Title: Visitor and Migrant Cost Recovery - Extending Charging **IA No:** **Lead department or agency:** DH **Other departments or agencies:**	Impact Assessment (IA) **Date:** 05/11/2015 **Stage:** Development/Options **Source of intervention:** Domestic **Type of measure:** Other **Contact for enquiries:** nhscostrecovery@dh.gsi.gov.uk

Summary: Intervention and Options

RPC Opinion: Not Applicable

Cost of Preferred (or more likely) Option				
Total Net Present Value	**Business Net Present Value**	**Net cost to business per year** (EANCB on 2009 prices)	**In scope of One-In, Two-Out?**	**Measure qualifies as**
£60.7m	£m	£m	No	OUT

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

While the NHS will remain free at the point of delivery for UK residents, there is increasing pressure to ensure that the NHS receives a fair contribution for the cost of healthcare it provides to individuals who are not resident in the UK.

What are the policy objectives and the intended effects?

The aim is to further extend charging of overseas visitors and migrants who use the NHS to areas where charging does not currently apply. The intended effect is for the NHS to receive a fairer contribution for the cost of healthcare it provides to individuals who are not resident in the UK.

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)

Option 1: Do nothing. Visitors and migrants will continue only to be charged, where appropriate, for any acute inpatient care.

Option 2: Extend charging to Primary Medical Care, NHS Prescriptions, Primary NHS Dental Care, Primary NHS Ophthalmic Services, and A&E

Option 3: Update the Ordinarily Resident definition

Option 4 (preferred): Undertake options 2 and 3 together

Will the policy be reviewed? It will not be reviewed. **If applicable, set review date:**

Does implementation go beyond minimum EU requirements?			No		
Are any of these organisations in scope? If Micros not exempted set out reason in Evidence Base.	**Micro** Yes/No	**< 20** Yes/No	**Small** Yes/No	**Medium** Yes/No	**Large** Yes/No
What is the CO_2 equivalent change in greenhouse gas emissions? (Million tonnes CO_2 equivalent)			**Traded:**	**Non-traded:**	

I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.

Signed by the responsible Minister: Date:

Summary: Analysis & Evidence

Policy Option 2

Description:

FULL ECONOMIC ASSESSMENT

Price Base Year: 14/15	PV Base Year:	Time Period Years: 5	Net Benefit (Present Value (PV)) (£m):		
			Low: -£20.3M	High: £67.8M	Best Estimate: £33.1M

COSTS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	Optional		Optional	**Optional**
High	Optional	1	Optional	**Optional**
Best Estimate	**£16.7M**		**£11.6M**	**£63.2M**

Description and scale of key monetised costs by 'main affected groups'

An increased administrative burden for Overseas Visitor Meetings (OVMs) and new burdens for administrative staff at other settings (e.g. GP receptionists)

Other key non-monetised costs by 'main affected groups'

See Evidence Base

BENEFITS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	Optional		Optional	**Optional**
High	Optional	1	Optional	**Optional**
Best Estimate	**£3.5M**		**£24.2M**	**£100.4M**

Description and scale of key monetised benefits by 'main affected groups'

DH – income resulting from the extension of charging of overseas visitors and migrants to areas of the NHS where charging does not currently apply

Other key non-monetised benefits by 'main affected groups'

See Evidence Base

Key assumptions/sensitivities/risks — **Discount rate (%)** **3.5**

See Evidence Base

BUSINESS ASSESSMENT (Option 1)

Direct impact on business (Equivalent Annual) £m:			In scope of OITO?	Measure qualifies as
Costs:	**Benefits:**	**Net:**	No	OUT

Summary: Analysis & Evidence

Policy Option 3

Description:

FULL ECONOMIC ASSESSMENT

Price Base Year: 14/15	PV Base Year	Time Period Years: 5	Net Benefit (Present Value (PV)) (£m)		
			Low: £13.0M	High: £22.6M	Best Estimate: £17.6

COSTS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	Optional		Optional	**Optional**
High	Optional	1	Optional	**Optional**
Best Estimate	**£0.0M**		**£0.0M**	**0.0M**

Description and scale of key monetised costs by 'main affected groups'

An increased administrative burden for Overseas Visitor Meetings (OVMs) as a result of a greater number of potentially identifiable non-UK residents

Other key non-monetised costs by 'main affected groups'

See Evidence Base

BENEFITS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	Optional		Optional	**Optional**
High	Optional	1	Optional	**Optional**
Best Estimate	**1.7M**		**£4.3M**	**18.9M**

Description and scale of key monetised benefits by 'main affected groups'

DH – increased income resulting from a greater number of potentially identifiable non-UK residents

Other key non-monetised benefits by 'main affected groups'

See Evidence Base

Key assumptions/sensitivities/risks **Discount rate (%)** **3.5**

See Evidence Base

BUSINESS ASSESSMENT (Option 2)

Direct impact on business (Equivalent Annual) £m:			In scope of OITO?	Measure qualifies as
Costs:	**Benefits:**	**Net:**	No	OUT

Summary: Analysis & Evidence

Policy Option 4

Description:

FULL ECONOMIC ASSESSMENT

Price Base Year: 14/15	PV Base Year	Time Period Years: 5	Net Benefit (Present Value (PV)) (£m)		
			Low: £-0.9M	High: £103.5M	Best Estimate: £60.7M

COSTS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	Optional		Optional	**Optional**
High	Optional	1	Optional	**Optional**
Best Estimate	**£16.8M**		**£11.7M**	**63.6M**

Description and scale of key monetised costs by 'main affected groups'

An increased administrative burden for Overseas Visitor Meetings (OVMs) and new burdens for administrative staff at other settings (e.g. GP receptionists)

Other key non-monetised costs by 'main affected groups'

See Evidence Base

BENEFITS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	Optional		Optional	**Optional**
High	Optional	1	Optional	**Optional**
Best Estimate	**£5.3M**		**£31.4M**	**£130.8M**

Description and scale of key monetised benefits by 'main affected groups'

DH – income resulting from the extension of charging of overseas visitors and migrants to areas of the NHS where charging does not currently apply, and by increasing the number of potentially identifiable non-UK residents.

Other key non-monetised benefits by 'main affected groups'

See Evidence Base

Key assumptions/sensitivities/risks **Discount rate (%)** **3.5**

See Evidence Base & Sensitivity Analysis

BUSINESS ASSESSMENT (Option 3)

Direct impact on business (Equivalent Annual) £m:			In scope of OITO?	Measure qualifies as
Costs:	**Benefits:**	**Net:**	No	Out

Evidence Base

A. Background

This is a consultation Impact Assessment (IA) accompanying a Department of Health consultation on proposals to extend charging of visitors and migrants to cover new parts of the NHS healthcare system in England. It also seeks your views on the validity of the assumptions made in the underlying model.

The NHS exists because it is funded by tax payers to be a comprehensive health service, free at the point of delivery to all residents of the UK. Everyone has access to treatment. In 2013, the Government launched a public consultation on the existing charging arrangements for overseas visitors and migrants for their use of the NHS. It proposed changes to improve the sustainability and fairness of our health system, while retaining the attractiveness of the UK as a destination for study, business and tourism. Based on responses to that consultation, significant changes to how overseas visitors and migrants have been made.

Our aim now is to further extend charging of overseas visitors and migrants who use the NHS. This IA accompanies a consultation that seeks your views on how best to do this, including exploring changes in primary care, secondary care, community healthcare and changing current residency requirements.

The Department of Health aims to recover up to £500m from charging overseas migrants and visitors by the middle of Parliament (2017/18). This can only be achieved through encouraging fair contributions from visitors and migrants, and through encouraging behaviour changes in the NHS. These savings are part of the £22 billion savings required to ensure the long-term sustainability of the NHS.

B. Problem Under Consideration

Not everyone is entitled to free NHS treatment. There is increasing pressure to ensure that the NHS receives a fair contribution for the cost of healthcare it provides to individuals who are not resident in the UK.

The government response to the 2013 consultation recognised that the rules around charging were complex and concluded that attempts to improve identification of chargeable overseas patients and increase cost recovery should first be made in secondary care. The response outlined the following priorities:

• to support the NHS in identifying and recovering the cost of care provided to those not entitled to free treatment;

• to amend the legislative framework to make it simpler and fairer; and

• to ensure the NHS (Charges to Overseas Visitors) Regulations (“the Charging Regulations”) were applied effectively.

The government response to the 2013 consultation can be found here[1]

Following the consultation, the Department of Health, the Department for Work and Pensions, the Home Office and individual NHS Trusts and Foundation Trusts have worked together to improve secondary care processes of identifying and recovering costs from chargeable patients and significant achievement have been met. Now that the identification of chargeable patients and cost recovery rates in secondary care are improving, we intend to make further changes to the system to support fairness in the NHS.

C. Rationale for Intervention

Currently in England, the Charging Regulations are applicable only in secondary care, in a hospital setting. No patient can be charged for NHS primary medical care. Patients can only be treated privately if they have chosen not to be registered as an NHS patient. Certain exemptions from charging for dentistry, eye care and prescriptions apply irrespective of someone's usual country of residence.

The Charging Regulations do not apply in Accident and Emergency at present, up to the point of admission as an in-patient, or for ambulance services

It is considered fair that people who are in this country for a short time, and are not Ordinarily Resident (OR)[2] here, should meet the costs of all NHS healthcare they receive.

As we have done since the 2013 consultation, we will continue to mitigate any adverse impact these proposals might have on vulnerable groups and take into account the implications for public protection and health inequalities. This includes consideration of the needs of those who may not be able to provide evidence of residency (for example the homeless), and might therefore be assumed to be chargeable, or might fail to seek necessary care. The most important mitigations are that GP consultations will remain free to all, and immediately necessary and urgent treatment must always be provided. We will also provide clear guidance on implementation to NHS staff. When the results of this consultation have been analysed, we will work with our stakeholders to develop and publish an Implementation Plan setting out how our plans will be achieved.

D. Equalities and Health Inequalities

The consultation document details the consideration of equalities, health inequalities and the impact on vulnerable groups. An Equalities Analysis will be published alongside the Government response to this consultation.

For the purposes of this IA, it is important to identify any potential for worsening access to healthcare, which may affect some groups of individuals disproportionately. The policy proposals largely mitigate this risk in three main ways:

a. Retaining free access to GP (and nurse) consultations for all;
b. Stating, in its overarching principles, that it will be *"a system that ensures access for all in need… in particular, no person should be denied timely treatment necessary to prevent*

[1] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/210438/Sustaining_services__ensuring_fairness_consultation_document.pdf
[2] See Glossary for definition

risks to their life or permanent health"; supported by guidance provided to NHS staff to communicate how to correctly interpret the revised Charging Regulations; *and*

c. Legislating to ensure exclusions to charging for vulnerable groups

Those exempt from charging will include:

- Asylum seekers, (those applying for asylum, humanitarian protection or temporary protection whose claims, including appeals, have not yet been determined).
- Individuals receiving support under section 95 of the Immigration and Asylum Act 1999 (the 1999 Act) from the Home Office.
- Failed asylum seekers receiving support under section 4(2) of the 1999 Act from the Home Office or those receiving support from a Local Authority.
- Children who are looked after by a Local Authority.
- Victims, and suspected victims, of human trafficking, as determined by the UK Human Trafficking Centre or the Home Office, plus their spouse/civil partner and any children under 18 provided they are lawfully present in the UK.
- Treatment required for a physical or mental condition caused by:
    - torture;
    - female genital mutilation;
    - domestic violence; or
    - sexual violence (except where the overseas visitor has travelled to the UK for the purpose of seeking that treatment)
- A qualifying overseas visitor in whose case the Secretary of State for Health determines there to be exceptional humanitarian reasons to provide a free course of treatment. This exemption will also apply to their child and/or companion who is authorised to travel with them, for whom the exemption is limited to treatment that cannot await their return home.
- Anyone receiving compulsory treatment under a court order or who is detained in an NHS hospital or deprived of their liberty (e.g. under the Mental Health Act 1983 or the Mental Capacity Act 2005), who is exempt from charge for all treatment provided, in accordance with the court order, or for the duration of the detention.
- Prisoners and immigration detainees.

Even with these actions, there remains a potential risk in implementation that some individuals will be deterred from accessing treatment, or access treatment and be incorrectly identified as chargeable and inappropriately charged. We are taking action to mitigate this risk, which is already managed in the implementation of existing secondary care Charging Regulations. The most important mitigations are that GP consultations will remain free to all, and immediately necessary and urgent treatment must always be provided. We will also provide clear guidance on implementation to NHS staff.

In addition, the baseline questions that are asked in order to identify patients who may be chargeable / rechargeable are expected to remain the same as now. Although rules for who is deemed OR are being narrowed, the charging for secondary care already has to establish who is OR

under current rules; so the new policy is not expected to have a significant additional impact compared to now.

E. Policy objective and intended effects

Scope of the Consultation Impact Assessment

This consultation is seeking views on a number of proposals for extending charging for visitors and migrants to new areas of NHS services in England.

The areas within the scope of this IA are as follows:

- Primary Medical Care services (excluding GP and nurse consultations which will continue to be free to all)
- NHS Prescriptions
- Primary NHS Dental Care
- Primary NHS Ophthalmic services (Eye Care)
- A&E

The consultation also details options to clarify the definition of OR.

Areas out of scope of this Impact Assessment

It is important to note that the consultation includes exploratory questions on updating charging regulations in the areas included in the table below, but they have not been included in this IA. These are considered out of scope for this consultation IA, either because there is insufficient evidence on which to base an estimate currently, or because they are considered likely to have a very small effect. Where the former reason applies, the consultation process is intended to address the lack of data and/or policy details so that estimates of the costs and benefits of these options can be developed for the final IA.

Area of potential expansion of charging	Justification for area being out of scope
Community care	Insufficient details to scope policy at this time
NHS Continuing Healthcare	No data available and suspected to have a very small effect overall.
Ambulance and paramedics	Insufficient details to scope policy at this time
Changing sponsorship rules	Insufficient details to scope policy at this time
Overseas visitors working on UK registered ships	No data available and suspected to have a very small effect overall.
Assisted Reproduction	Insufficient details to scope this policy and very limited data. This extension would be likely to

	generate income for the NHS (or reduce NHS expenditure on such services) but would also increase the burden on OVMs and other staff.

F. Description of options considered (including Do Nothing)

Option 1: Do Nothing	Option 2: Extending charging to additional NHS services
Option 3: Update Ordinarily Resident definition	Option 4: Options 2 and 3 combined

Option 1: Do nothing – No change to the current system

Do nothing to change current systems of charging for visitors and migrants who will continue to be only charged, where appropriate, for any acute inpatient care. We have taken this to be our baseline and have measured the costs and savings of other options against this option. All costs and savings are in terms of the NHS budget and the health/wellbeing of non-UK residents is counted at zero benefit.

Option 2: Extend charging to Primary Medical Care, NHS Prescriptions, Primary NHS Dental Care, Primary NHS Ophthalmic Services, and A&E

In reality this is not a single option as it is possible to extend into some but not all of these areas, and there is more than one way to extend into each area. However, for the purposes of simplification these sub-options are combined into one overall option, though results are presented for each sub option individually – including in the Sensitivity Analysis.

The precise proposals for each area of extension are detailed below:

GP services

Proposals for primary medical care are to:

- maximise cost recovery using European Health Insurance Cards (EHICs) in primary medical care;

- recover costs from EEA residents without a European Health Insurance Card (or Provisional Replacement Certificate); and
- recover costs from non-EEA nationals to whom health surcharge arrangements do not apply.

NHS Prescriptions

Our proposals for prescriptions are to

- reclaim the balance of cost of drugs and appliances provided to EEA residents with EHICs (over and above the prescription charge paid by the patient) from their home country.
- remove prescription exemptions for non-EEA residents to whom surcharge arrangements do not apply (and who are not in a vulnerable group.)

NHS dental services

Our proposals for dentistry are to

- reclaim the balance of cost of NHS dental treatment provided to EEA residents with EHICs or Provisional Replacement Certificates (PRCs) (over and above the banded charge paid by the patient) from their home country.
- remove dental exemptions for non-EEA residents to whom surcharge arrangements do not apply (and who are not in a vulnerable group).

NHS Primary Ophthalmic Services (Eye care)

Our proposal for primary ophthalmic services is to remove eligibility for an NHS sight test and optical voucher from non-EEA residents to whom surcharge arrangements do not apply (and who are not in a vulnerable group).

A&E

Our proposal is to extend charging to cover all treatment provided within all NHS A&E settings (including Walk-In Centres, Urgent Care Centres and Minor Injuries Units).

Option 3: Re-define Residency – Limiting who can be considered Ordinarily Resident in the UK for the purpose of being entitled to free NHS treatment

This option is the proposal to amend the OR definition so that the following groups are excluded from it:

i) those for whom another Member State is the country of applicable legislation (who would usually be insured for healthcare there);
ii) those for whom the UK is the country of applicable legislation, but another Member State is nevertheless responsible for funding their healthcare.

In isolation, this option is therefore likely to increase the number of potentially chargeable individuals in secondary care.

Option 4: Extending charging as per option 2; *as well as* re-define residency, as per option 3.

This option represents the combination of implementing both options 2 and 3. There is a multiplying effect of these options on each other, so it is important to demonstrate this by providing this as a separate option.

G. Risks

Health Impact

The principal health risk of any policy that introduces charging for healthcare is that there will be a reduction in patients accessing the healthcare they need. This could lead to avoidable morbidity in the patients not seeking necessary treatment, public health risks in the case of communicable diseases, and inequities if it affects certain groups more than others. As outlined in the section "Equities and health inequalities", this policy has incorporated a number of important concessions to minimise any negative impact on patients seeking help for urgent and necessary care.

There is also a risk that care may be delayed while payment status is clarified. This has not been explored in this consultation IA.

Financial Impact

The principal financial risk of this policy is that the costs significantly exceed what is expected and outweigh the benefits. The sensitivity analysis provided in this IA identifies which uncertainties are most important to the overall Net Present Value (NPV) of the policy. A number of uncertainties are identified as being pivotal to a positive overall NPV. The development of the implementation plan needs to take into account this finding and use the modelling as an evidence tool to achieve the highest, positive NPV for the programme (without compromising on the health risks mentioned above).

H. Detailed Option Appraisal

Option 1: Do nothing

The Do Nothing option is not modelled. It is the baseline against which all costs and savings are measured.

Option 2: Extend charging to Primary Medical Care, NHS Prescriptions, Primary NHS Dental Care, Primary NHS Ophthalmic Services, and A&E

Commissioned Work

Prederi were commissioned by the Department of Health in 2012 to produce an estimate of the health care costs for visitors and migrants. Their report *Quantitative Assessment of Visitor and Migrant Use of the NHS in England* (October 2013) is available on gov.uk[3]. In addition, they provided some additional detailed analyses; one on EEA residents, which has been used in these calculations.

Key Assumptions

- Unless otherwise stated, Prederi estimates the size of the EEA and non-EEA daily equivalent populations[4] and their resource usage of NHS services are used to determine the total levels of usage of specific services such as A&E, general medical services, dental visits, prescriptions, sight tests and the potential maximum income that can be attained.
- To estimate the proportion of non-EEA visitors that do not pay a surcharge (or have it waived) we assume all EEA students stay more than 6 months and no ex-pats pay the surcharge. From this we estimate 13% of non-EEA residents who used the NHS have not paid the surcharge or have it waived.
- Income from EHIC carriers is the total income to Her Majesty's Treasury (HMT), that is, the amount re-charged to those Member States with which we have a portal agreement. 63% of EHIC portal entries translate into actual income for England; and the remaining is assumed to be for waiver and formula countries.
- From Prederi, we estimate 11% of EEA residents are not insured by their Member State for healthcare. Currently, many EEA residents can also be treated as OR so do not face being charged if they cannot produce an EHIC or PRC. With Options 3 and 4, changes to "OR" definitions will mean fewer EEA residents will be treated as OR and will need to either provide an EHIC/PRC or be charged. We do not hold any data on the proportion that would carry an EHIC in this circumstance so we assume it to be 85% and have performed a sensitivity analysis around this from 50% to 90% (see Sensitivity Analysis).
- EHIC income is assumed to have a delay of around 1 year between the activity being performed and the income received to DH, which is approximately the case currently.
- We have assumed current rates of identification, invoicing and charge collection of chargeable patients, as follows:
    - For identification rates in secondary care:
        - Current identification rates are calculated using the Prederi methodology, updated to reflect the latest data (see Annex A).
        - For simplicity, we use a fixed identification rate over time in the quantitative modelling. To determine a reasonable fixed identification rate, we estimated a 5 year profile of increasing identification rates based on recent trends, and took the central year's estimate (2017/18) to use in the model. We have included a sensitivity analysis around the identification rates (see Sensitivity Analysis).
    - Invoicing rates and charge collection rates are assumed to remain at current rates (see Annex A) in secondary care.

[3] https://www.gov.uk/government/publications/overseas-visitors-and-migrant-use-of-the-nhs-extent-and-costs
[4] See Glossary for definition

- Identification, invoicing and charge collection rates in all other settings are assumed to equal those in secondary care. There is no alternative data source for these estimates. The decision to make them equal was based on the assumption that there would be factors likely to increase identification (the single patient pathway for patients accessing care, in contrast to the complexity of acute trusts) as well as factors likely to decrease identification (lack of specialism of staff involved in identification, in contrast to OVMs in secondary care). Wider sensitivity analysis is performed around the primary care settings to reflect this, as shown in the Sensitivity Analysis.
- No adjustment has been made to account for lost income from those exempt from charging due to their membership of a vulnerable group. The largest subsets of this group, namely asylum seekers and failed asylum seekers, are estimated separately in the Prederi analysis (as "Irregular migrants") and are therefore already removed from the potentially chargeable estimates used in this IA. Estimates for the size of the other exempt subgroups (*see section D. Equalities and health inequalities*) are uncertain and we expect the total effect of these individuals on cost recovery to be small.

Primary Medical Care

Proposals for primary medical care are to:

- facilitate maximising cost recovery using EHICs in primary medical care;
- charge for non-consultation activity such as X-rays, phlebotomy, spirometry, minor surgery and physiotherapy for individuals identified as:
    - EEA residents without an EHIC (or PRC) unless an exemption applies; and
    - non-EEA nationals who have not paid the health surcharge, unless an exemption applies.

In order to achieve this work is underway to find a technical solution to improve NHS IT systems so that chargeable patients can be identified, thus making cost recovery more efficient. Primary medical care providers are encouraged to improve their data collection processes at the point of patients registering with them. As well as charging and recharging for primary medical care, this will allow information on the chargeable status of patients to be accessible to secondary care providers thus improving cost recovery or EHIC/S2 recovery in secondary care. Further, it is necessary for any charging and recharging for NHS prescriptions.

A functioning IT system will significantly increase the ease with which GP practices will be able to enter data on the EHIC portal to recharge for GP and nurse consultations.

GP System IT Costs

Prior to the development of an Implementation Plan, the precise specifications of the IT enhancements required to support this policy are uncertain. For the purpose of this analysis we have assumed that IT systems will record an individual's chargeability status at the point of their registration with a GP practice, and then flag this status upon any subsequent interaction with the

NHS. We have based our cost assumptions for the IT implementation on indicative estimates from broadly comparable IT enhancements that were considered prior to the implementation of the NHS Surcharge. Using these estimates, IT developments, testing and deployment is likely to cost in the region of £5m - though this estimate carries significant uncertainty and will only be confirmed on the basis of detailed specifications agreed with the relevant providers.

An overview of the constituent parts of this estimate is reported below:

Potential IT enhancement	**Estimated costs (£)**	**Total Estimated Cost (£)**
Enhance GP systems to enable the capture of chargeability status and receive/display push alerts of this status	250k per GP system (4)	1m
Enable NHS organisations to look up chargeability status on NHS Spine	250k	250k
Enhance NHS Spine tracing and retrieval messages to handle status	250k	250k
Enhance Personal Demographics Service (PDS) compliance on the Spine to receive and display, alert and update the status on PDS	250k per system (14)[5]	3.5m

Other Key Assumptions

- GP and nurse consultations for patients with a non-UK EHIC are re-charged at £41 per consultation (source: *PSSRU, Unit Costs of Health and Social Care*). For each of these there is admin time to enter the EHIC data of 1.5 minutes per claim. Admin time is estimated based on a salary of £7 per hour (source: *Payscale.com, average salary for a dental receptionist*) plus 30% on-costs.
- Each new registration takes an additional 1.5 minutes due to the addition of questions to identify non-UK residents (source: *Evaluation of EHIC pilot in primary medical care, Internal DH report, July 2015)*.
- We have no estimate of income from on non-consultation activity in primary medical care. This is because we have been unable to find any data on this type of activity. We expect it to be a small proportion of overall GP practice workload.
- We assume identification rates of visitors and migrants from EEA countries in secondary care increase by 4% (range 2% - 6%) as a direct result of the new GP IT system. The GP IT system can reasonably be expected to lead to some rise in identification rates in secondary care but the actual increase that can be expected is difficult to predict. We based this figure on the following assumptions:
    - We expect that only a small number of overseas visitors who stay less than 6 months will have any elective care during their stay. We assume this to be negligible. Hence,

[5] It is assumed that enhancing the 14 most widely deployed Patient Admin Systems would cover the majority of NHS providers

given that those from non-EEA countries staying over 6 months will require to pay the surcharge (or have it waived), we assume a negligible number of the chargeable non-EEA residents will receive acute elective treatment.

- For EEA residents, by assuming only overseas visitors who stay over 6 months access elective care and by assuming that the proportion of elective to non-elective care is otherwise the same as that of the general population, we estimate that 20% of the income from secondary care (from Member States or directly charging visitors) is via a GP referral. We anticipate this being the main potential area for increased identification. Of this, the baseline assumption is that 39% of EEA residents are identified by GPs and the same proportion by OVMs in secondary care. Hence, this gives a maximum of 5 percentage point increase on identification rates for EEA resident s in secondary care. This presumes no elective care from those staying under 6 months, though in reality there will be some but there is no data on which to base an estimate. Therefore, we assumed in the best case these would increase the maximum identification by GPs from 5% to 6%. The base case was set at 4%, in recognition that the full potential identification is unlikely to be achieved. The minimum was set at 2% presuming that the new GP IT system would at least achieve a third of the maximum potential identification rate.
- Additional incentive payments to trusts are not considered as part of this IA.

Results

INCOME	**Year 1 (£)**	**Year 2 (£)**	**Year 3 (£)**	**Year 4 (£)**	**Year 5 (£)**
EHIC claims for GP and nurse consultations	£0.0M	£9.9M	£9.9M	£9.9M	£9.9M
Increase in identification rates of EHICs in secondary care	£0.0M	£2.4M	£2.4M	£2.4M	£2.4M
Increase in identification of chargeable patients in 2 care	£0.2M	£0.2M	£0.2M	£0.2M	£0.2M
Total income	*£0.2M*	*£12.5M*	*£12.5M*	*£12.5M*	*£12.5M*
COSTS	**Year 1 (£)**	**Year 2 (£)**	**Year 3 (£)**	**Year 4 (£)**	**Year 5 (£)**
Admin time to ask additional registration questions	£1.6M	£1.6M	£1.6M	£1.6M	£1.6M
Admin time to enter EHIC claim info	£0.1M	£0.1M	£0.1M	£0.1M	£0.1M
New IT system	£5.0M	£0.0M	£0.0M	£0.0M	£0.0M
Total cost	*£6.7M*	*£1.7M*	*£1.7M*	*£1.7M*	*£1.7M*
Net Benefit	**-£6.4M**	**£10.9M**	**£10.9M**	**£10.9M**	**£10.9M**
NPV	**£33.5M**				

Extending charging to Primary Medical Care has a positive NPV of £33.5M over 5 years.

A&E

Assumptions

- The impact on OVM's workload will be equivalent to 10% more work, as compared to current costs (source: policy estimate based on visits to trusts and discussions with OVMs). This will mostly be due to the additional burden of identifying potential chargeable patients through A&E instead of through other admission routes; which often means that the key data is paper-based rather than electronic.
- The total cost of OVMs currently is determined from the following (source: "Qualitative assessment of visitor and migrant use of the NHS in England", Creative Research, September 2013, available on .gov.uk):
    - Average band for an OVM is Band 4
    - Average FTEs per trust = 1.3

- Based on data that 52 out of 62 OVMs responded positively to a DH online survey question that asked whether they already recover A&E costs through EHIC, we assume that 84% of trusts (52/62) already include a tariff for A&E activity when they are processing an EHIC claim for a patient who has been admitted through A&E. We know that some trusts also process EHICs for patients that attend A&E and are not admitted; but we do not have any data on how many trusts do this so have assumed this to be zero.
- The impact on A&E reception staff time will be equivalent to an additional 4 minutes for every chargeable or re-chargeable patient identified (range 2-6 minutes). This time will cover the collection of data to identify chargeable patients and the processing of an EHIC claim or the taking of payment for directly chargeable patients (or provision of an invoice). A&E receptionist time is costed based on the average band for A&E receptionist being Band 2 plus 30% on-costs.
- We assume non-EEA residents will be charged at 150% of tariff and EEA residents without an EHIC are charged at tariff.
- For every A&E attendance, filter questions will need to be asked to determine their chargeable status. This can usually be done on the paper form for the patient to complete and all trusts are recommended to ask these new filter questions already. We assume extending charging to A&E requires an additional 5 seconds per A&E attendance for the staff to check the new filter questions to assess whether they require any follow-up questions for chargeability (range 2-30 seconds).

Results

INCOME	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Additional reimbursement of EHIC claims (1 year delay)	£0.0M	£1.4M	£1.4M	£1.4M	£1.4M
Patient charges for EEA residents without an EHIC for A&E attendances	£0.2M	£0.2M	£0.2M	£0.2M	£0.2M
Direct Charging of non-EEA	£1.1M	£1.1M	£1.1M	£1.1M	£1.1M
Total income	*£1.3M*	*£2.7M*	*£2.7M*	*£2.7M*	*£2.7M*
COSTS	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Additional OVM capacity	£0.6M	£0.6M	£0.6M	£0.6M	£0.6M
Additional A&E receptionist time for chargeable patients	£0.1M	£0.1M	£0.1M	£0.1M	£0.1M
Additional receptionist time for OR patients	£0.5M	£0.5M	£0.5M	£0.5M	£0.5M
Total cost	*£1.2M*	*£1.2M*	*£1.2M*	*£1.2M*	*£1.2M*
Net Benefit	**£0.1M**	**£1.5M**	**£1.5M**	**£1.5M**	**£1.5M**
NPV	**£5.7M**				

Extending charging to A&E has a positive NPV of £5.7M over 5 years.

Pharmacy

Assumptions

- Extending charging to pharmacy is contingent on identification of EHIC/S1/S2[6] holders or chargeable non-EEA residents by GP IT systems.
- The new system will mean a field for chargeable status will be auto-populated when the prescription is generated electronically, on a distinct prescription form for overseas visitors. The IT aspects of this change are already costed within the GP IT system costs.
- On presentation of such a prescription for a chargeable overseas visitor, there will be no additional time required by the pharmacy staff to process the prescription, apart from entering EHICs/S1/S2 data.
- For prescriptions with EHICs/S1/S2s, these will take 1.5 minutes to enter onto the portal (range 0-2 minutes; the new IT system may mean that there is no additional data entry required at this stage). Admin time is costed at £7 per hour (source: average pay for a data entry clerk, Pay scales) plus 30% on-costs and 30% management costs.
- Every community health professional who prescribes drugs (doctor, dentist and optometrist) will require a pad with these prescription forms. The cost of a pad of 10 prescription forms is £0.57 (source: DH internal expert advice) plus an estimated distribution cost of 63p (source: cost of DH circulation of posters to GPs in 2014). This sums to give a set up cost of £87,000.
- Information on these changes is distributed to each community pharmacy based on a one-off mail-out at 63p (source: cost of DH circulation of posters to GPs in 2014). This comes to around £7,000 (sensitivity analysis: £1,000 (this would be the approximate cost of making the information available online only) to around £36,000 (this would be the cost of four mail-outs over the 5 year period).
- Replacement forms are costed at £1.84 for a 50-form pad (source: DH internal expert advice); plus 63p distribution cost. We assume two claims per prescription on average.
- The age profile of visitors and migrants from Prederi research is used to estimate the number who would be eligible for the age exemptions from prescription charges. For exemptions relating to maternity we have assumed the same proportion of prescriptions for non-EEA migrants as for the general population. We assumed no non-EEA residents will be eligible for exemptions related to low income.
- For EHIC holders, additional claims will be made (to the relevant Member State) in cases where the standard prescription charge (if payable) does not cover the total cost of the prescription. The average prescription charge per prescription of £10.36 has been used to calculate this, resulting in an extra £2.16 or £10.36 claim dependent on whether the individual is exempt from the prescription charge (which is currently £8.20)[7].

[6] See Glossary for definition

[7] Average NHS prescription cost based on internal DH estimates

Results

INCOME	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Reimbursement of EHIC claims	£0.0M	£5.8M	£5.8M	£5.8M	£5.8M
Patient charges for non-EEA residents	£1.6M	£1.6M	£1.6M	£1.6M	£1.6M
Total income	*£1.6M*	*£7.4M*	*£7.4M*	*£7.4M*	*£7.4M*
COSTS	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Admin time for EHIC data entry	£0.5M	£0.5M	£0.5M	£0.5M	£0.5M
New forms with an identifier	£0.1M	£0.1M	£0.1M	£0.1M	£0.1M
IT system fully integrated	£0.0M	£0.0M	£0.0M	£0.0M	£0.0M
Information distribution costs	£0.0M	£0.0M	£0.0M	£0.0M	£0.0M
Total cost	*£0.7M*	*£0.6M*	*£0.6M*	*£0.6M*	*£0.6M*
Net Benefit	**£0.9M**	**£6.8M**	**£6.8M**	**£6.8M**	**£6.8M**
NPV	**£26.0M**				

Extending charging to pharmacy has a positive NPV of £26M over 5 years.

Dentistry

Assumptions

- As patients directly access NHS dentistry, the practice staff will need to identify non-EEA residents and EHIC/S1/S2 carriers themselves. We assume this takes an additional 1.5 minutes for every new patient to ask the filter questions to identify potentially chargeable patients.
- We estimate the number of new patients for dentists as follows: 80% of the population have visited an NHS dentist in the past, on average people will change dentist 10 times over their lifetime (based on the average person moving home 8 times, plus some potential to change dentists due to choice or while away from home: range 5-15). This results in an estimated 4.2 million patients new to NHS dental surgeries per year.
- We assume dental reception staff spend 5 minutes per non-EEA resident who has not paid the surcharge and is not exempt from the surcharge.
- We assume dental reception staff spend 5 minutes per patient presenting with an EHIC/S1/S2 to apply the correct charging and enter EHIC data, where available, onto their records for re-charging (range 1-6 minutes). Average dental receptionist pay is used (source: Payscale.com) plus 30% on-costs.
- 100% of identified chargeable patients pay the NHS charges or decide not to proceed with treatment
- 100% of EHIC/S1/S2 holders identified provide this data.
- As with pharmacy, the Prederi research is used for the age profile of migrants to determine estimated resource use of dental services by currently charge-exempt groups based on age. For exemptions relating to maternity we have assumed the same proportion of cases for non-EEA migrants as for the general population. We have assumed no non-EEA residents will be eligible for exemptions related to low income.
- Information on these changes is distributed to each NHS dentist based on a one-off mail-out at 63p (source: cost of DH circulation of posters to GPs in 2014). This comes to around £13,000 (sensitivity analysis: £1,000 (this would be the approximate cost of making the

information available online only) to £66,000 (this would be the cost of four mail-outs over the 5 year period)).

Results

INCOME	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Reimbursement of EHIC claims	£0.0M	£1.2M	£1.2M	£1.2M	£1.2M
Patient charges for non-EEA residents	£0.2M	£0.2M	£0.2M	£0.2M	£0.2M
Total income	*£0.2M*	*£1.4M*	*£1.4M*	*£1.4M*	*£1.4M*
COSTS	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Dentist practice time to check chargable status - non EEA	£0.0M	£0.0M	£0.0M	£0.0M	£0.0M
Dentist practice time to check chargable status - EEA	£0.0M	£0.0M	£0.0M	£0.0M	£0.0M
New filter questions to all patients	£1.0M	£1.0M	£1.0M	£1.0M	£1.0M
Information distribution costs	£0.0M	£0.0M	£0.0M	£0.0M	£0.0M
Total cost	*£1.0M*	*£1.0M*	*£1.0M*	*£1.0M*	*£1.0M*
Net Benefit	**-£0.8M**	**£0.4M**	**£0.4M**	**£0.4M**	**£0.4M**
NPV	**£0.5M**				

Extending charging to dentistry has a positive NPV of £500,000 over 5 years. As can be seen from the Sensitivity Analysis, this sub-option NPV can readily become negative if baseline assumptions are found to be overly optimistic.

Eye Care

Assumptions

- The cost of distributing material to ensure rules for restriction of free eye sight tests to exclude non-EEA residents will be in the region of £7,000, based on a one-off mail-out at 63p (source: cost of DH circulation of posters to GPs in 2014). The range used in the Sensitivity Analysis is: £1,000 (this would be the approximate cost of making the information available online only) to £37,000 (this would be the cost of four mail-outs over the 5 year period).
- Optician staff will need to identify non-EEA residents. To do this we assume this takes an additional 1.5 minutes for every NHS customer to ask the filter questions to identify potentially chargeable patients. We assume half are done by a dispensing optician and half by an optometrist (average salary taken from Payscale.com, plus 30% on-costs).
- To apply the correct charging process, we assume the same mix of staff spend 5 minutes per non-EEA resident who have not paid the surcharge and are not surcharge-exempt.
- As for pharmacy and dentistry, the Prederi research is used for the age profile of migrants to determine estimated resource use of eye services by currently eligible groups based on age. For exemptions due to those suffering diabetes or family members with glaucoma, we have assumed the same proportion of prescriptions for non-EEA migrants as for the general population. We have assumed no non-EEA residents will be eligible for exemptions related to low income.
- NHS data on free eye sight tests and Health Survey for England data (2013) on the proportion that access NHS versus private eye sight tests are used to estimate the number of non-EEA residents who are eligible for free eye sight tests now, who would not be in future.

Results

SAVING	Year 1	Year 2	Year 3	Year 4	Year 5
Lower demand for NHS sight tests and optical vouchers	£0.2M	£0.2M	£0.2M	£0.2M	£0.2M
Total income	*£0.2M*	*£0.2M*	*£0.2M*	*£0.2M*	*£0.2M*
COSTS	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Optitian time to check chargable status	£0.0M	£0.0M	£0.0M	£0.0M	£0.0M
New filter questions to all patients	£7.2M	£7.2M	£7.2M	£7.2M	£7.2M
Information distribution costs	£0.0M	£0.0M	£0.0M	£0.0M	£0.0M
Total cost	*£7.2M*	*£7.2M*	*£7.2M*	*£7.2M*	*£7.2M*
Net Benefit	**-£7.0M**	**-£7.0M**	**-£7.0M**	**-£7.0M**	**-£7.0M**
NPV	**-£32.7M**				

Extending charging to eye care has a negative NPV of £32.7M over 5 years

Overall results for Option 2

Area	**NPV (£)**
General Practice	£33.5M
A&E	£5.7M
Pharmacy	£26.0M
Dentistry	£0.5M
Eye care	-£32.7M
Total	**£33.1M**

Overall Option 2 has a positive NPV of £33.1M over 5 years.

Option 3:

This option is the proposal to amend the OR definition so that the following groups are excluded from it:

i) those for whom another Member State is the country of applicable legislation (who would usually be insured for healthcare there);

ii) those for whom the UK is the country of applicable legislation, but another Member State is nevertheless responsible for funding their healthcare.

In practice, the first exclusion will apply to many students, posted workers and frontier workers. At the moment they can also be OR here. Most of them will be insured and so will be able to access free NHS care through presenting EHIC/PRC (or registering an S1 in the case of frontier workers). EU Regulations requires the institution of the place of stay (the NHS body) to try to obtain the documents on request or if otherwise necessary, but if attempts fail to obtain the EHIC/PRC; these individuals may be charged. Anyone not insured in the other Member State that is the one of applicable legislation, so not entitled to an EHIC/PRC, will be charged.

The second exclusion relates to pensioners living in the UK. They will be habitually resident here so the UK is the country of applicable legislation. For those who have their pension paid by another Member State and who would be entitled to healthcare from that Member State if they lived there,

the UK will only receive funding from that Member State if the S1 is registered. The current assumption is that, regardless of whether the individual presents their S1, with this change, they will be entitled to free NHS care because the UK is the country of applicable legislation.

Clarification of the rules by which overseas pensioners are entitled to free NHS care could improve identification of people eligible for S1s which in turn creates an opportunity for more applications for S1s (which can be done on the individuals' behalf) and could in turn lead to more S1s being registered. Although the individual will not be chargeable without an S1, since they are no longer defined as OR, it may be possible to collect the data that would allow an S1 application to be made.

Key assumptions:

1. Future identification of OR status will continue to use a filtering question of where an individual has lived in the last 6 months. This means that all individuals who have lived in the UK for the last 6 months will be assumed to be OR even with the new definitions of OR.
2. Posted workers and frontier workers are very small numbers and so we assume it is negligible (assumed zero).
3. We assume students who visit the UK for less than 1 month do not currently qualify for OR because they would have no indication of being settled. We assume 50% of students who stay 1-3 months are treated as OR by the system currently and all who stay over 3 months are treated as OR by the system. This results in an additional 7% of EEA residents who will not be able to be also considered OR in England under the new proposals as they are now.
4. We assume the same overall identification rate for EEA residents who cannot claim to be OR in England as for Option 2; but the size of this population will grow by the 7% determined above, leading to greater charging / recharging overall.
5. We assume that for EEA students who cannot produce an EHIC and, are therefore charged, will have the same collection rate as is achieved now for non-EEA residents in secondary care.
6. We assume there is no additional cost on OVMs or other staff involved in identifying chargeability of patients from this change to the definition of OR. This is contingent on the filter questions remaining the same.
7. We assume each additional EHIC claim takes 1.5 minutes of admin time to enter onto the portal and each invoice takes 5 minutes of admin time to raise and chase and collect income, costed at a Band 2 staff member.
8. The clarification of the rules for EEA residents at pensionable age is estimated to result in an increase of S1s registered of 10%. Income from S1s in 2014/15 was £13.7M. This is expected to be achieved by health staff completing additional forms and in some cases applying for S1s on the individual's behalf. We assume each application takes 30 minutes of admin time. This is costed at the equivalent to a Band 2 staff member.
9. Additional incentive payments to trusts are not considered as part of this IA

Results:

INCOME	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Additional reimbursement of EHIC cl	£0.0M	£2.6M	£2.6M	£2.6M	£2.6M
Direct charging of EEA visitors	£0.3M	£0.3M	£0.3M	£0.3M	£0.3M
Income from increase in S1s	£1.4M	£1.4M	£1.4M	£1.4M	£1.4M
Total income	*£1.7M*	*£4.3M*	*£4.3M*	*£4.3M*	*£4.3M*
COSTS	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Admin costs for recharging EHICs, inv	£0.0M	£0.0M	£0.0M	£0.0M	£0.0M
Admin time for applying for S1s	£0.0M	£0.0M	£0.0M	£0.0M	£0.0M
Total cost	*£0.0M*	*£0.0M*	*£0.0M*	*£0.0M*	*£0.0M*
Net Benefit	**£1.7M**	**£4.3M**	**£4.3M**	**£4.3M**	**£4.3M**
NPV	**£17.5M**				

Overall Option 3 has a positive NPV of £17.5M over 5 years.

Option 4: Extending charging as per option 2; *as well as* re-define residency, as per option 3.

The impact of Option 4 will be impact of Option 2 plus Option 3 plus a multiplicative effect of Option 2 on the new individuals who will be chargeable or re-chargeable from Option 3.

	Year 1	Year 2	Year 3	Year 4	Year 5
Income	£5.3M	£31.4M	£31.4M	£31.4M	£31.4M
Cost	£16.8M	£11.7M	£11.7M	£11.7M	£11.7M
Net Benefit	-£11.5M	£19.7M	£19.7M	£19.7M	£19.7M
NPV	£60.7M				

The total NPV for Option 4 is £60.7M over 5 years.

Sensitivity Analysis

Test Scenarios

We have performed a number of scenarios to test the sensitivity of different inputs; specifically those that were not sourced from a robust data source. We created 22 scenarios to test the sensitivity of the key parameters. These are detailed in Table S1. Each variable was given a minimum and maximum, and the values of these were determined through dialogue within the DH policy and analytical teams. The principle used was that the maximum and minimum should represent the *surprise limits*, whereby it would be considered surprising if the true value was found to be outside this range.

Parameters that have **not** been tested here include:

- Estimates taken from Prederi Research
- Estimates taken from Creative Research
- Estimates of staff pay, taken from PSSRU or www.payscale.com
- Routine assumptions which are used widely in such modelling, such as staff on-costs.

Table S1: Test Scenarios

Test scenarios	Assumptions	Parameter values			
		Units	Baseline value	Min	Max
1 Primary care ID rates	Identification rates in primary care: EEA residents with EHICs	%	39%	7.8%	60%
	Identification rates in primary care: Chargeable non-EEA residents and EEA residents	%	41%	8.2%	45%
2 Secondary care ID rates	Identification rates in 2ry care: EEA residents with EHICs	%	39%	25%	60%
	Identification rates in 2ry care: Chargeable non-EEA residents and EEA residents	%	41%	37%	45%
3 Rate of carrying EHICs	Proportion of EEA residents carrying an EHIC after changes to the OR definition	%	85%	50%	90%
4 Impact on OVMs of OR defn	Additional OVM time as a result of the changing definition of OR; expressed as time per individual who will in future be excluded from OR definition who currently is judged OR now.	minutes	0	*0*	*5*
5 Back office admin time	Back office admin time to enter one EHIC claim: minutes required to enter onto portal for secondary care	minutes	1.5	1	2
	Back office admin time to raise an invoice: minutes required per individual invoiced	minutes	5	3	10
	Admin time to register an S1	minutes	30	5	60
6 Identification of S1s	Increase in identification of S1s from new OR rules	%	10%	2%	15%
7 Add'l OVM capacity to extend to A&E	Additional OVM capacity required to extend charging from admitted patients to include in addition A&E attendances	%	10%	5%	15%
8 A&E staff time to process chargeable patients	Impact on A&E reception staff for every chargeable or rechargeable patient identified	minutes	4	2	6
9 A&E staff time to ask filter questions and assess	Time taken to exclude from charging all other A&E attendances; per attendance	seconds	5	2	30
10: GP admin time per EHIC claim	EHIC claims: minutes required per claim to enter onto portal once new IT system is in place	minutes	1.5	1	2
11: GP time per registration	Time per registration (all registrations) to identify chargeable patients	minutes	1.5	1	3
12: New GP IT system	Cost of new IT system	£	£ 5,000,000	£2,500,000.00	£10,000,000.00
13: Increase in 2ry ID rates resulting from new GP IT system	Increase in secondary care identification rates as a direct result of GP services identifying chargeable patients	%	4%	2%	6%
14: Cost of new system for prescriptions	Cost of creating new forms with an identifier for chargeable prescriptions (one-off)	£	87393	87393	87393
	Cost to implement new guidance on non-EEA exemptions to all pharmacies; to include creation and circulation of guidance including printing and postage of any material to all 11,495 pharmacies	£	£ 7,219	1000	36093
15: Admin time to enter EHIC or establish chargeable status	EHIC claims: minutes required per claim for a central team to enter onto portal once new IT system is in place	minutes	1.5	0	2
16: Cost of distributing new materials to dentistry and enabling FP17 form	Cost to implement new guidance on non-EEA exemptions to all NHS dental practices; to include creation and circulation of guidance including printing and postage of any material to 21,000 NHS dentists	£	£ 13,117	1000	65583
17: Admin time to enter EHIC or establish chargeable status	Administrative time of NHS dentistry staff per non-EEA resident or EHIC/S1/S2 carrier to identify their chargeability and, for each to apply correct charging and enter / collect appropriate data; per course of treatment.	minutes	5	1	6
18: Admin time for filter questions	Administrative time of NHS dentistry staff for all NHS patients to ask filter questions	minutes	1.50	1	2
19: Cost of distributing new materials to all NHS opticians	Cost to implement new guidance on non-EEA exemptions to all opticians; to include creation and circulation of guidance including printing and postage of any material to 5,000 dispensing opticians.	£	7427	1000	37136
20: Admin time to establish chargeable status	Administrative time of optician staff per non-EEA resident to identify their chargeability	minutes	5	1	6
21: Admin time for filter questions	Additional administrative time of optician staff for all NHS customers to ask filter questions	minutes	1.50	1	2
22: Number of GPs per individual in a lifetime	The number of GPs an individual is registered at in their lifetime	count	10	5	15

Results[8]

For each scenario, the minimum and maximum NPV is calculated for the relevant option(s) using the upper and lower bounds of the surprise limits (in terms of the effect upon NPV). So, for example, for Test scenario 2 which tests the surprise limits of the secondary identification rates, the NPV is calculated for the following sub-options (holding all other assumptions constant):

- Option 2, A&E sub-options
- Option 3 (OR effect)
- Option 4, A&E sub option

Results are provided in Table S2. The greyed out cells are where the results are not considered relevant because the NPV of the proposed option is independent of the assumption we are changing at that time.

[8] Note: The NPV of sub-options, particularly Pharmacy, are contingent on the existence of an extension of charging to primary medical care and the accompanying IT system. For this reason, not all of the sub-options can be viewed as independent of one another.

Table S2: Results of sensitivity analysis

Test scenarios	Min NPV											Max NPV										
	Opt2 Primary care	Opt2 Pharmacy	Opt2 Dentistry	Opt2 Eye care	Opt2 A&E	OR effect	Opt4 Primary Care	Opt4 Pharmacy	Opt4 Dentistry	Opt4 Eye care	Opt4 A&E	Opt2 Primary care	Opt2 Pharmacy	Opt2 Dentistry	Opt2 Eye care	Opt2 A&E	OR effect	Opt4 Primary Care	Opt4 Pharmacy	Opt4 Dentistry	Opt4 Eye care	Opt4 A&E
1. Primary care ID rates	£4.5M	£5.1M	- £3.5M	- £33.4M			£6.7M	£5.7M	- £3.4M	- £33.4M		£53.6M	£37.1M	£3.0M	-£32.6M			£62.5M	£41.2M	£3.9M	-£32.7M	
2. Secondary care ID rates					£3.4M	£14.1M					£4.0M					£9.1M	£22.8M					£10.3M
3. Rate of carrying EHICs						£17.2M											£19.2M					
4. Impact on OVMs of OR defn						£17.4M											£17.5M					
5. Back office admin time						£17.4M											£17.5M					
6. Identification of S1s						£12.2M											£20.8M					
7. Add'l OVM capacity to extend to A&E					£4.3M						£5.1M					£7.1M						£7.9M
8. A&E staff time to process chargeable patients					£5.6M						£6.4M					£5.8M						£6.7M
9. A&E staff time to ask filter questions and assess					-£6.2M						-£5.4M					£7.1M						£7.9M
10. GP admin time per EHIC claim	£33.4M						£39.5M					£33.6M						£39.7M				
11. GP time per registration	£26.0M						£32.1M					£36.0M						£42.1M				
12. New GP IT system	£28.5M						£34.6M					£36.0M						£42.1M				
13. Increase in 2ry ID rates resulting from new GP IT system	£28.6M						£34.1M					£38.4M						£45.1M				
14. Cost of new system for prescriptions		£26.0M						£28.6M					£26.0M						£28.6M			
15. Admin time to enter EHIC or establish chargeable status		£25.1M						£27.7M					£28.5M						£28.6M			
16. Cost of distributing new materials to dentistry and enabling FP17 form			£0.5M						£1.1M					£0.6M						£1.1M		
17. Admin time to enter EHIC or establish chargeable status			£0.5M						£1.1M					£0.7M						£1.3M		
18. Admin time for filter questions			-£1.0M						-£0.4M	-£32.7M				£2.0M						£2.6M	-£32.7M	
19. Cost of distributing new materials to all NHS opticians				-£32.7M						-£32.7M					-£32.7M						-£32.7M	
20. Admin time to establish chargeable status				-£32.7M						-£32.7M					-£32.6M						-£32.6M	
21. Admin time for filter questions				-£43.9M						-£43.9M					-£21.5M						-£21.5M	
22. Number of GPs per individual in a lifetime	£29.7M						£35.9M					£37.3M						£43.4M				

Discussion:

As can be seen from Table S2, if assumptions are taken to their surprise limits, the sign of the NPV of particular sub-options can alter. This is the case for:

- '1. Primary Care identification rates' – for dentistry under Options 2 and 4
- '8. A&E staff time to ask filter questions' – for A&E under Options 2 and 4
- '18. Administrative time for filter questions' for Dentistry under Options 2 and 4

Eye-care always has a negative NPV.

It should be noted that each of the above effects in isolation has a negligible effect on the overall NPV of Option 4. However, a particularly influential area of uncertainty becomes apparent upon varying the primary care identification rates on all practice areas simultaneously. At either bound of their surprise limits, these assumptions can result in an Option 4 NPV of £-0.5M or £99.0M over 5 years (see Graph S1)

Turning to an assessment of Option 4 as a whole, simultaneously varying all relevant assumptions towards their upper and lower surprise limits (in terms of their effect on the NPV) by 25% and 50% gives the following results:

50% towards best case scenario

	Primary medical care	A&E	Pharmacy	Dentistry	Eyecare	OR*	NPV
Option 2 Net	£50.1M	£8.9M	£33.2M	£2.6M	- £27.0M		£67.8M
Option 3 Net						£22.6M	£22.6M
Option 4 Net	£57.9M	£9.9M	£36.7M	£3.3M	- £27.0M	£22.6M	£103.5M

25% towards best case scenario

	Primary medical care	A&E	Pharmacy	Dentistry	Eyecare	OR*	NPV
Option 2 Net	£41.9M	£7.3M	£29.5M	£1.6M	- £29.9M		£50.3M
Option 3 Net						£19.9M	£19.9M
Option 4 Net	£48.9M	£8.2M	£32.6M	£2.2M	- £29.9M	£19.9M	£81.8M

Baseline scenario

	Primary medical care	A&E	Pharmacy	Dentistry	Eyecare	OR*	NPV
Option 2 Net	£33.5M	£5.7M	£26.0M	£0.5M	- £32.7M		£33.1M
Option 3 Net						£17.5M	£17.5M
Option 4 Net	£39.6M	£6.5M	£28.6M	£1.1M	- £32.7M	£17.5M	£60.7M

25% towards worst case scenario

	Primary medical care	A&E	Pharmacy	Dentistry	Eyecare	OR*	NPV
Option 2 Net	£20.7M	£1.8M	£20.6M	- £0.9M	- £35.8M		£6.4M
Option 3 Net						£15.2M	£15.2M
Option 4 Net	£25.7M	£2.5M	£22.7M	- £0.4M	- £35.8M	£15.2M	£29.9M

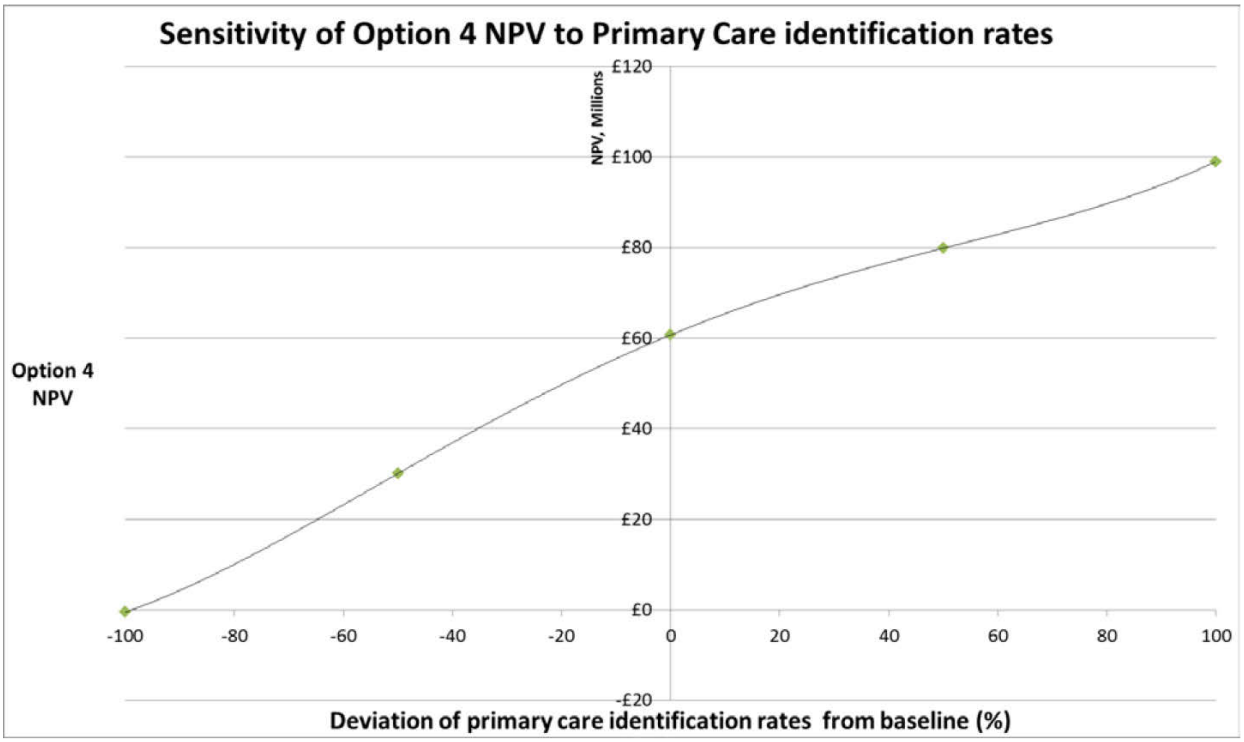
50% towards worst case scenario

	Primary medical care	A&E	Pharmacy	Dentistry	Eyecare	OR*	NPV
Option 2 Net	£7.5M	- £2.1M	£15.3M	- £2.3M	- £38.7M		- £20.3M
Option 3 Net						£13.0M	£13.0M
Option 4 Net	£11.3M	- £1.5M	£16.8M	- £1.9M	- £38.7M	£13.0M	- £0.9M

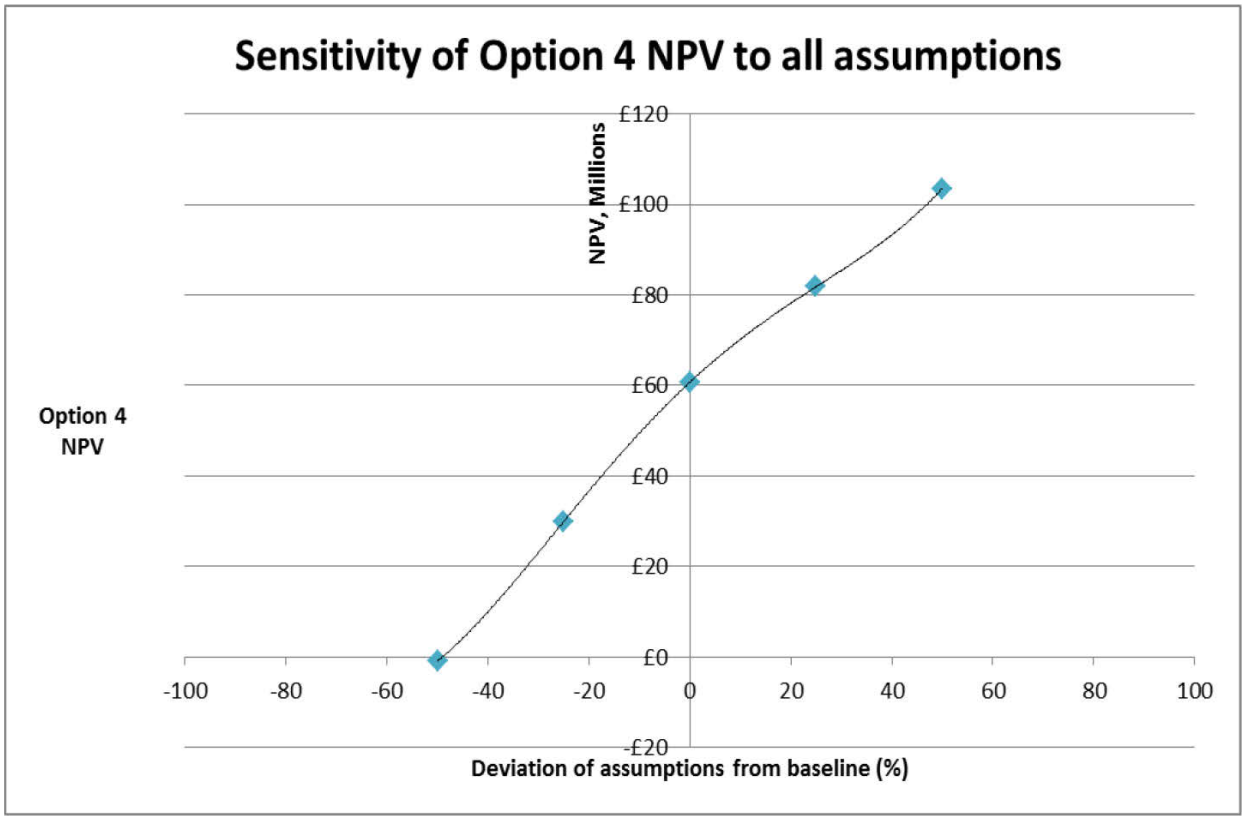
As can be seen, most plausible scenarios result in a positive NPV – though the '50% towards worst case scenario' gives a -£0.9M NPV over 5 years, and a negative NPV for A&E, Dentistry and Eye Care

individually. This compares with an NPV of £103.5M in the '50% towards best case scenario'. This is illustrated in Graph S2 (bottom of page).

Graph S1



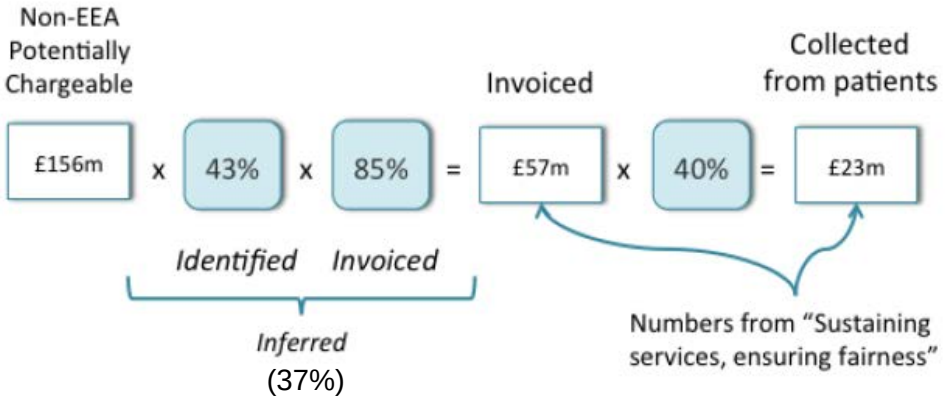
Graph S2



Annex A

1. Non-EEA

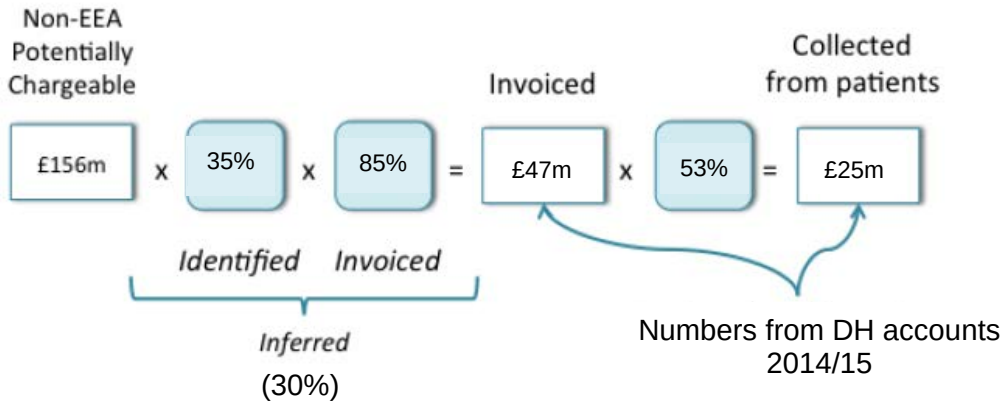
The IA for the NHS Cost Recovery Programme assumed an identification rate of 50% and a recovery rate of 50%, ultimately resulting in 25% of potential costs being recovered. Prior to that, the Prederi analysis attempted to estimate these rates (for non-EEA individuals) as below:



Source: Prederi model

The amounts invoiced and collected from patients (£57m and £23m respectively) were taken from a Department of Health study. At the time of the Prederi analysis, the amount invoiced was actually £32.7m[9], not £57m. This suggests the combined effect of the identification and invoice rate of 37% was an overestimate. The amount actually collected from patients was not reported until 2013/14 and was therefore estimated to be £23m. This gives an overall proportion of the potentially chargeable amount actually collected of **15%** (£23m/£156m).

This methodology can be updated to reflect 2014/15 figures, including the amount collected which is now routinely reported. Using these figures, it is again possible to infer the identification, invoice and collection rates (the invoice rate is kept at 85%, as in Prederi):



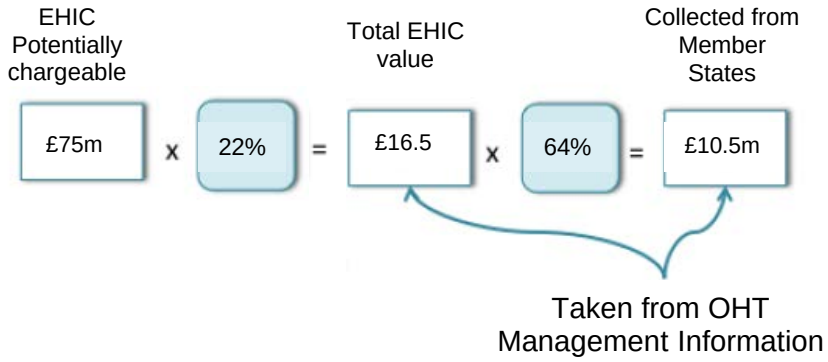
This gives an inferred combined identification and invoice rate of 30% and an overall proportion of the potentially chargeable costs actually collected of **16%**.

[9] DH accounts 2011/12

2. EEA (EHIC)

The Prederi analysis did not specifically estimate the identification rates for EHIC income, though it reported that total EEA income for 2012/13 was around £50m. It also estimated EHIC income at £220m across all services – applying the General and Acute percentage of total EEA costs (34%) gives an estimated £75m that is potentially recoverable under current charging rules. For EHICs, the process for identification, invoicing and collecting is simpler: once identified (by inputting EHIC details onto the Portal), the relevant EEA country is automatically invoiced and charged unless a waiver or formula agreement is in place. The collection rate therefore becomes the percentage of EHICs (in £) that are from non-waiver and non-formula countries which was 64% in 2014/15.

Using the latest EHIC data (Oct 14-Sept 15 – which also reflects the introduction of incentives in October 2014), the below identification and collection rates can be inferred:



Using the above figures, the overall proportion of the potentially chargeable costs actually collected was **14%** for the specified 2014/15 period.

3. Dynamics

Identification and overall collection rates for EEA (EHIC) and non-EEA chargeable individuals have been increasing in recent years. Though uncertain, it is expected that these increases will continue in future years.

The amount of non-EEA income recognised rose by 5% between 13/14 and 14/15. If this trend continued, overall collection rates would increase as reported in Table A1.

In the 12months before October 2015, EEA (EHIC) identified income increased by 25%. After this period, and upon the introduction of the provider incentives, EHIC income has risen by over 50%. For the purpose of this analysis, it is assumed that the introduction of the incentives provided a one-off boost to identification rates. Returning to the pre-incentive annual trend of 25% increases would lead to the overall collection rates reported in Table A1.

Table A1[10]

Period	15/16	16/17	17/18	18/19	19/20
Non-EEA	16.8%	17.6%	18.5%	19.5%	20.5%
EEA (EHIC)	15.8%	19.6%	24.5%	30.5%	38.1%
IA Period	0	1	2	3	4

For simplicity, the mid-point of this series (period 2, 2017/18) has been used as the central estimate for each of the 5 years assessed in this IA. The Period 0 and 4 values reflect the upper and lower bounds. In accordance with the rest of the model, Prederi estimates of potentially chargeable income are inflated to 14/15 prices for the identification rates reported in this table.

[10] 15/16 figures are not the same as the aforementioned 16% and 14% for non-EEA and EHIC respectively. This is because those figures relate to 14/15 financial year and, for EHIC, an October – October year in 14/15. As a result, the 15/16 figures are slightly higher, at 17% and 16% respectively, a result of the growth pattern outlined in the Dynamics section.

Glossary

Daily equivalent population: This gives a figure for the population who would be resident on an average day. This number therefore accounts for the length of stay (e.g. three months would be ¼ of a unit of the daily equivalent population).

EHIC: European Health Insurance Card – a scheme to help EEA citizens to access health when visiting other EEA states on the same basis as the host citizens, subject to some constraints.

Ex-patriates: These are individuals whom are temporarily or permanently residing in a country other than that of their citizenship.

Optical vouchers: This refers to vouchers that entitle their holder to free or discounted glasses or lenses provided by the NHS.

Ordinarily Resident (OR): An individual is Ordinarily Resident if they can prove that they are lawfully and properly settled in the UK for the time being. In reality this is assessed using factors such as whether an individual is employed, is a settled resident and the length of time they have been in the country. The individual must be legally entitled to be in the UK.

Overseas Visitor Manager (OVM): OVMs are the designated persons responsible for overseeing the implementation of the Charging Regulations within relevant NHS bodies. In some cases this role is combined with other responsibilities, for example Private Patients Manager.

Portal agreement: For EEA countries with which the UK does not hold a waiver or formula agreement, reimbursements are made through the Portal system. This value of the EHIC therefore directly corresponds to the payment received, unlike waiver or formula agreement countries (where payment is waived or based on a predetermined formula, regardless of EHIC presentation).

PRC: A Provisional Replacement Certificate can temporarily replace a lost / stolen EHIC card.

Reference costs: These are the average unit cost to the NHS of providing the relevant secondary healthcare to NHS patients. They are used to set prices (the tariff) for NHS-funded services in England.

S1: The EEA scheme to provide healthcare services for state pensioners when they are resident in another EEA state.

S2: The EEA scheme to allow people to travel for pre-arranged and approved treatment of medical conditions.

Tariff: The NHS tariff sets out a list of the prices paid to providers for the delivery of different aspects of NHS care.