

**ERROR! UNKNOWN DOCUMENT PROPERTY NAME.**

<b>Title:</b> PROPOSAL FOR SUPPLEMENTARY PRESCRIBING BY DIETITIANS <b>IA No:</b> 5194  <b>Lead department or agency:</b> National Health Service England <b>Other departments or agencies:</b> Department of Health, Medicines and Healthcare Products Regulatory Agency, British Dietetic Association, Devolved administrations	<b>Impact Assessment (IA)</b>		
	<b>Date:</b> 01/01/2016		
	<b>Stage:</b> Consultation		
	<b>Source of intervention:</b> Domestic		
	<b>Type of measure:</b> Other		
<b>Contact for enquiries:</b>  enquiries@ahp.nhs.net			
<b>Summary: Intervention and Options</b>			<b>RPC Opinion:</b> 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, Measure qualifies as Two-Out?
£23.5m	£m	£m	No   NA

**What is the problem under consideration? Why is government intervention necessary?**  
 Access to medicines is restricted by legislation to certain professions who have the training and experience to manage medicines safely leading to avoidable morbidity and disease progression. However, there is a drive for more efficient services to be designed around patients, making it easier for them to access the medicines they need. There is also potential for enhanced quality of care, improved outcomes and cost savings if appropriately trained advanced level dietitians undertake supplementary prescribing as part of the multidisciplinary team.

**What are the policy objectives and the intended effects?**  
 The objectives are a) to increase the proportion of patients who can be prescribed medicines by an advanced dietitian, as agreed in a clinical management plan, b) to optimise the use of medicines in patients with long-term conditions, c) to reduce unnecessary use of health care services solely to access medicines, and d) to free up other healthcare professionals' time for patients who require their skills. The intended effects are: fewer unnecessary appointments and consultations (GP or hospital) to manage ill-health, improved management of long-term conditions, and improved patient experience.

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

Option 1 – Do Nothing  
 Option 2 – Supplementary Prescribing

<b>Will the policy be reviewed?</b> It will not be reviewed. <b>If applicable, set review date:</b> Month/Year					
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.		<b>Micro</b> No	<b>&lt; 20</b> Yes/No	<b>Small</b> Yes/No	<b>Medium</b> Yes/No
What is the CO <sub>2</sub> equivalent change in greenhouse gas emissions? (Million tonnes CO <sub>2</sub> equivalent)		<b>Traded:</b>		<b>Non-traded:</b>	

*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: George Freeman Date: 22<sup>nd</sup> February 2016

# Summary: Analysis & Evidence

Policy Option 1

**Description:**

**FULL ECONOMIC ASSESSMENT**

<b>Price Base Year</b> 2014	<b>PV Base Year</b> 2014	<b>Time Period Years</b> 10	<b>Net Benefit (Present Value (PV)) (£m)</b>		
			<b>Low:</b> £23.5m	<b>High:</b> £50.7	<b>Best Estimate:</b> £23.5m

<b>COSTS (£m)</b>	<b>Total Transition (Constant Price) Years</b>		<b>Average Annual (excl. Transition) (Constant Price)</b>	<b>Total Cost (Present Value)</b>
<b>Low</b>	Optional		Optional	<b>Optional</b>
<b>High</b>	Optional		Optional	<b>Optional</b>
<b>Best Estimate</b>				<b>£13.4m</b>

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

Costs of a HCPC approved supplementary prescribing training programme for dietetic advanced practitioners where there is an identified service need. The financial cost would be met in general by employer or education commissioners although they may be met by individuals or non NHS organisations if working within the independent sector. Cost of staff backfill to cover time away on training courses is also included.

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

Enhanced clinical supervision, marginal increase only.

<b>BENEFITS (£m)</b>	<b>Total Transition (Constant Price) Years</b>		<b>Average Annual (excl. Transition) (Constant Price)</b>	<b>Total Benefit (Present Value)</b>
<b>Low</b>	Optional		Optional	<b>£36.9m</b>
<b>High</b>	Optional		Optional	<b>£64m</b>
<b>Best Estimate</b>				<b>£36.9m</b>

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

Reduction in GP appointments  
Reduction in hospital admissions  
Reduction in outpatient appointments

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

Reduction in wastage from suboptimal type and doses of medicines for patients with long-term conditions. Reduced wastage from parenteral nutrition formulations supplied and not used due to delay in changing formulation/prescription. Reduced delays in obtaining optimal treatment and improved patient experience by allowing advanced dietitians to offer advice, treatment and medicines simultaneously in line with a clinical management plan. Prevention of disease progression and improved management

**Key assumptions/sensitivities/risks**

Non-compliance by patients as well as errors by prescribers  
Risk of overuse or inappropriate prescribing.

Access to adequate information to make safe and appropriate prescribing decisions.

Communication of prescribing decisions (including decision not to prescribe) to others involved in the patient's care, such as the patient's GP.

**Discount rate (%)**

3.5%

**BUSINESS ASSESSMENT (Option 1)**

<b>Direct impact on business (Equivalent Annual) £m:</b>			<b>In scope of OITO?</b>	<b>Measure qualifies as</b>
<b>Costs:</b>	<b>Benefits:</b>	<b>Net:</b>	No	NA

## Evidence Base (for summary sheets)

### Policy Background

The *Review of Prescribing, Supply and Administration of Medicines*<sup>1</sup> in 1999, chaired by Dr June Crown, proposed that prescribing rights be extended to a range of health professionals in order to improve services to patients, make better use of the skills of professional staff and thus make a significant contribution to the modernisation of the health service. Following the review, revised regulations have enabled an expansion of non-medical prescribing so that experienced nurses, optometrists, pharmacists, physiotherapists and podiatrists can train to independently prescribe medicines within their clinical competence. This has been championed through such publications as *High Quality Care for all*<sup>2</sup>, *Modernising allied health professions careers: a competency based career framework*<sup>3</sup>, and more recently the *Allied health professions (AHP) prescribing and medicines supply mechanisms scoping project report*<sup>4</sup> and *Operational guidance to the NHS: extending the patient choice of provider*<sup>5</sup>. *Equity and Excellence: Liberating the NHS*<sup>6</sup> stated that the government is committed to putting patients and the public at the heart of everything they do. Introducing supplementary prescribing by advanced dietitians enables them to maximise their ability to improve the patients' care, experience and safety.

Supplementary prescribing by eligible dietitians is consistent with the government's *NHS Outcomes Framework (2015/16)*<sup>7</sup> to focus on improved outcomes for all and the *5 Year Forward View*<sup>8</sup> as this highlights that the traditional divide between primary care, community services and hospitals has been largely unaltered since the birth of the NHS and that this is increasingly a barrier to the personalised and coordinated health service patients need.

Supplementary prescribing by eligible dietitians also supports the achievement of a number of ambitions across the devolved nations such as, *Transforming Your Care: A Review of Health and Social care in Northern Ireland*<sup>9</sup>, *Transforming Your Care: Strategic Implementation Plan*<sup>10</sup>, *Improving Outcomes by Shifting the Balance of Care: Improvement Framework*<sup>11</sup>, *Achieving Sustainable Quality in Scotland's Healthcare: A '20:20' Vision*<sup>12</sup>, *Together for Health: A Five Year Vision for the NHS in Wales*<sup>13</sup> and *Achieving Excellence: The Quality Delivery Plan for the NHS in Wales*<sup>14</sup>. These documents set out the vision for the future of the NHS which no longer sees expertise constrained by traditional boundaries, fragmented services or patients having to visit multiple professionals for multiple appointments.

The *5 Year Forward View*<sup>15</sup> states that in the next five years the NHS will need to dissolve these traditional boundaries and services will be redesigned and new models of care developed.

### Problems with current mechanisms for supplying and administering medicines by dietitians

The need to monitor and adjust preparations and dosages of medicines is a key feature of the management of long-term conditions where diet and nutrition impact on, and are impacted by the changing symptoms and progression of the disease. The requirement of continual clinical review to optimise care and prevent deterioration of health means that access to a healthcare professional that can adjust and change medicines in a timely manner is required.

---

<sup>1</sup> Department of Health (1999) *Review of Prescribing, Supply & Administration of Medicines*, London.

<sup>2</sup> Department of Health (2008) *High Quality Care for All: NHS Next Stage Review Final Report*. London.

<sup>3</sup> Department of Health and Skills for Health (2008) *Modernising Allied Health Professional Careers: a competency based career framework*. London.

<sup>4</sup> Department of Health (2009) *Allied health professions (AHP) prescribing and medicines supply mechanisms scoping project report*. London

<sup>5</sup> Department of Health (2011) *Operational guidance to the NHS: extending the patient choice of provider*. London

<sup>6</sup> Department of Health (2010) *Equality and Excellence: Liberating the NHS*. London

<sup>7</sup> Department of Health (2014) *NHS Outcomes Framework (2015/16)*

<sup>8</sup> NHS England (2014) *Five Year Forward View*, London

<sup>9</sup> Northern Ireland Department of Health, Social Services and Public Safety (2011) *Transforming Your Care: A Review of Health and Social Care in Northern Ireland*, Belfast

<sup>10</sup> Northern Ireland Department of Health, Social Services and Public Safety (2013) *Transforming Your Care: Strategic Implementation Plan*, Belfast

<sup>11</sup> NHS Scotland (2009) *Improving Outcomes by Shifting the Balance of Care: Improvement Framework*, Edinburgh

<sup>12</sup> NHS Scotland (2011) *Achieving Sustainable Quality in Scotland's Healthcare: A '20:20' Vision*, Edinburgh

<sup>13</sup> NHS Wales (2011) *Together for Health: A Five Year Vision for the NHS in Wales*, Cardiff

<sup>14</sup> NHS Wales (2012) *Achieving Excellence: The Quality Delivery Plan for the NHS in Wales*, Cardiff

<sup>15</sup> NHS England (2014) *Five Year Forward View*, London

## **ERROR! UNKNOWN DOCUMENT PROPERTY NAME.**

Currently, advanced dietitians are not able to prescribe medicines. This can result in sub-optimal care, due to patients not having timely access to the medicines they require. This can delay optimal nutritional intake and exacerbate long-term conditions. The current legislation permits dietitians to supply and administer medicines through the use of patient group directions (PGDs) and patient-specific directions (PSDs). However PGDs are not intended for use in long-term conditions where frequent changes in dose and preparation will be required. Consequently, there are efficiencies to be gained by reducing the number of PGDs and PSDs required. PGDs have to be updated regularly (at least two years or when there is a change of staff in a department). PSDs need to be signed by a doctor which takes time away from direct patient care. If the doctor and the dietitian are not present together, another appointment is required to access a supply of medicines. By this time, the PSD may already require amendment, and can potentially delay timely treatment. Additionally, the patient may still be required to attend a GP appointment to obtain an ongoing prescription.

Equity of access is also constrained by the current mechanisms involving the use of PGDs. A dietitian employed across different hospitals may be named on a PGD in one hospital and not in another, as hospitals have locally derived PGDs and so may differ from each other. This can create differences in access to medicines and health care across geographical areas.

### **Rationale for intervention**

There is scope to increase the efficiency, safety, effectiveness and experience of health care provided to patients with long-term conditions, by extending supplementary prescribing responsibilities to dietetic advanced practitioners. The long-term conditions outlined in the next section illustrate that there is scope to reduce unnecessary GP and hospital appointment time that is currently required to initiate or manage treatment with medicines, as well as to titrate medicines more accurately against diet and lifestyle, as the patients' needs change over time. Clinical scenarios have been identified where there are clear and identifiable opportunities for improving health and well-being and reducing health service costs by extending supplementary prescribing responsibilities to advanced dietitians.

Example 1: Renal consultants refer their patients to an advanced dietitian to assess the patient's diet and advise on the optimum phosphate binder medication and dosage in relation to this. Poor phosphate management results in a higher risk of fractures in weakened bones and a hardening of the blood vessels (cardiovascular disease), leading to heart failure. The current system requires the patient's consultant or GP to initiate and adjust medicines as advised by the dietitian. This can delay optimal therapy between the appointment with a dietitian and obtaining a prescription. With supplementary prescribing rights the dietitian would be able to prescribe medications where appropriate in a timely manner for the patient in line with an agreed clinical management plan (CMP) for dispensing at a local pharmacy without re-referral back to a prescribing physician.

Example 2: The key treatment to prevent the complications of diabetes such as glaucoma and limb amputation is diet and medication. Currently the advanced diabetes dietitian assesses the patient's diet and lifestyle and then writes to the GP to request a prescription, recommending insulin type and optimal dosage. There can be a delay of number of days for this prescription to be generated. This has to be done every time the condition changes or the disease progresses. With supplementary prescribing by advanced dietitians, a CMP would be agreed with the consultant or GP, and hence any subsequent amendments to the patient's prescriptions may be managed by an appropriately trained dietetic advanced practitioner in a more accurate and timely way, and with fewer requirements for Consultant/GP appointments.

Example 3: Patients with intestinal failure (IF) require intravenous nutrition and rely on parenteral nutrition (PN) to survive. Advanced nutrition support dietitians undertake nutritional assessments for patients requiring PN and calculate the nutritional requirements. The PN prescription will need adjusting over the course of the patient's clinical/disease condition. Each time this happens the dietitian is required to contact the consultant to arrange a prescription change. Supplementary prescribing by advanced dietitians could prevent delay in optimal nutrition and reduce the risk of metabolic complications. It may also reduce the number of unused PN bags (which currently costs around £100 per bag) if the prescription needs to change following dietetic review.

Example 4: Patients with cystic fibrosis (CF) are required to take prescribed digestive enzymes from birth to help them digest food and get the nutrients they need, with every meal and snack. They also need to take vitamin supplements. Some of the symptoms of poorly managed CF are abdominal cramping, pain, nausea,

## **ERROR! UNKNOWN DOCUMENT PROPERTY NAME.**

constipation and diarrhoea. Advanced CF dietitians already manage patients who require pancreatic enzyme replacement therapy (PERT) and vitamins, however, a doctor is required to prescribe the PERT/vitamin preparations and make any necessary changes to the prescription as the condition progresses. Adjustment of PERT medication is common to treat CF and prevent hospital admission to manage acute symptoms. Currently the dietitian needs to request a prescription from the GP which can lead to delays in optimal therapy, exacerbation of symptoms and increasing the risk of hospital admission. With supplementary prescribing, a clinical management plan would be developed at diagnosis, and the advanced dietitian could manage the PERT medication in relation to the patient's diet and lifestyle more timely and accurately.

### **Economic case**

Allowing advanced dietitians to prescribe medicines as supplementary prescribers in line with a clinical management plan as agreed with an independent prescriber and the patient, could free up health care resources and improve health outcomes. Overall efficiencies will be achieved if the cost savings outweigh the health risk of doing so.

### **Policy objective**

Currently advanced dietitians have a high level of undergraduate and postgraduate knowledge and experience on medicines and their interaction with diet and lifestyle. Only advanced dietitians will be eligible to train for supplementary prescribing.

The objective of introducing supplementary prescribing for advanced dietitians is to:

- increase the range of healthcare professionals who can prescribe medicines to patients with long-term conditions where diet, lifestyle and medicines are a key feature of disease management
- reduce unnecessary contacts/appointments with health care professionals solely to access medication
- reduce avoidable episodes of ill-health and admissions through more timely access to medicines
- enhance patients' experience.
- make fuller use of the skills of the advanced dietetic workforce, and facilitate service redesign such as advanced dietitian-led clinics in hospitals and in the community.

### **Private sector impact**

It is anticipated that the proposed changes in supplementary prescribing would not have an impact on advanced dietitians working in the private sector. Currently approximately 700 dietitians (8% of the workforce) work outside the NHS and of those only 7 practitioners (1%) would be undertaking advanced clinical work. The majority of dietitians who work outside the NHS do so in non-clinical roles such as education, industry, media and sports. Of the few who do work directly with patients, the British Dietetic Association is not aware of any advanced dietitians currently working with patients who have long-term conditions where supplementary prescribing would be used (long-term referring here to life-long conditions such as cystic fibrosis). Advanced dietitians working in the private sector would have to be working in partnership with a doctor to develop a clinical management plan as part of a multidisciplinary team; a dietitian working alone in private practice would not be able to undertake supplementary prescribing. In the private sector where advanced dietitians do work closely alongside doctors, there is the time and access to doctors that makes supplementary prescribing unnecessary. In addition, it is unusual for private health insurance cover for dietetic referrals to fund long-term and this makes it very unlikely that private patients will access their dietetic prescriptions via the private sector.

### **Public consultation**

NHS England led an 8-week public consultation between 26 February and 24 April 2015 on the proposal to introduce supplementary prescribing by dietitians. The UK-wide consultation was developed in collaboration with: the devolved administrations; the Medicines and Healthcare Products Regulatory Agency (MHRA); the Department of Health (DH); and the British Dietetic Association, who are the professional body representing dietitians.

There were 464 responses in total to the consultation. 456 responses were received via the online portal, and 8 were received in hard copy. In total there were 58 responses were received from organisations

## **ERROR! UNKNOWN DOCUMENT PROPERTY NAME.**

and 402 stated that they were from individuals. Four responses did not state whether they were responding as an individual or on behalf of an organisation. There were 67 responses from Scotland, 9 responses from Wales, 10 responses from Northern Ireland, 363 responses from England and 15 did not say which country they were responding from.

### **Description of options considered**

#### Option 1 No change

It is conventional to include a 'no change option in an impact assessment. This option is to maintain the status quo and has costs and benefits of zero. Patient group directions (PGDs) and patient-specific directions (PSDs) would continue to provide limited patient and financial benefit due to the broad scope of disease management in long-term conditions and the limited scope of PGDs/PSDs.

#### Option 2 introduces supplementary prescribing for dietetic advanced practitioners

The potential benefits of option 2 are defined by expert clinical opinion as follows:

- reduction in GP/ consultant appointment requirements in terms of time required to prescribe medicines as advised by dietitians
- health benefit to patient from reduced inappropriate prescriptions and improved adherence to a medicine regime
- improved patient care thereby reducing the need for A&E admissions resulting from acute exacerbations of the patient's long-term conditions caused by delays in access to optimal medicine regimes.
- improved access to healthcare for all patients with dietetic needs, especially access to care in rural settings and access for older people who can have their medicines changed during one home visit by an advanced dietitian rather than having to wait for a second visit to receive the medicines they need
- potential increase in self-referral to dietitians in conditions such as obesity management and streamlining the patient care pathway further
- making fuller use of specialist dietetic skills within the multi-disciplinary team
- reduced requirements for follow-up by a consultant or other healthcare professional solely to access a prescription or other healthcare professional resulting in improved patient experience of health care
- reduced patients' time away from work to attend GP practice or other additional appointments with healthcare professionals solely to access the medicines they require.

### **Monetised and non-monetised costs and benefits of each option (including administrative burden); Overview of costs and benefits associated with all options**

#### *Costs:*

Option 2 will require advanced dietitians to be appropriately trained in supplementary prescribing which incurs a cost per participant. Training will require participants to be away from work for up to 26 days.

The cost of backfilling staff time needed for supplementary prescribing training and education is included as a monetised cost even though staff backfill may not always occur.

Risks associated with supplementary prescribing are not quantified due the lack of data. Actions to mitigate risks are addressed in the section below.

#### *Benefits:*

Cost savings are resulting from a reduction in GP appointments, telephone consultations and hospital admissions

Health benefits from improvements in health due to earlier access to prescriptions have not been quantified as they are speculative.

## **ERROR! UNKNOWN DOCUMENT PROPERTY NAME.**

Cost savings from reduced health service use associated with changes in service configuration have not been quantified as the assumptions required to monetise these benefits are speculative.

Reduced time off work to attend health care appointments has not been included for lack of evidence of how many people would require time off work among patients who use these services.

### **Monetised costs**

#### Training costs

Based on the British Dietetic Association (BDA) database, the expert view of dietetic service managers and current Health and Social Care Information Centre (HSCIC) data, it is estimated that 1354 (30% of the dietetic workforce within the NHS) are currently working at an advanced practice level or above. This workforce is projected to remain stable over the next ten years. It is anticipated that one advanced dietitian per specialist tertiary and children's centre and community service in the NHS will be trained as a supplementary prescriber and that 60 advanced dietitians will take up training every year (4.4% of the advanced practitioner level workforce (Appendix table 1). Evidence from the BDA database and expert opinion suggests that approximately 10% of advanced practitioners will move on to other roles within the profession every year. Advanced dietitians moving across the country would be able to take their supplementary prescribing annotation on the Health and Care Professions Council (HCPC) register with them.

The discounted ten-year cost of training is estimated to be £904,000 (Appendix, table 2, line 1).

There is a cost of backfilling posts while staff attend supplementary prescribing training courses. Although staff may not be replaced while on training, there is an economic value of their lost time which will be reflected in diminished service provision. This cost is estimated by assuming full back cover. The training programme is estimated to take advanced practitioners out of service for 26 days of the year, and it is assumed that these posts would be filled by a Band 6 dietitian who would be required to cover a 7.5-hour shift. The hourly cost of staff covering colleagues' absence is assumed to be lower as overheads do not have to be included as there are no (or marginal) capital or management costs associated with the additional cost of staff backfill.

The total discounted 10-year financial cost of staff replacement while training was estimated to be £2.2 million (Appendix, table 2, line 2).

### **Total financial costs and opportunity costs**

The total discounted financial 10 year cost of training courses and staff replacement was estimated to be £3.1 million (Appendix table 3).

Given the NHS budget constraint, both the cost of the training and the cost of staff backfill will inevitably displace health services that would have been provided to patients; this is the opportunity cost of the proposal<sup>16</sup>.

The total ten year discounted opportunity cost of training and staff backfill was estimated to be £13.4 million (Appendix table 3).

### **Non-monetised costs**

1. Enhanced clinical supervision – there will be mandatory requirement for clinical supervision/mentoring from a doctor in order to successfully complete the supplementary prescribing course. Thereafter, as part of ongoing CPD, advanced dietitians will be required to have supervision and appraisals which

---

<sup>16</sup> Following current DH guidance, the opportunity cost is calculated at £15,000 per Quality Adjusted Life Years (QALY). The downstream QALYs foregone are then discounted at a rate of 1.5% per year. The social value of the displaced QALYs is re-monetised at a value of £60,000 per QALY, representing the social value of a QALY (what people are on average willing to spend to improve their healthy life expectancy by one QALY).

## **ERROR! UNKNOWN DOCUMENT PROPERTY NAME.**

relate to their prescribing practice. Advanced dietitians have a duty to evidence CPD and their competence to practice to their employer, and as a mandatory feature of HCPC regulation.

2. Additional face-to-face time to see patients – this will not be required as medicines preparation and dosage is already discussed with patients and included in the patients' medical record as part of every advanced dietetic consultation and review, as it is integral to the management of the patients with long-term conditions that dietitians treat
3. Salary increment as a result of training in supplementary prescribing - It is not expected that an automatic increase will result from the completion of training to be a supplementary prescriber. Some advanced dietitians who have completed training may move into new roles or take on new responsibilities depending on the needs of the service and the reason a role for supplementary prescribers was identified in the first place. On its own, training in supplementary prescribing on its own will not be sufficient grounds for a salary upgrade.

### **Monetised benefits**

The monetised benefits of supplementary prescribing by dietitians are defined in terms of cost savings to the NHS of not needing to renew PGDs. There are quantifiable health care resource savings that could be realised from extending supplementary prescribing rights to advanced dietitians. The analysis was undertaken using very conservative estimates gathered by the BDA from the expert clinical opinion of their members, and based on current advanced dietetic activities.

#### Reduction in demand for follow-up GP/consultant appointments after seeing a dietitian solely to obtain a prescription.

Estimates were calculated assuming one to two referrals per week by an advanced dietitian to a GP for a patient to access a prescription only. At one referral per week, this is approximately 1354 unnecessary GP appointments per week across the NHS at a cost of £38 per appointment (Appendix, table 4).

To estimate the ten-year costs for an increasing proportion of advanced dietitians trained in supplementary prescribing, first the theoretical health service impact had to be calculated as if all advanced dietitians were supplementary prescribers (appendix table 4); then, the actual yearly cost could be calculated by multiplying this value by the cumulative proportion of advanced dietitians who had completed their training as supplementary prescribers.

The discounted ten-year cost was between £4.3 million and £8.6 million depending on how many unnecessary GP appointments could be avoided per week (Appendix, table 5).

#### Reduction in demand for telephone discussion between a hospital doctor and the dietitian solely to be able to request consent for a new, or change in, prescription from the GP for specific patients managed through a consultant.

Estimates were calculated assuming that, in the management of the dietetic needs of patients with cystic fibrosis for example, there would be approximately one contact every two to four weeks between an independent prescribing clinician (for example a registrar) and an advanced dietitian to request a change in prescription or dose of a medication due to an alteration in the nutritional needs of the patient identified by the advanced dietitian (Appendix, table 6).

The discounted total ten-year financial saving was estimated to be between £328,000 and £656,000 depending on how many unnecessary telephone discussions could be avoided every month. (Appendix, table 7).

#### Reduction in hospital admissions for avoidable acute episodes of illness resulting from delayed access to medicines.

For patients with cystic fibrosis, it was estimated that one inpatient admission could be avoided every three months per advanced practitioner as a result of supplementary prescribing by advanced dietitians, with associated improvements in medical and nutritional management.

The discounted ten-year financial saving was between £3.5 million and £4.9 million. (Appendix, table 9)



### Total financial savings and opportunity cost of savings in health service utilisation

Under these assumptions, the total 10-year discounted financial savings from health service use avoided was between £8.2 million and £14.2 million (Appendix, table 11).

The discounted opportunity cost (social value of the savings in health care utilisation<sup>17</sup>) over ten years was estimated to be between £36.9 million and £64 million with a best estimate of £36.9 million reflecting more conservative assumptions in the calculations (Appendix table 11). Calculations and assumptions used to arrive at these estimates are presented alongside the tables in the appendix

#### **Non-monetised benefits**

1. Health improvement as a result of more timely response to episodes of ill health in patients with long-term conditions.
2. Reduction in wasted prescriptions as a result of earlier titration of medicines.
3. Redesign of services such as community diabetes clinics, which have the potential to be delivered by a range of different healthcare professionals rather than relying on GP's/consultants to be present solely to prescribe medications

#### **Net present value**

The net present value is calculated as the difference between the social value (opportunity cost) of the health service savings and the social value of the costs. This estimate does not take into account any change to service configuration which could potentially bring about greater costs or savings.

The net present value of the change in legislation not taking into account any reconfiguration of services is between £23.5 million and £50.7 million, reflecting the wide uncertainty in the estimates. The best estimate is the lower value, reflecting the more conservative assumptions in the calculations of low uptake of training, reflecting the experience of training uptake by other allied health professionals (podiatrists, physiotherapists) who have been given independent prescribing rights (Table 12).

#### **Longer term changes in local service configuration**

The development of supplementary prescribing by advanced dietitians could lead to dietitian-led review clinics for the management of diabetes and other long-term conditions as doctors as dietitians could review the management of patients and change prescriptions of those patients under PSDs without the need for a doctor to be present. This could reduce costs of service delivery, improve health outcomes and increase patient choice, access and experience.

#### **Rationale and evidence that justify the level of analysis used in the IA (proportionality approach);**

The current quantification of benefits as cost savings is unlikely to reflect the full benefit of advanced dietitians being able to supplementary prescribe medicines which may improve health outcomes in the long-term. Inclusion of health benefits would increase cost-effectiveness of supplementary prescribing by advanced dietitians which is already shown to be cost-effective under the best estimate scenarios. No evidence on the impact of extending supplementary prescribing of medicines to dietitians has been identified in the literature, and therefore health outcomes were not included in the analysis.

#### **Risks and assumptions**

---

<sup>17</sup> Following current DH guidance, the opportunity cost is calculated at £15,000 per Quality Adjusted Life Years (QALY). The downstream QALYs foregone are then discounted at a rate of 1.5% per year. The social value of the displaced QALYs is re-monetised at a value of £60,000 per QALY, representing the social value of a QALY (what people are on average willing to spend to improve their healthy life expectancy by one QALY).

## ERROR! UNKNOWN DOCUMENT PROPERTY NAME.

### Risk of working outside competence

Advanced practice dietitians with supplementary prescribing rights who have successfully completed an HCPC-approved training programme will only be able to prescribe those medicines listed in the patient's clinical management plan and which has been developed in partnership with the doctor and the patient.

Advanced dietitians have extensive experience of medicines management through current mechanisms within their specialist area of practice and competence. Only dietitians working at an advanced practitioner level will be eligible to train as a supplementary prescriber and where there is an identified need to regularly use supplementary prescribing within their role. The present multi-professional, non-medical prescribing training is provided as an integrated Higher Education programme for independent and supplementary prescribers. It is the relevant legislative framework which defines the mechanism(s) available to each profession and thus the assessment of course participants. The HCPC have the authority to approve education programmes for the provision of supplementary prescribing training for registered dietitians. The outline curriculum framework for education programmes to prepare dietitians as supplementary prescribers has been developed by the BDA and is available on the professional body website at [www.bda.co.uk](http://www.bda.co.uk). Eligible dietitians would need to demonstrate at least three years post-qualification experience in a relevant clinical area, be working at an advanced practitioner or equivalent level, and practising in an environment where there is an identified need for the individual to regularly use supplementary prescribing,

### Risk of unsafe, inappropriate and over-prescribing:

There are minimal risks associated with supplementary prescribing as a prescribing doctor will already have identified a patients' need for on-going medicines management and started treatment. A theoretical risk is that a supplementary prescriber could change the dose or quantity of a medicine inappropriately leading to less effective or unsafe treatment. To alleviate this risk a dietetic supplementary prescriber will be responsible (in line with practice guidance) for identifying what medication the patient is currently taking including over-the-counter and herbal preparations before prescribing medicines. They should take steps to ensure they have access to the primary source of prescribing information, which is likely to be the patients' clinical records/case notes, summary care record, or equivalent. Supplementary prescribing is not an activity that occurs in isolation.

Dietitians working at advanced practice level are highly skilled specialists who have developed their own specific scope of practice which represents a narrow aspect of clinical practice. For example, an advanced practice dietitian who undertakes nutritional assessment, treatment and review, will specialise in a particular long-term condition, for example, diabetes, chronic kidney disease or cystic fibrosis. This level of knowledge makes them acknowledged experts in the field within the multidisciplinary team. Having such practitioners prescribing mitigates the risk of prescribing errors.

### Risk of poor antimicrobial stewardship

All healthcare workers including dietitians have a vital role to play in preserving the usefulness of antimicrobials by controlling and preventing the spread of infections that could require antibiotic treatment. Medicines management is not an activity that occurs in isolation so dietetic supplementary prescribers will continue to communicate with other practitioners involved in the care of patients. NICE Guideline *Antimicrobial stewardship: systems and processes for effective antimicrobial medicine use*<sup>[3]</sup> provides detailed recommendations for both organisations (commissioners and providers) and individual prescribers and other health and social care practitioners, regarding the use of antibiotics and antimicrobial stewardship. Like all healthcare providers dietetic supplementary prescribers and their employing organisations will be required to consider antimicrobial stewardship and follow national and local policies and guidelines for antibiotic use.

The local policy is required to be based on national guidance and should be evidence-based, relevant to the local healthcare setting and take into account local antibiotic resistance issues. The local policy should also cover diagnosis and treatment of common infections and prophylaxis of infection. Dietitians will also be required to follow the 2013 Public Health England and Department of Health Antimicrobial

---

[3] National Institute for Health and Care Excellence (NICE) (2015) Guideline NG15: *Antimicrobial stewardship: systems and processes for effective antimicrobial medicines use*: <https://www.nice.org.uk/guidance/ng15/resources/antimicrobial-stewardship-systems-and-processes-for-effective-antimicrobial-medicine-use-1837273110469>

## **ERROR! UNKNOWN DOCUMENT PROPERTY NAME.**

Resistance and Healthcare Associated Infection (ARHAI) *Antimicrobial Prescribing and Stewardship Competencies*<sup>[4]</sup>.

### Risk of poor communication of prescribing decisions between health care professionals:

Prescribing information must be shared through shared care plans and multidisciplinary meetings with other health professionals who need to know the information for the benefit of the patient and this will include the patient's GP. Where possible, the dietitian should have access to other professionals' prescribing decisions where they impact upon their own decisions. This will include communication across NHS-private practice boundaries where it is necessary to ensure that clinicians have appropriate information to inform their prescribing practice.

The dietetic supplementary prescriber must make it clear to the patient that supplementary prescribing activity cannot be undertaken in isolation. The prescriber should inform anyone else who may be in a position to prescribe for that patient of their actions to avoid prescribing errors. This is most likely to be the patient's GP, but may also include other health and social care professionals. If the patient refuses to consent to sharing such information, the dietitian should offer an explanation of the risks of not doing so. If the patient continues to refuse to give consent, the dietitian supplementary prescriber should consider which course of action, including not to prescribe, would be in the best interests of the patient. This must be documented in their records.

### **Summary and preferred option with description of implementation plan**

While the existing supply and administration arrangements have helped to improve the effectiveness of care for some patients, there is potential for dietitians to contribute much more. Service efficiency and innovation are currently hampered by incongruence between the existing mechanisms and patient need.

The introduction of supplementary prescribing has the potential to improve patient safety by reducing delays in care, and creating clear lines of responsibility and accountability for prescribing decisions. Supplementary prescribing by dietitians can enable new ways of working to improve quality of care – delivering safe, effective services focused on improving the patient experience.

## Appendix – Dietitians

### Demand for training

#### Option 2 – Supplementary prescribing

**Table 1.** Projected demand for advanced dietitian supplementary prescribing training and numbers entering training, years 1-10 , assuming 1354 practitioners which the BDA has reported will remain fairly constant over ten years due to retirement and dietitians leaving the profession and new dietitians coming into the workforce.

#### Estimates of values and assumptions:

It is anticipated that one advanced dietitian per specialist tertiary and children’s centre and community service in the NHS will be trained as a supplementary prescriber (n= approx. 600).

Year	Uptake	% uptake	Cumulative % uptake
1	60	4%	4%
2	60	4%	9%
3	60	4%	13%
4	60	4%	18%
5	60	4%	22%
6	60	4%	27%
7	60	4%	31%
8	60	4%	35%
9	60	4%	40%
10	60	4%	44%
Total	600		

#### **Table 2.** Ten-year discounted financial cost of training and staff backfill by year

#### Estimates of values and assumptions:

Cost of training reported by Higher Education Institutes for 2013.

Assumes cost of training is £1750

Cost of backfilled staff is estimated at £21.58 per hour, based on PSSRU unit costs (2014) of £42 per hour of patient-related work (Band 6), excluding qualifications and overheads.

Total time for backfill is based on a 7.5-hour shift and 26 training days per advanced dietitian.

Discount rate 3.5%

Year	Cost of training	Cost of staff backfill	Total
1	£105,000	£252,465	£357,465
2	£101,449	£243,928	£345,377
3	£98,019	£235,679	£333,698
4	£94,704	£227,709	£322,413
5	£91,501	£220,009	£311,511
6	£88,407	£212,569	£300,976
7	£85,418	£205,381	£290,798
8	£82,529	£198,436	£280,965
9	£79,738	£191,725	£271,463
10	£77,042	£185,242	£262,283

**ERROR! UNKNOWN DOCUMENT PROPERTY NAME.**

Total	£903,807	£2,173,144	£3,076,951
-------	----------	------------	------------

## ERROR! UNKNOWN DOCUMENT PROPERTY NAME.

**Table 3** – Ten-year discounted financial and opportunity cost of training and staff backfill

Estimates of values and assumptions:

To estimate the opportunity cost of health care displaced by training and staff replacement, the financial cost (actual spend) was translated into quality adjusted life years (QALYs) at a rate of £15,000 per QALY. The social value of the health benefit displaced by advanced dietitian training (course fees and backfilled time) was calculated by re-monetising the QALYs displaced at a rate of £60,000 per QALY. Discount rate 3.5%

Year	Financial cost	Opportunity cost
1	£357,465	£1,429,862
2	£345,377	£1,408,731
3	£333,698	£1,387,912
4	£322,413	£1,367,401
5	£311,511	£1,347,193
6	£300,976	£1,327,284
7	£290,798	£1,307,669
8	£280,965	£1,288,344
9	£271,463	£1,269,304
10	£262,283	£1,250,546
Total	£3,076,951	£13,384,247

### Cost savings due to health service use avoided

#### Option 2 – Supplementary prescribing

**Table 4.** Financial savings associated with avoidable GP appointments assuming advanced practitioners trained in supplementary prescribing (estimates required to calculate table 5 below)

Estimates of values and assumptions:

Number of advanced practitioner dietitians is reported by HCPC (November 2014). Cost impact is calculated for all advanced dietitians; the cost impact is therefore proportionate to the number of advanced dietitians trained every year. Staff costs are derived from Unit Costs of Health and Social Care (PSSRU 2013/14). Inpatient costs are derived from NHS reference costs for Muscular, Balance, Cranial or Peripheral Nerve Disorders, Epilepsy or Head Injury, with CC Score 0-2 (low cost) and Muscular, Balance, Cranial or Peripheral Nerve Disorders, Epilepsy or Head Injury, with CC Score 12-14 (high cost). Rates of avoidable health service use derived from expert opinion of the British Dietetic Association (BDA); 1-2 GP appointments per week, 1-2 telephone contacts per month, 1 avoidable hospital admission every three months

Values estimated	Low estimate	High estimate
No. advanced practitioner dietitians	1354	
Referrals per week for a prescription	1	2
No GP appointments per week	1354	
Cost GP appointment	£38	
Total cost per week	£51,452	£102,904
Total cost per year (all advanced dietitians)	£2,675,504	£5,351,008

**ERROR! UNKNOWN DOCUMENT PROPERTY NAME.****Table 5.** Discounted financial cost savings by year by cumulative uptake of training – avoidable GP appointmentsEstimates and assumptions:

Assumes that if trained in a year advanced dietitians wait till the next year before they carry out the new function.

Low estimate assumes one GP appointment avoided per month (high estimate, 2 GP appointments per month)

Discount rate 3.5%

Year	Cumulative uptake	Discounted cost (low estimate)	Discounted cost (high estimate)
1	4%		
2	9%	£114,551	£229,101
3	13%	£221,354	£442,708
4	18%	£320,803	£641,606
5	22%	£413,273	£826,546
6	27%	£499,122	£998,243
7	31%	£578,692	£1,157,384
8	35%	£652,310	£1,304,619
9	40%	£720,287	£1,440,573
10	44%	£782,920	£1,565,841
Total		£4,303,311	£8,606,621

**Table 6:** Financial savings associated with avoidable telephone contact between advanced dietitian and hospital consultantsEstimates of values and assumptions:

Low cost estimate is one contact per four weeks (high estimate, 2 every four weeks)

Staff costs reported in PSSRU: Associate registrar costs - £40 (59) per hour (48 hour week); £34 (£56) per hour (56 hour week); £48 (£71) per hour (40 hour week). Hourly cost of an advanced dietitian cost is not reported; cost used is cost per hour for Band 6 hospital dietitian: £42.

Values estimated	Low estimate	High estimate
Hospital tel. contacts per week for prescription	0.25	0.5
Associate registrar - 5 minute telephone call	£8.08	
AP dietitian time - 5 min telephone call	£3.50	
Total cost per week	£3,921	£7,842
Total cost per year (all Advanced Dieticians)	£203,890	£407,780

**ERROR! UNKNOWN DOCUMENT PROPERTY NAME.****Table 7.** Ten-year discounted financial cost savings by cumulative uptake of training – avoidable telephone consultations between advanced dietitians and hospital consultantsEstimates of values and assumptions:

Cumulative benefits of training accrue the following year

Year	Cumulative uptake	Discounted cost (low estimate)	Discounted cost (high estimate)
1	4%		
2	9%	£8,729	£17,459
3	13%	£16,869	£33,737
4	18%	£24,447	£48,894
5	22%	£31,494	£62,988
6	27%	£38,036	£76,072
7	31%	£44,100	£88,200
8	35%	£49,710	£99,420
9	40%	£54,890	£109,781
10	44%	£59,663	£119,327
Total		£327,939	£655,877

**Table 8.** Financial savings associated with avoidable hospital admissionsEstimates of values and assumptions

One admission is avoided every three months (expert opinion from the BDA), e.g. 1/13 (0.077) per week, assuming 13 weeks per three month period

Cost of admission dependent on complications level (low cost level 0-2, high cost level 12-14).

Speciality - Gastroenterology

Values estimated	Low estimate	High estimate
Hospital admission per week poorly managed symptoms	0.077	
Hospital appointment cost	£406	£566
Total cost per week	£42,286	£58,951
Total cost per year (All advanced Dietitians)	£2,198,896	£3,065,456



**ERROR! UNKNOWN DOCUMENT PROPERTY NAME.****Table 9.** Ten-year discounted financial savings by cumulative uptake of training – avoidable hospital admissionsEstimates of values and assumptions

Cumulative benefits of training accrue the following year

Year	Cumulative uptake	Discounted cost (low estimate)	Discounted cost (high estimate)
1	4%		
2	9%	£94,145	£131,246
3	13%	£181,923	£253,616
4	18%	£263,656	£367,560
5	22%	£339,653	£473,507
6	27%	£410,209	£571,868
7	31%	£475,605	£663,036
8	35%	£536,109	£747,383
9	40%	£591,976	£825,268
10	44%	£643,453	£897,030
Total		£3,536,729	£4,930,514

**Table 10.** Total financial savings and opportunity cost associated with reduced GP appointments and hospital activity if all dietitians were trained in supplementary prescribing

Yearly cost	Low estimate	High high estimate
Financial value of GP appointments	£2,675,504	£5,351,008
Financial value of hospital outpatients	£203,890	£407,780
Financial value of hospital inpatients	£2,198,896	£3,065,456
Total annual cost (financial)	£5,078,290	£8,824,244
Total annual cost (opportunity cost)	£20,313,159	£35,296,975

## ERROR! UNKNOWN DOCUMENT PROPERTY NAME.

**Table 11.** Total discounted financial benefit and opportunity cost of health service utilisation savings, by cumulative proportion of advanced dietitians per year trained in supplementary prescribing

### Estimates of values and assumptions:

Cumulative benefits of training accrue the following year. Lowest estimate is also the best guess estimate. Following DH guidelines, the opportunity cost of savings in health care utilisation was estimated by converting the financial cost (actual spend) into health benefits as quality adjusted life years (QALYs) at a rate of £15,000 per QALY. The social value of freeing up health services to treat other people was calculated by re-monetising the QALYs displaced at a rate of £60,000 per QALY. Financial costs were discounted at 3.5%, Re-monetised QALYs were discounted at a rate of 1.5% per year.

Year	Cumulative % trained	Financial cost (low estimate)	Financial cost (high estimate)	Opportunity cost (low estimate)	Opportunity cost (high estimate)
1	4%				
2	9%	£217,425	£377,807	£886,837	£1,541,005
3	13%	£420,145	£730,061	£1,747,463	£3,036,463
4	18%	£608,906	£1,058,060	£2,582,458	£4,487,384
5	22%	£784,420	£1,363,040	£3,392,391	£5,894,757
6	27%	£947,367	£1,646,184	£4,177,821	£7,259,553
7	31%	£1,098,397	£1,908,619	£4,939,296	£8,582,722
8	35%	£1,238,128	£2,151,422	£5,677,352	£9,865,198
9	40%	£1,367,153	£2,375,622	£6,392,514	£11,107,894
10	44%	£1,486,036	£2,582,197	£7,085,299	£12,311,705
Total		£8,167,978	£14,193,012	£36,881,431	£64,086,680

## Cost-benefit analysis

### Option 2 – Supplementary prescribing

**Table 12.** Net present value years 1-10

Inflationary adjustments on health service use avoided has not been applied

Lowest estimate is the best guess estimate.

The net benefit is net social value (measured in opportunity cost not financial costs) calculated as the difference in value between health services displaced (and ultimately health gain lost) by spending on training and staff backfill, and the health services freed up (and ultimately health gain) as a result of the change in prescribing regulations. The least favourable estimate assumes low uptake of training.

Year	Net benefit (least favourable)	Net benefit (most favourable)
1	-£1,429,862	-£1,429,862
2	-£521,893	£132,274
3	£359,551	£1,648,551
4	£1,215,056	£3,119,982
5	£2,045,198	£4,547,563
6	£2,850,537	£5,932,269
7	£3,631,627	£7,275,053
8	£4,389,008	£8,576,854
9	£5,123,210	£9,838,589
10	£5,834,753	£11,061,159
Total	£23,497,184	£50,702,433

**ERROR! UNKNOWN DOCUMENT PROPERTY NAME.**