

## Summary: Intervention & Options

<b>Department /Agency:</b> Health	<b>Title:</b> Impact Assessment of self care patient prospectus	
<b>Stage:</b> Final proposal	<b>Version:</b> 1.1	<b>Date:</b> 21 September 2009
<b>Related Publications:</b> Primary and Community Care Strategy <a href="http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicy">http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicy</a>		

**Available to view or download at:**

<http://www.>

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**What is the problem under consideration? Why is government intervention necessary?**

In a January 2008 Gordon Brown committed DH to bring forward a Patients' Prospectus during 2008 that sets out how we will extend to all 15.4 million people with a long term condition access to a choice of self care services. This commitment provides an opportunity to draw together all the existing strands of work/information in terms of support for self care and put them into a format that is accessible and understandable for patients - putting a public face on existing policies. Your Health, your way - a guide to long term conditions and self care was launched on NHS Choices 02.11.08.

**What are the policy objectives and the intended effects?**

The key emphasis of this commitment is to extend choice, and increase understanding and awareness of support for self care. Through information on NHS Choices in the first place, Your Health, your way aims to empower people, to understand and exercise their choice around support for self care, so that they can better manage their condition and ultimately improve their quality of life. It will help contribute to effective care planning, shared decision-making, and informed choice and indirectly it should help drive demand for self care services.

**What policy options have been considered? Please justify any preferred option.**

1) Do nothing (baseline) 2) Publish a web-based document only 3) Publish both a web-based document and a hard copy document (preferred option)

A web based document on NHS Choices is to be the first and main channel for Your Health, your way (YHYW). YHYW will be available to people through other channels to ensure it is accessible to those who have the greatest need, lowest health literacy and lowest health engagement to ensure that it does not increase health inequalities.

**When will the policy be reviewed to establish the actual costs and benefits and the achievement of the desired effects?** The impacts of the roll-out of the patients' prospectus process will be monitored throughout the CSR period (2008/9 to 2010/11), with a formal review April 2011.

**Ministerial Sign-off** For final proposal/implementation stage Impact Assessments:

***I have read the Impact Assessment and I am satisfied that (a) it represents a fair and reasonable view of the expected costs, benefits and impact of the policy, and (b) the benefits justify the costs.***

Signed by the responsible Minister:

.....Date:

## Summary: Analysis & Evidence

Policy Option: 3

Description: Patient Prospectus both available through web and other channels.

<b>COSTS</b>	<b>ANNUAL COSTS</b>		Description and scale of <b>key monetised costs</b> by 'main affected groups' Costs associated with production of the information for the prospectus and its delivery to the public. Costs and cost savings associated with the self care support interventions people undertake after reading information on the prospectus.
	<b>One-off</b> (Transition)	<b>Yrs</b>	
	<b>£ 269,000</b>	1	
	<b>Average Annual Cost</b> (excluding one-off)		
	<b>£ 107 million</b>	<b>Total Cost (PV) £ 533 million</b>	
Other <b>key non-monetised costs</b> by 'main affected groups'			

<b>BENEFITS</b>	<b>ANNUAL BENEFITS</b>		Description and scale of <b>key monetised benefits</b> by 'main affected groups' These cost savings are derived from reduced service use.
	<b>One-off</b>	<b>Yrs</b>	
	<b>£ 0</b>		
	<b>Average Annual Benefit</b> (excluding one-off)		
	<b>£ 261 million</b>	<b>Total Benefit (PV) £ 1,306 million</b>	
Other <b>key non-monetised benefits</b> by 'main affected groups' Reduction in pain, anxiety/depression and in severity of long-term condition. Reduction in days off work. Increase in self confidence. Increase in life expectancy and an improvement in quality of life. Increase in social capital.			

**Key Assumptions/Sensitivities/Risks** That people who say in survey that they would act on information on accessing self care support actually do so.

Price Base Year 2009	Time Period Years 5	<b>Net Benefit Range (NPV)</b> <b>£ 752 - 848 million</b>	<b>NET BENEFIT (NPV Best estimate)</b> <b>£ At least £772 million</b>
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What is the geographic coverage of the policy/option?			England	
On what date will the policy be implemented?			From 2009-10	
Which organisation(s) will enforce the policy?			DN & PCTs	
What is the total annual cost of enforcement for these organisations?			£ N/A	
Does enforcement comply with Hampton principles?			Yes	
Will implementation go beyond minimum EU requirements?			N/A	
What is the value of the proposed offsetting measure per year?			£ near£0	
What is the value of changes in greenhouse gas emissions?			£ N/A	
Will the proposal have a significant impact on competition?			No	
Annual cost (£-£) per organisation (excluding one-off)	Micro	Small	Medium	Large
	0	0	0	0
Are any of these organisations exempt?	No	No	N/A	N/A

<b>Impact on Admin Burdens Baseline</b> (2005 Prices)			(Increase - Decrease)	
Increase of £	Decrease of £	<b>Net Impact</b>	£	

Key: Annual costs and benefits: Constant Prices (Net) Present Value

## Evidence Base (for summary sheets)

[Use this space (with a recommended maximum of 30 pages) to set out the evidence, analysis and detailed narrative from which you have generated your policy options or proposal. Ensure that the information is organised in such a way as to explain clearly the summary information on the preceding pages of this form.]

### Introduction

The Primary and Community Care Strategy states:

“Providing people with information and support to self care/self manage is a crucial element of the care planning process. To further embed this we will introduce this year a patients’ prospectus for all 15 million people with a long term condition. By September we will set out for patients the key areas where they might make choices around the support they receive to self care, using NHS Choices and other media. By April 2009, patients will have access to information about self care options that are available to them locally. The aim of the patients’ prospectus is to make people aware of the range of self care options and services that are available at local level: including support networks, generic/condition specific skills courses, tools and devices such as inhalers or blood monitoring equipment and information about their condition including how to self manage. This should stimulate commissioning and provision of a wider range of self care services than is currently available, giving people more choice.”

In a speech in January 2008, the Prime Minister announced

“... during 2008 we will bring forward a patients’ prospectus that sets out how we will extend to all 15 million patients with a chronic or long-term condition access to a choice of ‘active patient’ or ‘care at home’ options - clinically appropriate to them and supported by the NHS.”

As a result of a collaborative event with 70 stakeholders including DH, Local Authority, SHA, PCT, Social Care, third sector, voluntary organisations, carers and patients, the Patients Prospectus was launched as Your health, your way at <http://www.nhs.uk/yourhealth/Pages/Homepage.aspx>

– a guide to long term conditions and self care, on NHS Choices in November 2008.

Your health, your way continues to be developed alongside work to (i) introduce more effective care planning and (ii) extend choice to people with long-term conditions.

It will help contribute to effective care planning, shared decision-making, and informed choice by setting out the options people can expect to be available to help them to self-care. Indirectly, it should help drive the implementation of care planning and choice by creating patient pressure on PCTs to offer innovative and responsive options for self-care.

This Impact Assessment focuses on the costs and benefits from making the information contained in Your health, your way available to all those with a long-term condition who wish to know more about the support available to help them self care

### Proposal and expected effects

The publication of Your health, your way is intended to provide people with a long term condition with information on the support that should be available by April 2009 if its not available already, to help them to self care.

The document will be a guide to help people with a long term condition get the support needed for self care, and if it is not available locally there is advice on how to get involved in local discussions about provision of services – to get your voice heard. We hope this will encourage people to engage locally when PCTs discharge their duty to consult about services.

Your health, your way provides generic (non-condition specific) information on the type of support that is available and who to approach for more support. It is envisaged that the national document will be supported by information at a local level giving specific details of the self care options available in that region. Recent guidance on the publication of Your guide to local health services

[http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH\\_4116233](http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4116233)

states that PCTs should include in this details of services to support self care as set out in Your health, your way.

PCTs will be expected to publish their local Your Guide on NHS Choices (the technology is being adapted to enable this to happen from April 2009). Each PCT has information

which they provide to NHS Choices which can be accessed by doing a search for your local PCT using your postcode. This info then has a link to the PCT website.

Support services should cover five key areas:

- skills training;
- information;
- technology and equipment;
- support networks and
- healthy lifestyle choices.

For each of these areas, Your health, your way gives information about what choices a person might expect and how to pursue them further as part of a discussion about care planning.

It is likely that, following the wider public launch of Your health, your way in April 2009 that there will be an increase in demand for some of the interventions, such as self care training and information, associated with each of these aspects.

It should be noted that this is not new policy – Supporting People with Long Term Conditions to ... Self Care was published in Feb 2006 just after the Our health, our care, our say (OHOCOS) White Paper committed DH to embedding the principles of support for self care in the workforce. The Common Core Principles to Support Self Care were published in May 2008. What Your health, your way does is to put a public face on the existing policy which we hope will provide the 'push' from the public for more and better choice around support for self care. There are examples of where self care support is an integral part of existing care pathways (Kirklees PCT) but this is not replicated around the country.

## **Role of information in supporting self care**

Improving health literacy is critically important in tackling health inequalities. People with low health literacy have poorer health status, higher rates of hospital admission, are less likely to adhere to prescribed treatments and care plans, experience more drug and treatment errors,

and make less use of preventive services (source: Institute of Medicine. Health Literacy: a prescription to end confusion. Washington DC: The National Academies Press; 2004).

Well designed written information (such as leaflets) can be helpful to reinforce professionals' explanations of health problems and treatments. Information works best if it is personalised to the individual, so computer-based materials can be more effective than paper-based information. For example, a trial of electronic information linked to cancer patients' medical records found that these were much more highly valued by the patients than booklets or generic computer-based materials (source: Jones R, Pearson J, McGregor S, Cawsey AJ, Barrett A, Craig N, et al. Randomised trial of personalised computer based information for cancer patients. British Medical Journal 1999;319:1241-7.)

People who use computers often like getting their health information on the internet, but reliance on this can reinforce health inequalities by excluding elderly or disabled people, people with low incomes, and people from ethnic minorities. However, if access barriers can be overcome, there is reason to believe that people from disadvantaged communities can benefit more than those from affluent groups (source: Gustafson DH, Hawkins RP, Boberg EW, McTavish F, Owens B, Wise M, et al. CHES: 10 years of research and development in consumer health informatics for broad populations, including the underserved. Int J Med Inform 2002 Nov 12;65(3):169-77.)

Information in other electronic formats – interactive digital television, mobile phone texts, audiotape, web-based – has shown mixed results for improving knowledge, but it can have beneficial effects on patients' confidence and ability to be involved in decisions. There is also evidence that it can help to improve clinical outcomes and health behaviour, especially when used to complement health education provided in a clinical setting (source: Murray E, Burns J, See TS, Lai R, Nazareth I. Interactive Health Communication Applications for people with chronic disease. Cochrane Database Syst Rev 2005 Oct 19;CD004274(4).)

Mass media campaigns to spread health information can be effective in raising awareness, but evidence of direct effects on behaviour is limited, in part because of the measurement difficulties inherent in population approaches to health promotion. Some successes have been reported, for example in reducing smoking among teenagers and encouraging activity among back pain sufferers. Mass media campaigns may work best as a 'background' against which other actions to change behaviour can take place (source: Grilli R, Ramsay C, Minozzi S. Mass media interventions: effects on health services utilisation. Cochrane Database Syst Rev 2002;CD000389(1).

## **Costs and benefits of self care support interventions**

There have been studies into the cost effectiveness of several self care interventions (such as self care training courses etc.). The results of the studies are not conclusive but there is growing evidence for many interventions that indicate that they are either cost neutral or represent net benefits.

The document "Research evidence on the effectiveness of self care support" at [http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH\\_080689](http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_080689)

provides a summary of available evidence on a number of self care interventions.

The qualitative and non-quantifiable benefits associated with self care include

- A reduction in the use of primary and secondary care, including
  - reducing the number of GP visits;
  - reducing the number of inpatient admissions;
  - reducing the number of emergency admissions;
  - reducing the number of outpatient appointments;
  - reducing the number of emergency bed days;
- better use of health information;
- reduction in pain;
- reduction in disabilities;
- increase in self confidence;
- reduction in anxiety and depression;
- reduction in days off work;
- improvement in quality of life;
- increase in life expectancy;
- increase in social capital.

We assume that the increased awareness of self care support through Your health, your way will stimulate commissioning and provision of a wider range of self care services than is currently available, giving people more choice. Your health, your way does not recommend specific interventions but will provide the impetus for people with a long term condition to seek further information on self care within their local health economy. If people know about what support should be available they can have meaningful discussions with their health care professionals, which if services are not available and there is a recognised demand, should influence commissioning decisions at local level.

This Impact Assessment is being prepared to support *Improving the health and well-being of people with long term conditions – information tool for commissioners*. The tool sets out some appropriate actions for commissioners to consider at each stage of the world class commissioning cycle, to support implementation of personalised care planning and self care services in the context of Your health, your way, for people with long term conditions.

The recent Impact Assessment of Care Planning Guidance

[http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH\\_093354](http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_093354)

concluded that the improvement in access to information about self care and self-management would be at least cost neutral and potentially would have net benefit. We assume that any marginal increase in the uptake of self care and self-management interventions as a result of the publication of the Self Care Patients' Prospectus would also be at least cost-neutral and therefore we consider the direct costs of publication and the equality impact of different publication strategies.

## Numbers acting on prospectus information

This section explores the effect of the prospectus on demand for self-care support interventions.

1. Because the costs and benefits of care planning have been accounted for in the recent care planning commissioner guidance impact assessment, this document excludes the costs and benefits of the patient prospectus for people who have an agreed care plan. We know that currently, 44 per cent of people with a long-term condition have agreed a personal care plan. We also know that 66 per cent of people who are offered a care planning discussion go on to take up a personal care plan. Currently, there are around 8.6 million people with a long-term condition, but without a care plan. This figure is expected to fall to around 5.2 million by 2013/14.

2. There are three distinct groups of interventions that are signposted in the patient prospectus: Information about condition/choices for care, skills training on living with a condition and equipment fitted in a person's home (including telehealth/telecare).

3. For those who would use information only: currently 49 per cent of people use information to better manage their condition (Ipsos-MORI tracker survey, Oct 2008). We also know that only 14 per cent of people say they would not benefit from having information on their condition or choices for care (Ipsos-MORI self care survey, April 2007). There is a continuous stream of communications, some supporting advertising campaigns and work to change the culture of health and social care services in promoting self care. For example in June 2009, the PR toolkit was launched on NHS Commslink, together with an explanatory note to Comms leads in PCTs about incorporating self care support into local media campaigns and the local services. The guide was also loaded onto the PCT domains on NHS choices. We therefore assume that the proportion who would use information will rise steadily from 49 per cent to 86 per cent over the next five years.

4. As skills training is accessed through the GP practice, we exclude people who have not been to their GP in the last year. We also exclude people who say they don't need any support or information to manage their condition. This brings the numbers down to 6.9 million in 2008-09. In Oct 2008, 7 per cent of people with a long-term condition who didn't have a care plan had been on a skills training course in the last year (Ipsos-MORI tracker survey, Oct 2008). 14 per cent of people with an LTC have a newly diagnosed condition in the next year. For the same reasons as driving the increase in the numbers doing self care training from 7 per cent in 2008-09 to 14 per cent by 2013-14.

5. There are specific conditions that are particularly amenable to telehealth, which is currently only reaching a maximum of 5000 people throughout the UK. These are COPD, Coronary Heart Disease and Diabetes. Therefore, expected demand as a result of the patient prospectus over the next five years is likely to be small.

## Take up of self care options for people with LTCs who don't have care plan

Year	baseline 2008-09	1 2009-10	2 2010-11	3 2011-12	4 2012-13	5 2013-14
Care plan take up. <sup>1</sup>	44%	55%	66%	66%	66%	66%
Total number with LTC	<b>15.4</b>					
No. without plan	8.6	6.9	5.2	5.2	5.2	5.2
<b>Information only</b>						
% who access info on condition. <sup>2</sup>	<b>49%</b>					
% who would not seek information. <sup>3</sup>	<b>14%</b>					
% who access info on condition	49%	56%	64%	71%	79%	86%
Addition to baseline (millions)		<b>0.5</b>	<b>0.8</b>	<b>1.2</b>	<b>1.6</b>	<b>1.9</b>
<b>Skills training</b>						
.....who haven't been to GP. <sup>1</sup>	<b>8%</b>					
.....who say don't need support. <sup>1</sup>	<b>12%</b>					
.....total market for skills training	6.9	5.5	4.2	4.2	4.2	4.2
% doing skills training in last year. <sup>1</sup>	<b>7%</b>					
% people with new LTC in last year. <sup>3</sup>	<b>14%</b>					
% people aware of skills training who have done. <sup>3</sup>	<b>28%</b>					
Probable profile of % doing skills training	<b>7%</b>	8%	10%	11%	13%	14%
Additional to baseline (millions)		<b>0.1</b>	<b>0.1</b>	<b>0.2</b>	<b>0.3</b>	<b>0.4</b>
<b>Telehealth and home equipment</b>						
People with telehealth conditions. <sup>4</sup>	5.7	5.8	5.9	6.0	6.2	6.3
Current level of telehealth	4,000	4,000	4,000	4,000	4,000	4,000
Additional to baseline (millions)		<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>

### Sources

<sup>1</sup> October 2008 primary care tracker survey

<sup>2</sup> Average of Jul+Oct08 primary care tracker surveys

<sup>3</sup> 2007 self care survey

<sup>4</sup> Internal DH analysis Jan 2009



## Direct Costs

**Option 3 (preferred option): Publish both a web-based, supporting hard copy documents/DVDs and advertising campaign.**

### Transition costs

The direct costs for publishing the Patient Prospectus as a web based document, on the NHS Choices site would be as follows:

#### Product development

- Experience Architect £425
- Creative Director £2,100
- Designer £2,100

#### Editorial

- Editor £7,125
- Multimedia Editor £4,250
- Picture Editor £1,250

#### Delivery

- Product Lead £12,750
- Delivery Manager £4,250

#### Additional elements

- Production of 3 films £9,000
- Tools development £5,000
- Picture credits £600

**£48,850**

To raise awareness of the patient prospectus three 60-second adverts will be produced through Life Channel. Life Channel are the only provider of the satellite channel through GP surgeries. The cost for these three adverts will be £175K.

In addition, these same adverts will be shown through the 75 Tesco café's. The cost of running these adverts via the Tesco café's, will be £45K.

NHS Choices website costs	£48,850
Advertising support costs	£220,000
<b>Total transition costs</b>	<b>£268,850</b>

The above are all one-off costs which would be incurred in year one. Ongoing costs for the NHS Choices website after these initial costs would be negligible.

## Ongoing costs

The cost of publishing a hard copy document will depend on the length of the document and the number of copies printed. The costs below are based on a mix of 8 page brochures/6page credit card sized leaflets and DVDs. The printing costs for the 8-page brochures would include supplying a small number of audio, large print and braille copies. The demand for these supporting documents/DVDs is expected to decrease over time, as more and more of the target audience are reached.

	A5 8 page brochure		DVDs		Credit card sized 6 page leaflet	
	Quantity	Cost	Quantity	Cost	Quantity	Cost
Year 1	1,000,000	£127,210	100,000	£39,642	1,000,000	£42,489
Year 2	1,000,000	£106,680	100,000	£39,642	1,000,000	£42,489
Year 3	1,000,000	£106,680	100,000	£39,642	1,000,000	£42,489
Year 4	300,000	£32,004	30,000	£11,893	300,000	£12,747
Year 5	300,000	£32,004	30,000	£11,893	300,000	£12,747

Total literature/DVD costs £700,251

The PCTs would disseminate the literature/DVDs to GP practices via the monthly GP practice managers meetings. By doing this the PCTs can both provide support and evaluate that these materials are being used. There would be an administration cost for the PCTs in doing this, as detailed in the table below:

	Year 1	Year 2	Year 3	Year 4	Year 5
Admin cost for disseminating literature/DVDs to GP Practices per year	£415,872.00	£417,881.04	£419,899.79	£210,964.15	£211,983.30

It is envisaged that a substantial portion of the above brochures, leaflets and DVDs would be disseminated to patients via GP and/or GP Practice Nurse consultations. It is estimated that to do this would add an additional 3 minutes to a GP/GP Practice Nurse consultation. The cost per GP consultation per minute is £2.90 and the cost per GP Practice Nurse consultation per minute £0.50 (PSSRU costs 2007). The current ratio of GP consultations to GP Practice Nurse consultations are 63.4% to 36.6% (GP Workload survey 2007) in favour of GPs. The cost of a 3 minute consultation with a GP is £8.70 and with a GP Practice Nurse is £1.50. When split on a 63.4% to 36.6% ratio in favour of GPs, this would give an average cost per 3 minute consultation of £6.06.

	Year 1	Year 2	Year 3	Year 4	Year 5
Number of people receiving 3 minute consultations**	1,320,000	1,320,000	1,320,000	378,000	378,000
Total costs of 3 minute consultations	£7,999,200	£7,999,200	£7,999,200	£2,290,680	£2,290,680

Total consultation cost £28,683,636 across 5 years.

## Indirect costs

Supporting self care, costs the NHS money. As people get better information about self care options, we think some are likely to seek further information about managing their condition, attend a skills training course and/or ask for home technology. The table below gives costs and cost savings for doing these things.

### Prevalence

Firstly, the well known pyramid will be considered with 70% of the people with long term conditions at level one where the symptoms are not severe; 20% at level 2 at the middle consisting of those with high risk of serious health problems and/or conditions; and 10% at level 3 comprising people with complex co-morbidities

Level	Severity of long term conditions	% of population
1	Low	70%
2	Medium	20%
3	High	10%

Assuming that people with long term conditions at level 1 in this PCT area are offered self care support in the cost range at the lower end of the cost spectrum, those at level 2 are provided facilities in the middle range, and level 3 people would receive support at the higher end of the cost spectrum, the following scenario emerges:

### Costs

Level	Predominant type of self care support	Number of people	Cost per person	Total cost (£)
1	Self care information, self care support networks and/or pharmacy support.	10,841,600	£50	£542,080,000
2	Self care information, self care support networks and skills training.	3,097,600	£200	£619,520,000
3	Skills training and devices and technologies.	1,548,800	£500	£774,400,000
Indicative total cost		15,488,000		£1,936,000,000
<b>Indicative weighted average cost per person</b>				<b>£125</b>

The basis for the costs for level 1 & level 2 groups is mainly drawn from conversations with people from the NHS who provide these services. The key costs for level 1 include: the cost of a lay-led self care support group at £20 per participant, which could rise to £50 with professionals dropping in: the cost of consultations with GPs, GP Practice Nurses and/or Pharmacists in discussing self care: the maintenance of a website and/or directory of self care support community resources and the cost of producing the literature itself. Not all members of this group would require all the elements of the interventions, so we have estimated the average cost to be £50 per person.

Level 2 costs are based on discussions with providers\* of self care skills training courses, who suggest a cost of £150 for a 6 - 8 week training course, which could rise to £250 with professional input. Again not all members of this group would require all the elements of the interventions but there would also be occasions where some users would take advantage of more than one. The £200 per person figure is based on a combination of £150 per head for skills training, together with £50 from self care information, self care support networks and/or pharmacy support.

\* Providers include; EPP (Expert Patients Programme, currently offering around 12,000 course places per year), MS Society, Arthritis Care, National Association for Colitis & Crohn's Disease and Social Action for Health Tower Hamlets local community group. All these providers are well respected organisations, utilising both professional and volunteer tutors with experience of long term conditions.

Level 3 costs are sourced from DH analysis of telehealth, which estimates that a hub and peripherals could be obtained for £500 if there was a large scale national roll out and a central procurement. The £500 cost per person is based on some members of this group taking advantage of skills training and self care information etc. As previously, not all members of this group would require all the interventions but other members may need more than one.

### Cost savings

Unit costs of services (2006-07 prices)

#### Low intensity users

Service	Average number of visits per person per year	Total number of visits per year	Cost per visit	Total cost of service use	% Reduction in service use	Savings due to reduction in service use
GP visits	5.23	56,701,568	£34	£1,927,853,312	32%	£616,913,060
Outpatient visits	1.98	21,466,368	£98	£2,108,212,001	39%	£822,202,680
A&E attendances	0.27	2,927,232	£83	£243,809,153	32%	£78,018,929
Inpatient episodes	0.11	1,192,576	£1,576	£1,879,499,776	26%	£488,669,942
Indicative total saving for 100,000 people						£2,005,804,611
<b>Indicative savings per person</b>						<b>£185</b>

## Medium intensity users

Service	Average number of visits per person per year	Total number of visits per year	Cost per visit	Total cost of service use	% Reduction in service use	Savings due to reduction in service use
GP visits	6.62	20,506,112	£34	£697,207,808	36%	£250,994,811
Outpatient visits	2.71	8,394,496	£98	£824,423,452	44%	£362,746,319
A&E attendances	0.43	1,331,968	£83	£110,939,615	36%	£39,938,261
Inpatient episodes	0.18	557,568	£1,576	£878,727,168	29%	£254,830,879
Indicative total saving for 100,000 people						£908,510,270
Indicative savings per person						£293

## High intensity users

Service	Average number of visits per person per year	Total number of visits per year	Cost per visit	Total cost of service use	% Reduction in service use	Savings due to reduction in service use
GP visits	14.1	21,838,080	£34	£742,494,720	40%	£296,997,888
Outpatient visits	4.07	6,303,616	£98	£619,078,127	49%	£303,348,282
A&E attendances	0.45	696,960	£83	£58,049,798	40%	£23,219,919
Inpatient episodes	0.31	480,128	£1,576	£756,681,728	32%	£242,138,153
Indicative total saving for 100,000 people						£865,704,243
Indicative savings per person						£559

### Conclusion

	Total numbers	Total cost saving	Average cost saving
Cost saving for low intensity users	10,841,600	£2,005,804,611	£185
Cost saving for medium intensity users	3,097,600	£908,510,270	£293
Cost saving for high intensity users	1,548,800	£865,704,243	£559
Cost saving for all people with LTCs	15,488,000	£3,780,019,124	£244
Cost for all people with LTCs		£1,936,000,000	£125
<b>Net cost</b>		<b>-£1,844,019,124</b>	<b>-£119</b>

**Thus for every £125 spent on self care support, there will be a minimum savings of £244.**

GP visit cost from PSSRU Unit costs 2007

Cost for outpatient visits, A&E attendances & inpatient episodes from NHS Reference costs 2006/07

Average number of GP visits, Outpatient visits, Inpatient episodes and A&E attendances - GHS 2006

Total LTC number of people from GHS 2005

The costs above are drawn from previous studies which have explored the impact of a range of self care interventions, which we believe to be comparable to those which this policy will introduce.

Reduction in service use numbers is sourced from DH literature and analysis. See also Reduction in service use references on page 23.

### Research to support Self care information, self care support networks and/or pharmacy support includes:

67% decrease in GP consultations (Gillies 1996)  
 46% reduction in visits to doctors (Lorig 2002)  
 40% reduction in GP visits (Fries 1998)  
 31% reduction in visits to doctors for minor ailments (Vickery 1988)  
 40% reduction in number of A&E visits (Thomas 1984)

### Research to support Skills training includes:

50 – 55% reduction in visits to A&E (Guevara 2003), (Choy 1999) and (Boulet 1995)  
 50% reduction in hospital lengths of stay (Montgomery 1994)  
 69% reduction in visits to GPs (Choy 1999)  
 44% reduction in physician visits (Lorig 1993)  
 80% reduction in visits to health professionals (Cole 1998)  
 considerable reduction in visits to GP and other health professionals (D'Souza 1998) (Ghosh 1998)  
 2% reduction in GP visit, 6% reduction in Outpatient appointments and 50% reduction in inpatient days (Anne Kennedy, David Reeves et al 2007)

### Research to support devices and technologies includes:

32% reduction in inpatient visits, 44% reduction in post discharge visits and 49% reduction in further outpatient visits (Cherry 2002)  
 15% fewer A&E visits, 24% reduction in inpatient days (Johns Hopkins Bloomberg School of Public Health 2009)

As a result of the fact that some of these sources refer to specific conditions and some refer to examples of research conducted overseas, a conservative figure has been selected from the range to account for scalability within the NHS

The costs of working-age ill-health to Britain are large by any standards. Dame Carol Black (source Improving health and work: changing lives) estimated that the annual economic cost of ill-health in terms of working days lost and worklessness was over £100 billion (86.2 billion in England) – equivalent to the annual running costs of the NHS. The Confederation of British Industry (CBI) estimated that last year 172 million (148.4 million in England) working days were lost due to absence, costing employers £13 billion (11.2 billion in England). Against a backdrop of a wider economic downturn both taxpayers and businesses can ill afford to bear these largely unnecessary costs.

But the cost of ill-health cannot be measured in pounds and pence alone. There are about 2.6 million (2.24 million in England) people on incapacity benefits and 600,000 people (517,000 in England) make a new claim each year; of these, half had been working immediately before they moved onto benefit. Once out of work it is likely that an individual's health will worsen and they and their families are more likely to fall into poverty and become socially excluded. Therefore, health-related inactivity prevents individuals from fulfilling their potential, causes needless financial hardship, and damages the communities in which people live.

Indirect

## Total costs and cost savings

The table below page brings together the different cost and cost saving elements. It first recognises that this impact assessment but excludes people who are expected to agree a personalised care plan. The impact of care planning policy for these people was assessed separately – see link

[http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsLegislation/DH\\_095647](http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsLegislation/DH_095647)

The direct costs include web production, literature/DVDs, advertising, the costs of people at PCTs to distribute the material and the costs to GP practices of using the material in consultations (see pages 9-11). The cost saving calculations are taken from the numbers benefiting (on page 6) and the average cost saving per person (calculations on pages 8/9).

The three tables (below) have been created to illustrate a low, medium and high scenario, of costs for information, skills training and telehealth, with a 10% decrease/increase from the medium scenario, in the two other tables. The costs from the medium scenario have been used to populate the figures in the Summary: Analysis and Evidence.

What this shows is that for every person who takes up the patient prospectus, that on average the benefits significantly outweigh the costs. So while the level of demand may vary from the figures presented, the outcome will be a net benefit.

## Take up of self care options for people with LTCs who don't have care plan (Low costs model)

Year	1	2	3	4	5	
	2009-10	2010-11	2011-12	2012-13	2013-14	
<b>Direct costs of patient prospectus (£ millions)</b>						<b>Average cost per year</b>
Low intensity (information) cost per person £45 numbers benefiting	£23.31 518,000	£35.06 779,000	£52.56 1,168,000	£70.11 1,558,000	£87.62 1,947,000	
Medium intensity (skills training) cost per person £180 numbers benefiting	£17.46 97,000	£26.10 145,000	£39.24 218,000	£52.38 291,000	£65.34 363,000	
High intensity (telehealth) cost per person £450 numbers benefiting	£0.00 0	£0.00 0	£0.00 0	£0.00 0	£0.00 0	
<b>Total cost of Self care support services</b>	<b>£40.77</b>	<b>£61.16</b>	<b>£91.80</b>	<b>£122.49</b>	<b>£152.96</b>	
Self care support services	£40.77	£61.16	£91.80	£122.49	£152.96	
Transition (£millions)	£0.27	£0.00	£0.00	£0.00	£0.00	
Information production	£0.2	£0.2	£0.2	£0.1	£0.1	
Admin info distribution	£0.4	£0.4	£0.4	£0.2	£0.2	
Clinician info distribution	£8.0	£8.0	£8.0	£2.3	£2.3	
Annual cost (£millions)	£49.66	£69.76	£100.40	£125.05	£155.51	
Annual cost PV (£millions)	£49.66	£67.32	£93.50	£112.37	£134.86	<b>£91.5</b>
<b>Benefits</b>	<b>£209,341</b>	<b>£188,811</b>	<b>£188,811</b>	<b>£56,644</b>	<b>£56,644</b>	
<b>Information</b>						
Numbers benefiting	518,088	778,750	1,168,125	1,557,500	1,946,875	
Benefits per person	£185.01					
Information benefits (£millions)	£96	£144	£216	£288	£360	
<b>Skills training</b>						
Numbers benefiting	96,710	145,367	218,050	290,733	363,417	
Benefit per person	£293.29					
Skills training benefits (£millions)	£28	£43	£64	£85	£107	
<b>home equipment</b>						
Numbers benefiting	0	0	0	0	0	
Benefits per person	£558.95					
Telehealth benefits (£millions)	£0	£0	£0	£0	£0	
Total benefits (£millions)	<b>£124</b>	<b>£187</b>	<b>£280</b>	<b>£373</b>	<b>£467</b>	
Total benefits PV (£millions)	<b>£124</b>	<b>£180</b>	<b>£261</b>	<b>£336</b>	<b>£405</b>	<b>£261.1</b>
Net benefits PV (£millions)	<b>£74.6</b>	<b>£112.9</b>	<b>£167.3</b>	<b>£223.2</b>	<b>£269.9</b>	

## Take up of self care options for people with LTCs who don't have care plan (medium costs model)

Year	1 2009-10	2 2010-11	3 2011-12	4 2012-13	5 2013-14	
<b>Direct costs of patient prospectus (£ millions)</b>						<b>Average cost per year</b>
Low intensity (information) cost per person £50 numbers benefiting	£25.9 518,000	£38.9 779,000	£58.4 1,168,000	£77.9 1,558,000	£97.3 1,947,000	
Medium intensity (skills training) cost per person £200 numbers benefiting	£19.3 97,000	£29.1 145,000	£43.6 218,000	£58.1 291,000	£72.7 363,000	
High intensity (telehealth) cost per person £500 numbers benefiting	£5.4 0	£5.6 0	£5.8 0	£6.6 0	£6.4 0	
<b>Total cost of Self care support services</b>	<b>£50.6</b>	<b>£73.6</b>	<b>£107.8</b>	<b>£142.6</b>	<b>£176.4</b>	
Self care support services	£50.6	£73.6	£107.8	£142.6	£176.4	
Transition (£millions)	£0.27	£0.00	£0.00	£0.00	£0.00	
Information production	£0.2	£0.2	£0.2	£0.1	£0.1	
Admin info distribution	£0.4	£0.4	£0.4	£0.2	£0.2	
Clinician info distribution	£8.0	£8.0	£8.0	£2.3	£2.3	
Annual cost (£millions)	<b>£59.5</b>	<b>£82.2</b>	<b>£116.4</b>	<b>£145.2</b>	<b>£179.0</b>	
Annual cost PV (£millions)	<b>£59.5</b>	<b>£79.3</b>	<b>£108.4</b>	<b>£130.5</b>	<b>£155.2</b>	<b>£106.6</b>
<b>Benefits</b>	<b>£209,341</b>	<b>£188,811</b>	<b>£188,811</b>	<b>£56,644</b>	<b>£56,644</b>	
<b>Information</b>						
Numbers benefiting	518,088	778,750	1,168,125	1,557,500	1,946,875	
Benefits per person	£185.01					
Information benefits (£millions)	£96	£144	£216	£288	£360	
<b>Skills training</b>						
Numbers benefiting	96,710	145,367	218,050	290,733	363,417	
Benefit per person	£293.29					
Skills training benefits (£millions)	£28	£43	£64	£85	£107	
<b>home equipment</b>						
Numbers benefiting	0	0	0	0	0	
Benefits per person	£558.95					
Telehealth benefits (£millions)	£0	£0	£0	£0	£0	
Total benefits (£millions)	<b>£124</b>	<b>£187</b>	<b>£280</b>	<b>£373</b>	<b>£467</b>	
Total benefits PV (£millions)	<b>£124</b>	<b>£180</b>	<b>£261</b>	<b>£336</b>	<b>£405</b>	<b>£261.1</b>
Net benefits PV (£millions)	<b>£64.7</b>	<b>£100.9</b>	<b>£152.4</b>	<b>£205.1</b>	<b>£249.6</b>	



## Take up of self care options for people with LTCs who don't have care plan (High costs model)

Year	1	2	3	4	5	
	2009-10	2010-11	2011-12	2012-13	2013-14	
<b>Direct costs of patient prospectus (£ millions)</b>						<b>Average cost per year</b>
Low intensity (information) cost per person £55	£28.49	£42.85	£64.24	£85.69	£107.09	
numbers benefiting	518,000	779,000	1,168,000	1,558,000	1,947,000	
Medium intensity (skills training) cost per person £220	£21.3	£31.9	£48.0	£64.0	£79.9	
numbers benefiting	97,000	145,000	218,000	291,000	363,000	
High intensity (telehealth) cost per person £550	£0.0	£0.0	£0.0	£0.0	£0.0	
numbers benefiting	0	0	0	0	0	
<b>Total cost of Self care support services</b>	<b>£49.8</b>	<b>£74.7</b>	<b>£112.2</b>	<b>£149.7</b>	<b>£186.9</b>	
Self care support services	£49.8	£74.7	£112.2	£149.7	£186.9	
Transition (£millions)	£0.27	£0.00	£0.00	£0.00	£0.00	
Information production	£0.2	£0.2	£0.2	£0.1	£0.1	
Admin info distribution	£0.4	£0.4	£0.4	£0.2	£0.2	
Clinician info distribution	£8.0	£8.0	£8.0	£2.3	£2.3	
Annual cost (£millions)	<b>£58.7</b>	<b>£83.3</b>	<b>£120.8</b>	<b>£152.3</b>	<b>£189.5</b>	
Annual cost PV (£millions)	<b>£58.7</b>	<b>£80.4</b>	<b>£112.5</b>	<b>£136.8</b>	<b>£164.3</b>	<b>£110.6</b>
<b>Benefits</b>	<b>£209,341</b>	<b>£188,811</b>	<b>£188,811</b>	<b>£56,644</b>	<b>£56,644</b>	
<b>Information</b>						
Numbers benefiting	518,000	779,000	1,168,000	1,558,000	1,947,000	
Benefits per person	£185.01					
Information benefits (£millions)	£96	£144	£216	£288	£360	
<b>Skills training</b>						
Numbers benefiting	97,000	145,000	218,000	291,000	363,000	
Benefit per person	£293.29					
Skills training benefits (£millions)	£28	£43	£64	£85	£106	
<b>home equipment</b>						
Numbers benefiting	0	0	0	0	0	
Benefits per person	£558.95					
Telehealth benefits (£millions)	£0	£0	£0	£0	£0	
Total benefits (£millions)	<b>£124</b>	<b>£187</b>	<b>£280</b>	<b>£374</b>	<b>£467</b>	
Total benefits PV (£millions)	<b>£124</b>	<b>£180</b>	<b>£261</b>	<b>£336</b>	<b>£405</b>	<b>£261.1</b>
Net benefits PV (£millions)	<b>£65.6</b>	<b>£99.7</b>	<b>£148.3</b>	<b>£198.9</b>	<b>£240.4</b>	

## Specific Impact Tests: Checklist

Use the table below to demonstrate how broadly you have considered the potential impacts of your policy options.

**Ensure that the results of any tests that impact on the cost-benefit analysis are contained within the main evidence base; other results may be annexed.**

Type of testing undertaken	<i>Results in Evidence Base?</i>	<i>Results annexed?</i>
Competition Assessment	No	Yes
Small Firms Impact Test	No	No
Legal Aid	No	No
Sustainable Development	No	No
Carbon Assessment	No	No
Other Environment	No	No
Health Impact Assessment	No	Yes
Race Equality	No	Yes
Disability Equality	No	Yes
Gender Equality	No	Yes
Human Rights	No	Yes
Rural Proofing	No	No

## Specific impact tests

### Competition

On the overall issue of competition, there is no intention to limit the number of suppliers in the market directly or indirectly. Nor is there the intention to limit suppliers' ability to compete or reduce suppliers' ability to compete vigorously.

### Health

There will be significant health benefits resulting from the proposal, these include improved quality of life, reduction in pain and increased life expectancy. A more extensive list is shown in the main analysis section of the impact assessment.

### Disability/Race/Gender and Age

Risk factors and disease patterns vary between ethnic groups, for example:

- South Asians, particularly Bangladeshis and Pakistanis, have significantly higher CHD prevalence and mortality than the general population.
- Although people of African-Caribbean have a low prevalence of CHD compared with the white population, they have much higher prevalence of and mortality from hypertension and stroke.
- South Asians (particularly Pakistanis and Bangladeshis) and African-Caribbeans have a 3-6 fold higher prevalence of Type 2 diabetes. The quality of care is reportedly inadequate for Asian and African-Caribbean patients, with poor compliance caused by inadequate information leading to patients' lack of knowledge about disease management.

There are particular issues around risk factors and access for both **men and women**:

- While women can expect to live longer than men, they are also more likely to have more years in poor health.
- On average, males in England spend 59.1 years in good health and 15.9 years in poor health; for women the corresponding figures are 61.4 years and 18.6 years. Hence, although women live longer than men, they also spend more years in sub-optimal health.
- Men live, on average, about five years fewer than women (75.4 and 80.2 years respectively).
- The gender difference in life expectancy is greatest in deprived areas.
- Men are more vulnerable to cardiovascular disease than women, and at a younger age, and are also diagnosed with the majority of cancers.

Perceptions of risk factors between men and women are an issue that may affect health outcomes. For example, there is evidence that people think of vascular disease as a problem for men. In fact women's level of risk catches up with men's at the menopause. Women tend to present later and their symptoms are not always recognised so they are liable to poorer outcomes.

Many risk factors for poor health, such as obesity, hypertension, disability and poverty increase with age:

- The prevalence of most acute and chronic diseases increases with age including cancer, cardiovascular disease, diabetes, suicide, and dementia. Older people also often suffer co-morbidities.

- The proportion of people with a long term illness or disability that restricts their daily activities increases with age, About 3.5 million people aged 65+ have a limiting longstanding illness or disability [source: General Household Survey, 2006].

Healthcare services need to be sensitive and responsive to the **cultural and religious needs** of different communities, their attitudes and reactions to disease, types and modality of treatment, prognosis, care-giving and death. Of all faiths, limiting long-term illness or disability rates are highest among Muslims (24% females, 21% for males). [source: General Household Survey, 2006].

There is currently limited data availability on **sexual orientation** issues. From the General Household survey, there were 127,000 people living in same sex couples, of whom 27,000 had used hospital services in the past year. This is lower than the proportion of the population as a whole using hospital services, however this is likely to reflect the age profile of those in same sex couples.

A person's background is often an influence on their attitude to and engagement in self care behaviours (source for analysis is self care survey, Department of Health, 2007 [http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH\\_085351](http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_085351) ):

### **Current self care behaviours**

Men say they use information on their long-term condition and their treatment choices more than women (information on condition – 40 per cent men, 31 per cent women; information on treatment choices 19 per cent men, 15 per cent women).

### **Attitudes to using health information**

There is no significant difference across different demographic groups in their attitude to whether health education and skills are important. People from BME groups are less likely to want information from health professionals (48 per cent of people from BME groups, 68 per cent of white-British people want information to manage their condition from their GP). Also, fewer people from BME groups support the idea that people with a long-term condition should monitor their condition at home (68 per cent of people from BME groups, 75 per cent of white-British people).

### **Access to prospectus**

A significant route for delivery of the patient prospectus is through health professionals at GP practices. For people with long-term conditions (as with all people), younger people, people from BME groups and men visit their GP less:

- 23 per cent of men with a long-term condition did not get to a GP in the last six months (compared to 16 per cent of women).
- 42 per cent of people from BME groups with a long-term condition did not get to a GP in the last six months (compared to 17 per cent of white British people).
- 29 per cent of under 45s with a long-term condition did not get to a GP in the last six months (compared to 17 per cent of 45-64s and 12 per cent of those aged 65+).

The other main route is through the internet. Age is the most significant driver for whether someone has access to the internet: Of people with long-term condition, 78 per cent of under 45s have internet access, 60 per cent of those aged 45-64 and only 24 per cent of those 65+. Given the age profile of people from different ethnic groups, this means that people from non-white-British background have higher levels of access to the internet (64 per cent for BME groups compared to 54 per cent for white British).

### **Conclusions**

This means that to ensure no members of society are excluded from the opportunity to self care, it is important that the different channels for getting the right information to people with long-term conditions are exploited. An internet only based solution is likely to miss significant parts of people with long-term condition. This analysis suggest that there may be a number of older people from BME backgrounds whether channels other than using the GP practice and the Internet should be explored.

## **Rurality**

There is no significant difference in access to information or internet use in urban and rural area. There is no evidence to say whether there are additional barriers for rurality in the availability of non-information self care support, though anecdotal evidence is that this is not a problem. In fact, the proportion of people in rural areas who say they are supported to manage their long-term condition is higher in rural areas than urban areas (source: local health services survey, Healthcare Commission, 2008).

## **Equality Impact Assessment**

### **Option 0: Do nothing**

Patient knowledge of the self care and self-management options available to them may be affected by various factors.

#### *Results from the Ipsos-MORI Self Care Survey 2007*

This survey indicates that 83% of people with a long term condition either strongly agree or tend to agree that “Health education and skills training for people are essential to enable them to take better care of themselves”.

Around 88% of respondents with a long term condition say they play an active role in treating their condition, either “all of the time” (53%) or “most of the time” (25%). In addition, the majority (88%) also say they feel “very” or “fairly” comfortable taking responsibility for the care of their condition.

When asked “What would better help you to self care and take a greater role in the care of your long term health condition?”, the most commonly mentioned factor is “better knowledge and understanding of their condition” (17%), followed by “better knowledge and understanding of the treatment” (10%). It is notable that nearly all of the top ten mentions by people with long term conditions refer to “better understanding” of their condition, the available healthcare and living a healthy lifestyle.

Four in five adults with a long-term health condition say they have “not heard of” a training course that would help them to learn skills to self-care for their condition (81%). A further 8% say they “don’t know”.

These results indicate that knowledge and understanding is still a barrier to self care for many people with a long term condition.

The survey also indicates that there is variation in the levels of awareness by geographical area, socioeconomic group and level of education. For example, 18% of people in the Midlands are aware of self care training compared to only two percent in London and a fifth of those with a degree or higher have heard of a course (18%) compared to just one in ten among those with no formal qualifications (10%).

### **Option 1: Publish a web-based document**

If the Self Care Patients' Prospectus were to be published on the internet alone, this would disadvantage people without access to the web.

The 2006 General Household Survey shows that around 33% of people with a long term condition do not own a home computer. Results from the ONS E-Society Survey show that 46% of adults aged 16 and over with an LTC have never used the internet (53% of adults with a limiting LTC). Similar proportions (46% of those with an LTC and 52% of those with a limiting LTC) do not have internet access in their home.

These statistics indicate that a web-only publication would not be accessible to all people with an LTC and would create inequality. Older people with an LTC and people from the lower socioeconomic groups would be disproportionately disadvantaged by an internet-only publication.

### **Option 2: Publish a hard copy document**

In response to the question "which of these sources, if any, would you wish to use in the future for advice or information on your long term health condition?" in the Ipsos-MORI Self Care Survey 2007, only 11% of respondents selected "health websites on the Internet" and even fewer (8%) selected "Health books/ manuals/magazines"

## **B. Risks**

The "Skills for Life survey: A national needs and impact survey of literacy, numeracy and ICT skills", carried out by the Department for Education and Skills in 2005, shows that 23% of working age adults (aged 16-65) with an LTC have entry level 3 or below literacy.

In response to the question "which of these sources, if any, would you wish to use in the future for advice or information on your long term health condition?" in the Ipsos-MORI Self Care Survey 2007, only 11% of respondents selected "health websites on the Internet" and even fewer (8%) selected "Health books/ manuals/magazines"

#### **Mitigation**

We are taking steps to ensure that the 'Your health, your way – a guide to long term conditions and self care' is made available to people through other channels to ensure it is accessible to those who have the greatest need, lowest health literacy and lowest health engagement to ensure that it does not increase health inequalities.

The health and social care professionals disseminating the literature/DVDs etc, may see this as bureaucratic and therefore not engage with the process.

#### **Mitigation.**

Health care professionals need to be incentivised, either financially, or by clearly outlining the benefits (i.e. reduction in GP visits, reduction in inpatient/outpatient appointments) that can be achieved by the process.

### **Benefits of self-care patient prospectus**

#### *Health benefits to patients taking up the self-care patient prospectus*

From the evidence, it seems likely that patients will gain health and other benefits from the self-care patient prospectus. However, due to limited evidence at this stage of the self-care patient prospectus process in its entirety, these benefits have not been monetised.

## Reduction of service use references

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