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Patient-centred care planning

Phil Holdich explains some strategies which can be used during annual reviews to help engage patients in taking responsibility for self-management of their diabetes. Series editor: Anne Phillips

The so-called diabetes ‘annual review’ is an opportunity to check that a person with diabetes has received elements of care such as screening for complications and a review and revision of their diabetes knowledge (Diabetes UK, 2005a). The aim of review is to delay, detect or prevent acute and longer term complications of diabetes by considering metabolic control and associated risk factors. Those elements of care which are recommended for inclusion in an annual review are identified in *Figure 1*. Targets for carrying out many of the measures necessary to fulfil these recommendations appear in the Quality and Outcomes Framework of the new GMS Contract (British Medical Association (BMA), 2008a).

It is important that all patients with diabetes consent to be included on a practice diabetes register so that they can be monitored regularly (Crumbie, 2002). Anonymized data may then be aggregated for a district-wide register which can be used for

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epidemiological purposes (Haynes et al, 2007) such as monitoring the prevalence of diabetic complications to plan for future services.

Structuring a diabetes review

A useful guide to ensuring that key aspects of diabetes

care are carried out is the alphabet strategy—advice, blood pressure, cholesterol, diabetes control, eyes, feet, guardian drugs (Patel and Morrissey, 2002) (*Figure 2*). This strategy could be perceived as somewhat prescriptive rather than patient-centred, and some

parameters have been changed since it was first introduced, but the mnemonic aids the focus on key interventions to reduce cardiovascular, renal, retinal and foot complications. Guidelines from the National Institute for Health and Clinical Excellence (NICE) (2008) recommend aiming for a systolic blood pressure of <130 mmHg where there are signs of target organ damage and total cholesterol <4.0 mmol/litre. Advising patients to reach such targets could be considered out of step with a patient-centred approach, and it might be more appropriate and effective to ‘agree’ a plan of care.

Care planning is part of a patient-centred approach that facilitates a more active role by patients in the management of their diabetes. It allows the person with diabetes to make more decisions on the care he/she receives in collaboration with a health professional who is practising a partnership approach (Department of Health (DH), 2006; National Diabetes Support Team (NDST), 2008). Some of the core principles of this approach require clinicians to set aside the ‘professional expert’ to become a facilitator who uses a more behavioural approach to consultation (Tomkins and Collins, 2006). Using this approach John would be encouraged to share and discuss information and negotiate goals and agendas

Figure 1. Elements of a diabetes review (Diabetes UK, 2005b)

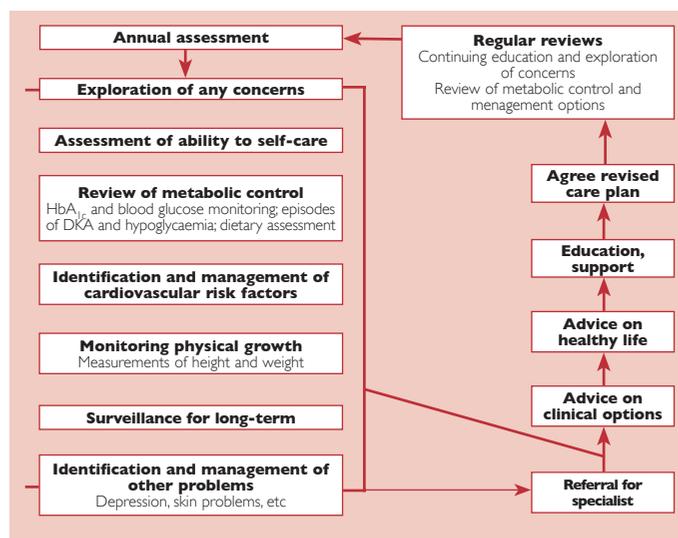
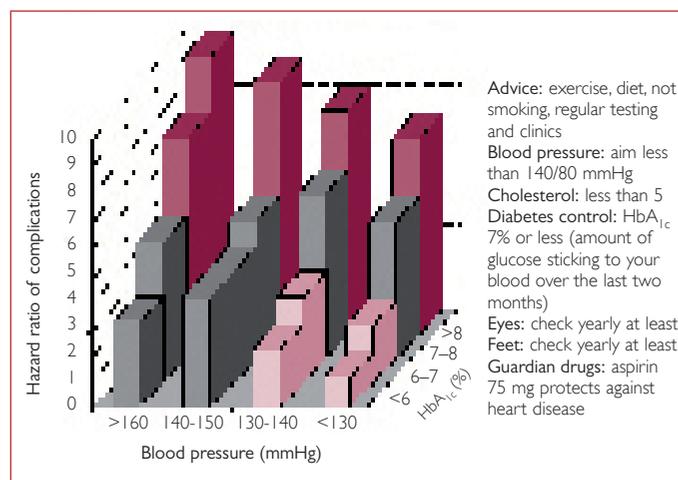


Figure 2. The alphabet strategy: a person-centred approach to care planning.



with the nurse (DH, 2006) (Case Study).

A simple strategy for helping people with diabetes prepare for a review and gain more from it is to post their results to them in advance. A leaflet that lists the parameters for each metabolic measure, explains what each means, and gives the patient space to write down why the results might not meet preset goals can be useful (NDST, 2008) (Figure 3). This approach might help John consider why his blood glucose and blood pressure are higher than ideal before his consultation. The practice nurse can support John in identifying which lifestyle factors he might want to address to improve his metabolic results. It is encouraging that he has had some previous success in stopping smoking, and the nurse can help John build on this to make further changes he feels he can achieve.

Figure 3. A sample results sharing sheet for care planning (National Diabetes Support Team, 2008).

	Your result was	Comment
Diabetes control Your HbA _{1c} is an overall measure of glucose control over the past 8–10 weeks. A level of between 6 and 7% is associated with the lowest risk of complications.	HbA _{1c} 6.6%	This shows good control but you are getting sugars frequently below 4 in the morning. We agreed to reduce your evening Glicazide to 40mg (half a tablet) or perhaps even stop it.
Blood pressure (BP) A target blood pressure of below 130/80 lowers the risk of complications (a target of below 125/75 is used if you have kidney disease).	BP 125/72	Excellent
Cholesterol and blood fats Lowering your cholesterol can reduce the risk of complications such as heart attacks and strokes. Whether or not you need treatment depends on your overall risk. If you are on treatment the target cholesterol is less than 5.	Cholesterol 4.2	Excellent
Kidney tests Your kidneys are tested by looking at a blood test (creatinine) and the leak of protein in your urine.	Creatine 146 Urine: Normal	Your creatinine is slightly high (eGFR 45) but this has been stable since at least 2001. I explained this does demonstrate some damage to the kidneys but suggested I was not too worried about this at the moment.
Weight & body mass index Being overweight increases the risk of many medical conditions including heart disease, arthritis and premature death. It can also make your diabetes and blood pressure more difficult to control. The body mass index (BMI) is another way to look at your weight by adjusting for your height. A BMI between 19 and 25 is associated with the lowest risk to your health.	Weight 104.6kg BMI 34.95	We discussed this in some detail today and used the action planning approach sheet. You have already made some changes such as cutting down portion sizes and avoiding fatty foods which seem to be working (you have lost some weight since the last appointment). You are quite confident you will be able to keep these up.
Smoking Smoking causes problems with your health in many ways but is particularly damaging in people with diabetes.	You are an ex-smoker	Excellent
Name:	Date of Birth:	Date sheet completed:

CASE STUDY

John Sykes, a 62-year-old plumber, is visiting the practice nurse for a review of his diabetes care. John was diagnosed with type 2 diabetes 7 years ago and has missed his last two appointments owing to work commitments. His biometric data are shown in Table C1. He is being treated with metformin 500 mg three times daily, gliclazide 80 mg twice daily, and (for blood pressure) lisinopril 10 mg daily.

John has recently had his annual retinal screen which reveals some background retinopathy and he is concerned about losing his sight. He has forgotten to bring his blood glucose testing diary and meter but admits he only tests when he remembers and usually just before a clinic appointment.

John's weight has increased since his last visit. He says he now has to wear a belt to

keep his trousers up below his stomach. He thinks this is probably because he gave up smoking 6 months ago.

Table C1. John's biometric data

Haemoglobin A _{1c} (HbA _{1c})	8.6%
Blood pressure	152/90 mmHg
Lipids:	
• Total cholesterol	5.5 mmol/litre
• Low-density lipoprotein	2.8 mmol/litre
• High-density lipoprotein	0.8 mmol/litre
• Triglycerides	2.3 mmol/litre
Microalbuminuria (albumin creatinine ratio)	8.3 mg/mmol
Estimated glomerular filtration rate	NA
Body mass index	32 kg/m ²

Cardiovascular risk

Cardiovascular disease is responsible for 65% of all deaths in people with diabetes, and micro-

albuminuria is regarded as a marker for this (Garg and Bakris, 2002). Furthermore, John is hypertensive and has dislipidaemia, putting him in

a higher risk category. While lifestyle changes are regarded as a key strategy for helping reduce cardiovascular risk (Centers for Disease Control and Prevention (CDC), 2005) and John may choose to consider changes to his diet or increase his activity level, he will require optimization of his angiotensin-converting enzyme (ACE) inhibitor medication. In the MICRO-HOPE study of over 3500 people with diabetes (HOPE Investigators, 2000), those who were treated with an ACE inhibitor (ramipril) had their cardiovascular risk reduced by 25–30%. Furthermore, an ACE inhibitor was found to be renoprotective and reduce the need for laser therapy for diabetic retinopathy (HOPE Investigators, 2000).

Patients with type 2 diabetes and persistent microalbuminuria should have a target blood pressure

of <135/75 mmHg (NICE, 2006). Consequently, the benefits of increasing John's lisinopril to a maintenance dose of 20–40 mg (Joint Formulary Committee, 2008) should be discussed with him. Any increase in ACE inhibitor should be followed by an assessment of renal function (NICE, 2006).

Microvascular risk

John is right to be concerned about his vision as diabetes is the most common cause of blindness in people of working age (Bunce and Wormald, 2006). The United Kingdom Prospective Diabetes Study (UKPDS) (1998a, 2000) reported on improvements in outcomes for patients who maintained good control of both blood pressure and blood glucose. John has already been identified as having changes in his retina as a result of his eye screening. Although he does not require photocoagulation at this stage, it is important to treat hypertension and

hyperglycaemia which will accelerate eye disease. If his blood pressure and albumin-creatinine ratio (ACR) improves with titration of his lisinopril then from a comparatively modest change to his medication he is reducing the risk of eye, kidney and heart disease. However, it is important to observe that for many patients more than one antihypertensive may be required, along with lifestyle changes, to reduce blood pressure (NICE, 2006).

Communicating risk

Usher (2008a) proposes that cultural and personal beliefs may play a significant part in how patients perceive risk. Patients may ascribe health risk to 'immutable circumstances' whereas other factors may be far more significant, particularly if it is possible to stimulate greater awareness and provide 'clear information'.

As John is concerned about his vision he may be more

motivated to improve control of his blood glucose and blood pressure if he understands the mechanisms of how diabetic eye disease can develop and how he can reduce the longer term risk of loss of vision.

A quantifiable method of measuring behaviour change might help address cardiovascular risk. Explanations of cardiovascular risk can be complex and may not lead to behaviour change. Information that is presented in the format of a cardiovascular risk calculator, for example, may help, particularly if accompanied by simple explanations (Goldman et al, 2006).

The UKPDS Risk Engine (Diabetes Trials Unit, 2001) (Figure 4) is a tool which may be downloaded and used to help with the management of people with type 2 diabetes in calculating cardiovascular risk (Stevens et al, 2001). Indeed NICE (2008) advocates using the UKPDS Risk Engine to calculate cardiovascular risk annually. This might be a crude measure of risk reduction, but it may appeal to John if the nurse can recalculate reductions in risk, for example, by entering a target for lowering his cholesterol or blood pressure.

In view of John's age, history of diabetes and risk of vascular disease, he may experience erectile dysfunction. This can have a profound effect on self-esteem, mood and on relationships. About 50% of men with diabetes may experience some problems with erectile dysfunction and many may not volunteer this unless asked (McCoid, 2007).

Sensitive questioning may provide the opportunity for John to respond so that he can be assessed and receive appropriate treatment which is likely to be an oral medication such as sildenafil (NICE, 2008).

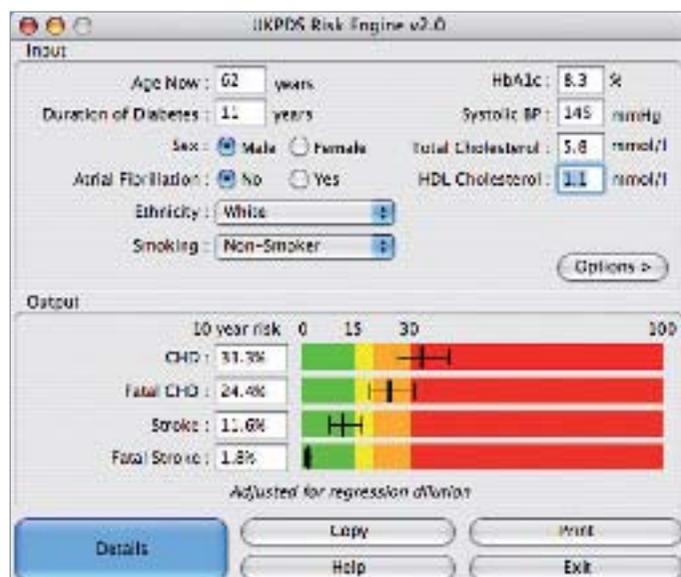
It is important to ask John if he has any problems with his feet, get him to remove his shoes and socks and for the nurse to carry out a neurovascular assessment (NICE, 2004). Further training may be required in the use of a monofilament and foot assessment and use a simple clinical algorithm such as the Tayside Clinical Risk Tool to stratify risk (Leese et al, 2006). The nurse should ask John to talk through how he might examine his own feet and what he would do if he thought he had any problems (NICE, 2004).

The onset of complications can be linked with low mood, and depression is twice as common in those with diabetes and often goes undiagnosed and under-treated (Snoek and Skinner, 2006). Depression can also disrupt glycaemic control (Snoek and Skinner, 2006). A simple screen for depression is part of the Quality and Outcomes Framework (BMA, 2008) and may help identify patients who require further support or services.

The value of self-monitoring

John has indicated his reluctance to test his blood glucose and there may be good reasons for this, particularly if readings are higher than he would prefer, if he receives no feedback on his results when he attends clinic, or if he does not know

Figure 4. The UKPDS Risk Engine (available at www.dtu.ox.ac.uk/index.php?maindoc=/riskengine/)



how to use results to help him manage his diabetes (Davidson, 2005; Peel et al, 2007). Furthermore, he may be reluctant to test due to pain, inconvenience (especially at work) or feeling self-conscious (Peel et al, 2004; Hadley-Brown et al, 2008). Guidance suggests that self-monitoring of blood glucose may benefit some people with diabetes (Owens et al, 2004). However, Simon et al (2008) concluded that self-monitoring may increase anxiety in people with type 2 diabetes, having a negative impact on quality of life, and not being cost-effective for routine use.

However, asking if John would test his blood glucose levels for short periods, for example, while his HbA_{1c} remains above target and teaching him to monitor any changes to treatment or lifestyle may be more acceptable. It might also be useful for him to test if he is experiencing any unusual symptoms, such as dizziness or shaking, which might relate to a low blood glucose level with a sulphonylurea (Hadley-Brown et al, 2008). Self-monitoring of blood pressure may be imposing an additional burden on him and it is probably more important to help him to continue with his medication.

Medication review

Raynor (1998) advises that those taking prescribed medicines require sufficient information to:

- ▶ Enable them to take and use the medicines effectively
- ▶ Understand the relative risks and benefits, to allow

them to make an informed decision about taking them.

However, Raynor (1998) points out that providing information does not always result in a transfer of knowledge, nor does knowledge transfer necessarily result in a change in behaviour or attitude. It is important to have an open dialogue with John about how and when he takes his medications. Ensuring patients take their current medicines before making any changes to doses or adding in additional therapies is important.

Adherence to prescribed medications can be suboptimal, particularly antihypertensives, with as many as 50% of patients abandoning treatment altogether after a year or taking 'drug holidays' for single doses or for several days (Vrijens et al, 2008). Diabetes UK (2008) has reported that as many one in five people with diabetes are not taking their medications and lacked knowledge about the cardiovascular risks associated with type 2 diabetes.

It might be useful to find out about John's understanding of his medication, including timing of doses, whether he forgets or omits his tablets and has any problems taking them, in addition to his knowledge of the potential risks of having diabetes and hypertension.

Beliefs may also have a key role in adherence. Negative perceptions related to side effects (e.g. weight gain with sulphonylureas) and changes to daily routine which made taking medications more

difficult were significant predictors of nonadherence in a study by Farmer et al (2006). Measures such as once-daily doses, combination therapies and the use of tablet dispensers may help patients take their medications appropriately (Goldie, 2006).

Guardian drugs

Metformin was shown to have a positive effect on cardiovascular disease in the UKPDS (1998b), reducing the risk of myocardial infarction by 39% and stroke by 41% compared with intensive treatment with other agents. John could have a modified-release form so that he has fewer tablets to take and does not have to remember to take them at work, a trade-off which might encourage him to take his medications (Usher, 2008b). Increasing the dose of metformin, which has a neutral effect on weight, and stopping the sulphonylurea, which causes weight gain, may help with John's blood glucose control if he can change his diet or increase his activity levels.

To counteract hypercoagulability, which is a feature of the metabolic syndrome in type 2 diabetes and increases the risk of vascular events (Nugent, 2005), low-dose aspirin (75 mg) is recommended. John's cholesterol is elevated, and while he could consider improvements to his diet, such as reducing saturated fats or taking plant sterols in dairy products such as spreads and yoghurts, it is likely he will benefit from a statin, e.g. simvastatin 40 mg, to be taken in the evening; statins work most effectively overnight (NICE, 2008).

Conclusions

While regular surveillance for complications is recommended by the *National Service Framework for Diabetes* (DH, 2001), the consultation should also be an opportunity for the person with diabetes to discuss areas of concern including psychological, emotional and social wellbeing (Jerreat, 2003), culminating in a negotiated plan of care with jointly negotiated goals for the future. These may be reviewed at 3–6 months or more frequently during an interim consultation, depending on the individual's needs or for monitoring purposes such as a blood pressure check (NICE, 2008). Nurse-led risk reduction services for people with type 2 diabetes have had positive evaluations (Denver et al, 2003; Woodward et al, 2005) and there are good examples of strategies that help engage with patients in the management of risk. Furthermore, there is accumulating evidence to support continuity of care, consistent with primary care diabetes clinics, including increasing patient satisfaction, better use of resources and, most important, improved adherence to treatment (van Servellen et al, 2006).

Conflict of interest: none

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KEY POINTS

- Diabetes review is an opportunity to monitor diabetes care, sharing and discussing information and results with the person with diabetes
- Review aims to support patients in the prevention of acute and longer-term complications
- Information relating to risk is part of the review and can be communicated in a way which enables people with diabetes to make decisions and choices about their diabetes care

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