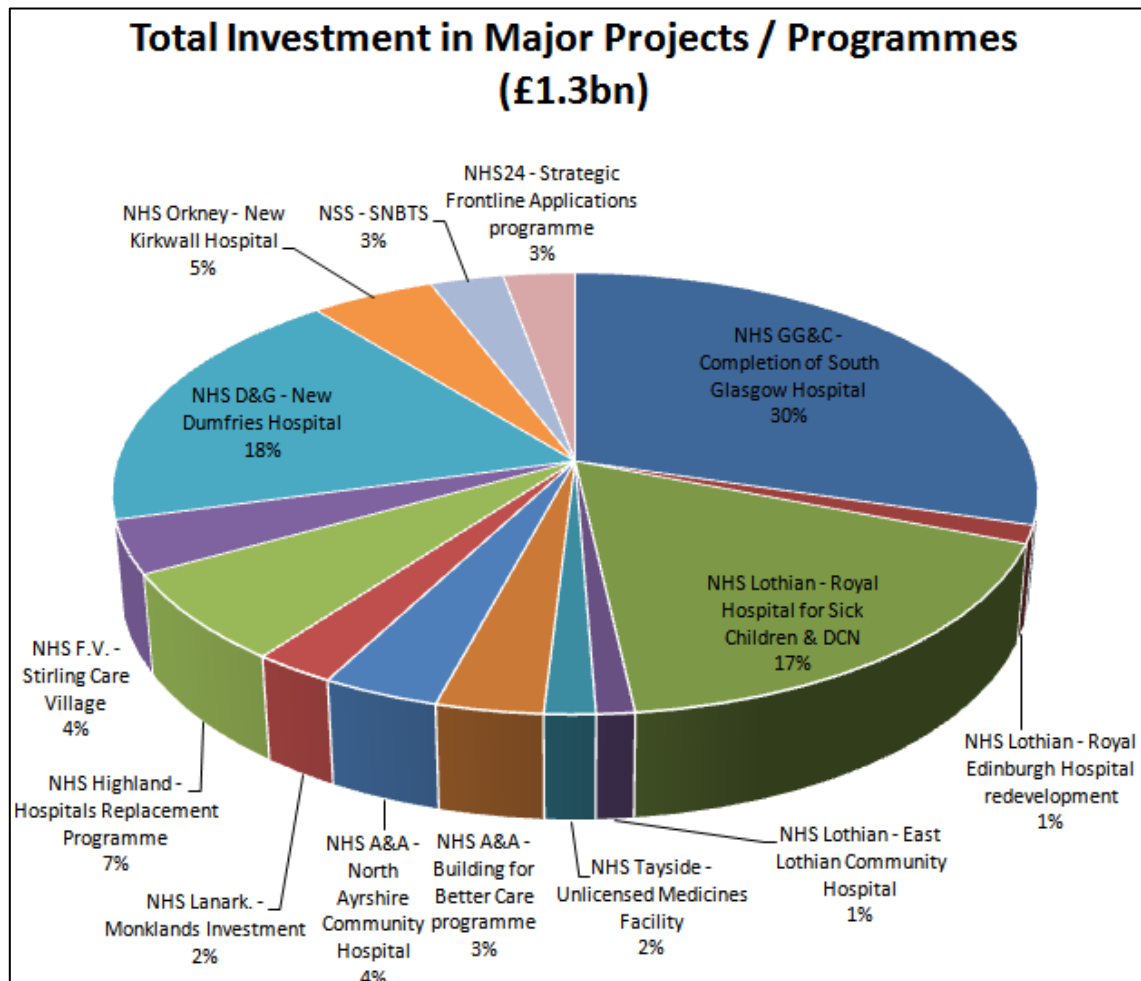
4.2 Investment in Primary and Community Care

In addition to the £1.3bn of investment on the major projects / programmes described above, a further £0.33bn is planned for new primary & community care facilities, and other smaller capital replacement schemes. This investment is key to delivering the emerging Health and Social Care Integration agenda and shifting the balance of care from hospitals to local facilities and people's homes.

4.3 Income receipts from asset disposals

A direct consequence of investment in new facilities can often be a surplus of older accommodation no longer required for operational purposes. Planned disposals of these surplus properties is expected to generate income sale receipts of circa £125m over the next 5 years. Scottish Futures Trust is actively supporting NHS Boards to maximise the potential of income receipts from these disposals.

The programme of anticipated income receipts per NHS Board over the next 5 years are listed in the following table, but these are subject to change dependent upon economic and market conditions at the time of sale:

NHS Board	Anticipated Income Receipts from Disposals (£m)				
	2013/14	2014/15	2015/16	2016/17	2017/18
NHS Greater Glasgow & Clyde	-	0.3	2.6	3.8	19.5
NHS Lothian	2.3	4.1	1.2	-	15.3
NHS Tayside	1.3	6.4	5.3	-	-
NHS Grampian	4.9	6.0	3.2	-	-
NHS Fife	2.2	3.8	-	-	-
NHS Ayrshire & Arran	2.4	5.0	1.5	1.4	-
NHS Lanarkshire	1.7	4.1	3.5	1.1	-
NHS Highland	2.2	1.1	5.2	2.6	4.5
NHS Dumfries & Galloway	1.0	0.1	0.3	0.2	-
NHS Borders	0.4	-	-	-	-
NHS Western Isles	0.5	0.3	-	-	-
NHS Shetland	0.3	-	-	-	-
NHS Orkney	0.4	0.1	-	-	-
NHS National Services Scotland	-	-	-	-	4.0
Scottish Ambulance Service	-	0.3	-	0.2	0.1
TOTAL:	**19.6**	**31.7**	**22.8**	**9.2**	**43.3**

4.4 Reducing estate backlog through asset investment

Whilst there has been a significant reduction (£152 million) in NHSScotland's base backlog maintenance expenditure requirement since 2011, the level of outstanding backlog of £858 million remains a substantial issue to be addressed and an ongoing estate risk. Boards have estimated (within their PAMS) that their asset investment strategies will reduce their backlog maintenance burden by a further £250m over the next 5 years. This will be achieved through a combination of:

- Estate replacement through capital and revenue funded schemes.

- Estate rationalisation and disposal of older properties brought about by estate replacement, and thus avoiding the need for expenditure on backlog.

- Estate modernisation through refurbishment/upgrading schemes.

- Targeted expenditure of circa £46m per annum on backlog maintenance, particularly focussing on high and significant risk backlog.

Whilst it is essential that high and significant risk backlog is addressed as a matter of priority, it is not practical or affordable to address all backlog over the short term (5 years), hence the need for longer term planning.

4.5 Investment required on vehicle assets

As described earlier in this report, many of the NHSScotland vehicles are leased and, therefore, the replacement cost of these vehicles is effectively included within the annual leasing costs. However, substantial vehicle assets remain owned, particularly those of the Scottish Ambulance Service, NHS National Services Scotland, NHS Tayside, NHS Fife, and NHS Borders. These owned vehicle assets are estimated to have a current day replacement cost of circa £95 million. Fleet managers advise that a realistic replacement programme for these vehicle assets is circa 7 years, which equates to £13.6m per annum. The current 5 year investment plan for vehicle assets, which is taken from NHS Boards' own investment plans, is circa £11m per annum (including £10m per annum for Scottish Ambulance Service vehicles). This creates a potential shortfall of £2.6m that would either need further funding from Boards' unallocated resources or increased use of leased vehicles. Note, however, that earlier analysis of age and condition suggests that current vehicle assets are in reasonable condition and age thus do not suggest a current backlog of investment need.

4.6 Investment required on medical equipment assets

In relation to its overall £760m value, during 2012/13 a total of over £78m was spent on medical equipment, split between replacement £63m (80%) and additional £15m (20%). This is considered a just adequate investment benchmark for equipment replacement as it would theoretically result in complete replacement of all existing equipment within

12 years (most equipment tends to need replacing within 7-15 years). Note though that rapid technological developments in some equipment, including high cost radiotherapy and imaging equipment (CT and MRI), which accounts for over 40% of the total value of medical equipment, reduces the effective lifespan of this equipment to 7 to 10 years.

The following table, which is based on information returned by NHS Boards, provides a further indication of the sufficiency of investment over the next 3 years by comparing each annual 'Anticipated Spend' (based on budget allocations) against the overall value of medical equipment (£760m) to provide an indication of the sufficiency of this investment to replace all medical equipment within a reasonable period.

The second part of this table then looks at 'Required Investment', which is based on projected need rather than budget allocations. This provides a comparable indicator of the replacement period if this level of funding was made available.

Year	Anticipated Investment*	Average Replacement Period for all Medical Equipment** (years)		Required Investment	Average Replacement Period for all Medical Equipment** (years)
2013/14	£74m	12.8		£96m	10
2014/15	£70m	13.6		£79m	12
2015/16	£69m	13.8		£77m	12
TOTAL	£213m			£252m	
Average	**£71m**	**13.4**		**£84m**	**11.3**

* this excludes the 'special' investment anticipated for the new Southern General, Glasgow but does include both capital and revenue funding

** based on replacement investment being 80% of total 'Anticipated Investment', taken from the average of 2012/13 returns

The table highlights that the average 'Anticipated Investment' over the next 3 years would provide an 'Average replacement period for all medical equipment' of 13.4 years, which is within an expected period of 7 - 15 years (dependent upon equipment type).

In comparison, the average 'Required Investment', if provided, would theoretically replace all medical equipment within 11.3 years; 2 year less than the 'Anticipated Investment' levels would achieve. This is an indication of potential funding pressures on medical equipment replacement.

Implications of not replacing medical equipment within a reasonable period includes:

- Outdated equipment does not take advantage of new innovations aimed at improving patient care.

- Lack of parts for maintenance grows as equipment ages beyond 7 years.

- A backlog of medical equipment replacement needs can result in a reactive replacement strategy that does not support standardisation or optimize replacement decisions.

- Medical equipment that is lower priority for replacement may extend its continued use and eventually create a build up of backlog replacement need.

This is the first year that this investment benchmark analysis has been undertaken from NHS Boards' pro-forma return information, therefore, further analysis of future trends in this indicator will be important to understand the full implications of medical equipment funding levels. Also, the balance of investment between replacement and additional equipment, as well as other local circumstances, will further affect investment needs for individual NHS Boards.

## 4.7 Investment required on IM&T assets

Capital investment in IM&T assets across NHSScotland in 2011/12 is reported in the IM&T expenditure survey at £23.5m. This is comparable with future budget allocations reported by NHS Boards of £26m per annum over the next 5 years. Also, further IM&T investment is incorporated into some of the major investment projects highlighted above. Individual NHS Board budget allocations are generally in line with the size of each Board.

In terms of the sufficiency of such investment, the annual investment in IM&T assets of £26m will meet the replacement value of these assets, currently estimated at £210 million, within 8 years. Careful management will be required to ensure that a build-up of infrastructure (network cabling, servers, etc) backlog does not arise due to the increasing use of end user IM&T equipment, as well as the relatively short life of desktop and mobile equipment devices, which have the potential to outgrow the capacity of the infrastructure. This investment will also need to fund any additional investment in technology.

A significant contributor to the overall investment plans in IM&T assets is NHS24 who have allocated £7.35m per annum over the 5 year planning period (which continues for a further 5 years beyond this period). This accounts for approximately 29% of NHSScotland's future capital investment in IM&T assets. This investment incorporates a wholesale replacement programme of strategic applications that support its frontline services and is based on introducing a leaseback arrangement of these assets, which will ensure that they are fully maintained and refreshed for the life of the contract. The expectation is that this arrangement will enable NHS24 to keep up to date with technological changes and patient demand for world class out-of-hours health advice services.

4.8 Summary of asset investment plans

The combined asset investment plans of circa £520 million per annum is shown in the chart below. Although presented as a single investment amount, in practice some of the capital requirement will be funded through revenue schemes such as NPD, hub and leasing arrangement.
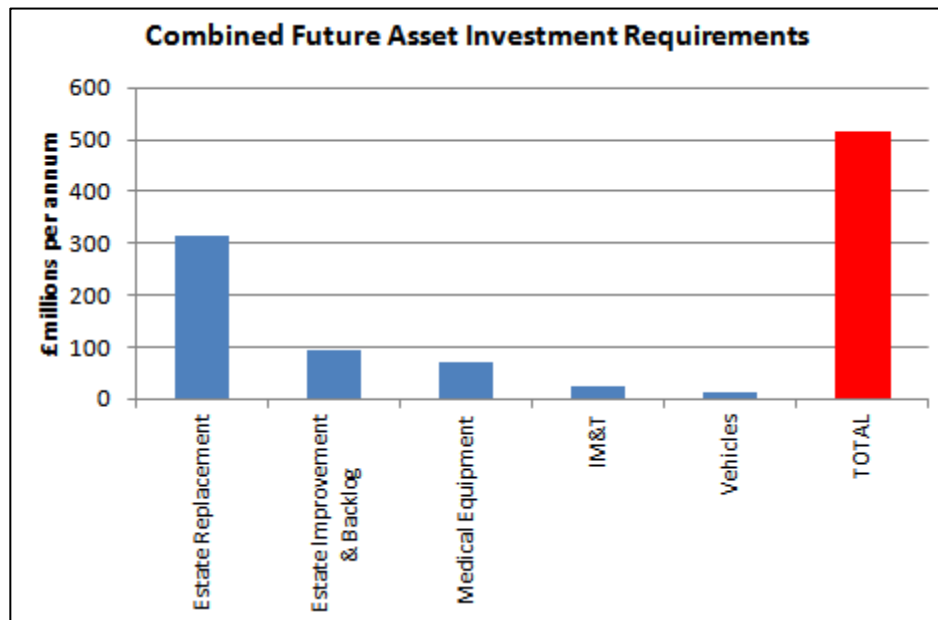
In addition to the investment requirements identified above there is expected to be further investment required to implement the recommendations of the Soft FM Review, implementation of the Zero Waste Plan and the Waste Regulations 2012 (see annex for further details).

4.9 Key messages

The analysis of future asset investment requirements described in this section of the report has identified a number of key messages for Boards in terms of developing their future PAMS:

1. NHS Boards should continue to focus their investment strategies towards reducing backlog maintenance of high and significant risk backlog.

2. Estate rationalisation leading to disposal of surplus properties has the potential to:

    a. Reduce future backlog

    b. Lower future operational costs (property maintenance, energy, cleaning etc)

    c. Reduce future investment requirements for estate replacement

3. Estate rationalisation is a key tool for addressing backlog since it avoids increasing the base backlog cost by VAT, fees, contingencies etc. The alternative approach of direct investment in eradicating backlog is costly and unlikely to be affordable as a long term strategy.

4. 69% of annual recurring expenditure is associated with the day to day estate and FM services costs (£660 million per annum). Therefore, it is essential to focus on improving the performance on these services.

5. Estate replacement projects have the potential to bring about significant change to way in which the existing estate is configured and how it might continue to support the delivery of healthcare services. These opportunities for strategic change should be at the heart of each NHS Board's decision making process for estate replacement projects.

6. Investment plans should not ignore the requirements of the other assets, which need to be sufficient to ensure adequate replacement, but also for further investment in new technology that might introduce innovative solutions towards NHSScotland's 2020 Vision for quality healthcare provision, and potentially reduce reliance on continued investment in property replacement.

5.0 Performance

This section of the report reviews asset and facilities services performance across NHSScotland with the aim of gaining an insight into where opportunities lie for improving performance.

5.1 The National Asset and Facilities Performance Framework

The National Asset and Facilities Performance Framework provides an essential link between asset and facilities services performance and patient needs as defined in the NHSScotland Quality Strategy's three Quality Ambitions. Since introducing the Performance Framework in the 2011 State of the NHSScotland Estate Report further work has been undertaken to align the Framework with the outcome measures for the Quality Strategy developed by the NHSScotland Quality Measures Technical Group. The diagram below shows the relationship between the Quality Strategy and the National Asset and Facilities Services Performance Framework.
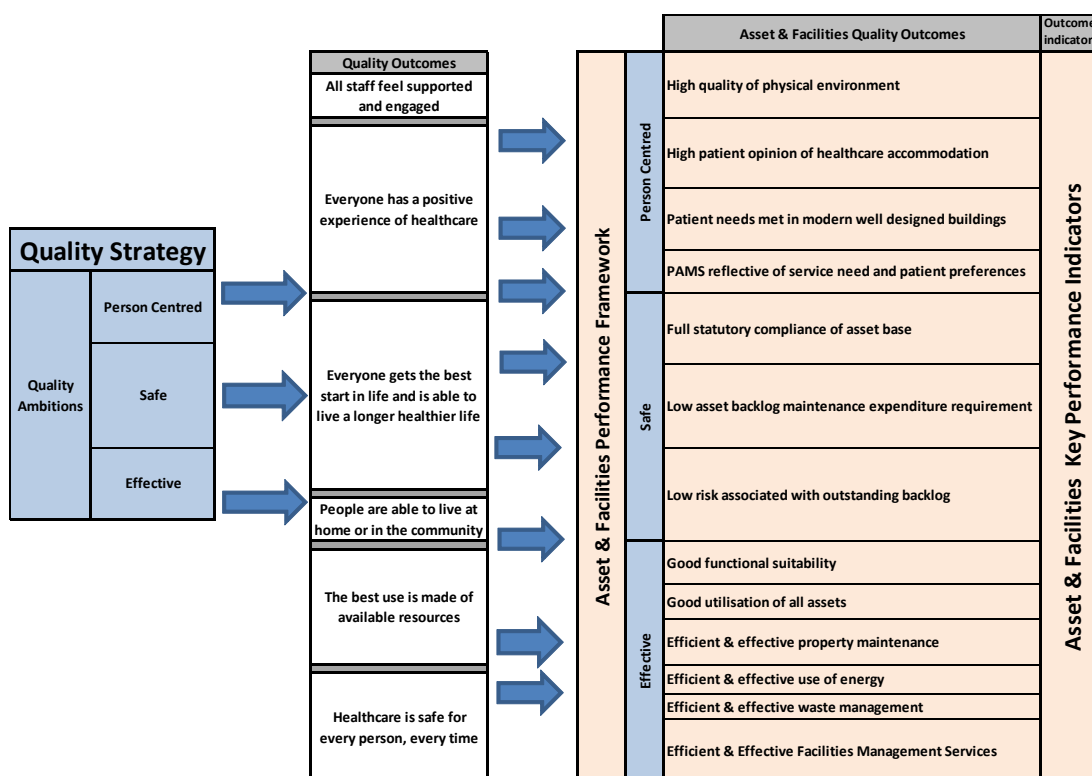
The Framework provides targets for improvement in asset and facilities services performance by 2020 and uses 23 key performance indicators to monitor year on year progress towards the achievement of these targets. It should be noted that the 2020 Performance Targets are (a) provisional and subject to review to reflect the outcome of the work on the 2020 Visioning, and (b) based on the qualification that their attainment will not reduce service quality. Broadly, half of the KPIs are based on quality measures and half are based on cost measures. The National Asset and Facilities Performance Framework for 2013 is shown overleaf.

NHSScotland National Asset & Facilities Performance Framework

Quality Ambition	Performance Measure	KPI No	Key Performance Indicator	2020 Performance Target	Current 2013 Performance
Patient Centred	Quality of physical environment	1	Percentage of properties categorised as either A or B for Physical Condition facet of estate appraisals	90%	66%
		2	Percentage of properties categorised as either A or B for Quality facet of estate appraisals	90%	65%
	Patient opinion of healthcare accommodation	3	Positive response to Patient Questionnaire on patient rating of hospital environment	95%	85%
	Patient needs are accommodated in modern, well designed facilities	4	Percentage of properties less than 50 years old	70%	71%
	PAMS reflective of service needs and patient preferences	5	PAMS Quality Checklist Overall Score (max score 100)	95	65
Safe	Statutory compliance status of property asset base	6	Overall percentage compliance score from SCART	95%	72%
	Backlog maintenance expenditure requirement	7	Cost per square metre for backlog maintenance	£100	£193
	Level of risk associated with outstanding backlog maintenance requirement	8	Significant and high risk backlog maintenance as percentage of total backlog expenditure requirement	10%	43%
Effective & Efficient	Estate Functionally suitability	9	Percentage of properties categorised as either A or B for Functional Suitability facet of estate appraisal	90%	67%
	Estate Utilisation(from Property Appraisals)	10	Percentage of properties categorised as 'Fully Utilised' for space utilisation facet of estate appraisals	90%	77%
	Estate Utilisation (from Cost Book)	11	Building Area sq.m per Consumer Week (from Cost Book)	3.0	3.3
	Cleaning	12	Cleaning Costs £ per sq.m (from Cost Book)	36.5	40.6
	Property maintenance	13	Property maintenance costs £ per sq.m (from Cost Book)	31.3	34.8
	PFI - Facilities Management	14	PFI - Facilities Management Costs £ per sq.m (from Cost Book)	28.4	31.6
	Energy consumption	15	Energy Costs £ per sq.m (from Cost Book)	23.9	26.5
	Rent & rates	16	Rates Costs £ per sq.m (from Cost Book)	12.2	13.5
	Catering	17	Catering Cost £ per consumer week (from Cost Book)	71.2	79.1
	Portering	18	Portering Costs £ per consumer week (from Cost Book)	41.8	46.4
	Laundry & Linen	19	Laundry & Linen Cost £ per consumer week (from Cost Book)	29.5	32.8
	Waste	20	Waste Cost £ per consumer week (from Cost Book)	9.5	10.5
	Vehicles	21	To be confirmed	0.0	0.0
	Medical Equipment	22	To be confirmed	0.0	0.0
	IM&T infrastructure and equipment	23	To be confirmed	0.0	0.0

Notes:	(1) The "Current Performance 2013" for KPI Nos 12 to 20 inclusive is based on the 2012 Cost Book information
	(2) KPI No 15 - Energy costs have increased significantly in recent years and are projected to increase further through to 2020. These price increases are beyond the control of NHSS Boards, so therefore it will be necessary to adjust this KPI each year to take account of energy price rises.

A separate Performance Framework has now been developed for office accommodation and the current results for 2013 are included in Section 5.2.

5.1.1 Change in Framework KPIs - 2012 to 2013

A key objective of this report is to monitor year on year change in asset and facilities services performance to ensure that NHSScotland is progressing towards achievement of the 2020 targets in the National Asset Performance Framework. The table below shows the performance change between 2012 and 2013.

KPI No	Key Performance Indicator	2012 Performance	Current 2013 Performance	Percentage Change from 2012
	Performance Change 2012 to 2013			
1	Percentage of properties categorised as either A or B for Physical Condition facet of estate appraisals	71%	66%	-7%
2	Percentage of properties categorised as either A or B for Quality facet of estate appraisals	61%	65%	7%
3	Positive response to Patient Questionnaire on patient rating of hospital environment	83%	85%	2%
4	Percentage of properties less than 50 years old	73%	71%	-4%
5	PAMS Quality Checklist Overall Score (max score 100)	60	65	7%
6	Overall percentage compliance score from SCART	68%	72%	5%
7	Cost per square metre for backlog maintenance	£215	£193	10%
8	Significant and high risk backlog maintenance as percentage of total backlog expenditure requirement	45%	43%	4%
9	Percentage of properties categorised as either A or B for Functional Suitability facet of estate appraisal	65%	67%	3%
10	Percentage of properties categorised as 'Fully Utilised' for space utilisation facet of estate appraisals	75%	77%	3%
11	Building Area sq.m per Consumer Week (from Cost Book)	NA	3.3	
12	Cleaning Costs £ per sq.m (from Cost Book)	NA	40.6	
13	Property maintenance costs £ per sq.m (from Cost Book)	NA	34.8	
14	PFI - Facilities Management Costs £ per sq.m (from Cost Book)	NA	31.6	
15	Energy Costs £ per sq.m (from Cost Book)	NA	26.5	
16	Rates Costs £ per sq.m (from Cost Book)	NA	13.5	
17	Catering Cost £ per consumer week (from Cost Book)	77	79.1	3%
18	Portering Costs £ per consumer week (from Cost Book)	45	46.4	3%
19	Laundry and Linen Cost £ per consumer week (from Cost Book)	33	32.8	-1%
20	Waste Cost £ per consumer week (from Cost Book)	10	10.5	5%
21	Vehicles - To be confirmed	0		
22	Medical Equipment - To be confirmed	0		
23	IM&T - To be confirmed	0		

1%	Denotes Performance Improvement			
-1%	Denotes Performance Deterioration			
0%	Denotes no change in performance			

Note: figures and percentages have been rounded for ease of reporting purposes.

Percentage Change is the real percentage change since 2012 and not percentage point change.

'Percentage of properties' indicators are based on overall floor area, unless otherwise stated.

5.1.2 Changes in National Asset Performance Framework KPIs

The following provides an overview of performance change between 2011 (when the performance framework was first developed) and 2013, along with a short commentary on the changes.

KPI Nos 1 to 10 – Derived from property appraisal information and PAMS provided by Boards

(Note: 'Percentage of properties' indicators are based on overall floor area, unless otherwise stated).
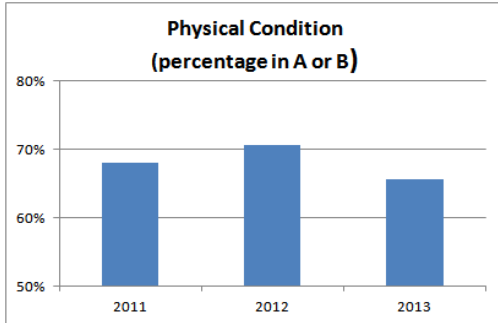
Physical Condition

Physical condition of the estate has fluctuated over the last 3 years between 66% and 71% in condition A or B. Completion of new facilities such as Forth Valley Royal Hospital and the new State Hospital have helped to improve overall condition but this is counteracted with new surveys that have identified further deterioration of the existing estate since their last survey. 20% of NHS Board's property assets were re-surveyed in 2012/13.

NHS Boards' estates in the worst overall condition are actively planning improvements to overcome this problem. This includes:

- NHS Dumfries & Galloway is planning an ambitious change programme based around the re-provision of its acute hospital.

- NHS Grampian has plans to invest directly in the reduction of backlog maintenance as well as rationalise its redundant properties.

- NHS Highland is planning to redevelop Argyll & Bute Hospital and Raigmore Hospital, and to replace Bandenoch & Strathspey Hospital, Skye Hospital, and Bedford Hospital.

- NHS Orkney is planning to replace its hospital and main primary care centre, which accounts for over 50% of its estate.
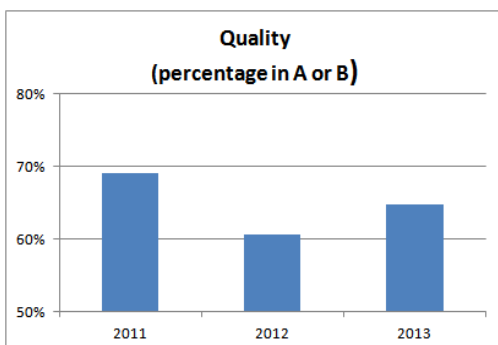
Quality

This indicator is influenced by other indicators such as the quality of the internal environment, physical condition and functional suitability. It is a relatively new indicator which has taken time to be adopted across NHSScotland's estate, hence the 2013 indicator of 65% in A or B for Quality is perhaps a more accurate reflection than previous years. It also appears more aligned to the physical condition KPI.
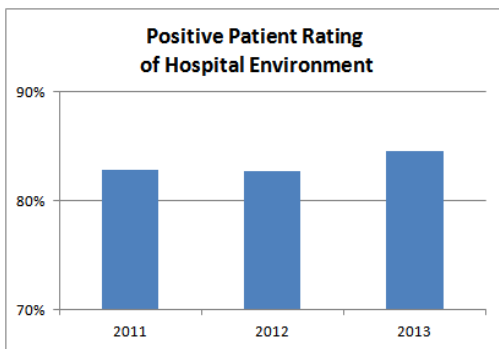
Patient Rating of the Hospital Environment

This is the sole indicator taken from NHSScotland's patient questionnaire survey and has recently seen a 2 percentage point improvement in the patient's opinion on the hospital environment, with a positive rating now above 84%.

Properties less than 50 Years Old

This indicator highlights the challenge faced by NHSScotland in that whilst there continues to be significant investment made in its property assets there has been a drop in 2013 in the proportion of the estate less than 50 years old. Over 1.25m sq.m of NHS Board accommodation is now over 50 years old.

NHS Boards with a larger proportion of their estate over 50 years old are making the following plans to address this challenge:
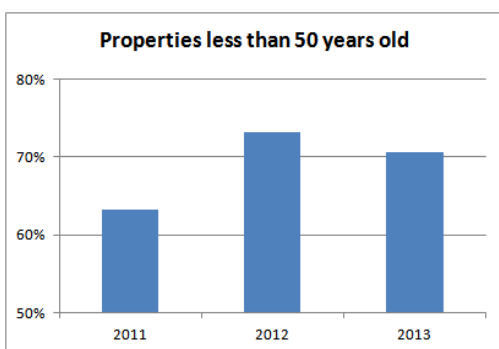
- Completion of NHS Greater Glasgow & Clyde's New South Glasgow Hospitals project will replace 243,000sq.m of older estate with new, modern facilities.
- NHS Lothian are embarking on several replacement programmes including a new Royal Hospital for Sick Children.
- NHS Grampian's disposal strategy will remove some of its older properties.
- NHS Shetland are working on a medium to long term plan for the Acute hospital estate
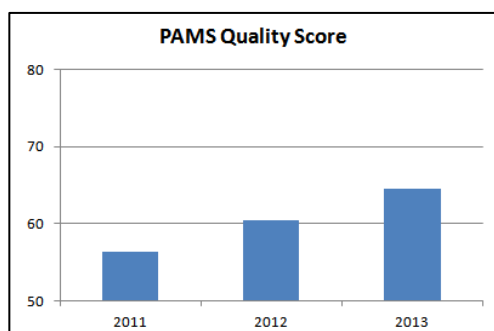
PAMS Quality Checklist Overall Score (max score 100)

NHS Boards have steadily improved the quality and content of their Property & Asset Management Strategies and now, in general, provide a clearer link between their Boards' clinical strategy and their investment plans necessary to bring about service change and improvement. These results are also influenced by a more challenging assessment process which focuses on continued improvement in the strategic planning of all of NHSScotland's assets.

Overall percentage compliance score from SCART
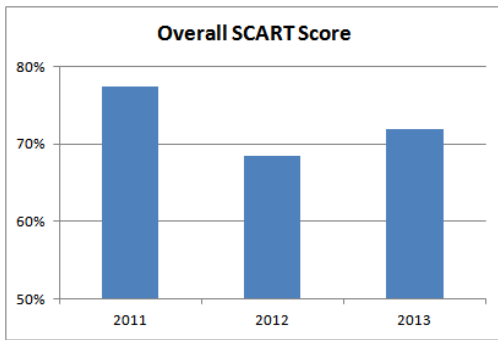
Overall SCART Score

SCART is a self-assessment tool that indicates general compliance with policies and procedures related to property aspects of statutory compliance. While there has been an improvement in score between 2012 and 2013 it is still below the 2011 score. The main reason appears to be that initially assessments in 2011 concentrated on high priority areas, such as inpatient accommodation, whereas, as further assessments have covered the remaining estate more non-compliance issues have been identified.

Backlog Maintenance Cost per sq.m.
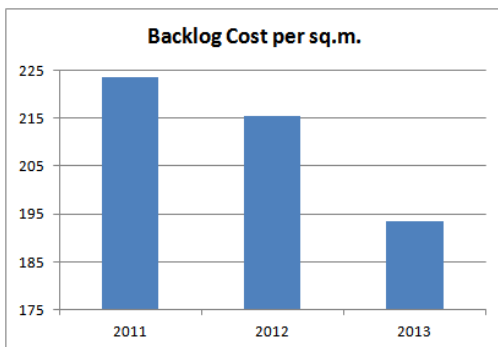
Backlog Cost per sq.m.

This is an important, positive indicator of the impact of focussed attention on backlog maintenance since 2011 and represents a £145m reduction in backlog for NHS Boards (data excludes Special NHS Boards).

Whilst some of this is due to the substantial re-survey work commissioned by HFS, it is also due to direct investment in rectification of backlog maintenance, as well as the rationalisation of redundant properties following completion of new investment projects.

Further improvements in this indicator are expected as continued investment is carried out on the ageing & poor condition parts of the overall estate (as described above).
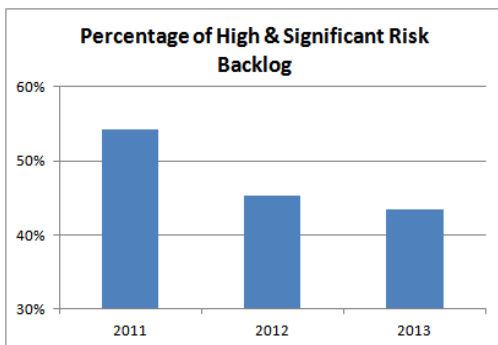
Proportion of Significant & High Risk Backlog Maintenance

Percentage of High & Significant Risk Backlog

This indicator confirms that the investment in reducing backlog described above has been focussed on the most important higher risk backlog maintenance items. This is shown by the annual reduction in significant and high risk backlog since 2011.

Functional Suitability

Functional Suitability (percentage in A or B)
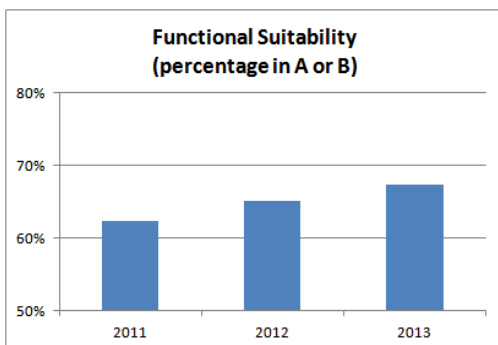
There has been a steady improvement in the functional suitability of healthcare estate since 2011 which is due both as a result of new investments replacing outdated accommodation, as well as the substantial re-appraisal of this indicator across NHSScotland's estate.

Investments planned for NHS Boards most affected by functional suitability problems, such as NHS Greater Glasgow & Clyde, NHS Dumfries & Galloway and NHS

Orkney, will enable significant portions of NHSScotland's estate to provide more patient focussed, safe and functionally effective new accommodation.
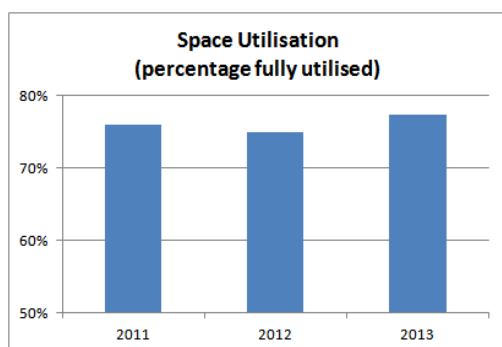
Fully Utilised Space

The proportion of the estate that is regarded as fully used has remained relatively constant at above 75% for the last 3 years.

This remains an ongoing concern as property space remains an expensive asset to maintain and operate and thus needs to be more effectively and fully utilised. At the same time, overcrowding affects operational efficiencies and thus needs to be planned out of available accommodation.

Boards will need to rigorously examine their current performance in relation to space utilisation since any space that is not fully utilised represents an opportunity to make better use of assets and improve efficiency.

KPI Nos 11 to 20 - Cost Book Derived KPIs	
Building area per consumer week	As part of the measures to improve the quality and consistency of data, the unit of measurement for building size was changed from 100 cu.m to sq.m in the 2012 Cost Book. Therefore, no comparable KPIs are available for the previous years
Cleaning Costs £ per sq.m	
Property maintenance costs £ per sq.m	
PFI - Facilities Management Costs £ per sq.m	
Energy Costs £ per sq.m	
Rates Costs £ per sq.m	
Catering Cost £/consumer week	Catering costs have increased by 1.4% over two years
Portering Costs £/consumer week	Portering costs have increased by 10.5% over two years
Laundry & Linen Cost £/consumer week	Laundry & linen costs have reduced by 2.5 % over two years
Waste Cost £/consumer week	Waste costs have increased by 31% over two years

The Strategic Review of Soft Facilities Management Services Programme is carrying out a strategic review of Soft FM services across NHSScotland to identify improvements and efficiencies that can be made to these services, and thus make improvements to the above performance KPI's.

5.1.3 Performance variation across Boards

Whilst the Performance Framework provides a useful "national picture" of performance on a range of asset and facilities management services, it does potentially mask variation in performance across Boards. Further analysis of the Performance Framework KPIs at Board level reveals significant variation across Boards as shown in the tables which follow, which compares each Board's performance on each of the 20 KPIs from the Performance Framework.

These tables are produced from information taken from the 2012 Cost Book and it should be recognised that detailed comparisons between NHS Boards based on the Cost Book should be treated with some caution because of the potential for different assumptions underpinning the calculations having been made. For example, NWTCB / Golden Jubilee is a singular specialist hospital which delivers high tech surgical services and therefore is not directly comparable to any other Board. Also, the cost per consumer week for smaller NHS Boards (particularly the Island Boards) can be affected by a lack of economies of scale and the requirement for a minimum level of infrastructure that supports a low level of patient activity (consumer weeks).

In response to the information contained within these tables, NHS Boards will need to develop an action plan to:

- Ensure that the cost, area and activity data used in the KPI's accurately reflects actual performance at hospital level.

- Understand the operational reasons for variation in performance at hospital level to identify where efficiencies can be made.

- Implement the outcomes from the Soft FM review.

NHS Board	Percentage of properties categorised as either A or B for Physical Condition	Percentage of properties categorised as either A or B for Quality	Positive response to Patient Questionnaire on patient rating of 'hospital environment'	Percentage of properties less than 50 years old	PAMS Quality Checklist Overall Score (%)	Overall percentage compliance score from SCART	Cost per square metre for backlog maintenance	Percentage of significant and high risk backlog maintenance	Percentage of properties categorised as either A or B for Functional Suitability	Percentage of properties categorised as 'Fully Utilised' for space utilisation
NHS Greater Glasgow & Clyde	77%	45%	75	71%	72%	64%	134	30%	50%	73%
NHS Lothian	58%	81%	83	49%	83%	76%	148	84%	82%	79%
NHS Tayside	59%	91%	85	72%	50%	37%	100	53%	80%	87%
NHS Grampian	47%	68%	83	61%	81%	55%	379	33%	64%	78%
NHS Fife	79%	69%	73	75%	67%	80%	228	38%	77%	78%
NHS Ayrshire & Arran	60%	64%	85	68%	76%	69%	303	52%	71%	78%
NHS Lanarkshire	72%	63%	71	89%	71%	86%	222	49%	63%	88%
Highland	32%	40%	90	97%	61%	57%	364	36%	71%	58%
NHS Forth Valley	81%	81%	73	92%	72%	68%	67	12%	84%	95%
NHS Dumfries & Galloway	55%	49%	86	66%	62%	71%	427	47%	54%	45%
NHS Borders	99%	67%	85	67%	58%	79%	85	31%	63%	80%
NWTCB - Hospital	91%	93%	98	100%	22%	86%	40	8%	93%	98%
Western Isles	94%	98%	94	90%	63%	95%	72	41%	95%	81%
State Hospitals Board for Scotland	100%	100%	n/a	98%	70%	94%	14	38%	100%	88%
NHS Shetland	30%	68%	93	49%	49%	65%	177	79%	72%	73%
NHS Orkney	28%	76%	94	70%	78%	70%	593	14%	49%	52%
NHS Board Average 2013:	**66%**	**65%**	**85**	**71%**	**64.6%**	**72%**	**193**	**43%**	**67%**	**77%**

Board	Building Area sq.m per Consumer Week (from Cost Book)	Cleaning Costs £ per sq.m (from Cost Book)	Property maintenance costs £ per sq.m (from Cost Book)	PFI - Facilities Management Costs £ per sq.m (from Cost Book)	Energy Costs £ per sq.m (from Cost Book)	Rates Costs £ per sq.m (from Cost Book)	Catering Cost £ per consumer week (from Cost Book)	Portering Costs £ per consumer week (from Cost Book)	Laundry & Linen Cost £ per consumer week (from Cost Book)	Waste Cost £ per consumer week (from Cost Book)	Property & Facilities Management Services Cost £ per consumer week*
NHS Greater Glasgow	3.4	40.9	28.7	33.1	25.9	12.1	70.9	55.4	29.5	11.1	648.1
NHS Lanarkshire	2.2	41.9	71.8	104.2	21.0	17.0	83.9	28.7	43.4	10.7	737.4
NHS Tayside	4.6	28.8	27.4	0.0	19.3	10.6	71.4	53.7	33.4	9.0	560.6
NHS Dumfries & Galloway	3.3	50.7	56.1	17.3	28.8	13.0	95.4	25.6	38.5	14.1	728.0
NHS Ayrshire & Arran	2.9	41.6	42.5	17.2	23.7	11.3	80.1	53.5	39.5	10.6	585.5
NHS Grampian	2.9	52.7	33.5	0.0	33.5	14.6	68.1	46.7	29.0	9.6	541.1
NHS Lothian	3.2	38.7	31.7	63.9	25.7	14.1	85.4	46.9	28.2	8.5	730.4
NHS Fife	3.6	34.3	20.8	44.6	18.4	10.1	72.1	41.6	29.5	8.7	612.5
NHS Highland	3.3	39.5	35.6	14.7	42.2	17.9	98.7	42.5	28.4	12.3	670.5
NHS Borders	2.9	50.6	46.6	0.0	26.0	15.4	81.4	18.8	39.8	0.0	538.4
State Hospital	3.3	63.1	33.5	0.0	36.0	17.3	111.9	13.2	6.7	4.9	637.4
NHS Western Isles	3.8	45.0	60.6	0.0	50.4	23.2	145.2	36.5	37.6	13.4	917.3
Golden Jubilee	5.7	23.0	51.8	0.0	48.0	28.3	145.2	55.6	52.8	32.2	1142.0
NHS Orkney	2.9	66.3	64.1	0.0	54.8	22.1	102.5	54.2	79.3	4.5	843.1
NHS Shetland	7.1	54.9	42.6	0.0	26.9	9.7	327.4	0.0**	111.9	15.6	1410.1
NHS Forth Valley	3.2	46.1	37.4	29.3	33.6	20.5	79.7	41.2	39.3	18.7	711.5

* the final column combines the 10 Cost Book based KPIs in the Framework into a single composite KPI "Property and Facilities Management Services Cost", and relates to the £660 million expenditure on property and facilities services described in Section 3.1 of this report.

** Portering costs for NHS Shetland are included / absorbed within other cost categories.

5.1.4 Projected reduction in backlog maintenance expenditure requirement

In 2011, NHS Boards estimated that the then backlog maintenance expenditure requirement of £1,010 million would reduce significant over the next 5 year period as a result of the plans for:

- Direct expenditure on reducing high and significant backlog

- Rationalisation and disposal of older properties thereby avoiding the need for expenditure on backlog

- Replacement and refurbishment of existing buildings with backlog.

As shown earlier in this report, the backlog expenditure requirement reported by Boards in March 2013 was £858 million which is a reduction of £152m since 2011, including a £90 million reduction since 2012.

This reduction in backlog over the last two years has been used to project (fairly crudely) the reduction in backlog expected by 2017, and this is shown in the graph below.
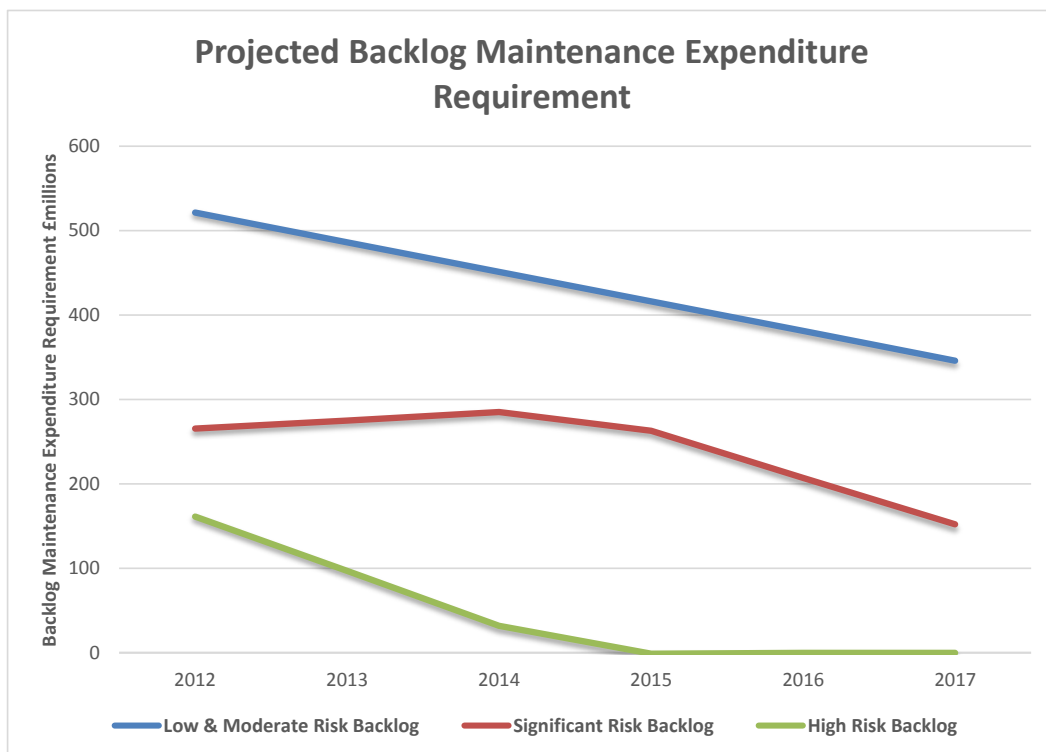
This projection indicates that high risk backlog would be largely eliminated by 2015. In addition, by 2017 significant risk backlog will be reduced from £275m to £150m and overall backlog reduced from £858m to less than £500 million. However, it should be recognised that it is very difficult to forecast changes in backlog in existing buildings.

The year on year reductions in backlog that are shown in the graph are a projection based on the following assumptions:

i. NHS Boards need to address high and significant backlog as a priority, therefore, the graph assumes that Boards will prioritise their proposals for expenditure and estate rationalisation/disposals to maximise the impact on high and significant risk backlog in the shortest practical timescale. The graph assumes that, from 2013 onwards, the maximum acceptable timescale for addressing the high risk backlog is two years, and for reducing significant risk backlog it is four years.

ii. The graph also recognises that in practice new build and refurbishment / upgrade schemes, although specifically targeted on reducing high and significant risk backlog, will inevitably also reduce low and moderate risk backlog when, for instance, this backlog is in the same building/area in which the high and significant risk backlog is present. Hence, the graph assumes that some reduction in low and moderate risk backlog will take place in parallel with the reductions in high and significant risk backlog.

iii. The net result of assumptions (i) and (ii) above is that by the end of 2015 the Boards will have had to implement all the proposals they projected in 2011 for reducing backlog i.e. £431 million reduction since 2011.

iv. The graph then assumes that by 2015 NHS Boards will have developed further proposals for addressing backlog through additional estate rationalisation and capital/revenue expenditure. This is a reasonable assumption given that NHS Boards are required to review and update their PAMS on an annual basis and historically, estate rationalisation and replacement is an ongoing and continuous feature in their PAMS. Therefore, the graph assumes that the reduction in backlog will continue beyond 2015 albeit at a slower rate than in previous years. Consequently, the graph shows that in 2016 the Boards will implement further proposals to reduce backlog by £72 million (£54 million of which is required to meet the 4 year target for reducing significant risk backlog).

v. Finally, the graph projects that by end of 2017 a total reduction in backlog of £517 million is achieved since 2011.

The graph was developed for the 2012 SAFR in order to provide NHS Boards and Scottish Government with an indication of how the 2012 backlog expenditure requirement of £948 million can expect to be addressed by Boards over the period 2012 to 2017. The SAFR reports from 2013 onwards will monitor how Boards are actually reducing their backlog maintenance.

5.1.5 Estate Performance at Hospital Level

In previous SAFR reports it was only possible to analyse estate performance at Board level, but with the ongoing development of the Estate Asset Management System (EAMS) it is now possible to report on property asset KPI's, such as backlog maintenance and physical condition, at hospital level. Analysis of this information enables identification of hospitals with the highest backlog maintenance cost and the largest area of accommodation categorised as either C or D for the facet of physical condition. This enables comparisons to be made between these hospital level indicators and highlight the strategic plans for improvement included within the appropriate NHS Board's PAMS. The results of this analysis and the strategic plans for improvement can be found in the following two tables:

The following table lists the 10 NHSScotland hospitals with the highest total cost for backlog maintenance, which naturally focuses on larger accommodation types. The total cost associated with these properties of £360m accounts for 42% of the overall backlog maintenance cost for NHSScotland; with half of this £360m attributable to significant and high risk backlog. Prioritisation of investment on these properties would make a significant contribution to reducing NHSScotland's backlog maintenance burden.

10 Hospitals with the highest Backlog Maintenance - Total Cost			
NHS Board	**Property**	**Total Backlog Cost**	**Strategic Plan (identified from the Board's PAMS)**
NHS Grampian	Aberdeen Royal Infirmary	£60.27m	Targeted programme of investment in backlog maintenance, focussed on inpatient accommodation
NHS Tayside	Ninewells Hospital	£44.53m	Part of general backlog maintenance programme
NHS Lothian	Western General, Edinburgh	£39.95m	Infrastructure investment planned with particular focus on steam plant, roof replacement and lift upgrades.
NHS Dumfries & Galloway	Dumfries & Galloway Hospital	£39.0m	Planned replacement of hospital and estate rationalisation between 2015/16 - 2018/19
NHS Lanarkshire	Monklands Hospital	£38.6m	Prioritised backlog investment programme in place
NHS Ayrshire & Arran	Crosshouse Hospital	£30.86m	Phased service developments over next 5 years to 'front door services' & new Combined Assessment Unit, plus ongoing direct backlog investment
NHS Greater Glasgow & Clyde	Glasgow Royal Hospital	£29.96m	Part of general backlog maintenance programme
NHS Lothian	Royal Edinburgh Hospital	£28.64m	Phased redevelopment of site from 2014 onwards
NHS Fife	Victoria Hospital, Kirkcaldy	£28.42m	Service development works between 2013 - 2015
NHS Greater Glasgow & Clyde	Southern General Hospital	£20.26m	Major site redevelopment and replacement scheduled for completion in 2015
TOTAL BACKLOG:		**£360m**	

The following table lists the 10 NHSScotland hospitals with the largest overall area categorised as either C or D for the facet of Physical Condition. The total area of 398,761 sq.m. represents 28% of NHSScotland's overall estate.

Prioritisation of investment on these properties would, therefore, make a significant contribution towards improving the physical condition of NHSScotland's overall estate.

10 Hospitals with largest floor area categorised as either C or D for the facet of Physical Condition				
NHS Board	Property	KPI: Percentage in C or D	Floor Area (sq.m) in C or D	Strategic Plan (identified from the Board's PAMS)
NHS Ayrshire & Arran	Ayrshire Central Hospital	68%	22,929	Planned replacement (circa 2015/16) with new integrated mental health facility and community hospital facility
NHS Fife	Stratheden Hospital	65%	20,740	Accommodation review in 2013/14 and new IPCU in 2014/15
NHS Greater Glasgow & Clyde	Glasgow Royal Infirmary	14%	23,640	Part of general backlog maintenance programme
NHS Greater Glasgow & Clyde	Gartnavel General Hospital	80%	52,200	Part of general backlog maintenance programme
NHS Lanarkshire	Monklands Hospital	77%	40,190	Backlog investment programme in place
NHS Grampian	Aberdeen Royal Infirmary	67%	80,466	Backlog investment programme in place
NHS Grampian	Royal Cornhill Hospital	42%	20,559	Plans to rationalise surplus properties on site in 2014/15 & 2015/16
NHS Lothian	Western General Hospital	57%	61,235	Infrastructure investment planned with particular focus on steam plant, roof replacement and lift upgrades.
NHS Lothian	Royal Edinburgh Hospital	90%	45,262	Phased redevelopment of site from 2014 onwards
NHS Dumfries & Galloway	Dumfries & Galloway Hospital	66%	31,540	Planned replacement of hospital and estate rationalisation between 2015/16 - 2018/19
	TOTAL AREA:		398,761	

5.1.6 Asset Performance Framework for Office Accommodation

The Asset Performance Framework for Office Accommodation provides similar targets to those reported above for the overall estate improvement in asset performance by 2020 and currently uses 9 key performance indicators to monitor year on year progress towards the achievement of these targets. It is anticipated that further KPI's will be developed for occupancy costs for office accommodation once more detailed and consistent financial information is available across all Boards. The Office Performance Framework for 2013 is shown below:

NHS Scotland National Asset Performance Framework for Office Accommodation						
Quality Ambition	Performance Measure	KPI No.	Key Performance Indicator	2020 Performance Target	Current 2013 Performance: NHS Boards	Current 2013 Performance: Special Health Boards
Patient Centred	Quality of physical environment	1	Percentage of properties categorised as either A or B for the Physical Condition facet of the property appraisal	90%	56%	89%
		2	Percentage of properties categorised as either A or B for the Quality facet of the property appraisal	90%	67%	91%
	Patients' needs are accommodated in modern, well designed facilities	3	Percentage of properties less than 50 years old	70%	45%	98%
Safe	Statutory compliance status of property asset base	4	Percentage of properties categorised as either A or B for Statutory Compliance	90%	54%	96%
	Backlog Maintenance expenditure requirement	5	Cost per square metre for backlog maintenance	£100	£539	£43
	Level of risk associated with outstanding backlog maintenance requirement	6	Significant and high risk backlog maintenance as percentage of total backlog expenditure requirement	10%	42%	6%
Effective & Efficient	Estate Functional Suitability	7	Percentage of properties categorised as either A or B for the Functional Suitability facet of the property appraisal	90%	73%	87%
	Efficiency of desk usage per member of staff	8	Desk per WTE ratio (expressed as a percentage)	80%	98%	93%
	Space allocation per member of staff	9	Space Standard expressed as sq.m. per WTE	10	14	11

The comparison of current performance in office accommodation shows a clear distinction between NHS Boards and Special Health Boards. The analysis of tenure (outlined earlier) provides some indication of the reasons for this, with Special Health Boards tending to utilise modern leased accommodation whereas NHS Boards tending to utilise older parts of their estate, often converting properties no longer suitable for direct provision of healthcare services.

These performance results indicate an opportunity for further comparison and analysis to better understand the benefits, or otherwise, between the utilisation of existing estate that would otherwise become redundant, against the leasing of modern, purpose designed commercial accommodation.

The financial consequences of these models would also need to consider the impact on property occupancy costs as well as operational efficiency savings.

A short life working group is to be set up, supported by Scottish Futures Trust, aimed at supporting NHS Boards to develop improvement strategies for their office based accommodation. The outcome of this is expected within their 2014 PAMS.

5.2 Property and Asset Management Strategies (PAMS)

The Performance Framework includes an overall score for PAMS quality (KPI No 5). This results from a detailed review of each Board's PAMS. It is important that Boards are able to describe, in a consistent way, how well the totality of their existing property and assets is performing against ongoing policy objectives both now and in the longer term. A Property and Asset Management Strategy (PAMS) is the key strategic document for demonstrating how each NHS Board is performing in meeting this requirement.

The Scottish Government's "Policy for Property and Asset Management in NHSScotland" requires all NHSScotland bodies to have a Property and Asset Management Strategy which is reviewed and approved annually by its Board. Health Facilities Scotland has provided comprehensive guidance and training to support Boards in developing their PAMS.

One of the key aims for a PAMS is that as it is implemented it will fuel continuous improvement in the condition and performance of the asset base in supporting the delivery of healthcare services. The State of NHSScotland's Assets and Facilities Report provides an opportunity to review and compare each Board's PAMS.

5.2.1 Review of PAMS submitted in 2013

The PAMS that were submitted in March 2013 show that the main focus over the next few years is to complete the current major investments plans and then to refocus on reducing backlog and improving the utilisation of existing property assets. This should result in substantial improvement in overall property performance of the estate. Generally, the PAMS show that Boards are increasingly linking their PAMS with service strategies – an essential requirement if investment in assets is to support the delivery of the Scottish Government's vision for the future.

A review of the quality and comprehensiveness of each submitted PAMS was carried out using the PAMS checklist introduced in the 2011 State of the Estate Report and the results from this are shown overleaf. This checklist is based on the Scottish Government's "Policy for Property and Asset Management" and the Health Facilities Scotland guidance for developing a PAMS. Whilst there has been improvement in a number of PAMS, there remains potential for further improvement. Currently, there is considerable variation in PAMS quality across Boards. The Scottish Government and Health Facilities Scotland have recently provided extensive feedback to Boards on their 2013 PAMS through individual Board reports and interviews. This feedback was aimed at supporting Boards to improve their PAMS for next year.

PAMS Quality Assessment Summary Score Sheet 2013

	Where are we now?	Where do we want to be?	How do we get there?	Implementation	Overall
NHS Ayrshire & Arran	Blue	Green	Green	Green	Green
NHS Borders	Green	Yellow	Green	Orange	Yellow
NHS Dumfries & Galloway	Blue	Yellow	Yellow	Yellow	Green
NHS Fife	Green	Green	Yellow	Yellow	Green
NHS Forth Valley	Green	Green	Green	Green	Green
NHS Greater Glasgow & Clyde	Green	Green	Green	Green	Green
NHS Grampian	Blue	Blue	Green	Green	Blue
NHS Highland	Green	Yellow	Yellow	Yellow	Green
NHS Lanarkshire	Green	Green	Yellow	Green	Green
NHS Lothian	Blue	Blue	Blue	Green	Blue
NHS Orkney	Blue	Green	Green	Green	Green
NHS Shetland	Yellow	Yellow	Orange	Orange	Yellow
NHS Tayside	Green	Orange	Orange	Yellow	Green
NHS Western Isles	Green	Green	Green	Orange	Green
NHS NWTC	Yellow	Grey	Red	Red	Orange
State Hospital	Green	Green	Green	Yellow	Green
NHS Education for Scotland	Yellow	Yellow	Yellow	Green	Green
NHS Health Scotland	Green	Green	Blue	Green	Green
Healthcare Improvement Scotland	Red	Red	Red	Red	Red
NHS 24	Blue	Blue	Blue	Blue	Blue
National Services Scotland	Blue	Blue	Blue	Blue	Blue
Scottish Ambulance Service	Green	Green	Yellow	Orange	Green

Score Key

Colour	=	Description
Blue	=	Comprehensive information / PAMS provided which fully supports the Board's strategic vision
Green	=	Good level of information / PAMS provided which supports the Board's strategic vision
Yellow	=	Limited information / evidence provided but it does generally support the Board's strategic vision
Orange	=	Provided information and/or overall PAMS lacks evidence of links with Board's strategic vision
Grey	=	Limited information / evidence provided and lacks cohesion with Board's strategic vision
Red	=	No information / PAMS submitted

Note: NHS NWTC's PAMS is in early stages of development, with a more substantive document expected for 2014. Health Improvement Scotland did not submit a PAMS for 2013 but did so in 2012.

6.0 Delivering NHSScotland's 2020 Vision

Getting the right assets and facilities services in place will be central to achieving the Scottish Government's "2020 Vision" for sustainable high quality in health. Delivery of this vision will require major change to the type and distribution of facilities and the way in which future investment is prioritised across all asset groups.

The significant capital and revenue based investment plans described earlier in this report already form a key part in the delivery plans towards the 2020 vision, by focussing on improved quality in health and care services and a commitment to pursuing the three Quality Ambitions of safe, effective and person centred care, as set out in NHSScotland's Quality Strategy.

6.1 Realising the benefits from Property Asset Investment

Three of the most significant property asset investment plans over the next 5 years involve the completion of the New South Glasgow Hospitals project, the development of a new Royal Hospital for Sick Children in Edinburgh, and the re-provision of Dumfries & Galloway Royal Infirmary. Together they amount to a future investment programme of over £800m (this excludes investment already spent on South Glasgow Hospital).

These three investments alone will replace over 300,000 sq.m. of outdated accommodation; replace buildings in poor physical condition, reduce estate backlog maintenance risks and significantly improve the functional suitability and space utilisation of the NHSScotland estate. This investment will also deliver on the triple aims of the 2020 Vision by providing modern facilities that improve the quality of care provided, support the ability to improve the health of the population, and help to secure value and financial sustainability of health and care services.

The following summarises some of the opportunities and benefits to be realised for the Scottish population from these substantial property investments.

New South Glasgow Hospitals project
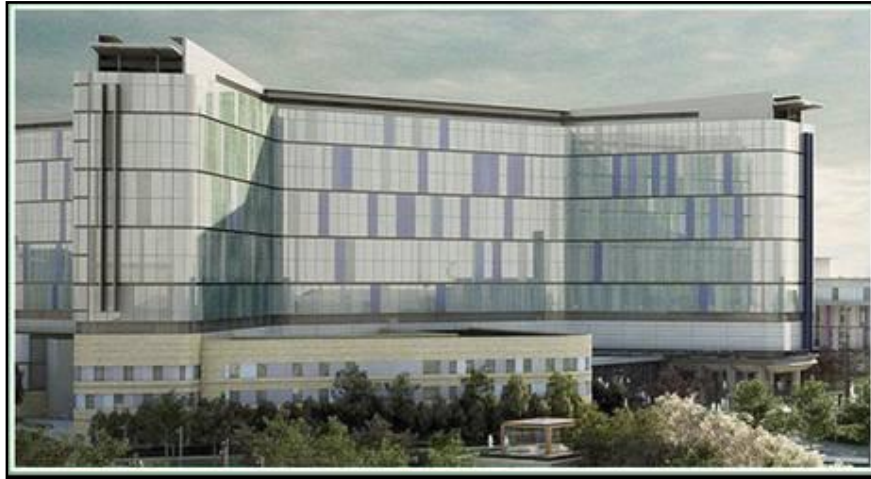
The new South Glasgow Hospitals project is on track to be delivered on time and on budget at the beginning of 2015. This £842m publicly funded 'super campus' is the largest single NHS hospital building project undertaken in Scotland and will deliver what is regarded as a gold standard of healthcare; with maternity, children's & adult acute care, and laboratory services all together on one site for the first time in Glasgow. The project has also had a major impact on the local community in terms of jobs, business opportunities and regeneration; with 460 jobs created and a further 196 work experience placements.

The new development forms a critical part of NHS Greater Glasgow & Clyde's clinical strategy which will change the way it delivers patient care aimed at better meeting patients' needs in a more sustainable, higher quality and safer manner. Overall, it will improve patient access and outcomes, as well as introduce more effective approaches to service delivery.

The completion of the new South Glasgow Hospitals project will deliver approximately 225,000 sq.m of new property assets, along with associated new medical equipment and IM&T infrastructure. This will enable the decommissioning of redundant properties resulting in the decommissioning of circa 243,000 sq.m. This transformation in the asset base includes a reduction in backlog maintenance of £25m and significant improvements to the Boards KPIs, post implementation in 2017:

- Percentage of properties in good physical condition will increase from 76% to 91%.

- Percentage of properties providing good quality accommodation will increase from 45% to 74%.

- Percentage of properties providing functionally suitable accommodation will increase from 50% to 71%.

- Percentage of properties fully utilised will increase from 72% to 88%.

Royal Hospital for Sick Children in Edinburgh

This project will re-provide services from the Royal Hospital for Sick Children (RHSC), Child and Adolescent Mental Health Service (CAMHS) and the Department of Clinical Neurosciences (DCN) in a single building adjoining the Royal Infirmary of Edinburgh at Little France. It will deliver significant benefits of having children's, maternity and adult services on the same site, and the proximity to the University of Edinburgh Medical school and the BioQuarter will improve opportunities for partnership working and bring research to the bedside.

The existing Royal Hospital for Sick Children (RHSC) provides a comprehensive range of dedicated children's services, caring for over 100,000 children from across Lothian and beyond. The existing hospital is almost 120 years old and is in need of replacement with fit for purpose facilities, co-located with appropriate adult services, including maternity and neurosciences, to ensure clinical excellence can be maintained.

The project is expected to be complete during 2017/18 and will replace approximately 23,000 sq.m. of pre-1900's hospital accommodation, of which almost 50% is considered to be in unsatisfactory physical condition and with £11m of associated backlog maintenance.

New Dumfries Hospital

NHS Dumfries & Galloway are planning an ambitious agenda for change over the next 10 years which is focussed on redesigning and modernising its services whilst also addressing the current poor condition and performance of much of its existing estate. At the heart of this change programme is the reprovision of its main acute hospital facility, the Dumfries and Galloway Royal Infirmary (DGRI). This will deliver a modern, patient centred environment for acute services which will be underpinned by more effective use of locally based services.

The realisation of this project, along with the completion of the Board's 10 year disposal and refurbishment programme, will have a significant impact on the Board's overall backlog maintenance burden and estate performance. The replacement of the hospital alone will eliminate £41m of backlog maintenance directly associated with it, but the delivery of the full change programme by 2023 is further expected to deliver the following property KPI improvements:

- Percentage of properties in good physical condition will increase from 54% to 90%.

- Percentage of properties providing good quality accommodation will increase from 49% to 90%.

- Percentage of properties providing functionally suitable accommodation will increase from 54% to 90%.

- Percentage of properties fully utilised will increase from 45% to 90%.

Primary Care Developments

£0.33bn is also planned for new primary & community care facilities, and other smaller capital replacement schemes. This investment is key to "shifting the balance of care" and is expected to have a significant impact on delivering more patient centred, safe and effective care closer to home.

One of the schemes in this category is the Stirling Care Village, an innovative and integrated care model that combines primary & community healthcare with older people's care to create a joined-up holistic approach to service delivery. The project will result in the formation of a Care Village based on the existing Stirling Community Hospital site. To further enhance this Care Village model of service provision, General Medical Services delivered by local GP practices will become a key service partner within the development along with other service providers such as Forth Valley College, local charities and the voluntary sector, to deliver enhanced services as part of the overall concept.

6.2 Potential benefits from a strategic approach to Office accommodation

All NHS Boards recognise the importance of rationalising their estate to maximise efficiency and reduce unnecessary space and, over recent years, the Special NHS Boards have made significant progress towards this by maximising the utilisation of their office accommodation. This has been achieved through the introduction of new ways of working, flexible working and workplace redesign. In particular, NHS National Services Scotland (NSS) has done extensive measurement of space efficiency and costs across its own large and diverse office estate as part of implementing its Property & Asset Management Strategy which was focused on:

- Providing well designed and efficient space which is flexible towards embracing changing working practices and new technology

- Maximising the opportunity for staff to develop and deploy their knowledge, skills and personal qualities creatively to add value to the business and services

- Achieving synergies from shared use of accommodation and support services.

The Scottish Government, along with Scottish Futures Trust, will be supporting NHS Boards to develop strategic plans for their 2014 PAMS which consider the above opportunities for improvement, as well as further opportunities from the wider public sector office accommodation. This has the potential to bring about the following benefits:

- Provision of affordable support accommodation to the NHS that is better able to respond to future changes in strategic direction.

- Reduce current building performance issues, where they exist, on the current estate in terms of:

- physical condition

- space utilisation

- functional suitability

- Improve the quality of working environment and thereby facilitate the retention and recruitment of staff;

- Improve the availability of staff welfare facilities and promote positive staff morale.

- Providing flexible, well designed, efficient space that is able to cope with uncertainty around future property needs, support opportunities to change working practices, and introduce new technology.

- Support Scottish Government environmental sustainability agendas through the appropriate procurement, design and operation of its property assets.

- Maximise opportunities for staff to develop and deploy their knowledge, skills and personal qualities creatively to add value to the business and service provision.

- Enable more integrated/collaborative working and thereby encourage better use of skills and resources.

- Achieve synergies from shared use of accommodation and support services.

6.3 Potential benefits from a more strategic approach to investment in medical equipment

Medical equipment is a valuable asset both in monetary terms and in the important role it plays in the delivery of quality healthcare across NHSScotland, with modern standards of available equipment used to support better patient care and improved efficiency and effectiveness of service delivery. Current examples of this across NHSScotland include:

- The programme of investment in new radiotherapy machines has enabled advanced treatments to be delivered in less than two minutes; rather than the 15-20 minutes needed for conventional radiotherapy treatment, and are capable of treating in excess of 40 patients per day.

- Modern imaging equipment is now designed to keep radiation dosage to as low as reasonably achievable thus reducing the associated risks to patients and staff.

- Medical Equipment is integral to the delivery of keyhole surgery which has significantly reduced the length of stay in hospital for patients.

- Modern standards of medical equipment enables cataract surgery to be carried out on a day surgery basis resulting in improved service effectiveness, patient convenience, and patient safety.

- The total number of adverse incidents related to medical devices reported centrally in Scotland is 250 per annum. This number has been fairly constant over the past few years. Of that 250, only 40 are related to medical equipment (note: the actual causes of these incidents may not necessarily be the medical equipment itself).

There are, however, opportunities to improve the strategic approach to investment in medical equipment, and the support that they provide to patient care, such as:

- Sharing knowledge and learning from good practice investment models already in place for radiotherapy and imaging equipment. This has the potential to improve the effectiveness of investment decisions in other critical medical equipment.

- Developing strategic national advice of how medical equipment could improve healthcare prevention through better / more screening equipment and thus support reduction in hospital admissions.

- Provide further advice for the 2014 SAFR on appropriate life cycle replacement periods for different categories of medical equipment.

- Improving the accuracy of reporting on the value and performance of medical equipment through the SAFR pro-forma process.

- Introducing a harmonized database across NHSScotland of medical equipment that would improve the robustness of comparable performance data and support decisions on investment priorities and resources.

- Providing national advice on the introduction of new advances in medical equipment, and forecast growth areas, such as:

  o Computerised devices and medical IT systems.

  o Robotic surgical systems.

  o Advanced imaging systems.

  o Wireless products.

  o Equipment associated with minimally invasive therapeutic procedures.

  o Home and self-care products.

  o Patient monitoring systems.

In order to take forward these opportunities, it is recommended that the SAFR Medical Equipment Group, along with other technical and strategic members, are initially tasked with investigating and reporting back on the benefits that could be gained from taking such an approach to the strategic management and investment in medical equipment. Progress on these investigations will be highlighted in the 2014 SAFR.

6.4 Realising the benefits from NHSScotland's eHealth Strategy

The potential of information technology to support and transform healthcare services is fully recognised across NHSScotland and eHealth has a pivotal role to play in ensuring that the 2020 Vision for Healthcare in Scotland and its Quality Ambitions are delivered.

The building blocks for future IT enabled progress are now in place following implementation of the eHealth Strategy for 2008-11, with eHealth now moving from an acquisition / development phase towards exploiting the value of the new capabilities acquired during 2008-11. The new eHealth Strategy 2011-17 is therefore a revenue based improvement programme, leveraging the IT assets to support the quality improvements that NHSScotland has committed itself to.

Progress in implementing the eHealth Strategy will be used within the SAFR domain as the basis upon which investment needs are better understood and priorities are recognised. The benefits to be gained from implementing the eHealth Strategy can then be more closely integrated with other NHSScotland investment priorities and decisions.

7.0 Forward Look to 2014 and 2015

7.1 Innovation and Collaborative Working

Assets and facilities services can be a key enabler for achieving NHSScotland's Quality Ambitions and for delivering the Scottish Government's "20:20 Vision" for sustainable high quality in health including integrated health and social care.

Advances in technology are driving changes in healthcare that are likely to significantly impact on the NHSScotland's asset base. These technologies are enabling care pathways to be developed which deliver more care outside of hospitals and therefore there is likely to be less reliance in the future on buildings to deliver services. Hence, it is essential that the asset base is closely aligned with these changes in service delivery models. This will include the need to carefully examine the balance of investment needs across the different types of assets going forward if the NHS is to maximise the potential benefits of the new technologies and the innovative and collaborative working.

Delivering improvements in quality at lower cost

It is clear that demographic trends and global pressures on health spending will not allow increases to quality that increase costs. The Scottish Government is working with Boards to identify opportunities to deliver improvements in quality at lower cost.
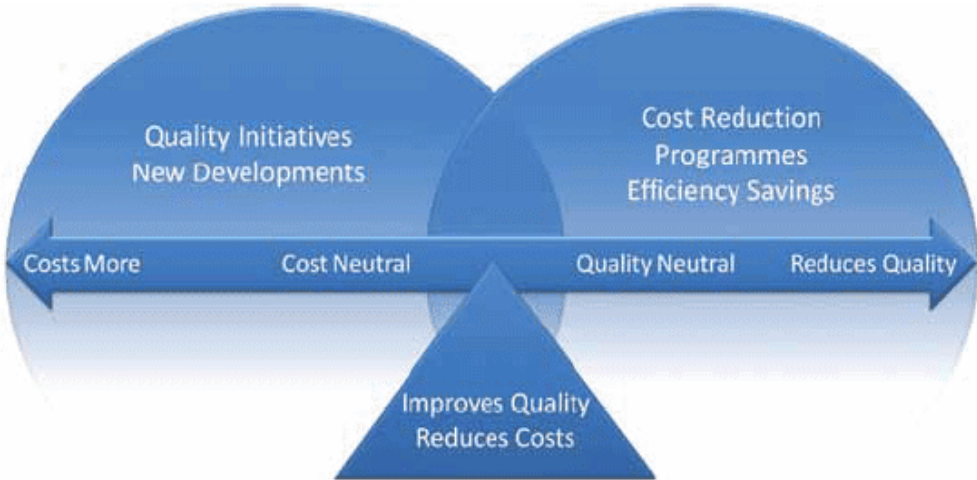
The NHSScotland Efficiency and Productivity Framework is clear that conventional approaches to efficiency will be insufficient to deliver the depth and duration of efficiency savings required over the next three to four years. The purpose of the Efficiency and Productivity Framework is to give real focus to identifying a range of changes which will support Boards to achieve this alongside the Quality Strategy and to support Boards to redesign services bringing together all of the dimensions of quality, including value for money. The State of NHSScotland's Assets and Facilities Report is part of this initiative to identify changes that support Boards to deliver improvements in quality and reduce costs by providing an annual high level assessment of the progress that NHSScotland is making on improving the performance management of assets and

facilities services. The focus for improving performance is expected to be on estate rationalisation, space utilisation and benchmarking.

The case studies included in this report demonstrate that some Boards are at the forefront of the initiatives on innovative and collaborative working and delivering improvements in quality at lower costs. The inclusion of these case studies in this report is aimed at enabling Estates and Facilities Teams within Boards to identify, share and spread good practice and act on opportunities to improve performance.

7.2 Future State of the NHSScotland Assets and Facilities Reports

The development of the 2014 and 2015 State of NHSScotland Assets and Facilities Reports will see work on:

- Further improving the quality and consistency of the information on assets and facilities, particularly in respect of the wider range of assets (vehicles, medical equipment and IM&T). This will include the implementation of further measures to improve the alignment of the ISD Cost Book with the operational assets and facilities information systems such as EAMS and eMART.

- Further development of the Asset and Facilities Performance Framework as a key tool for monitoring performance at national, Board and local levels. This will include further work on the setting of performance targets with particular focus on ensuring that they are realistic and achievable within available resources. It will also include the development of KPIs for vehicles, medical equipment and IM&T assets which are similar to those for property and facilities services and provide a balanced approach to measuring quality, efficiency and risk.

- The development of the 2020 Capital and Facilities Change Management Plan will be undertaken in partnership with all stakeholders to ensure that it reflects national priorities and local need, supporting quality ambitions whilst taking cognisance of issues relating to sustainability. This State of Assets and Facilities Services Report will need to be aligned with this work and is expected to be the key monitoring tool for delivery of the Change Management Plan.

- The recently commenced national initiative on developing a more formal approach to capital planning and prioritisation is expected to increase the effectiveness of investment and reduce the expenditure that is required to meet performance or increase the performance for the same level of expenditure. This work includes examining the potential from utilising innovative capital planning systems. This annual SAFR report, and in particular the Performance Framework, provide an ongoing opportunity to demonstrate improved investment decision-making.

- Further work on establishing a library of best practice case studies and presenting them in this report. The aim being to draw on the outcomes from these studies to provide an evidence base for informing decisions on future

investment in assets and for modelling the potential for future performance improvement.

- The 2014 report will include the work and outcomes of the NHSScotland Soft FM Review. This review will deliver a report on soft facilities services identifying improvement opportunities relating to:

  - Utilising relevant technological innovations from across the world to improve service effectiveness and efficiency,

  - Synergies and efficiencies that can be achieved by joining up service delivery across Health Board boundaries, regions, pan Scotland or delivered in conjunction with other public bodies,

  - Ensuring that best practice is identified and as far as is practical is put into operation across as much of NHSScotland as it would be practical to do so,

  - Applying new evidence based practice to Soft FM and to stop historical practices which have evolved over time with limited or no basis in evidence,

  - Identifying opportunities to generate income for NHSScotland through improved retail delivery and careful marketing of spare (contingency) production capacity,

  - Assessing the advantages / disadvantages from contracting out work to other public sector providers.

The work on these future State of Assets and Facilities Reports provides an opportunity to identify and find solutions to some of the issues and barriers to improving performance that have been identified to date. These future reports will focus on demonstrating success, and ensuring that important seeds are sown for the delivery of longer term benefits, performance and efficiency improvements in the assets and facilities services across NHSScotland. This annual report is expected to continue to develop as the key reference documents for monitoring asset and facilities services performance.

Annex A
Case Studies

This annex of the report provides short summaries of a number of best practice case studies covering different aspects of managing assets and facilities services in NHSScotland. It also incorporates a series of proposed national / regional programmes for potential roll-out across NHSScotland which may offer value to a wider audience if implemented.

The case studies and national / regional programmes are aimed at promoting and learning from good practice, and to provide the reader with information on actions being taken elsewhere in NHSScotland to deliver improvements in the performance, efficiency and sustainability of assets and facilities services. It is envisaged that this will be a key feature of this annual State of NHSScotland Assets and Facilities Report, aimed at helping NHSScotland to develop capability and capacity to deliver high performing, efficient and sustainable assets and facilities services. They have been selected because they are innovative and should have a significant impact on performance. Also, they should be easily replicated more widely across NHSScotland.

Best Practice Case Study 1
NHS Highland: Rehabilitation Service Redesign

Staff at Belford Hospital were keen to put patients at the centre of the work they were looking at to improve patient flows. Fort William had two inpatient sites, with all rehabilitation work undertaken across the busy main road.

This resulted in a lot of staff time wasted and inconvenience to patients. Staff decided it would be much better to organise services in a different way.

Focussing on the patient journey using LEAN methodology a plan was worked out to centralise inpatient activity at the Belford Hospital and outpatient activity at the Health Centre.

Two projects were undertaken, one to reconfigure space in the Belford one to reconfigure space in the health centre.

The results are quite stunning, a vastly improved patient experience, improved conditions for staff and reduced bed days, along with a complete removal of services from the Belhaven ward allowing it to be closed and freed for disposal.

Fort William Health Centre was one of NHS Highlands first Multi practice Health Centres, housing 3 practices and a community team.

It has excellent public transport links and ample car parking. It offers an unparalleled environment for staff and patients. This building had NHSH's first Biomass plant, some 6 years ago.

This project is an excellent example of Patient Centred Design developing Clinical Strategy and the Estate Strategy supporting delivery. This project has improved quality of the environment for patients and staff, improved space utilisation, improved functional suitability, reduced backlog maintenance and estate running costs.

The annual recurrent savings for this project are £340k, with £635k of backlog maintenance avoided.

"The whole thing has been a big success. It is a much better physical working environment and we've been made very welcome. Staff have responded really positively and has taken on real ownership of the move. The benefits of co-location with the other professions are becoming more and more apparent."

Kenny Mackintosh, Superintendent Physiotherapist April 2013

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Best Practice Case Study 2
NHS Highland: Modernising Estate Work Practice
Electronic Enterprise Asset Management System.

NHS Highland has introduced an Enterprise Asset Management System (EAMS) to control the maintenance of its Estate. In an EAMS everything is integrated into the system, for example, purchasing, Maintenance, asset history, contract maintenance as shown in the diagram below.
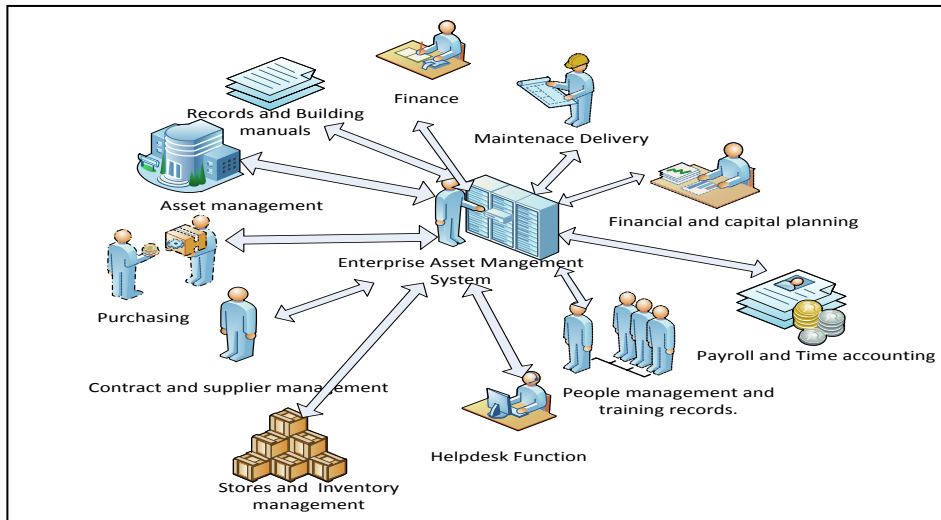
EAMS allows detailed accurate reports to be produced that ensure optimum arrangements are in place to help plan for future maintenance and replacement programmes and enable maintenance techniques like condition based monitoring and reliability centred maintenance to be carried out. These are useful tools in optimising maintenance and can all be supported by the system.

In addition, NHSH has introduced electronic work orders, so that work is scheduled electronically and no paper is used. Apart from the obvious time savings, this also speeds up the system information, moving to real time information.

Also, electronic scheduling automatically picks the most efficient method of allocating the workforce to the list of tasks based on a set of rules and a GPS mapping system. This has enabled NHSH to achieve a turnaround in maintenance performance. In 2007 75% of the work done was unscheduled reactive maintenance. That figure is now down to 40%. Only around a quarter of planned maintenance was regularly done, this is now steadily improving towards 100% with areas of sustained performance of over 70%.

The EAMS system also allows schedule optimisation by means of forward resource levelling. This allows resources to be moved around to meet peaks and troughs in the workload and to ensure that the optimum arrangements are in place.

One of the highlights of NHS Lothian's year was the opening of the Royal Victoria Building on the Western General Hospital Site. The building was one of the first to be procured and delivered through the Framework Scotland process and also one of the first to provide 100% single rooms with en suite facilities in an acute setting.

The facility provides 6 wards with 147 beds for Care of the Elderly, and the design of its inpatient accommodation has enhanced the patient experience in relation to safety, privacy and dignity, and will contribute to the reduction in Hospital Acquired Infection, specifically air-borne infection.

The design incorporates good observation of the patient with patient safety technology incorporated into the design – using the Wanderguard system which incorporates sensors and alarms if the patient leaves the ward or if someone is getting out of bed and may require assistance.

The project also incorporates a number of initiatives developed to provide an environmentally friendly building, which should enable it to achieve a BREEAM Excellent rating. These include:

- Use of photo-voltaic panels and ground source heat pumps.
- Low flush WC's, low energy lifts, occupancy and light sensors.
- Building fabric – high degree of recycled material
- Good use of daylight in design
- Considerate Contractors award – incorporating high level of construction site waste management
- Space provided to accommodate waste segregation and support recycling policy
- Water services designed to minimise water-borne disease (legionella).

Best Practice Case Study 4
NHS Lothian: Improved Data Security

Northgate Managed Services supports NHS Lothian in their drive to prevent security breaches and data loss as the first health board in the UK to introduce FairWarning© Privacy Surveillance Solution.

Background

NHS Lothian provides a comprehensive range of primary, community-based and acute hospital services for the populations of Edinburgh, Midlothian, East Lothian and West Lothian – the second largest residential population in Scotland, circa 800,000. It employs nearly 28,000 staff, including approximately 15,000 nurses and midwives and around 2700 medical staff.

Northgate has worked in partnership with NHS Lothian providing solutions such as hardware break/fix, Electronic Document Management (EDRMS), ongoing supply of hardware and software as well as consultancy and project based services.

The Business Challenge

The Healthcare industry has experienced a number of high profile privacy incidents involving employees and affiliates using Electronic Health Records (EHR) to conduct unlawful activities such as VIP record snooping, unauthorised access to information and loss of sensitive data. Northgate has been supporting NHS Lothian in their drive to be more proactive and improve data security.

NHS Lothian have the first of the single 'cradle to grave' Electronic Patient Records in Scotland known as the TRAKcare system which incorporates A&E, Maternity, Outpatient Services, Inpatient services, Radiology and Laboratory reports including Autopsy. This equates to approximately 850 000 patients and 1.3m records. The Lab system covers all of Lothian but with additional specialist services for the South East and central Scotland covering 1.5m patients.

There are 14,000 users of this electronic record, increasing to 18,000 over the next year as the system is rolled out to services such as District Nursing and Health Visiting. Some staff also have access to the Emergency Care Summary which potentially holds details on all patients in Scotland and should only be accessed in emergency cases.

To date Northgate have supported NHS Lothian in a project to encrypt all 4000 laptops and USB devices in order to prevent data loss. There was however, still a requirement to be more proactive in the prevention of unauthorised personnel accessing patient records.

> "The introduction of FairWarning as an addition to our existing capabilities has allowed us to significantly move ahead as we strive to ensure compliance with the DPA and provide assurance to our patients that their data is in safe hands."

Martin Egan,
NHS Lothian, Director of eHealth

Best Practice Case Study 5
NHS National Services Scotland: Scenario Planning

Scottish Government guidance on developing a Property & Asset Management Strategy (PAMS) is for scenario planning to be undertaken to develop a PAMS that is agile and flexible to long term change. This means developing a view of possible or likely future changes - not simply basing it on predicted or expected change.

NHS National Services Scotland (NSS) are the first NHS Board in Scotland to use this technique as an integral part of their PAMS

The process was based on creating a series of 'different futures' by asking questions such as What if? Where? When? and How? around issues that were difficult to define but had a range of both occurrences and impacts.

The scenario planning process adopted by NSS involved the following stages:

1. Scoping – agree on the questions/issues that it was trying to address and explore.

2. Analysis – identify and analyse major drivers for change and trends in relation to the organisation, particularly those that were most likely to impact on the PAMS.

3. Scenario Building – use the outcomes of Stages 1 & 2 to build a realistic and plausible range of future scenarios.

4. Testing the Scenario – identify and discuss potential implications and impacts of scenarios on the development of the PAMS.

5. Developing an Action Plan – use the outcomes from the above to develop an action plan for coping with alternative futures and embed this into the PAMS.

NSS is a diverse organisation which provides a wide range of services and has a correspondingly wide range of assets, however, for the purpose of the scenario planning exercise these assets were broadly categorised as clinical and non-clinical. The initial scenario planning workshops were designed around these two different asset groups with different participants bringing expertise and experience of the clinical and non-clinical assets respectively to the workshops. The outcomes were then were brought together in the final workshop where common themes and issues were reviewed across the asset groups.

The main benefits gained from this process were:

- It provided a valuable insight and understanding of how future change could impact on the need for property and assets (and on the organisation as a whole);

- It enabled better understanding of the decisions that the organisation is likely to face in the future in relation to its assets;

- It developed an "agile" and resilient PAMS that will serve the organisation well in a number of different futures.

Potential opportunities for national / regional programmes taken from previous best practice case studies

The following are a series of proposed programmes for potential roll-out across NHSScotland. They are based on best practice case studies included in previous State of NHSScotland's Assets & Facilities Reports. They are presented here to inform discussions on their merits for further development.

Programme name:	Partnership working
Scope: national/regional	Regional – location-specific due to different geographical boundaries of LA's and Boards, but with a national strategic objective.
Objective	A standardised approach to property and asset management across publicly supported bodies. Integration of service planning with community development to establish a vision of the number and nature of healthcare facilities required to support the needs of developing communities
Description	Joint approach to property and asset management with other public sector organisations to address a number of shared challenges and move towards achieving change in service delivery.
Ease of implementation	Challenging. Requires collaboration at strategic and operational level between different public sector partners with non-synchronous geographic boundaries. Once started, is a continuous process.
Benefits	A joint approach to property and asset management between public sector bodies will be essential to the delivery of more ambitious change to meet the Government's health and social care objectives.
Next Steps	Use NHS Forth Valley as exemplar model for discussion with NHS Boards, Local Authorities, Fire and Rescue Services etc to explore possibilities of wider implementation nationally.

Programme name:	GIS mapping
Scope: national/regional	National
Objective	Identify service gaps and ensure service provision closer to people's homes.
Description	Use Geographical Information System mapping to assist in the planning of integrated services to meet the needs of communities.
Ease of implementation	May require roll-out of a national GIS system although Local Authorities are already part of a national GIS roll-out. NHS Grampian leading in liaison with LA. Requires access to clinical data (ISD?)
Benefits	Add value to service planning by identifying gaps in service provision and improve services.
Next Steps	Explore take up within NHS Boards and examine options using NHS Grampian experience as exemplar.

Programme name:	Integration of health, local authority and third sector services in town centre locations
Scope: national/regional	Regional - location specific - but a possible national strategic objective.
Objective	Assist in town centre regeneration and maximise value for money by promoting local collaboration in planning and delivering public services.
Description	Combine health board, council-run and other services within well-designed facilities located and designed to support local communities.
Ease of implementation	Requires extensive collaboration with local community groups, the client and, end-users. Principle already being driven within some hub Initiative projects.
Benefits	Stakeholders working in an open and collaborative manner can ensure the delivery of efficient, well-designed facilities of a quality and in town centre locations which meet the specific requirements of each individual user group and patient needs and assists regeneration.
Next Steps	Explore further project possibilities with SFT, HFS, A+DS, NHS Boards and Local Authorities. Examine Renfrew Health and Social Work Centre and Barrhead Health and Care Centre as exemplars.

Programme name:	Ambulatory Care and Diagnostic services
Scope: national/regional	National?
Objective	Facilities to provide acute services without overnight stay around the needs of the patient.
Description	Essentially a hospital without beds. This new type of hospital has the potential to deal with the majority of the patient load of a district general hospital by concentrating on outpatient consultation and day surgery and therefore can have a high throughput of patients. The New Stobhill Hospital and New Victoria Hospital are exemplars of this type of service provision.
Ease of implementation	Dependent upon national and regional service strategy.
Benefits	Services are redesigned around the needs of the patient to enhance the quality of care and speed up diagnosis and treatment. Facilities are not required to be open 24 hours per day, thus reducing operational costs.
Next Steps	Explore service strategy options with SGHSC clinical colleagues and NHS Boards. Examine NHS GG&C strategy for provision of Stobhill and Victoria hospitals as exemplar.

Programme name:	Office accommodation rationalisation
Scope: national/regional	National
Objective	Free up clinical accommodation to assist in directing resources to front-line service delivery.
Description	Relocation of Board corporate support functions from clinical accommodation to central location, close to public transport hubs.
Ease of implementation	Must be component of Board Clinical Strategy. May require negotiation of commercial leases.
Benefits	Improve efficiency, maximise benefits of improved accommodation and facilitate new ways of working. Assist in statutory compliance. Reduce energy consumption. Release revenue budgets.
Next Steps	Explore with SFG and SG Property Division. NHS Lothian has implemented through its Clinical Accommodation Release Strategy.

Programme name:	Introduction of eHealth into hospital ward patient bed management.
Scope: national/regional	National – based on eWARD system currently used by NHS Forth Valley.
Objective	Improve accuracy of information and remote access to patient flow/demand management. Outcomes align with the 'Releasing Time to Care' initiative.
Description	eWARD assists in the management of care provided to hospital in-patients, including electronic medicines management and automated production of Immediate Discharge Documents and Nursing Transfer Documents. eWARD can be linked to NHSScotland-wide SCI Store to obtain patient demographics, and discharge documents can be sent electronically to GP's via NHSScotland-wide SCI Gateway.
Ease of implementation	Would require Board buy-in and national procurement and roll-out of eWARD system.
Benefits	Standardisation nationally and linkage of ward information and processes, reduced duplication in recording patient information at local level. Annual recurring financial savings (e.g. NHS Forth Valley saving £130k per annum). There may be additional benefits from linking data to other systems, e.g. stats to assist strategy development.
Next Steps	Explore with SFG and eHealth colleagues. Use NHS Forth Valley experience as exemplar. http://www.solutionworks.co.uk/EWardCaseStudy.aspx

Programme name:	Energy Efficiency Retrofitting Programme
Scope: national/regional	National
Objective	To minimise the energy consumption and associated greenhouse gas emissions from the NHSScotland estate
Description	A programme of energy efficiency retrofitting measures is to be rolled out across the NHSScotland estate, focusing initially on the acute hospital estate and other sites with a poor energy/ greenhouse gas (GHG) emissions performance. The aim is for each site to implement a package of measures to ensure that the site's energy consumption/ GHG emissions meet at least good practice benchmark standards. Individual projects will involve a range of technologies, including boilerhouse refurbishment, lighting upgrades, variable speed drives, voltage optimisation, building control upgrades and renewable energy installations.
Ease of implementation	Requires an initial programme of comprehensive energy audits to determine the scale and nature of projects required Requires significant capital investment, likely >£250million across the whole estate.
Benefits	Energy consumption and associated GHG emissions savings Financial savings Improved patient environments Reduced maintenance
Next Steps	Collaborative work with HFS, Resource Efficient Scotland and others to carry out energy audits and identify/ quantify suitable projects Collaborative work with Scottish Futures Trust to determine appropriate funding models and forms of contract.

Programme name:	**Sustainable recycling of trade water effluent from regional laundries**
Scope: national/regional	National
Objective	Sustainable use of water and gas energy resources within a healthcare laundry environment.
Description	Adoption of new technology systems for filtration and recycling plant within all NHSScotland laundry units.
Ease of implementation	Adopted by NHS Greater Glasgow & Clyde – can be used as exemplar. Requires significant capital investment but short pay-back period.
Benefits	Water consumption savings – NHSGG&C 70% Energy savings (heat recovery) – NHSGG&C 95% Carbon emissions reductions Financial savings including trade effluent cost savings
Next Steps	Explore with SFG using NHS GG&C exemplar as basis.

Programme name:	**Food waste vacuum system**
Scope: national/regional	National
Objective	Assist compliance with Zero Waste regulations
Description	Dedicated food waste handling system which allows food waste to be processed, dried, compacted and collected for either off-site composting or off-site recycling into biogas for electricity generation.
Ease of implementation	System requires up-front investment and catering staff training and education.
Benefits	Savings on water and electricity. Reduced carbon footprint. Financial saving from waste water penalties imposed for putting food waste into drainage system. Better compliance with Zero Waste regulations.
Next Steps	Explore with SFG, WMSG. Monklands Hospital and Girvan Community Hospital have such systems.

Annex B
Review of Estate Assets and Performance

This Annex provides a detailed analysis of property asset performance which supports the summarised information and analysis provided in the main body of the report. The information presented in this annex within the pie charts combines information from all 22 NHS Boards and Special NHS Boards, whereas the subsequent charts and tables split the analysis between the 16 Boards with in-patient accommodation (labelled NHS Boards), i.e. all 14 NHS Boards plus 2 Special NHS Boards (NHS National Waiting Times Centre - Golden Jubilee and the State Hospitals Board for Scotland), and the 6 remaining Special NHS Boards.

Estate Age

NHSScotland occupies approximately 900,000sq.m (20% of the total) of relatively new / modern accommodation (i.e. less than 10 years old), which is an increase of 210,000sq.m since 2011, and is evidence of the significant capital investment in property assets over recent years. There does, however, remain substantial scope for improvement and further investment, or disposal, in the estate in order to move away from old, poor quality and functionally unsuitable properties. The following charts show the range of property ages for the NHS Boards, which indicates that 28% of the estate remains over 50 years old.
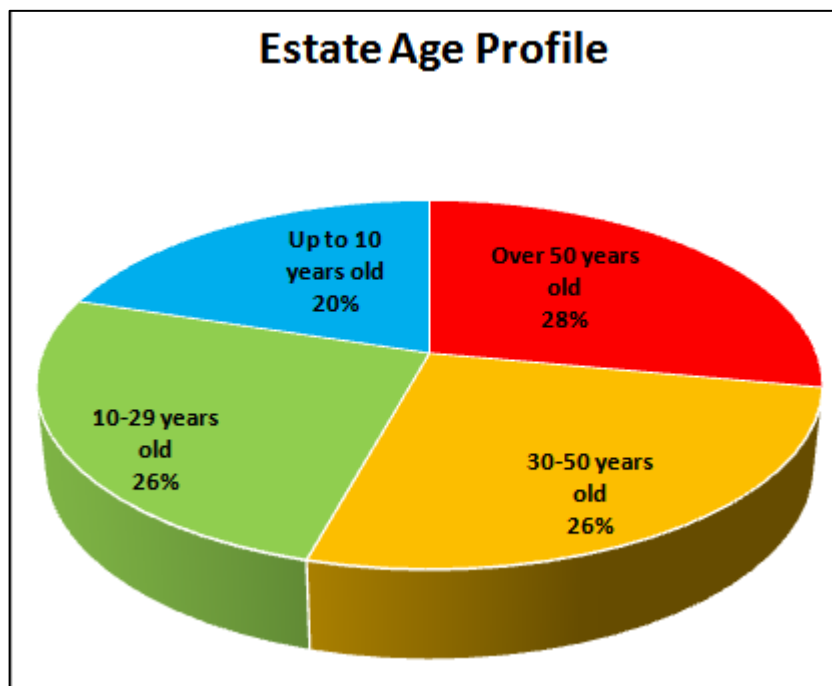
Age profile above includes all 22 NHS Boards and Special NHS Boards

Age Profile Comparison - NHS Boards

	NHS Greater Glasgow & Clyde	NHS Lothian	NHS Tayside	NHS Grampian	NHS Fife	NHS Ayrshire & Arran	NHS Lanarkshire	Highland	NHS Forth Valley	NHS Dumfries & Galloway	NHS Borders	NWTCB - Hospital	Western Isles	The State Hospitals Board for Scotland	NHS Shetland	NHS Orkney
Up to 10 years old	17%	24%	16%	18%	26%	14%	11%	8%	59%	24%	5%		12%	92%	6%	4%
10-29 years old	20%	18%	13%	24%	24%	29%	46%	62%	17%	8%	45%	100%	63%	6%	33%	35%
30-50 years old	34%	7%	42%	19%	25%	25%	32%	27%	16%	34%	17%		15%	0%	10%	31%
Over 50 years old	29%	44%	28%	41%	25%	32%	11%	3%	8%	34%	33%		10%	2%	51%	30%

■ Over 50 years old ■ 30-50 years old ■ 10-29 years old ■ Up to 10 years old

Age Profile Comparison - Special Health Boards

	NSS	NWTCB - Hotel	NHS Education for Scotland	Healthcare Improvement Scotland	NHS Health Scotland	Scottish Ambulance Service	NHS 24
Up to 10 years old	40%		46%		49%	20%	25%
10-29 years old	20%	100%	37%		17%	41%	75%
30-50 years old	40%		20%		0%	33%	
Over 50 years old	0%		0%		34%	6%	

■ Over 50 years old ■ 30-50 years old ■ 10-29 years old ■ Up to 10 years old

Estate Tenure

The majority of the NHSScotland estate is owned (78%) but for some NHS Boards PPP/PFI and leased property is a significant proportion of their estate, as shown in the two charts that follow.
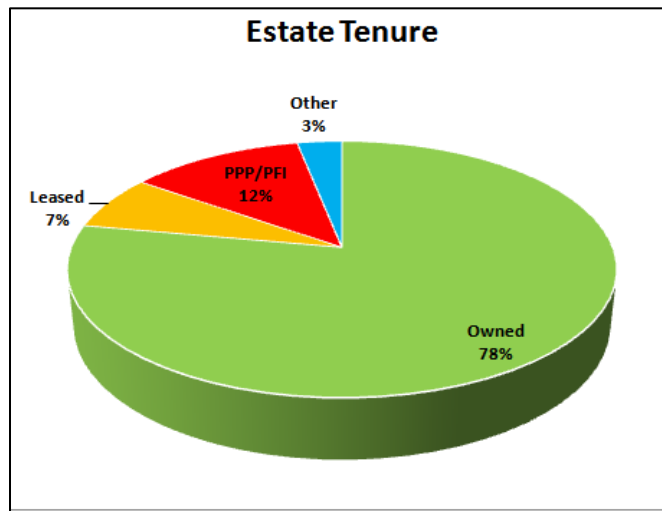
Tenure profile above includes all 22 NHS Boards and Special NHS Boards, where information is available

	NHS Greater Glasgow & Clyde	NHS Lothian	NHS Tayside	NHS Grampian	NHS Fife	NHS Ayrshire & Arran	NHS Lanarkshire	Highland	NHS Forth Valley	NHS Dumfries & Galloway	NHS Borders	NWTCB - Hospital	Western Isles	The State Hospitals Board for Scotland	NHS Shetland	NHS Orkney
Other	4%	8%	3%	0%	0%	0%	0%	0%	0%	0%	0%		3%	0%	0%	
PPP/PFI	8%	18%	5%	0%	20%	6%	37%	9%	56%	8%	0%		0%	0%	0%	
Leased	11%	5%	3%	2%	1%	3%	4%	11%	2%	1%	0%		4%	0%	6%	13%
Owned	77%	70%	89%	98%	79%	91%	59%	80%	42%	91%	100%	100%	96%	100%	94%	86%

	NSS	NWTCB - Hotel	NHS Education for Scotland	Healthcare Improvement Scotland	NHS Health Scotland	Scottish Ambulance Service	NHS 24
Other	29%		28%		0%	0%	
PPP/PFI	0%		0%		0%	0%	
Leased	58%		72%		72%	23%	100%
Owned	13%	100%	0%		28%	77%	

Physical condition

Analysis of the information contained within each NHS Board's Property and Asset Management Strategy (PAMS) shows that approximately 67% of the NHSScotland estate is in good physical condition (category A or B) but, as shown in the three charts that follow, this can vary significantly across the NHS Boards.

Estate Physical Condition Profile

Category	Percentage
A	10%
B	57%
C	30%
D	3%

Physical Condition Comparison - NHS Boards

	NHS Greater Glasgow & Clyde	NHS Lothian	NHS Tayside	NHS Grampian	NHS Fife	NHS Ayrshire & Arran	NHS Lanarkshire	Highland	NHS Forth Valley	NHS Dumfries & Galloway	NHS Borders	NWTCB - Hospital	Western Isles	The State Hospitals Board for Scotland	NHS Shetland	NHS Orkney
D	3%	5%	3%	4%	2%	9%	0%	9%	0%	3%	0%	2%	0%	0%	3%	0%
C	20%	31%	38%	48%	19%	31%	28%	59%	19%	42%	1%	7%	6%	0%	67%	72%
B	67%	55%	59%	39%	55%	59%	66%	27%	25%	46%	98%	76%	91%	37%	29%	26%
A	10%	3%	0%	8%	24%	1%	6%	5%	56%	9%	1%	15%	3%	63%	1%	2%

Physical Condition Comparison - Special Health Boards

	NSS	NWTCB - Hotel	NHS Education for Scotland	Healthcare Improvement Scotland	NHS Health Scotland	Scottish Ambulance Service	NHS 24
D	1%	1%	0%		0%	1%	
C	20%	6%	17%		17%	40%	
B	78%	78%	54%		34%	51%	100%
A	0%	14%	29%		49%	8%	

Further to the above Board level analysis, it is now possible, through the Estate Asset Management System (EAMS), to report on estate KPI's such as physical condition and backlog maintenance at hospital level. Analysis of this information enables links to be made between property improvement needs and the strategic plans for improvement included within the appropriate NHS Board's PAMS.

The following table lists the 10 NHSScotland hospitals with the largest percentage of accommodation categorised as either C or D for the facet of Physical Condition. The total area of 191,013 sq.m. represents only 13% of NHSScotland's overall estate.

Prioritisation of investment on these properties may, therefore, resolve local problems with the condition of their estate but will form only a small portion of NHSScotland's estate in need of improvement in physical condition (note, a similar table that considers hospitals with the largest 'total area' in C or D is included in Section 5.1.4 of the main body of this report).
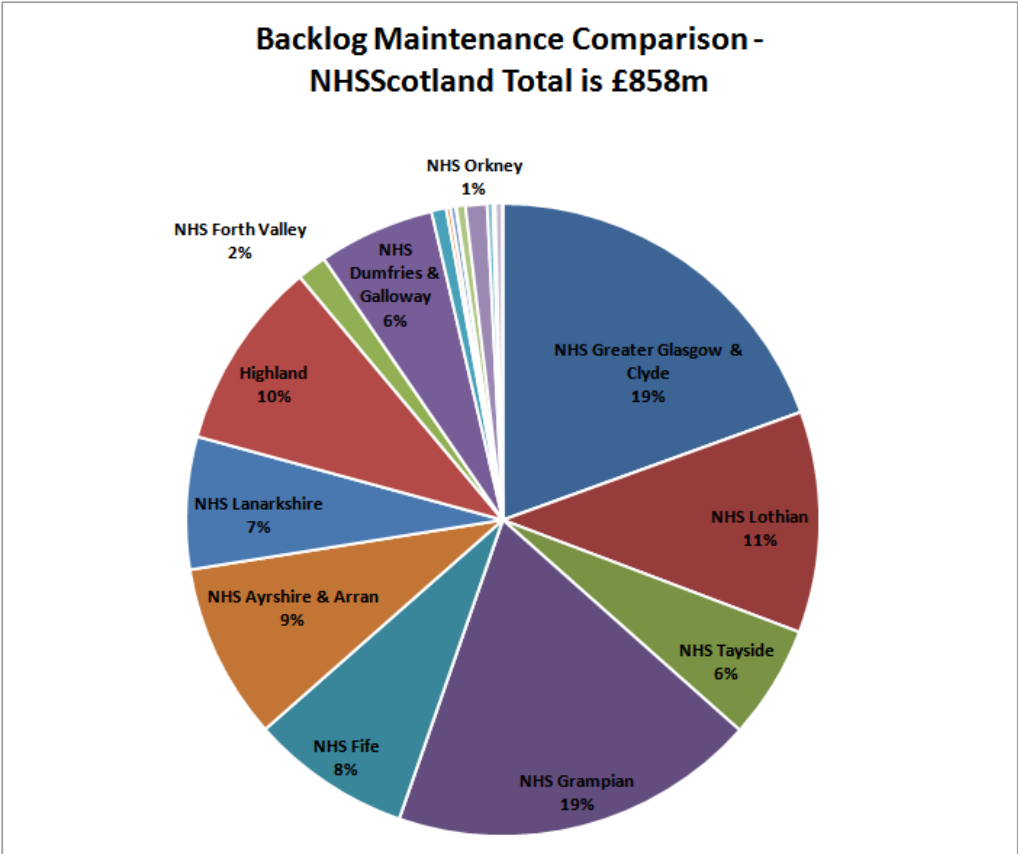
10 Hospitals with largest percentage of area categorised as either C or D for the facet of Physical Condition				
NHS Board	**Property**	**KPI: Percentage in C or D**	**Floor Area (sq.m) in C or D**	**Strategic Plan (identified from the Board's PAMS)**
NHS Greater Glasgow & Clyde	Lightburn Hospital	100%	5,815	Part of general backlog maintenance programme
NHS Greater Glasgow & Clyde	Mansion House Unit	100%	11,464	Part of estate rationalisation plans
NHS Lothian	Royal Victoria Hospital	100%	11,143	Replacement building now complete hence planned disposal
NHS Shetland	Gilbert Bain Hospital	98%	8,607	NHS Shetland are working on a medium to long term plan for the Acute hospital estate
NHS Lothian	Corstophine Hospital	95%	3,346	Future plans being developed
NHS Lothian	Royal Edinburgh Hospital	90%	45,262	Phased redevelopment of site from 2014 onwards
NHS Fife	Netherlea Hospital	84%	886	Planned disposal 2014/15
NHS Grampian	Aberdeen Maternity Hospital	83%	12,100	Future plans to be confirmed
NHS Greater Glasgow & Clyde	Gartnavel General Hospital	80%	52,200	Part of general backlog maintenance programme
NHS Lanarkshire	Monklands Hospital	77%	40,190	Backlog investment programme in place
		TOTAL AREA:	**191,013**	

Backlog maintenance costs

Backlog maintenance costs arise from maintenance that has built up over a number of years and is now giving rise to poor condition and performance. These backlog maintenance costs have been identified as those required to bring the estate back to Condition Ranking B (satisfactory). It is an on-going challenge for the NHS to balance investment between that which is focussed on service improvement and development, and that which is necessary to ensure existing properties do not cause harm or undue disruption to service delivery.

An analysis of the distribution of backlog across NHS Boards is shown in the chart below. It identifies a backlog maintenance cost of £858m, which is a £152m reduction since 2011.

Backlog Maintenance Comparison - NHSScotland Total is £858m

- NHS Orkney 1%
- NHS Forth Valley 2%
- NHS Dumfries & Galloway 6%
- Highland 10%
- NHS Lanarkshire 7%
- NHS Ayrshire & Arran 9%
- NHS Fife 8%
- NHS Grampian 19%
- NHS Tayside 6%
- NHS Lothian 11%
- NHS Greater Glasgow & Clyde 19%

Note: the above chart includes all 22 NHS Boards and Special NHS Boards but those whose backlog is below 1% have not been separately identified for clarity of presentation reasons only.

By the very nature of a mixed use and mixed aged estate, backlog maintenance will always be present in such a large and diverse estate. The emphasis should, therefore, always be on ensuring that the level of backlog maintenance does not unduly increase the risk of building or engineering service failure to an extent that it could have a detrimental impact on each NHS Board's ability to function effectively, efficiently and safely.

NHSScotland managers are focussed on mitigation strategies for the significant backlog maintenance requirement to ensure that high and significant risk backlog is prioritised, based on the risk it poses, for investment within the finite resources made available to them.

The two key strategies for reducing backlog maintenance are either to invest directly in the rectification of backlog or to rationalise the estate to remove those properties with high levels of backlog maintenance. For the current stock of modern buildings future backlog can be avoided by ensuring the right levels of expenditure on both operational and cyclical lifecycle maintenance.

The following chart identifies the profile of low, moderate, significant and high risk backlog for each NHS Board.

Backlog Maintenance Risk Profile - NHS Boards

|	NHS Greater Glasgow & Clyde	NHS Lothian	NHS Tayside	NHS Grampian	NHS Fife	NHS Ayrshire & Arran	NHS Lanarkshire	Highland	NHS Forth Valley	NHS Dumfries & Galloway	NHS Borders	NWTCB - Hospital	Western Isles	The State Hospitals Board for Scotland	NHS Shetland	NHS Orkney
High	£13m	£36m	£5m	£13m	£1m	£11m	£0m	£13m	£0m	£1m	£1.0m	£0.0m	£0.1m	£0.0m	£0.9m	£0.0m
Significant	£37m	£45m	£22m	£40m	£25m	£29m	£28m	£17m	£2m	£23m	£1.0m	£0.2m	£0.9m	£0.1m	£2.2m	£1.3m
Moderate	£52m	£10m	£20m	£16m	£30m	£22m	£10m	£29m	£5m	£20m	£3.8m	£1.2m	£0.9m	£0.2m	£0.3m	£4.5m
Low	£65m	£5m	£3m	£90m	£14m	£15m	£19m	£24m	£6m	£7m	£0.7m	£0.5m	£1.3m	£0.0m	£0.4m	£3.7m

Legend: Low, Moderate, Significant, High

Backlog Maintenance Risk Profile - Special Health Boards

	NSS	NWTCB - Hotel	NHS Education for Scotland	Healthcare Improvement Scotland	NHS Health Scotland	Scottish Ambulance Service	NHS 24
High	£0.0m	£0.0m			£0.0m	£1.2m	
Significant	£0.1m	£0.0m			£0.0m	£0.8m	
Moderate	£2.1m	£0.4m	£0.3m		£0.0m	£0.3m	
Low	£0.4m	£0.3m			£0.1m	£1.0m	

Legend: Low, Moderate, Significant, High

The earlier pie chart expressed the total amount of Backlog Maintenance Cost across the NHSScotland estate, whereas the following chart shows backlog maintenance expenditure requirement per unit of total building floor area for each NHS Board. The table then lists the 10 hospitals across NHSScotland with the highest cost per sq.m. for backlog maintenance.

Backlog Maintenance per sq.m - NHS Boards
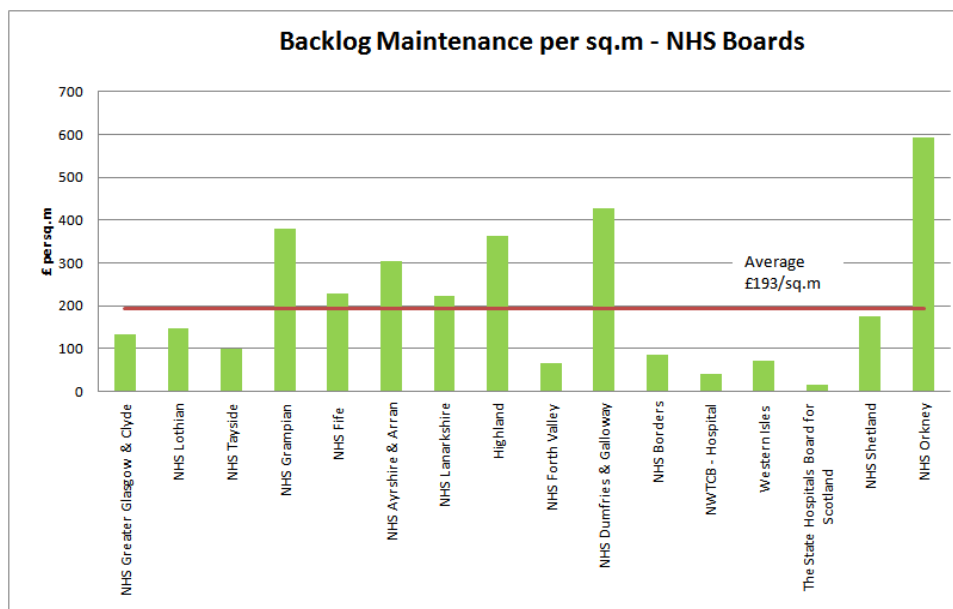
10 Hospitals with the highest Backlog Maintenance - Cost per sq.m				
NHS Board	**Property**	**Backlog Cost per sq.m**	**Total Backlog Cost**	**Strategic Plan (identified from the Board's PAMS)**
NHS Orkney	Balfour Hospital	£992	£7.0m	Planned replacement of hospital in 2017/18
NHS Highland	Mackinnon Hospital	£949	£2.4m	Scheduled replacement in 2016/17, subject to public consultation
NHS Dumfries & Galloway	Dumfries & Galloway Hospital	£812	£39.0m	Planned hospital replacement and estate rationalisation between 2015/16 - 2018/19
NHS Lothian	Corstophine Hospital	£789	£2.8m	Future plans being developed
NHS Dumfries & Galloway	Cameron House	£783	£0.2m	Part of longer term rationalisation programme
NHS Lanarkshire	Monklands Hospital	£744	£38.6m	Backlog investment programme in place
NHS Dumfries & Galloway	Thornhill Hospital	£691	£0.5m	No direct plans identified in PAMS
NHS Highland	Belford Hospital	£645	£4.4m	Scheduled replacement in 2017/18, subject to public consultation
NHS Lothian	Royal Victoria Hospital	£607	£7.2m	Replacement building now complete, hence planned disposal
NHS Dumfries & Galloway	Kirkcudbright Hospital	£584	£0.4m	No direct plans identified in PAMS
	TOTAL BACKLOG:		**£102.5m**	

The total cost associated with these properties of £102.5m accounts for only 12% of the overall backlog maintenance cost for NHSScotland (47% of this £102.5m is attributable to significant and high risk backlog). Prioritisation of investment on these properties will, therefore, resolve local problems with backlog maintenance but will form only a small portion of the targeted reduction in backlog maintenance across NHSScotland.

It should also be recognised that around 21% of the current backlog maintenance expenditure requirement is in buildings which are classified as "non-clinical" and will have little impact on the patient's healthcare experience. An analysis of this by NHS Board is shown in the chart below.

Proportion of Backlog Maintenance between Clinical & Non-Clinical Spaces - NHS Boards
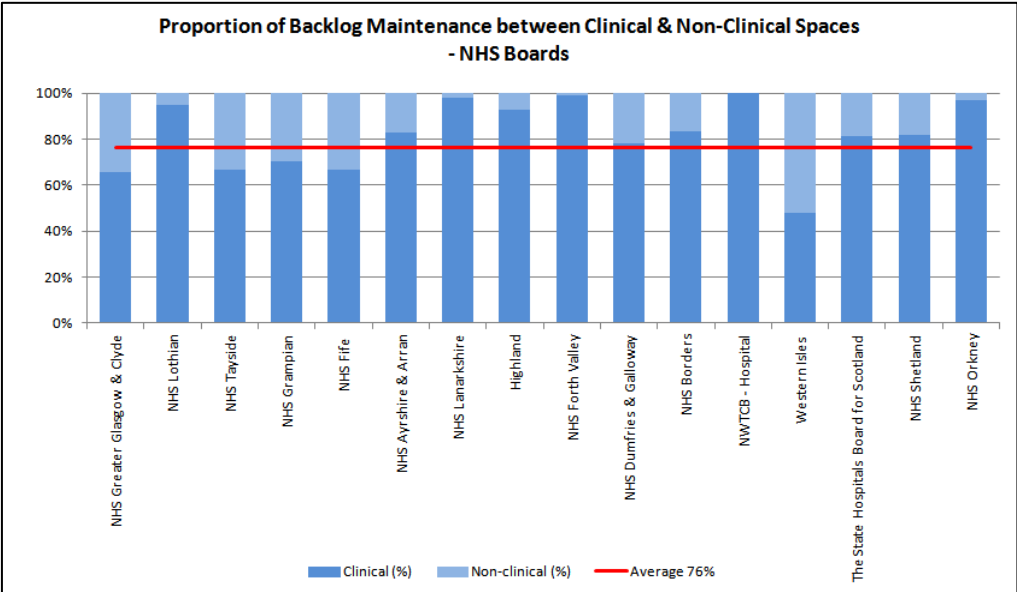
Note: not all NHS Boards have provided a split between Clinical and Non-clinical therefore the real 'Average Split' is likely to be even lower.
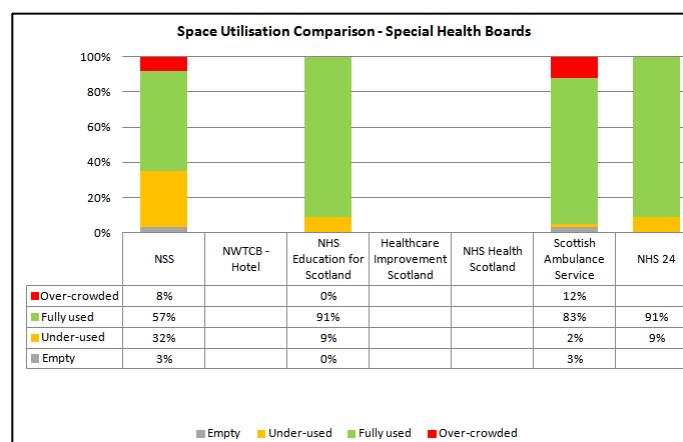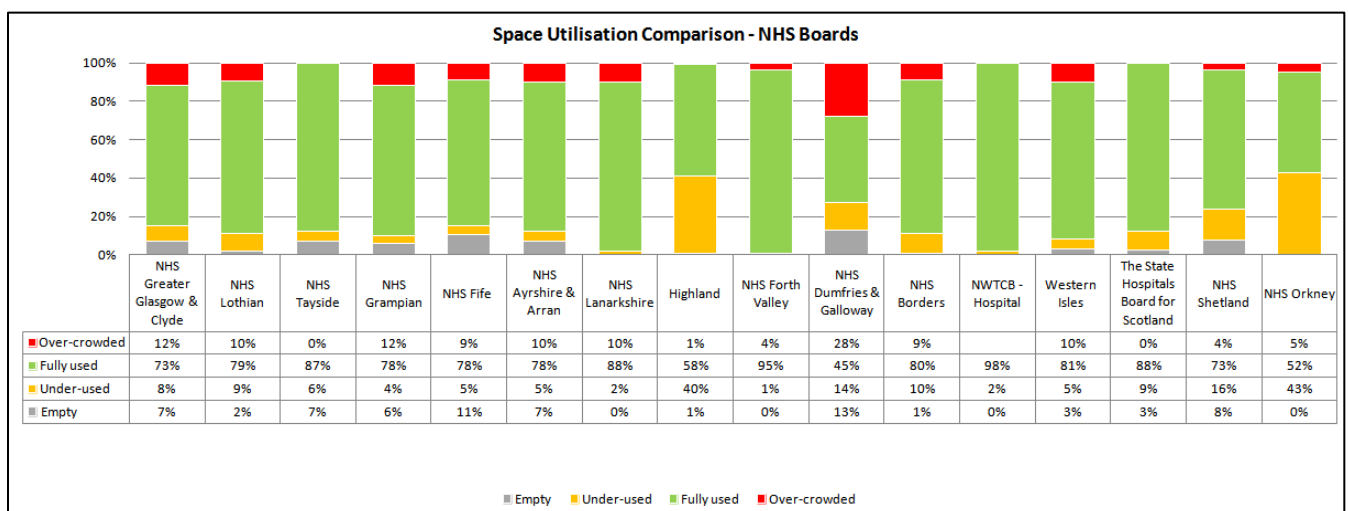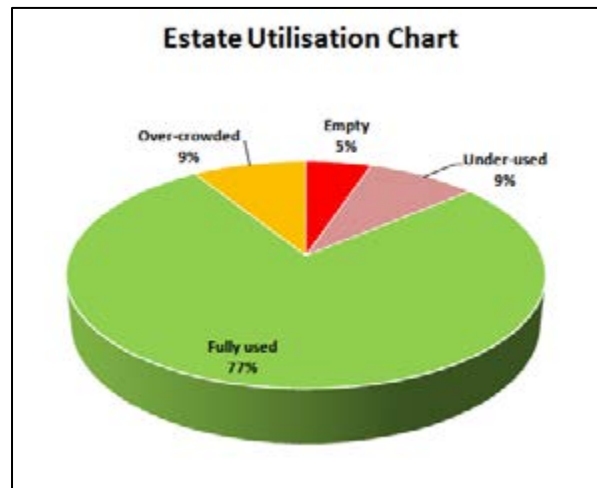
Approximately 35% of the total backlog maintenance expenditure identified is high or significant risk clinical space. This includes some property identified for disposal.

NHS Boards are already targeting high and significant risk clinical backlog maintenance through planned maintenance and re-provision plans outlined in their PAMS. Overall, Scottish Government budgeting levels should be sufficient to reduce existing high and significant clinical backlog maintenance levels for retained property to manageable levels over the next five years.

For lower risk backlog maintenance and non clinical space, Scottish Government will work with NHS Boards to develop detailed long term plans for rationalisation and disposal of surplus, unsuitable, poor quality properties, and life cycle planned maintenance plans for retained property. These will be updated annually as part of the PAMS update and reviewed more formally through the LDP process.
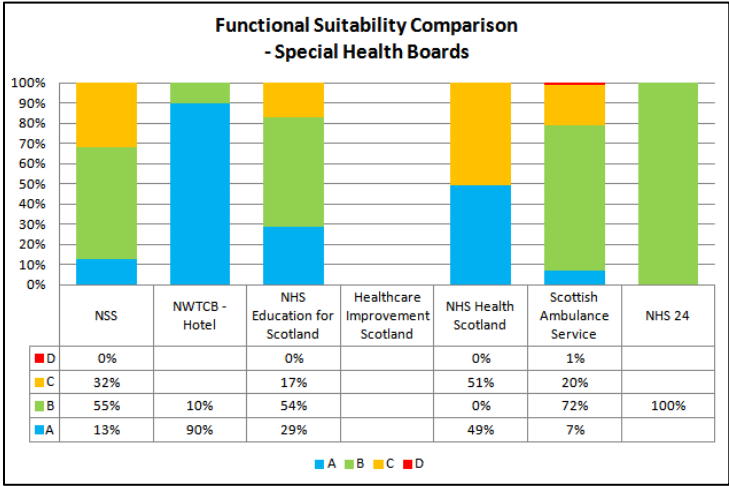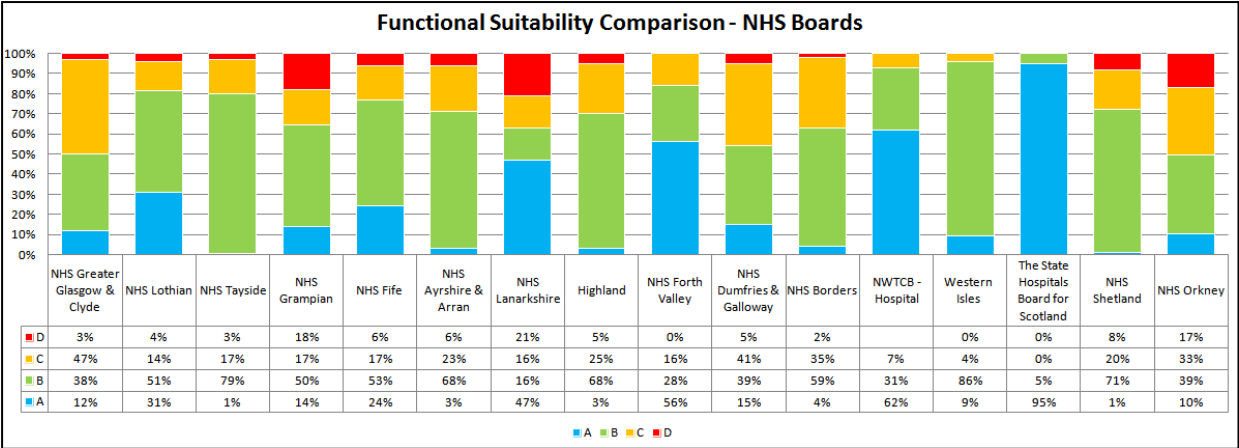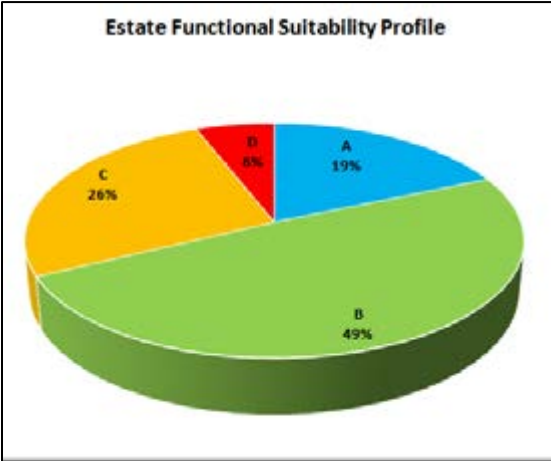
Space utilisation

Accommodation space has a direct relationship with cost. The aim, therefore, is to hold only that space which is needed to support the delivery and support of effective and efficient service delivery. Analysis of the information contained within each NHS Board's Property and Asset Management Strategy shows that approximately 77% of the NHSScotland estate is fully utilised but, as shown in the charts that follow, this can vary significantly across the NHS Boards.

Estate Utilisation Chart

Empty 5%
Over-crowded 9%
Under-used 9%
Fully used 77%

Space Utilisation Comparison - NHS Boards

	NHS Greater Glasgow & Clyde	NHS Lothian	NHS Tayside	NHS Grampian	NHS Fife	NHS Ayrshire & Arran	NHS Lanarkshire	Highland	NHS Forth Valley	NHS Dumfries & Galloway	NHS Borders	NWTCB - Hospital	Western Isles	The State Hospitals Board for Scotland	NHS Shetland	NHS Orkney
Over-crowded	12%	10%	0%	12%	9%	10%	10%	1%	4%	28%	9%		10%	0%	4%	5%
Fully used	73%	79%	87%	78%	78%	78%	88%	58%	95%	45%	80%	98%	81%	88%	73%	52%
Under-used	8%	9%	6%	4%	5%	5%	2%	40%	1%	14%	10%	2%	5%	9%	16%	43%
Empty	7%	2%	7%	6%	11%	7%	0%	1%	0%	13%	1%	0%	3%	3%	8%	0%

Empty   Under-used   Fully used   Over-crowded

Space Utilisation Comparison - Special Health Boards

	NSS	NWTCB - Hotel	NHS Education for Scotland	Healthcare Improvement Scotland	NHS Health Scotland	Scottish Ambulance Service	NHS 24
Over-crowded	8%		0%			12%	
Fully used	57%		91%			83%	91%
Under-used	32%		9%			2%	9%
Empty	3%		0%			3%	

Empty   Under-used   Fully used   Over-crowded

The under utilisation of accommodation across NHS Highland and NHS Orkney reflects the challenges faced from such a geographically diverse area and the need to maintain and provide critical healthcare facilities in locations with relatively low population masses.
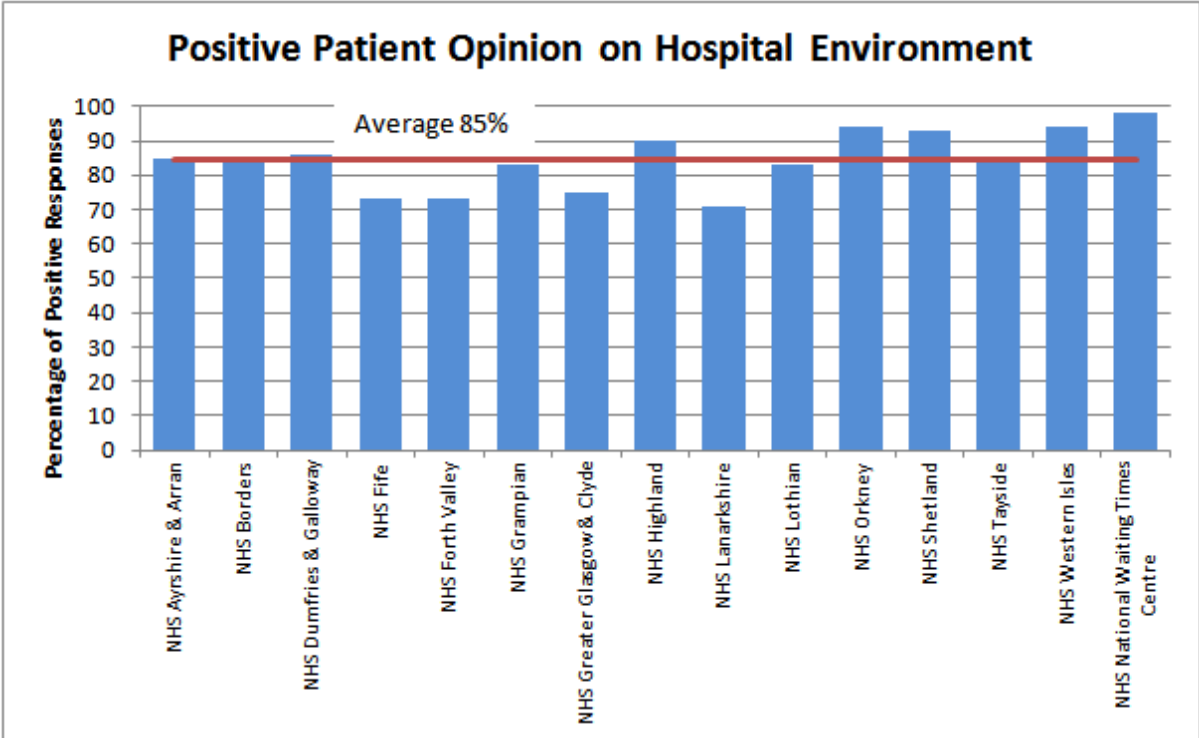
Functional suitability

The estate also plays an important role in supporting the effective delivery of services. Poor functional suitability often results in inefficient working practices, increased staffing levels and poor clinical outcomes. Approximately 75% of the NHSScotland estate is functionally suitable but, as shown in the charts that follow, this can vary significantly across NHS Boards

Estate Functional Suitability Profile

Category	Percentage
A	19%
B	49%
C	26%
D	6%

Functional Suitability Comparison - NHS Boards

	NHS Greater Glasgow & Clyde	NHS Lothian	NHS Tayside	NHS Grampian	NHS Fife	NHS Ayrshire & Arran	NHS Lanarkshire	Highland	NHS Forth Valley	NHS Dumfries & Galloway	NHS Borders	NWTCB - Hospital	Western Isles	The State Hospitals Board for Scotland	NHS Shetland	NHS Orkney
D	3%	4%	3%	18%	6%	6%	21%	5%	0%	5%	2%		0%	0%	8%	17%
C	47%	14%	17%	17%	17%	23%	16%	25%	16%	41%	35%	7%	4%	0%	20%	33%
B	38%	51%	79%	50%	53%	68%	16%	68%	28%	39%	59%	31%	86%	5%	71%	39%
A	12%	31%	1%	14%	24%	3%	47%	3%	56%	15%	4%	62%	9%	95%	1%	10%

Functional Suitability Comparison - Special Health Boards

	NSS	NWTCB - Hotel	NHS Education for Scotland	Healthcare Improvement Scotland	NHS Health Scotland	Scottish Ambulance Service	NHS 24
D	0%		0%		0%	1%	
C	32%		17%		51%	20%	
B	55%	10%	54%		0%	72%	100%
A	13%	90%	29%		49%	7%	

Patient Satisfaction Survey Results relevant to Premises

Better Together is Scotland's patient experience programme, using the public's experiences of NHSScotland to improve health services. One of the key elements it is currently focussed on is the Inpatients Patient Experience Survey 2012. This asked a range of questions about people's experiences of staying overnight in a Scottish hospital and included a particular question that was relevant to the condition and performance of the hospital estate, namely "Q.13 *Overall, how would you rate the hospital environment*?" The following chart shows the results of the response to this question for each NHS Board:

Positive Patient Opinion on Hospital Environment

Average 85%

(Bar chart showing Percentage of Positive Responses for each NHS Board, y-axis from 0 to 100. Red line indicates Average 85%. Boards listed: NHS Ayrshire & Arran, NHS Borders, NHS Dumfries & Galloway, NHS Fife, NHS Forth Valley, NHS Grampian, NHS Greater Glasgow & Clyde, NHS Highland, NHS Lanarkshire, NHS Lothian, NHS Orkney, NHS Shetland, NHS Tayside, NHS Western Isles, NHS National Waiting Times Centre)

Note: No data is available for the State Hospital Board

The results are generally positive across all NHS Boards, however, it needs to be recognised that these results are based on only one question and, therefore, should not be taken as indicating overall patient satisfaction in NHSScotland premises.

Performance Improvement of Property Assets

The following chart provides a comparative overview of performance improvement in property assets between 2012 and 2013:

Performance Improvement of Property Assets between 2012 & 2013 for all NHS Boards
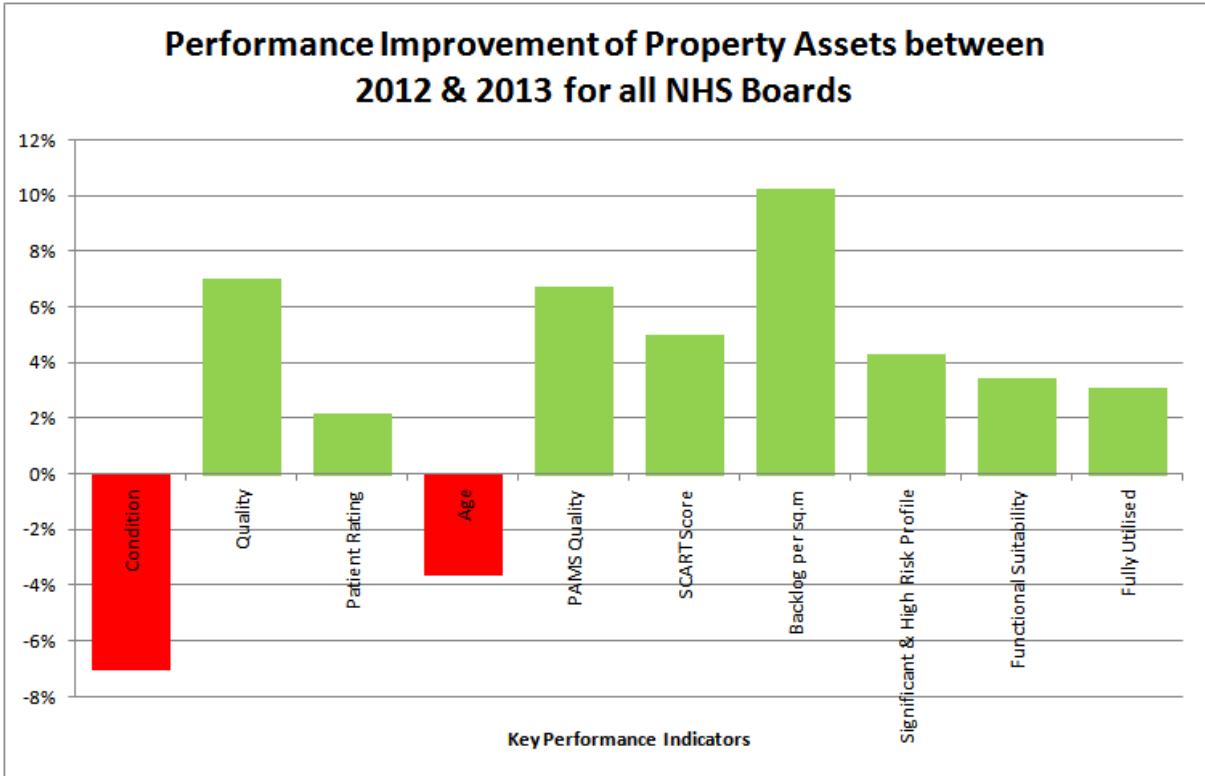
Note: green bars above the horizontal indicate a positive improvement whereas a red bar below the horizontal indicates a performance reduction

The above chart highlights performance improvement in several key indicators; such as quality of properties, patient rating, quality of PAMS, backlog maintenance, functional suitability, and space utilisation. The main focus for NHS Boards over this year has been estate rationalisation and reduction in backlog maintenance and these positive results reflect the good progress made on these initiatives. 2012-13 has also seen a significant re-appraisal of the condition and performance of property assets, including verification of existing data. This has had an impact on the above results and can explain some of the further variation in performance results between 2012 and 2013.

Annex C

Review of Energy Performance

In support of the aspirations of the Climate Change (Scotland) Act 2009, and the associated duties incumbent upon public sector bodies, NHSScotland Boards continue to be proactive in reducing energy consumption and associated greenhouse gas (GHG) emissions.

In the reporting year 2011/12, the cost of energy from NHSScotland's National Utility Contracts was c £85.2 million – a 9.38% increase on the previous year. However, absolute energy consumption from these contracts reduced by 9.73% in the same period[2], reflecting the ongoing challenge of rising energy costs.

The above costs do not include NHSScotland Boards' costs under the Carbon Reduction Commitment Energy Efficiency Scheme (CRC EES). In 2011/12, this amounted to c £5.7million. Again, CRC EES costs are expected to increase significantly in future years.

NHS Boards[3] continue to report their hospitals' energy consumption and GHG emissions under the HEAT Target (Phase 2). This requires a year-on-year energy efficiency improvement of 1% on all energy sources based on an overall improvement by 2050 of 33% (or one third) on the comparative performance as at the 2009-10 baseline year. This equates to a 10% reduction in energy performance by 2020. For 2011/12, NHS Boards had to achieve a 1.99% reduction in energy consumption compared with 2009/10.

The HEAT Target also requires NHS Boards to achieve a 3% year-on-year reduction in carbon dioxide (CO_2) emissions from fossil fuels only, based on a 2009/10 baseline. For 2011/12, NHS Boards had to achieve a 5.91% reduction in energy consumption compared with 2009/10.

The HEAT Target performance figures for 2011/12 showed that NHS Boards' hospital sites reduced their energy consumption by 2.14% against the baseline year – 0.16% better than target. In the same period, CO_2 emissions from fossil fuel use were reduced by 2.58% against the baseline year – 3.31% worse than target. The poorer CO_2 performance was in part due to the installation of a new Combined Heat and Power (CHP) plant at NHS Grampian's main hospital site. As the current HEAT target calculation method does not include GHG emissions from electricity, the positive impact of the CHP on these could not be demonstrated.

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[2] These data relate to energy provided under the National Utility Contracts only, i.e. excludes some PPP sites and fuels purchased under individual contracts, e.g. biomass.

[3] The HEAT Targets apply to hospital sites only, so figures will differ from the overall National Utility Contracts. Data is weather corrected to a 2009/10 baseline year.

During 2011/12, the average energy performance across the NHSScotland hospital estate was 452 kWh/m2 – a 4.4% reduction since 2010/114. However, it would be misleading to recommend an absolute target KPI for all hospitals based on this figure. The NHSScotland estate is diverse, having a wide range of hospital types, such as large teaching hospitals and small community hospitals, and from widely varying construction periods, i.e. from the turn of the previous century to today. The table below shows the average energy performance key performance indicators (KPIs) for hospitals for the different NHS Boards for the last 3 years and future values if the present energy consumption reduction targets were carried forward and met.

NHS Scotland Board	Average kWh/m² 2009-10	Average kWh/m² 2010-11	Average kWh/m² 2011/12	Average kWh/m² 10% reduction against 2009/10
NHS Ayrshire & Arran	366	360	398	329
NHS Borders	424	435	390	381
NHS Dumfries & Galloway	592	558	527	533
NHS Fife	429	422	387	386
NHS Forth Valley	533	464	389	480
NHS Grampian	517	523	512	465
NHS Greater Glasgow & Clyde	500	496	473	450
NHS Highland	434	429	394	391
NHS Lanarkshire	487	482	463	438
NHS Lothian	501	492	493	451
NHS Orkney*	504	552	532	454
NHS Shetland	408	387	372	367
NHS Tayside	414	405	381	373
NHS Western Isles	582	597	560	524
National Waiting Time Centre (Golden Jubilee National Hospital)*	721	736	707	649
The State Hospital Board for Scotland*	605	740	474	544
OVERALL AVERAGE	**480**	**473**	**452**	**432**

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[4] By way of comparison, NHS Trust in England reported an average energy performance of 419 kWh/m².

Note that NHS Boards marked with an asterisk (*) have only one hospital site. KPIs for these NHS Boards may be misleading as they are being compared to NHS Boards with a mixture of hospital sites.

The dramatic reduction in energy consumption at the State Hospital is due to the completion of new premises. These have been designed to tougher energy performance criteria and are heated by biomass.

As evidenced by the 5.8% KPI reduction from the 2009-10 base year, NHS Boards continue to produce savings against a backdrop of national resource constraints. Assuming all hospitals achieve their HEAT targets, there would be an average 10% reduction in energy consumption by 2020 (against a 2009/10 baseline). However, this is considered to be a minimum target as NHS Boards continue to exceed energy efficiency targets.

Future Plans

Over the next three financial years, a widespread programme of energy efficiency projects will be carried out across the NHSScotland estate. The 'EcoHospitals' programme will see c £27million invested in a range of projects, leading to annual energy savings of over 69,000MWh - equivalent to c £7.3million per annum (2011/12 energy prices) and c 41,400 tCO2. Projects being funded under the EcoHospitals programme include:

- Pan-NHS upgrades to lighting systems, e.g. installation of energy efficient LED lighting, improved controls;
- Pan-NHS upgrades to heating and ventilation controls, including Building Management System upgrades;
- Installation of containerised biomass boilers at selected sites across NHS Highland, NHS Borders and NHS Dumfries and Galloway;
- Installation of a large biomass plant at Raigmore Hospital, Inverness;
- Installation of a theatre ventilation optimisation system at Glasgow Royal Infirmary;
- Conversion of selected sites from heavy fuel oil to gas (including Gartnavel Royal Hospital);
- Installation of wind turbines at two NHS Shetland health centres.

However, there is widespread consensus amongst NHSScotland Energy Managers that most 'quick wins' in terms of energy and carbon reduction have now been identified and implemented. If NHS Boards are to meet national climate change targets, and realise the other added benefits of a low carbon society, the focus must shift to additional 'spend-to-save' measures requiring extensive investment in healthcare estates.

Over the next year, an NHSScotland Energy Strategy will be produced that will identify the overall potential for further savings and a prioritised action plan for implementation. The initial phase of this work involves a desktop exercise to identify the worst performing sites across the NHSScotland estate. This will be followed by a series of comprehensive energy audits to identify potential remedial actions and routes to funding and procurement.

Annex D
Review of Waste Services

Waste data are reported on a Board-wide basis as this was identified and approved as the most appropriate way to collate and report waste performance. Given the challenges that NHSScotland faces with respect to waste management, it is key that data are obtained in the most accurate and consistent way by all Boards.

The 2011-12 data show that there are consistent practices in place for the management of healthcare waste and that Boards are, in general, using the national colour coding as described in NHSScotland SHTN3 Waste Guidance[5]. The only exceptions to this are the National Waiting Times Centre and NHS Borders. NHS Borders uses yellow bags to reflect the management of waste in its in-house waste incinerator and the National Waiting Times Centre is yet to transfer to the national colour coding system.

In 2011-12, 17,151 tonnes of solid healthcare waste were produced: only 856 tonnes (approximately 5%) of this were classified in the 'yellow stream' and required disposal using specialist incineration. The majority of healthcare waste was placed in the 'orange stream' and was treated to render it safe.

In addition to solid healthcare waste, NHS Boards produced 10,216 litres of red stream healthcare waste requiring other specialist treatment, for example chemical waste management and amalgam disposal.

The yellow, orange and red healthcare streams are all classified as hazardous waste and require consignment notes (regulatory forms to be completed) prior to removal of the waste from a site. In 2011-12, it is estimated that NHS Boards spent over £427,000 on consignment notes (this is paid to the Scottish Environment Protection Agency).

Figure 1 below shows tonnes of domestic waste reported by management route in 2011-12 from all Boards.

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[5] Scottish Health Technical Note 3, NHSScotland Waste Management Guidance, Part A, Best Practice Overview (March 2010)
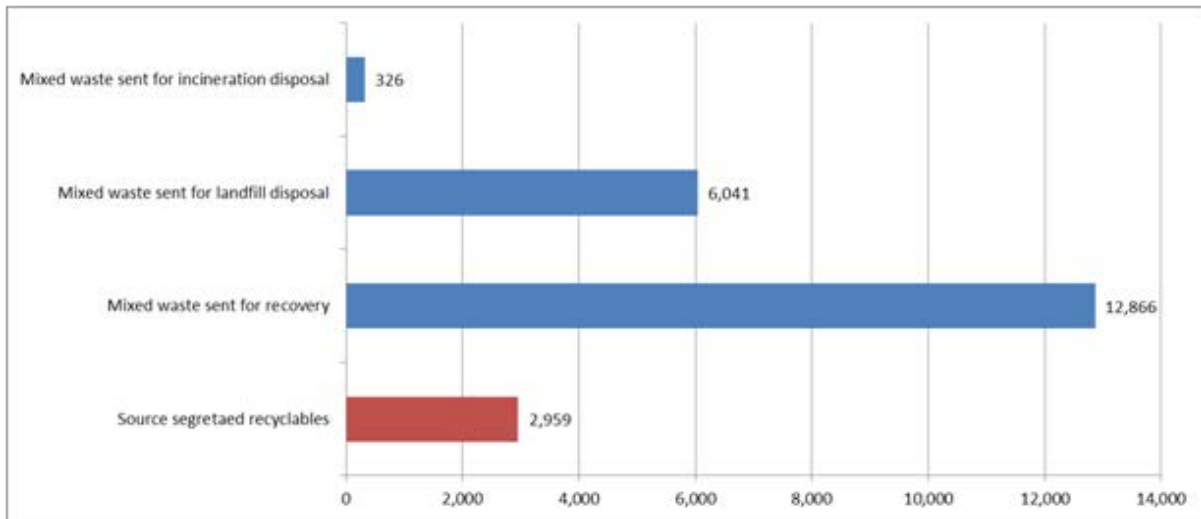
Figure 1: Domestic Waste Tonnages (all Boards)

A total of 22,191 tonnes of domestic waste was reported for 2011-12. Only 13% of this was sent for recycling or material recovery from material source segregation (see data shown in red on chart). There was a reliance on mixed waste recovery, with nearly 60% of all domestic waste being treated this way. Mixed waste recovery involves no sorting at source: filled bags of mixed domestic waste (usually black bags, but sometimes clear) are transported off site and opened at a material reclamation facility (MRF) where recyclable material is removed and the residue is disposed of in landfill. Information provided by NHS Boards suggests that 80% of all mixed waste sent for material recovery at MRFs is recycled, with only 20% being disposed of in landfill.

Scotland's Zero Waste Plan published by the Scottish Government in 2010[6] introduced a long term target of 70% recycling for all waste arising in Scotland by 2025. The domestic waste data for 2011-12 show that with respect to that target, NHS Boards' current practices are moving towards meeting the target, with an estimated combined material recovery rate from source segregation and MRF sorted materials of 61%.

However, current practices will not comply with the requirements of the Waste (Scotland) Regulations 2012 which require material separation at source. Contracts which permit mixed domestic waste being sent to MRFs for separation of recyclable materials and disposal of the residual waste will not be compliant.

A number of NHS Boards already source segregate recyclable materials, either as single material types or as mixed dry recyclates. Figure 2 shows material type and tonnage presently recycled across all NHS Boards.

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[6] Scotland's Zero Waste Plan, Scottish Government, June 2010
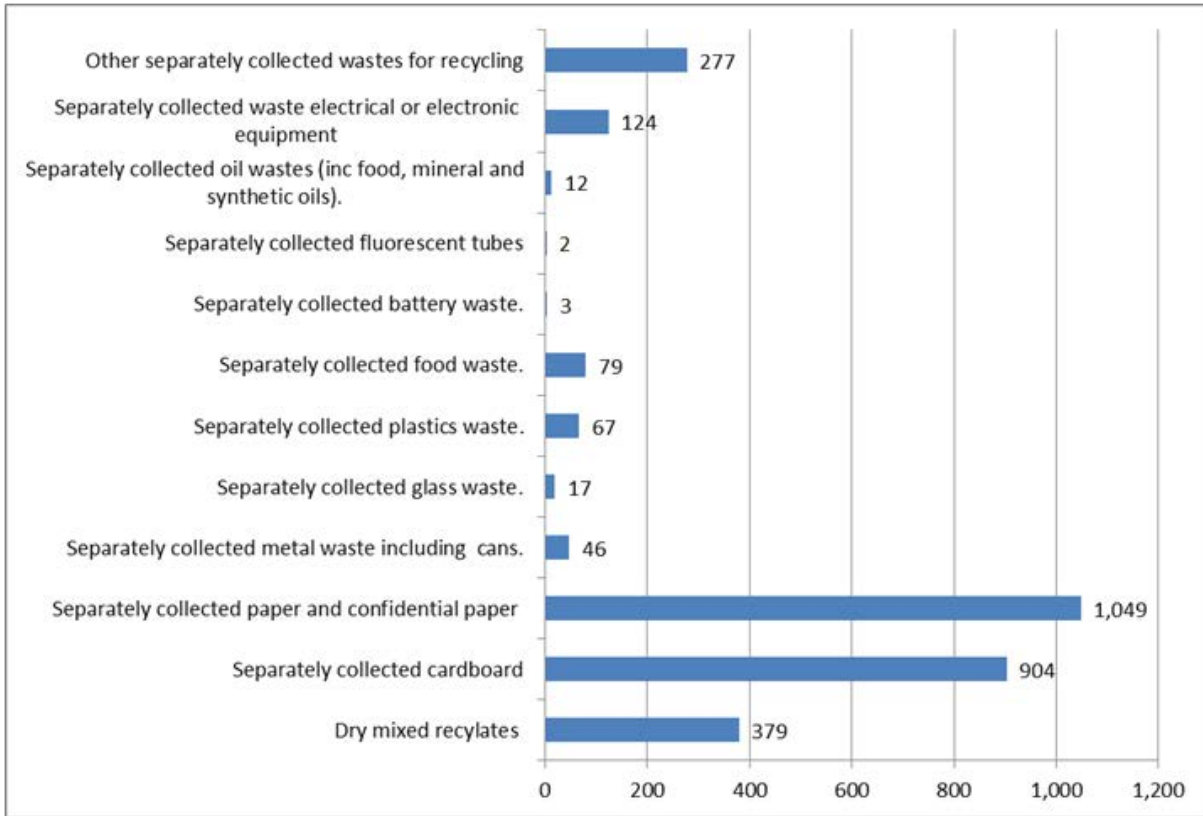
Figure 2: Recyclate Materials Annual Tonnage

The data demonstrate that a large number of material types are currently segregated on NHSScotland premises and sent for recycling. In order to meet the requirements of the Waste (Scotland) Regulations 2012, NHS Boards need to build on current practice in a consistent way, ensuring all NHS Boards meet the requirements.

The 2011-12 data (Figure 3) show that a total of £9,339,877 was spent by NHS Boards; over 70% of this was spent on the management of healthcare waste.
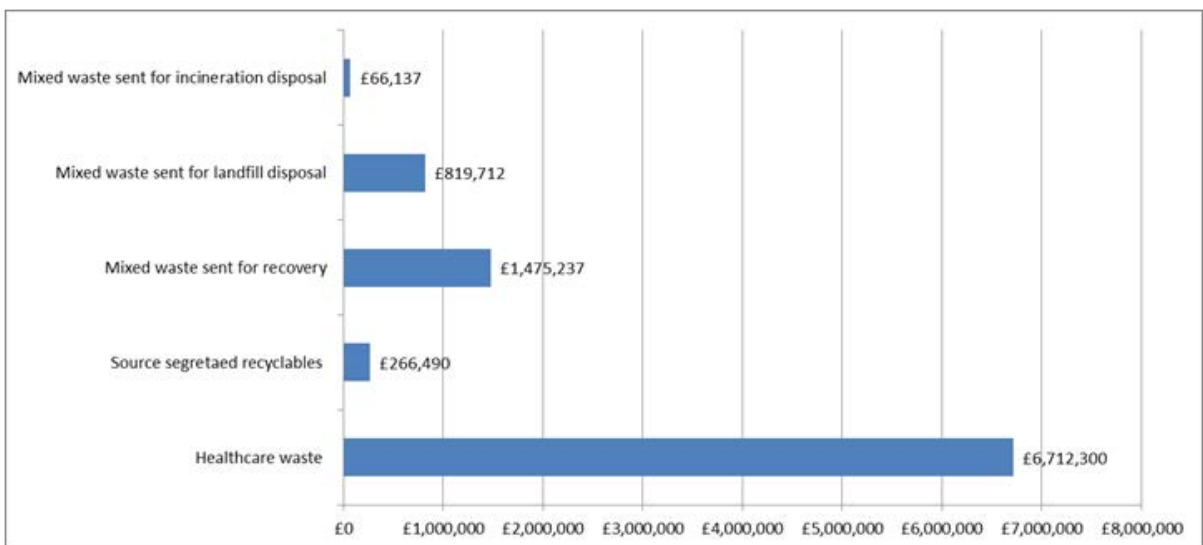
Figure 3: Waste Management Expenditure (All NHS Boards)

Future Plans

The focus for 2012-13 is for Boards to improve domestic waste management and meet the requirements of the Waste (Scotland) Regulations 2012. The Regulations require the source segregation and separate collection of dry recyclables (paper, cans, card, plastics and glass) by 1st January 2014. They also put in place a total ban on the disposal of food waste to the public sewer (to come into force on 1st January 2016).

Through improved waste management, NHSScotland has the opportunity to make financial savings. The biggest impact will come from a reduction in the amount of healthcare waste through improved segregation. However, improved domestic waste segregation may also result in savings as revenue can often be gained from the sale of recyclates.

Annex E
Transport and Fleet Management Review

Background

The NHS Scotland Transport and Fleet Management review is progressing well under the direction of the Facilities Shared Services programme board.

The two main overarching elements of the review were initially Fleet Management and Car Leasing, the operational use and utilisation of the vehicles was not considered. However, one of the potential opportunities that emerged from the early analysis of the data was that there was scope for better utilisation of the vehicle fleet and logistics resources. Therefore, a Logistic work-stream has now been included as part of the review.

Initial review findings and potential collaborative opportunities

A number of good examples of collaborative working across the NHSScotland fleet have been identified, which includes:

- The Transport & Travel Planning Group which meets regularly to discuss a wide range of transport and fleet related topics;

- National Procurement contracts for leasing vehicles and Insurance;

- The Logistics operation that supplies goods to all Boards;

- Various pan government contracts;

- NSS and GG&C Boards both manage car leasing schemes for other Boards;

- SAS collaborates with the other emergency services for vehicle maintenance in certain parts of the country; and

- NHS Dumfries & Galloway and Local Authority currently have one Transport Manager to manage both fleets.

However, the potential for greater collaborative working across the fleets is significant, with wide ranging opportunities.

Structure

The organisational structures for delivering Fleet services and the responsibilities of the management both differ considerably across NHS Boards. There are currently upwards of 30 differently managed fleet operations across NHSScotland, which are provided by 16 out of the 22 Boards. This is a significant undertaking when Fleet Management is not a key function for the majority of NHS Boards, and aside from Patient Transport, does not have a direct impact on Patient Care.

The current structure of multiple, small, multi-functional teams has weaknesses;- lack of specialisation, duplication of workload, and lack of consistency across the country; which results in poor utilisation of both staff and vehicle resources. Due to the majority of NHS Board's fleet being small, there is potential to improve efficiency and increase resilience through alternative models of delivery.

Collaborative options for the provision of Fleet Management have been identified and are currently being considered. These include both regional and national models and the potential benefits include improvements in efficiency, effectiveness, economies of scale, and resilience, without compromising operational effectiveness, and ultimately achieving better value for the public purse.

An option appraisal exercise is currently being undertaken to further develop these potential opportunities which should be complete by December 2013.

Transport Strategy & Supporting Policies

Current transport strategies and policies vary widely across the country and there is little evidence of collaboration.   An opportunity exists to establish Scotland-wide strategies and supporting policies, which includes;- vehicle acquisition funding, procurement, vehicle replacement criteria, vehicle maintenance, environmental strategy, etc. A more consistent approach will result in the fleet provision being delivered more effectively and efficiently.

Technical Standards and procurement

National Procurement currently has contracts in place for the leasing of cars and commercials, and for vehicle Insurance. However, there is currently no standardisation of vehicle specifications, nor is there any joined up procurement of vehicles. There is, therefore, considerable scope for collaborative working in the standardisation of vehicle specifications across the country and a joined up procurement approach; which will bring many benefits including greater buying power, better utilisation of vehicle assets and reduced operating costs. The intension is to work towards the introduction of a fully joined up approach for the development and procurement of the vehicle fleet across all Boards.

Significant progress has been achieved in the development of national specifications for pool cars and a national tendering exercise is planned for January 2014. It is hoped that all Boards will sign up to this exercise.

Telematics

Telematics is the generic term for the technology used in vehicles to capture essential data about the performance and use of the vehicle. There are currently eleven Boards who have ten different Telematics systems fitted in some 2,000 vehicles.

Telematics has the potential to significantly help Boards improve their utilisation of vehicle and staffing resources and reduce vehicle operating costs. The benefits that Telematics bring are wide ranging and include;- better protection and training for staff, better utilisation of vehicles which will ultimately result in a reduction in the number of vehicles required; reduction in fuel

usage (suppliers claim that reductions could be as great as 15%, with a 1% saving for NHSScotland equating to £150k/annum); reduction in the levels of harmful emissions that are emitted; reduced insurance premium and accident damage costs (potentially up to 20%, with a 1% saving for NHSScotland equating to £50k/annum); improvement in vehicle reliability and savings in maintenance costs.

To this end, a review is currently being undertaken to evaluate the different systems that are currently being operated, with the intension of producing a national system specification, where the majority of Boards would migrate onto one standard system and Telematics will be installed in a far greater number of vehicles.

Maintenance of Vehicles

All NHS Boards except the Scottish Ambulance Service (SAS) outsource their vehicle maintenance. The majority of leased vehicles have the maintenance built into their contracts and the work is carried out by a large number of garages across the Country. However, the maintenance of the circa 2,000 owned vehicles differs widely across the country and there are various agreements in place with various service providers.

SAS work very closely with the other Emergency Services in certain parts of the country. A previous review that was carried out in 2004 (Tripartite Review), and which was funded by the Efficient Government Fund, resulted in 10 of the 45 Emergency Services vehicle maintenance workshops being closed and collaborative working being introduced into 8 workshops.

There is scope for better utilisation of SAS workshops for the maintenance of NHSScotland vehicles, in particular, the owned vehicle fleet. Consideration is currently being given to some of the workshops being operated as NHSScotland workshops rather than just for SAS. This has the potential to bring many benefits for the participating Boards, including greater resilience, reduced downtime and be more cost effective.

Car Leasing

Currently, all of the 22 NHS Boards appear to have a different Car Scheme, abate many are similar. These various schemes are managed by 16 of the Boards and the number of Lease cars that are currently provided for staff is circa 6,700.

There are opportunities to standardise the schemes and collaborate on their management. To this end, the car leasing work stream has analysed the various policies that exist across NHSScotland and is considering options for a more joined up and standardised approach. Consideration will also be given to the most cost effective method of funding the schemes and options will include Salary Sacrifice, which may be more cost effective for both the NHS Board and the scheme members.

The potential benefits that this work stream could bring are;- greater levels of fairness across the car user schemes, improvements in efficiency, effectiveness, economies of scale, and resilience, and reduced emissions levels.

Logistics

The logistics element of the review is considering the utilisation of the commercial vehicle fleet, the associated staffing resource, and the Boards interface with the National Distribution Centre.

Current processes, procedures, routes, and functions across Boards are being evaluated in order to ascertain and gain a better understanding of the total cost and potential synergies that exist within the many Logistics operations.

Considerable opportunities exist for a more joined up approach across Scotland, which should result in better utilisation of the vehicle and logistics resources and improve the effectiveness and efficiency of the operations.

Carbon & harmful emission targets

The Scottish Government has set ambitious carbon reduction targets and a number of Boards have now introduced a maximum CO_2 emission level for their car leasing schemes. However, there is a lot of scope to reduce emission levels further over the NHSScotland fleet, and there is also potential to introduce more alternatively fuelled vehicles. A national policy will be considered for the reduction in harmful emissions from vehicles, which will include joined up research and development into the utilisation of alternative fuelled and low CO_2 emitting vehicles.

Conclusions

The current structure of NHSScotland's fleets, which are generally small and multi-functional, have weaknesses, which is due to lots of small fleets lacking resilience and which cannot be operated as effectively and efficiently as a smaller number of larger fleets. Various collaborative structural models are being considered, which includes regional and national options. An options appraisal paper will be produced for December 2013.

The significant benefits that can be obtained from a more structured national approach, greater utilisation of Telematics, and a national approach to functional areas such as technical specifications and procurement are wide ranging. They include improvements in efficiency, effectiveness, economies of scale, and resilience without compromising operational effectiveness, and ultimately achieving Better value for the public purse.

Annex F
Facilities Shared Services Review

Background

The Facilities Shared Services Programme, established in 2011/12 is examining opportunities to develop strategic partnerships between Health Boards and, where appropriate other public sector organisations.

The areas of activity being examined are:

- Capital Planning/Project Management and Hard Facilities Management.

- Operational Management of PPP/PFI Contracts

- Decontamination of Medical Devices

- Transport.

- Waste Management.

Governance and Engagement

The full engagement and support of Health Boards and staff engaged in the delivery of the services being reviewed is essential to the success of this programme. Structures have been put in place to ensure that all those involved in the departments which are being reviewed are fully involved in the process of examining the current service and where appropriate developing options to improve the quality and efficiency of those services.

In an effort to avoid duplication and utilise the existing groups and structures service engagement is primarily sought through the professional and technical advisory structures of Health Facilities Scotland's Strategic Facilities Group. Staff representatives are identified through the Scottish Partnership Forum and the wider constituency of staff organisation representatives working in the departments which are being reviewed.

Work Streams

To enable an accurate, or as accurate a baseline as possible to be established a significant data collection exercise has been undertaken. This allows the scope of the exercise to be agreed and the cost and quality improvements which are delivered as a result of changes made to be quantified.

The five work streams which form the programme are:

- Capital and Hard Facilities Management.

- Operational Management of PPP Contracts

- Sterile Services

- Transport

- Waste Management

Capital Planning and Hard Facilities Management

This work has been divided into its specialist areas of capital project management and the operational estates management of facilities which exist.

Capital Planning

A detailed examination of the Local Delivery Plans and the projected demand for capital planning and project management skills is being undertaken. Examples of good practice are being identified and shared. Options will be developed which will consider different method of service delivery based on local, regional or national structural models.

Good Practice

Staff from the capital Physical Planning Department in Grampian Health Board are supporting the delivery of some aspects of the NHS Highland capital programme.

Hard Facilities Management

Areas of productive opportunity were examined and a recommendation report will be considered by the Facilities Shared Services Programme Board.

Operational Management of PPP Contracts

A national advisory group has been established to facilitate the exchange of knowledge and expertise in the area of contract management. This has proved to be a useful forum allowing information on existing practice to be discussed and issues identified and resolved. The nature of the contracts which exist has developed since the inception of the Private Finance Initiative. In order to ensure best value is being achieved Health Facilities Scotland, working closely with the Scottish Futures Trust, are supporting the Shared Services Programme by examining in detail the existing contracts and how they are managed. This work is focusing particularly in the areas of procurement, energy and energy management and insurance.

A number of contracts are approaching a review period, this is an opportunity to debate and renegotiate aspects of the contract. Effective discussion within the service based on a sound data base will ensure negotiations are fully informed.

Good Practice

Effective negotiations with the PPP provider resulted in revenue savings of £495, 000 on the Royal Infirmary of Edinburgh contract. The approach taken to achieve these savings will be shared with all contract managers and where appropriate to the contract the approach will be adopted.

Sterile Services

This work stream falls logically into 3 areas:

- Endoscopy Decontamination

- Local Decontamination

- Central Decontamination (mainly theatre instruments)

Endoscopy Decontamination

This activity generally takes place close to the department which undertake the procedure. The practice within these was recently reviewed and a programme of capital investment to upgrade decontamination facilities is underway. There is effective sharing of information through the Health Facilities Scotland advisory structure. The processes will be examined to establish if the sharing of services or the enhancement of the current service can be achieved.

Local Decontamination

This is the decontamination of surgical instruments used in the primary care setting, predominately dental and podiatry. There has been considerable investment in the facilities provided to deliver local decontamination. These services will vary, mainly based on the geography of the area being served and the availability of compliant facilities. Some podiatry service have move to single use instruments as a more cost effective solution. A data collection exercise will be undertaken to establish the current level and type of provision.

Central Decontamination

Health Boards currently support theatre activity by providing decontamination services across NHSScotland.

The data collected as part of the development of the contingency plan needs to be refined to allow it to be used as a strategic planning tool. This information will be gathered and used to identify any spare capacity in the physical assets used to provide this service. Options will then be developed to assess the suitability of this capacity to support clinical services.

Good Practice

The gathering of data relating to activity and capacity has enabled a national contingency plan to be developed.

Transport

A close examination of the delivery of logistics, transport and fleet management together with the provision of vehicles to allow staff to undertake their clinical and non-clinical activities (including the use of pool, lease and hire vehicles) will be required.

A significant data collection exercise and pilot studies in the areas of logistics and telematics are being undertaken.

The review will include the services which are being delivered to maximise the quality, efficiency and effectiveness of these services while also considering the most appropriate structure to manage them.

Waste

Zero Waste Scotland has worked closely with Health Facilities Scotland to scope the issues associated with the implementation of the Waste Scotland Regulation 2011.

The Waste Management Steering Group has identified 5 areas which have the potential to deliver efficiencies, possibly using a shared service model. They are:

- Food Waste

- Furniture

- WEEE

- Reverse Logistics

- Administrative processes

Recommendations on these areas of activity will be made during 2012/13.

Process

All outcomes from the work streams will be considered by the Facilities Shared Services Programme Board before being passed to the Efficiency Portfolio Board for approval.

Annex G
Strategic Review of Soft Facilities Management Services

Introduction

Facilities Management (FM) is a multidisciplinary range of services, in conjunction with Estates, which combine NHS assets, staff resources and activities in order to support clinical services, maintain a safe environment and add value to the patient experience. Within NHS Scotland, Soft Facilities Management encompasses the following services;

- Catering
- Laundry & Linen
- Domestic
- Portering & Security
- Transport
- Retail

Soft FM services across NHS Scotland are now large and complex, comprising a mix of in-house departments and teams, specialist contractors and consortia. Staff members require a range of skills and knowledge with training and professional qualifications, often co-ordinated by NHS Education for Scotland and supported by FM institutes or associations.

Soft FM services can have a significant impact on patient experience, and like clinical services, face the same challenges of improving productivity whilst maintaining and improving the quality of service.

NHS Scotland Strategic Context

The Healthcare Quality Strategy for NHS Scotland (May 2010) identifies how NHS Scotland contributes to the wider purpose of the Scottish Government, developing three Quality ambitions presented in Figure 1.

Figure 1 – NHS Scotland Quality Ambitions

The Quality Ambitions

Mutually beneficial partnerships between patients, their families and those delivering healthcare services which respect individual needs and values and which demonstrate compassion, continuity, clear communication and shared decision-making.

There will be no avoidable injury or harm to people from healthcare they receive, and an appropriate, clean and safe environment will be provided for the delivery of healthcare services at all times.

The most appropriate treatments, interventions, support and services will be provided at the right time to everyone who will benefit, and wasteful or harmful variation will be eradicated.

The Scottish Government's 20-20 Vision - Achieving Sustainable Quality in Scotland's Healthcare (September 2011) is clear, "that by 2020 everyone is able to live longer healthier lives at home, or in a homely setting". This strategic narrative builds on the Quality Strategy acknowledging that whatever the setting, care will be provided to the highest standards of quality and safety, with the person at the centre of all decisions.

Within the public sector financial context, the Scottish Government Efficiency and Productivity: Framework for SR10 (February 2011) outlines the need to continuously improve the quality of services and simultaneously improve productivity. The Quality and Efficiency Support Team (QuEST) is working with NHS Boards to provide a national approach to the efficiency and productivity agenda. Estates and Facilities Management is identified under the Shared Services Workstream within the Efficiency and Productivity Portfolio.

With the background set out above, the State of the NHS Scotland Estate 2011 (February 2012) identified the need for, "a full and comprehensive NHS Scotland wide strategic review of the basic systems and processes within Soft FM to ensure they remain effective and efficient".

The Strategic Review of Soft FM

The Programme will complete a strategic review of Soft FM services across NHS Scotland, including an assessment and prioritisation of potential service improvement opportunities by the spring of 2014.

The services that will be covered as part of this review include;

- Catering
- Laundry & Linen
- Domestic
- Portering & Security
- Retail

Transport will not be included in the Strategic Review of Soft FM as it is within the scope of the Facilities Shared Services Programme, although some areas of transport and logistics may be considered.

The Strategic Review will be presented to the NHS Scotland Efficiency Portfolio Board and the Chief Executives' Group in order to consider, approve and prioritise potential service improvement opportunities for project initiation by the summer of 2014.

Progress

A brainstorming event for the Strategic Review was held in January 2013 which gave NHS facilities staff from across NHS Scotland the opportunity to take an active role in the Strategic Direction for Soft FM services, challenge current thinking and suggest service improvements/efficiencies to any service covered by the review.

From the event, over 150 proposals and ideas were generated which were then categorised into short (up to 18 months), medium (18 months to 4 years) and long term (over 4 years)

timescales under the appropriate service. These proposals were assessed by members of the relevant NHS Health Facilities Scotland Technical Advisory Groups before a subgroup of the Health Facilities Scotland Strategic Facilities Group shortlisted 25 of the proposals and ideas that would be assessed as part of the Strategic Review. The other proposals and ideas were assessed as either; hold and revisit later, refer to the appropriate Technical Advisory Group for progression or not to be taken forward as part of the Soft FM Review.

Current work being undertaken as part of the Soft FM Review

Catering Services Review

A review of the catering provision to patient and non-patient is being undertaken to identify the actual cost of both of these services and detail potential efficiencies or improved income opportunities.

Each Health Board will receive a report highlighting their complete catering operation and findings from these reviews will be utilised in the Strategic Review of Soft Facilities. This review across NHS Scotland is anticipated to be completed by the autumn of 2013.

NHS Greater Glasgow & Clyde has undertaken significant work to reduce subsidies on non-patient catering commencing in 2009/10. They have converted a sizable subsidy to a small surplus situation as at March 2013. This has involved close working with Partnership colleagues to review the non-patient catering service provided. Greater Glasgow and Clyde have also introduced 11 Aroma outlets (see retail section below) across their health board's area.

An initial assessment indicates that 10 Health Boards have strategic plans for their catering services, with 4 Boards considering new catering facilities, 8 considering upgrades and 3 planning new food production system changes.

Laundry / Linen Services

A data gathering process, which commenced in the spring of 2013, has collected cost, production and income data in a universal way so that actual costs of processing items can be identified and compared across NHS Scotland. This should allow the identification of the production laundries which operate on a more efficient basis and highlight best practice for nationwide rollout.

An initial assessment indicates that 6 Health Board have a Laundry Strategy or contract in place, 5 Boards have recently considered regionalising or sharing services within the last 12 months and 6 have capital commitments for Laundry Production sites over the next 3 years.

NHS Fife has recently replaced major elements of laundry equipment which has significantly improved production, product finish, energy efficiency and carbon performance.

Domestic Services

Health Board returns have indicated that 5 Health Boards have recently or are considering major change to Domestic Services and 6 Boards are considering the introduction or trialling of new cleaning technologies.

Portering

Recent Board responses have indicated that at least 2 Health Boards are considering the introduction of a tracking and automated dispatch system to improve internal operations and maximise the efficiency of the portering service. NHS Fife has recently approved, and is now tendering for the procurement of such a system. 4 Boards are also planning significant portering service changes and the introduction of new technologies.

Retail

NHS Scotland has introduced branded coffee/dining outlets across a number of high footfall sites to maximise potential income and reduce subsidies for non-patient catering. The Aroma brand was launched in 2009 and is now operating in 15 units across NHS Scotland. Additionally 9 Scottish Health Boards and a number of NHS England sites are considering the introduction of the Aroma brand to maximise income from these locations.

Next Steps

Service specific review groups will be formed and tasked to complete a baseline of current service provision by analysing existing FMS Benchmarking Returns, Cost Book analysis and other relevant sources of information.

Assessments of service improvement opportunities will also be completed by service specific review groups utilising existing evidence bases and stakeholder engagement.

The prioritisation of service improvement opportunities identified in the review will be completed by ranking according to financial and non-financial scoring criteria. This ranking will then support the consideration, approval and prioritisation of projects for initiation by the Assets and Facilities Management Programme Board, Efficiency Portfolio Board and Chief Executives' Group.

Following approval from the Chief Executives' Group, the programme will initiate service-specific projects in order to deliver the opportunities and benefits prioritised in the Strategic Review.

Annex H

eHealth Strategy 2011-2017

The eHealth Strategy 2011-2017 provides NHS Boards with the opportunity to drive eHealth enabled improvements closer to the front line of service delivery and to align eHealth more closely with the NHSScotland Quality Strategy. Five new strategic eHealth aims have been developed and these will be the focus of activity over the next six years. They are: supporting people to communicate with NHSScotland; contributing to care integration; improving medicines safety; enhancing the availability of information for staff; and maximising efficient working practices. The eHealth Strategy aims to leverage the IM&T assets to support the quality improvements that NHSScotland has committed itself to through the Quality Strategy.

The potential of information technology to support and transform healthcare services is universally recognised. In Scotland, eHealth has a pivotal role in enabling a radical e-transformation in the way in which high quality integrated healthcare services are delivered efficiently and effectively to people of all ages across the country.

The focus on five strategic eHealth aims as an enabler of quality improvements in healthcare services across Scotland will have considerable implications for the way in which asset will be used to support service delivery in the future. Increasingly, patients and staff will focus on the use of IM&T assets rather than property assets to receive and delivery care. It also changes the way in which performance is measured. Boards' eHealth Plans will be aligned to LDPs and will include:

- benefits being maximised from IM&T assets that have been acquired during the previous strategy (2008-11);

- information and evidence on eHealth's contribution towards achieving the five strategic eHealth aims;

- promotion and implementation of good practice and successful local initiatives more widely;

- convergence of approaches to delivery in order to reduce duplication of effort and reduce cost;

- collaborative working between Boards and cross-border eHealth developments

Society is increasingly comfortable with self-service models of interaction and although face-to-face services have not disappeared, their dominance has been replaced by a much more diverse mix. Although NHS24 delivers telephone based and online services, NHSScotland relies heavily on face-to-face consultations and the way people receive healthcare remains largely unchanged despite the radical transformation in the way in which other public services are delivered. eHealth can enable NHSScotland to take advantage of the everyday technologies already used by most people in their daily lives. eHealth could contribute to a radical transformation in the delivery of health and social care services in Scotland over the next decade through enabling people to access and interact with their health records electronically,

and through a greater emphasis on the delivery of services through different communication channels, e.g. online by patient portals or electronic windows to information, via email, websites, digital channels and social media.

Section 5.7 of this 2012 State of the NHSScotland Assets and Facilities Report begins to explore the potential and implications of shifting the balance of future capital and revenue investment between assets groups i.e. from property to IM&T infrastructure and equipment. This initial work has shown that a relatively small shift in investment between asset groups has the potential for transformational change in the magnitude of investment in other asset groups. Further work is needed to model this type of change in investment and the implications for services and existing assets. In particular, it raises a number of questions that need to be addressed:

1. At what point in the future can we expect the eHealth Strategy to have a material impact on the need for property assets and how can we plan for this change?

2. What impact is the eHealth Strategy likely to have on organisational structures, staff numbers and the way in which people work? Will these new ways of working impact on the need for physical assets such as staff bases, offices, meeting rooms as well as clinical spaces?

3. What risks are involved in changing the balance of investment from property to IM&T assets and how can we manage and mitigate these risks?

4. What are the implications for the estate of re-balancing investment and is there sufficient flexibility in estate assets to respond to this change?

5. How can we unlock existing investment in property to support increased investment in IM&T?

6. How will we measure and monitor the pace of change towards a more IT enabled healthcare environment?

7. Can we identify the sustainable benefits from embracing and integrating new technology into the healthcare delivery models?

8. What information (staff numbers, costs, benefits etc) do we need to be able to properly model alternative investment choices and make the case for change towards an IT enabled future?

9. What funding vehicles are most appropriate for investing in IM&T infrastructure and can we demonstrate value for money from these investments?

Annex I
Radiotherapy Equipment Replacement Programme

The 5 Cancer Centres in Scotland have had a co-ordinated national equipment replacement programme in place since 1998 and this programme has been instrumental in ensuring that radiotherapy equipment in Scotland has been replaced in an efficient manner. The continued delivery of cancer access targets is in part due to the timely replacement of ageing equipment.

The timing of replacement of equipment reflects current national recommendations and the programme is managed and monitored by the National Radiotherapy Programme Board with the equipment financed from a ring fenced Scottish Government allocation.

The objective of the national equipment replacement programme is to achieve maximum benefit in terms of value for money, equipment, clinical requirements and ultimately treatment delivery. The programme ensures that Radiotherapy equipment is replaced with leading technology which enables departments to introduce cutting edge treatments for the benefit of cancer patients.

The introduction of new technology ensures that all 5 Cancer Centres can deliver treatment within national objectives and ensures that equipment is replaced in a timely manner. There is continuous improvement in the quality of the Radiotherapy treatment service, and equity of access to radiotherapy services across Scotland is ensured due to similar equipment being installed across the country.

In order to meet the Scottish Governments desire to make more specialised radiotherapy techniques more widely available all machines replaced are now provided with the ability to provide advanced treatment techniques. The new machines will enable Radiotherapy departments to increase the number of patients receiving advanced treatments within standard ten minute treatment slots and thus help preserve machine capacity whilst delivering optimum complex treatments. The advanced treatments will also increase the chances of cure while also reducing the radiation dosage to the patient. Clinicians in Scotland aim to offer advanced radiotherapy treatments to 30% of patients within 12-18 months. These advanced treatments enable dose to be delivered more precisely on the tumour and spares more healthy tissue from exposure.

The treatment machines in Scotland have the capability to treat in excess of 40 patients per day and the new machines can maintain this throughput and meet both the current and projected increases in clinical workloads. The new machines enable advanced treatments to be delivered in less than two minutes rather than the 15-20 minutes needed for conventional radiotherapy treatments.

The radiotherapy equipment replacement programme provides people in Scotland with a safe, reliable radiotherapy service able to deliver modern techniques. Without this national replacement programme the service could become vulnerable and impact on patient care.

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