

# NHS health checks

The NHS Health Check programme aims to help prevent heart disease, stroke, diabetes and kidney disease. Everyone between the ages of 40 and 74 years, who has not already been diagnosed with one of these conditions, will be invited (once every five years) to have a check to assess their risk of heart disease, stroke, kidney disease and diabetes and will be given support and advice to help them reduce or manage that risk.

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Everyone is at risk of developing heart disease, stroke, type 2 diabetes or chronic kidney disease as they age. But these diseases can often be prevented by lifestyle modification, and the NHS Health Check can help by assessing risk and giving personalised advice on how to reduce this risk.

In England in 2007, cardiovascular disease (CVD) led to nearly 159,000 deaths (accounting for 34% of all deaths).<sup>1</sup> This includes 74,185 deaths from coronary heart disease and 43,539 from stroke. An estimated 5.2 million people in the UK are living with CVD, costing £32 billion a year.<sup>2</sup> Heart disease, stroke, type 2 diabetes and kidney disease are the reason for one fifth of all hospital admissions.<sup>3</sup> Despite recent improvements, death rates in the UK from CVD are relatively high compared to other developed countries. There is also considerable variation within the UK itself—geographically, ethnically and socially.

The NHS Health Check is a national screening programme to detect individuals in the 40–74 year old age group that are at risk of developing CVD. It was launched as a strategy in January 2008 as part of a shift in focus of the NHS towards empowering patients and preventing illness. The “predict and prevent” checks or “vascular checks”, as they were initially called, were designed to give people information about their health, support lifestyle changes and, in some cases, offer earlier interventions as part of a systematic and integrated programme.

Primary care trusts (PCTs) have been required since late 2009 to commission services to deliver NHS Health Checks to 40–74 year olds, on a five year, call recall, cycle. The programme is specifically designed to detect risk and is not designed to cover those who are known to have an existing cardiovascular or related condition, such as diabetes or chronic kidney disease. Individuals participating in the checks will be given an assessment of the level of their own risk of developing CVD within the next 10 years and will

be offered appropriate advice and interventions. For those with the least risk, this may be a simple discussion around healthy lifestyles. For moderate risk, the recommendations may include brief interventions around smoking, physical activity or referral to lifestyle support services. Those most at risk may require clinical interventions such as a statin prescription or referral to a specialist service.

Although the introduction of NHS Health Checks started across England in 2009, full implementation of the programme will take some time. It is anticipated that the NHS Health Checks programme will be fully operational by April 2012. This means that some people may not receive their invitation for a NHS Health Check until after this date. Local PCTs will initially decide who to invite first and how they should be contacted.

### **Qrisk2®**

A range of providers, including GP practices and pharmacies, are carrying out NHS Health Checks. Whoever the provider, the NHS Health Check should be carried out in a setting or area that allows a private conversation to take place, face to face. The Qrisk2® risk tool is the preferred tool for calculating the overall risk of developing CVD as it appears to take better account of ethnicity and deprivation.<sup>4</sup> However, as the Qrisk2® risk tool is currently not integrated into all GP practice clinical systems, the Framingham risk tool is also being used until such time as the Qrisk2® is more widely available.

QRISK2® is a cardiovascular disease risk calculator, based on an anonymised database UK primary care patients. Within this database a cohort of patients without evidence of diabetes mellitus or CVD was identified and followed up for at least five years, looking for the first development of CVD as an endpoint.

The tests, measurements and risk management

interventions that make up the NHS Health Check can be delivered in different settings and in different ways to suit the needs of local populations. However regardless of where the tests and measurements are carried out, they are always quality assured as part of the local commissioning PCT's service specification.

## The NHS health check

The first part gathers information from the patient about family history, medication, height and weight to calculate body mass index (BMI), sex, ethnicity, age, blood pressure, and cholesterol level. The second part of the assessment involves the healthcare professional (GP, practice nurse or pharmacist) explaining the results.

All patients who undergo an NHS Health Check should have their results and assessment of the level of vascular risk conveyed to them in a way that helps them to understand and take responsibility for lifestyle change. Lifestyle advice should be discussed in a way that actively involves them in agreeing which interventions are appropriate to them. What appears to be particularly powerful is communicating the risk of developing CVD in the next 10 years to a smoker, and then calculating what that risk would be if that patient stopped smoking. PCTs are already commissioning the follow-on Stop Smoking Services required. Patients can also be shown how their level of risk can reduce if they commence taking a statin, if indicated, perhaps using patient decision aids.

The aim of lifestyle support services is to increase the importance patients attach to making health behaviour changes and also increase the confidence of patients in making health behaviour changes. Lifestyle support services also aims to signpost and increase usage of appropriate community activities and services and to encourage positive changes in health behaviour and lifestyle in terms of smoking, diet, alcohol and physical activity in clients. Lifestyle support services have demonstrated an increase in both the physiological health of individuals attending the service and the sense of well being in clients following health behaviour changes and after attending the service. There has also been demonstrated a reduction in the number of visits to GPs and practice nurses by individuals in the target groups who use this service.<sup>5</sup>

Patients with greater than a 20% risk should be referred to their GP to be managed and placed on their GP practice's register for CVD, diabetes, hypertension, stroke etc., as appropriate, and then followed up and managed as per normal clinical practice.

## NHS Norfolk: first full year

From April 2010 to March 2011, NHS Norfolk delivered more than 30,000 NHS Health Checks, exceeding the Strategic Health Authority, NHS East of England, target by 11,000. A total of 73 GP practices, 19 pharmacies and two occupational health teams provided the health checks. More than 12,000 (40%) of the health checks were delivered in the most deprived areas of NHS Norfolk and a number of targeted programmes, developed for populations known to be a greater risk of developing CVD were carried out in Norwich, King's Lynn, Thetford and Cromer. Over 5,000 patients were established as being as high risk (>20%) of having a cardiovascular event in the next 10 years. These high risk patients were provided with primary prevention and management measures including:

- Statin therapy
- Being placed on a high risk register
- Lifestyle brief intervention
- Intensive lifestyle support/referred for intensive lifestyle support or interventions including stop smoking, exercise referral and diet and nutrition services to reduce their risk of developing CVD

Nearly one third of patients were identified as being at moderate risk (10–20%) of developing CVD in the next 10 years. As the risk has been identified early, it provides an ideal opportunity for the patient to be informed of their risk, provided with information, support and guidance on how they can manage or reduce their risk. If the support and guidance is acted upon, the possibility of those patients requiring early clinical intervention and/or developing CVD related long-term conditions decreases.

Besides identifying those patients most at risk of developing CVD, a number of assessments have led to investigation, early identification, diagnosis and treatment for a number of other conditions including; diabetes, kidney disease, impaired glucose regulation, hypertension and hypercholesterolemia.

There is very little evidence of effectiveness, if any. The NHS Health Check policy is based on a high degree of pragmatism but not much clinical evidence. The NHS has commissioned various providers to run the NHS Health Checks for their population, mainly GP practices and pharmacies. The fee for each NHS Health Check is locally negotiated but is roughly about £25 per check. The exact requirements of what must be carried out by the provider is specified in what is called an "Enhanced Service Specification" which will detail what tests have to be carried out and what equipment must be used to carry out those tests.

## Screening

### Conclusion

NHS Health Checks are a new way of identifying future long-term conditions in primary care, allowing early intervention to alter the likely progression of these illnesses. Within NHS Norfolk these checks have proved to be deliverable, reaching and exceeding uptake targets, and allowing those most at risk to receive care and appropriate treatment at an early stage of their illness. Those who have been identified

as moderate risk have been given the opportunity to change the course of their future risks by modifying their lifestyles accordingly. Only time will tell if they manage with five yearly support to keep to their agreed lifestyle modifications and benefit from the reduced CVD risk.

Conflict of interest: none declared



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Continuous glycaemic control  
with a single weekly injection.

BYDUREON is indicated for treatment of type 2 diabetes mellitus in combination with metformin, sulphonylureas, thiazolidinediones, or combinations of metformin and a sulphonylurea or metformin and a thiazolidinedione, in adults who have not achieved adequate glycaemic control on maximally tolerated doses of these oral therapies.

To register to attend a launch meeting visit: [www.bydureonlaunch.co.uk](http://www.bydureonlaunch.co.uk)

Mean HbA<sub>1c</sub> reduction, between 1.3%<sup>1</sup> and 1.9%.<sup>2</sup> Sustained weight loss in a once-weekly regimen.<sup>2</sup>



## References

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## BYDUREON: the first and only therapy to provide continuous glycaemic control with a single weekly injection.

BYDUREON<sup>®</sup> (exenatide)

### ABBREVIATED PRESCRIBING INFORMATION

**Presentation** Exenatide 2mg powder and solvent for prolonged-release suspension for injection. Each single-dose kit contains one vial of 2mg exenatide and one pre-filled syringe of 0.65ml solvent. **Uses** Bydureon is indicated for treatment of Type 2 diabetes mellitus in combination with metformin, sulphonylureas, thiazolidinediones, or combinations of metformin and a sulphonylurea or metformin and a thiazolidinedione. In adults who have not achieved adequate glycaemic control on maximally tolerated doses of these oral therapies. **Dosage and Administration** The recommended dose is 2mg once weekly, on the same day each week. Each dose should be administered in the abdomen, thigh, or the back of the upper arm as a subcutaneous injection immediately after suspension of the powder in the solvent. Instructions on the suspension and administration of Bydureon can be found in the 'Instructions for the User' provided in the carton and must be followed carefully by the patient. Appropriate training is recommended for non-healthcare professionals administering the product. Patients switching from exenatide twice daily (Byetta) to Bydureon may experience transient elevations in blood glucose concentrations, which generally improve within the first two weeks after initiation of therapy. When Bydureon is added to existing metformin and/or thiazolidinedione therapy, the current dose of metformin and/or thiazolidinedione can be continued. When Bydureon is added to sulphonylurea therapy, a reduction in the dose of sulphonylurea should be considered to reduce the risk of hypoglycaemia. Blood glucose self-monitoring may be necessary to adjust the dose of sulphonylurea. If a different antidiabetic treatment is started after the discontinuation of Bydureon, consideration should be given to the prolonged release of Bydureon. **Elderly:** No dose adjustment is required based on age. Consideration should be given to the patient's renal function. **Renal or hepatic impairment:** No dosage adjustment is necessary in patients with mild renal impairment (creatinine clearance 50-80ml/min) or hepatic impairment. Not recommended in patients with moderate renal impairment (creatinine clearance 30-50ml/min), severe renal impairment (creatinine clearance <30ml/min), or end-stage renal disease. **Paediatric population:** The safety and efficacy in children and adolescents aged under 18 years have not yet been established. No data are available. **Contra-indications** Hypersensitivity to the active substance or to any of the excipients. **Warnings and Special Precautions** Should not be used in patients with Type 1 diabetes mellitus or for the treatment of diabetic ketoacidosis.

Must not be administered by intravenous or intramuscular injection. Not recommended for use in patients with moderate or severe renal impairment or end-stage renal disease. There have been rare, spontaneously reported events of altered renal function with exenatide, including increased serum creatinine, renal impairment, worsened chronic renal failure, and acute renal failure, sometimes requiring haemodialysis. Some of these occurred in patients experiencing events that may affect hydration and/or receiving medicinal products known to affect renal function/hydration status, including angiotensin converting enzymes inhibitors, angiotensin-II antagonists, non-steroidal anti-inflammatory medicinal products, and diuretics. Not recommended in patients with severe gastro-intestinal disease. There have been rare, spontaneously reported events of acute pancreatitis. Patients should be informed of the characteristic symptom of acute pancreatitis: persistent, severe abdominal pain. Resolution of pancreatitis has been observed with supportive treatment, but very rare cases of necrotizing or haemorrhagic pancreatitis and/or death have been reported. If pancreatitis is suspected, Bydureon and other potentially suspect medicinal products should be discontinued. Treatment with Bydureon should not be resumed after pancreatitis has been diagnosed. The concurrent use of Bydureon with insulin, D-phenylalanine derivatives (meglitinides), alpha-glucosidase inhibitors, dipeptidyl peptidase-4 inhibitors, or other GLP-1 receptor agonists has not been studied. The concurrent use of Bydureon and exenatide twice daily (Byetta) has not been studied and is not recommended. The risk of hypoglycaemia was increased when Bydureon was used in combination with a sulphonylurea in clinical trials. Furthermore, patients on a sulphonylurea combination, with mild renal impairment, had an increased incidence of hypoglycaemia compared to patients with normal renal function. To reduce the risk of hypoglycaemia associated with the use of a sulphonylurea, reduction in the dose of sulphonylurea should be considered. Rapid weight loss (>1.5 kg per week) has been reported in patients treated with exenatide. Weight loss of this rate may have harmful consequences. There have been some reported cases of increased INR, sometimes associated with bleeding, with concomitant use of warfarin and exenatide. After discontinuation, the effect of Bydureon may continue as plasma levels of exenatide decline over 10 weeks. Choice of other medicinal products and dose selection should be considered accordingly until exenatide levels decline. **Interactions** The following interaction studies were conducted using 10 micrograms exenatide twice daily, but not exenatide once weekly: **HMG CoA reductase inhibitors:** Lovastatin AUC and C<sub>max</sub> were decreased and T<sub>max</sub> was delayed when exenatide (10µg BD) was administered concomitantly with a single dose of lovastatin (40mg). Concomitant use of exenatide twice daily and HMG CoA reductase inhibitors was not associated with consistent changes in lipid profiles. Lipid profiles should be monitored as appropriate. **Warfarin:** T<sub>max</sub> was delayed when warfarin was administered 35 min after exenatide twice daily. No clinically relevant effects on C<sub>max</sub> or AUC were observed. Increased INR has been reported during concomitant use of warfarin and exenatide twice daily. INR should be monitored during initiation

of Bydureon therapy in patients on warfarin and/or coumarol derivatives. **Digoxin and lisinopril:** A delay in T<sub>max</sub> was observed in interaction studies between digoxin or lisinopril and exenatide twice daily. No clinically relevant effects on C<sub>max</sub> or AUC were observed. **Fertility, Pregnancy, and Lactation** Women of childbearing potential should use contraception during treatment with Bydureon. Bydureon should be discontinued at least 3 months before a planned pregnancy. Bydureon should not be used during pregnancy and the use of insulin is recommended. Bydureon should not be used during breastfeeding. **Driving, etc** No studies on the effects on the ability to drive and use machines have been performed. When Bydureon is used in combination with a sulphonylurea, avoid hypoglycaemia while driving and using machines. **Undesirable Effects** **Adverse Reactions Reported From Clinical Studies.** **Very common:** Hypoglycaemia (with a sulphonylurea), constipation, diarrhoea, nausea, vomiting, injection site pruritus, injection site nodules. **Common:** Decreased appetite, dizziness, headache, abdominal distention, abdominal pain, dyspepsia, eructation, flatulence, gastro-oesophageal reflux, fatigue, injection site erythema, injection site rash, somnolence. Rapid weight loss has been reported with Bydureon. Patients may develop anti-exenatide antibodies following treatment with Bydureon. These patients tend to have more injection site reactions (eg, skin redness, itching). Acute pancreatitis and acute renal failure have been reported rarely and anaphylactic reaction has been reported very rarely in spontaneous post-marketing reports with exenatide twice daily. For full details of these and other side-effects, please see the Summary of Product Characteristics, which is available at <http://emc.medicines.org.uk/>. **Legal Category** POM **Marketing Authorisation Number** EU/1/11/696/001 **Basic NHS Cost** £73.36 per 4 weekly pack. **Date of Preparation or Last Review** June 2011

### Full Prescribing Information is Available From

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E-mail: ukmedinfo@lilly.com Website: [www.lillypro.co.uk](http://www.lillypro.co.uk)

BYDUREON<sup>®</sup> (exenatide) is a registered trademark of Amylin Pharmaceuticals, Inc.

**Adverse events should be reported. Reporting forms and information can be found at [www.yellowcard.gov.uk](http://www.yellowcard.gov.uk).**  
**Adverse events should also be reported to Eli Lilly and Company Limited (Tel No 0870 240 1125).**

**References** 1. Duration-6 press release. Available at: <https://investor.lilly.com/releasedetail2.cfm?ReleaseID=554248>  
2. BYDUREON<sup>®</sup> (Summary of Product Characteristics).

Once-weekly   
**BYDUREON<sup>®</sup>**  
exenatide 2mg powder and solvent for prolonged release suspension for injection