Reducing Health Inequalities and Variations in Diabetes Outcomes in Primary Care

The Leadership Fellow post in ST4 captured my interest because before embarking on a lifelong career in General Practice, I wanted to do something creative and challenging and completely different. The projects offered opportunities to learn skills in project management and medical leadership, and to create positive change in a particular area of the NHS—not just in one practice or in one department of a hospital, but on a larger regional scale.

My project focused on Diabetes outcomes in Buckinghamshire. This had been highlighted as a PCT and World Class Commissioning priority because nationally, Buckinghamshire had one of the highest expenditures on Diabetes care, yet their clinical outcomes were statistically worse than average. The PCT had statistics available for every GP practice within Buckinghamshire and they showed marked variations in prevalence, in markers of care such as HbA1c and other QOF indicators, in expenditure on diabetes drugs, emergency admissions and so on. My overall project aim was to develop and implement a strategy to reduce these variations in a six-month time frame. It was up to me to decide how.

The task seemed enormous and it was difficult to know where to start. My post would be based at the PCT in the Public Health department. Obviously the PCT saw being a GP as an advantage, as if I would be able to “relate” to other GPs better and get them to do as I say. Yet there were many doubts in my mind. My task would involve looking into GP practices indepth, scrutinising their processes and outcomes and then getting them to make changes to their practice. Would all GPs be receptive and easy to engage?

The leadership programme run by Marion Lynch supported us to drive our projects successfully. We would meet with her and the other Leadership and Education Fellows once a month to discuss how our projects were progressing, brainstorm and share ideas and experiences, and provide mutual support. Every session would also focus on a topic relevant to our leadership development, and we were fortunate to have the opportunity to meet with other experts from different backgrounds—from the Department of Health, to Psychologists to real patients and carers—to keep us focused on our vision and to facilitate our journey to achieve it.

The programme encouraged us to think in 3 different areas:

**Whole System**

One of our first sessions introduced us to PDSA (Plan, Study, Do, Act) cycles. I found this to be a highly effective way of getting the project moving, by thinking of it in small manageable steps rather than the Goliath task of getting from start to finish. It allowed me to plan and implement these small steps, test out different ideas and facilitated my project design enormously.

We were supported to think about different methodologies to use in our projects and signposted to helpful resources. A really useful tool was the Institute of
Innovation and Improvement and their leadership guide publications, which gave valuable insight into process mapping and the Pareto principle, both of which I used with great effectiveness in my own project.

We gained a wider view of the NHS, the different levels of organisation, how we fit into it and how policy is developed. Most of us were working within PCTs and got firsthand experience of seeing things “from the other side”. We also during our sessions met with contacts who linked our projects to the relevant experts in the Department of Health. We also met with SHA executives and policy makers and really began to understand how policy is driven and developed, and most importantly, how we as clinicians can influence it.

Whole Patient

Throughout the project we were reminded that all strategy, planning and policy should keep the patient at the centre of it. We met with carers for relatives who had longterm conditions, their advocates and brokers. Our projects had to be focused on improving patient care, the quality of patient services, the access to these services and patient outcomes.

Whole Self

We learned about Neurolinguistic programming, a fascinating topic which gave us insight into what makes a good leader, and how we could improve our own personal effectiveness to be just that. We brought to the session examples of where we were struggling with our projects, including particular challenges and barriers we were facing, difficulties in getting others on board with our ideas and winning people over. We learnt to reflect on the way we each visualised our own projects, how our cognitions and beliefs may advance or hinder our progress and how to overcome each of these difficulties.

We each went on a Lead or Be Led course-a fantastic way to learn about NHS organisation at executive level, by role playing different stakeholders in the system, serving on a committee, developing policies and facing realistic challenges posed by patient communities, our own organisation (PCT, GPs, acute hospital trusts), finance, media and government.

We self-assessed our medical leadership competences at the start and finish of the project. Whereas initially I had little experience in bringing people together to form teams that worked cohesively, encouraging contribution and expertise from others into a project of my design, and managing resources and performance, by the end of the 6 months I had developed all these skills, put the GP voice into the PCT system decisions and policy, and formed creative solutions to transform services and care in Diabetes in GP practices.
Project Outcomes

My project has evolved from being an obscure idea into one which has had successful and definite outcomes. I have looked at GP practice locally and nationally to see what works well in producing excellent Diabetes outcomes. By harnessing this expertise and establishing what good practice looks like, I have been able to share good practice from the highest performing practices with the practices that were struggling the most, empowering GPs to make positive changes and improvements in their own surgeries, enabling them to implement new pathways for screening the missing thousands of undiagnosed diabetics and managing their established diabetics to best standards of practice. Following on from this I presented these ideas with whole GP collaboratives so that best practice could be shared across Buckinghamshire to reduce the gap in variations.

I identified a number of areas where PCT policy could be improved, and shared with them new cost-effective and sustainable ideas that had been demonstrated to be successful nationally. This has been well received and the recommendations from my report had already begun to be shared and implemented through operations managers of local GP collaboratives and the Public Health Department.

I also found that several vulnerable patient groups were having poorer outcomes, in particular the patient experience and diabetes education in the South Asian community. As a result, I worked with the regional manager of NHS Diabetes and the local Structured Education team to start a South Asian Structured Education Programme pilot for 2010.

Collaborating with national organisations and presenting to SHA executives has helped bring recognition to my work nationally. I have presented my project poster at the Managing Longterm Conditions 2010 national conference, with great interest from others doing diabetes projects around the country. I continue to be involved with ongoing project work at Buckinghamshire PCT and I have formed ongoing networks with others developing new Diabetes projects in other regions.

Kiran Bhachu
PRESENTATION AND DIAGNOSIS

Key Messages:
- Fasting glucose should be the gold standard to test for diabetes
- Random glucose may be more appropriate during presentation of very symptomatic individuals, or emergency situations eg suspected DKA.
- HbA1c can be used to reduce the number of OGTTs when investigating Impaired Fasting Glucose.

Likely Diagnosis

Diabetes should be considered in patients with the following symptoms:
- Thirst and polyuria
- Unexplained weight loss
- Unexplained tiredness
- Recurrent or persistent infections eg candidiasis, UTI
- Blurred vision
- Foot ulcers

Diabetic Emergencies

DKA:
- Type 1 diabetics are at risk of this. Usually younger individuals.
- Usually acute history (eg 2-3d) with polyuria, polydipsia, lethargy, anorexia, hyperventilation, ketotic breath, dehydration, vomiting, abdominal pain or coma. Urinary ketones are positive.

HONK:
- Type 2 diabetics are at risk of this, usually older individuals and usually first presentation.
- Often semi-acute history (eg 1 wk) with dehydration and glucose >35mmol/L. CNS signs may be present. Patients are at high risk of DVT.

*Admit if marked hyperglycaemia and catabolic state (weight loss, dehydration) as this suggests insulinopenia, even in older individuals.

Fasting Plasma Glucose Thresholds

<table>
<thead>
<tr>
<th>Threshold</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥7mmol/L</td>
<td><strong>Probable diabetes.</strong> In the presence of symptoms, a single result is diagnostic. In the absence of symptoms, a further confirmatory fasting glucose test is required on a different day.</td>
</tr>
<tr>
<td>≥6 to&lt;7mmol/L</td>
<td><strong>Impaired Fasting Glucose.</strong> Follow up with an OGTT or, Follow up with an HbA1c test: If result HbA1c &lt;6% proceed as below “no further testing”. If HbA1c ≥6% and &lt;6.5% proceed to OGTT. If HbA1c ≥6.5%, proceed as “probable diabetes”.</td>
</tr>
<tr>
<td>&lt;6mmol/L</td>
<td>No further testing. However it is vital the patient understands they are still at background risk of diabetes.</td>
</tr>
</tbody>
</table>

Random Glucose Thresholds

<table>
<thead>
<tr>
<th>Threshold</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥11.1mmol/L</td>
<td><strong>Probable diabetes</strong> In the presence of symptoms, a single result is diagnostic.</td>
</tr>
</tbody>
</table>
TARGETED OPPORTUNISTIC SCREENING FOR DIABETES

Key Messages:

- One quarter of diabetics are thought to be undiagnosed in the UK with evidence of many people having the condition between 9 and 12 years before diagnosis, and 50% of T2DM having complications at diagnosis.
- Annual screening is recommended in those with CVD risk factors, IFG and IGT.
- There is a need in Buckinghamshire for improved follow-up of those with a history of gestational diabetes (7-fold risk of diabetes) and those with severe mental health problems.
- Consider use of an alert flag or recall system to prevent patients slipping through the net.

Targeted Screening

Targeted opportunistic screening should be offered to the following groups. Consider use of an alert/annual recall system on the patient's record:

- Established hypertension
- Established CVD (Ischaemic Heart Disease, Peripheral Arterial Disease, stroke)
- BMI>30 (BMI>27.5 if South Asian origin)
- Waist circumference >94cm for White or Black men, >90cm for South Asian men, >80cm for all women
- Close family history of T2DM
- Previous Impaired Fasting Glucose (IFG) or Impaired Glucose Tolerance (IGT)
- Previous gestational diabetes
- PCOS, especially if age >40y or BMI>30
- Severe mental health problems
- Drug therapy-oral corticosteroids or major antipsychotics

Key Messages:

- People with IFG and IGT are at **high risk** of developing diabetes
- Intensive lifestyle interventions have been shown to reduce the risk of progression to diabetes by 60%.
- They are also at higher risk of CVD, therefore treatment strategies should encompass management of risk factors such as hypertension, dyslipidaemia, obesity and smoking.

Management of Prediabetics:

- Explain diagnosis (problem with glucose regulation)
- Explain that without intervention, the individual has a high risk of diabetes
- Explain how they can reduce this risk with lifestyle interventions:
  - Encourage weight loss through diet and exercise
  - Reinforce with written lifestyle advice
  - Refer to diabetes structured education
  - Consider PCT lifestyle support programmes
- Calculate CVD risk—this is higher when adjusted for IGT and IFG*
- Follow-up with annual fasting glucose

* JBS2 (Joint British Societies) CV Risk should be multiplied by a factor of 1.5 for those with impaired glucose regulation
Key Messages:
- Diabetes is a long term and progressive condition
- It is predominantly self-managed with only a few hours spent with a healthcare professional in any one year.
- Structured education programmes are crucial in supporting self-management and should be offered to all.

Glycaemic Control
- NICE have recently published tighter targets for glycaemic control following further evidence that the extent of hyperglycaemia is independently related to the risk of macrovascular and microvascular complications over time.
- However a metaanalysis of studies of intensive control has shown potential harms, in particular, the increased risk of severe hypoglycaemic episodes.
- It is therefore recommended that glycaemic targets should be set with each individual, with avoidance of pursuing highly intensive targets of less than 6.5 %.

When setting a target HbA1c:
- involve the person in decisions about their individual HbA1c target level, which may be above that of 6.5 % set for people with Type 2 diabetes in general
- encourage the person to maintain their individual target unless the resulting side effects (including hypoglycaemia) or their efforts to achieve this impair their quality of life
- offer therapy (lifestyle and medication) to help achieve and maintain the HbA1c target level
- inform a person with a higher HbA1c that any reduction in HbA1c towards the agreed target is advantageous to future health

Type 2 Diabetes Pathway in Primary Care
- The pathway on the following page has been based on an analysis of pathways from practices in the top quartile for diabetes outcomes in Buckinghamshire.
- It should be used as a guide and example of good practice.
- Its key features, taken from these practices, include:
  - A structured consistent pathway to be followed by all clinicians.
  - Diabetes management which is shared and mutually supported between the PN and the patient’s individual GP -this offers better accessibility in appointments and reduced bottlenecks as compared to a fixed miniclinic system that is operated by a single lead clinician.
  - Intensive approach to regular review at new diagnosis and when glycaemic control has not been achieved
  - Strong emphasis on patient education
  - Review of CVD risk at every review
  - Regular reinforcement of lifestyle interventions
## PRIMARY CARE PATHWAY

### INITIAL DIAGNOSIS

| Information prior to appointment | Consider asking patient to collect diabetes information pack from surgery prior to appointment so that they have time to reflect and produce questions. |

1. **Appointment at Diagnosis**

<table>
<thead>
<tr>
<th>Explain diagnosis</th>
<th>Being given a diagnosis of diabetes is a life event and a shock to many patients. The diagnosis should be conveyed sensitively, considering the patients existing knowledge, beliefs and misconceptions. However it must be emphasised that it is a lifelong condition. A negative experience at diagnosis will have a negative impact on the continuing relationship with the HCP.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Care Plan</td>
<td>Discuss what care to expect</td>
</tr>
<tr>
<td>Specific Enquiry</td>
<td>Check for complications: Visual disturbance, impotence, chest pain, claudication, neuropathic symptoms, intercurrent infection, foot complications, other systemic upset.</td>
</tr>
</tbody>
</table>
| Discuss markers of care and record baseline | HbA1c  
BP  
Cholesterol  
BMI and waist circumference (BMI<28 in T2DM, ideally 20-24)  
Diet and exercise (30min exercise 5 times a week, to the point of mild breathlessness) |
| CVD Risk          | Assess CVD risk  
Assess smoking status, advise cessation  
Assess ETOH intake and advise appropriately (21u/wk in M, 14u/wk in F) |
| Medication        | Discuss management: 3m lifestyle intervention vs first line drug therapy  
Discuss options for future treatment, including insulin |
| Referrals         | Structured education programme-this should avoid necessity for individual consultation with a dietician.  
Retinopathy screening.  
Ask patient to also see own optician.  
Plus consider smoking cessation  
Consider individual dietician referral only if further need established following structured education. |
| Additional Information | Medicolegal aspects-driving, employment, insurance  
Women should be advised re:family planning and preconception care |
| Coding            | Code diabetes, type 1 or 2, and ethnicity |

### Appointment at 2 weeks

<table>
<thead>
<tr>
<th>Outstanding blood tests</th>
<th>Fasting lipids, HbA1c, LFT, U+E, TFT, random BM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Albumin:creatinine ratio</td>
</tr>
<tr>
<td>Foot assessment</td>
<td>Assess the foot and set a risk rating. Refer all high risk patients to Podiatry</td>
</tr>
</tbody>
</table>
**Appointment at 1 month**

<table>
<thead>
<tr>
<th>Q+A</th>
<th>Discuss any concerns and check understanding</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Review Blood and urine results</strong></td>
<td>Manage as appropriate</td>
</tr>
<tr>
<td><strong>CVD Risk</strong></td>
<td>Reinforce CVD risk reduction</td>
</tr>
</tbody>
</table>
| **Medicines Management**      | Reinforce lifestyle intervention or first line drug as appropriate  
                                | Consider need for aspirin, statin, antihypertensive (ACE-I should be a priority) |
| **Check referrals**           | Check patient is engaging with the following:  
                                | Structured education  
                                | Retinopathy screening  
                                | Own optician  
                                | Smoking cessation  
                                | Dietician |

**Appointment at 3m**

<table>
<thead>
<tr>
<th><strong>Review 3m HbA1c</strong></th>
<th>Check concordance with medicines and lifestyle management</th>
</tr>
</thead>
</table>
| **CVD Risk**                  | Reinforce CVD risk reduction  
                                | Recheck BP, BMI |
| **Depression and Sexual Dysfunction** | 1. During the past month have you often been bothered by having little interest or pleasure in doing things?  
                                | 2. During the past month have you often been bothered by feeling down, depressed or hopeless  
                                | If either is answered YES, proceed to formal depression questionnaire eg PHQ9  
                                | Specifically enquire about sexual dysfunction. Consider phosphodiesterase-5-inhibitors if erectile dysfunction. |

**Further Follow-Up**

<table>
<thead>
<tr>
<th><strong>If glycaemic control is satisfactory</strong> HbA1c 6.5 to ≤7.5%</th>
<th>Review with new HbA1c every 6 months and formal annual review every 12 months</th>
</tr>
</thead>
</table>
| **If glycaemic control is unsatisfactory** HbA1c >7.5%       | Review with new HbA1c every 3 months.  
                                | Reinforce lifestyle interventions-check diet and exercise  
                                | Consider re-education through structured education programme  
                                | Consider Dietician referral  
                                | Consider local schemes for exercise groups, weightwatchers, etc |

**Ideas to support self-management:**

- Consider sending a letter explaining the results in advance of the review to allow the patient time to reflect and think of questions.
- Consider use of email and telephone consultations for interim reviews, eg following adjustments in therapy
## Diabetes Drug Formulary in T2 Diabetes

Refer to the PCT Prescribing Guidelines for Type 2 Diabetes for full drug algorithm.

<table>
<thead>
<tr>
<th>Drug</th>
<th>Regime</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metformin</td>
<td>Increase in 500mg increments in minimum 1 week intervals:</td>
<td>Avoid in renal impairment</td>
</tr>
<tr>
<td></td>
<td>1. Metformin 500mg od with breakfast</td>
<td>Check U+E at baseline and at 2wk. Review dose if eGFR &lt; 45, stop if eGFR &lt; 30.</td>
</tr>
<tr>
<td></td>
<td>2. Metformin 500mg bd with meals</td>
<td>Consider metformin MR if GI intolerance</td>
</tr>
<tr>
<td></td>
<td>3. Metformin 500mg tds with meals</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. Metformin 1g bd with meals</td>
<td></td>
</tr>
<tr>
<td>Sulfonylurea</td>
<td>Increase in 40mg increments in minimum 1 week intervals:</td>
<td>Can be used in renal impairment as metabolised by liver.</td>
</tr>
<tr>
<td>(Gliclazide)</td>
<td>1. Gliclazide 40mg od with breakfast</td>
<td>Educate for hypoglycaemia, especially in renal impairment.</td>
</tr>
<tr>
<td></td>
<td>2. Gliclazide 80mg od with breakfast</td>
<td>If hypoglycaemia occurs with insulin use, review need for SU.</td>
</tr>
<tr>
<td></td>
<td>3. Gliclazide 120mg od with breakfast</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. Gliclazide 160mg od with breakfast</td>
<td></td>
</tr>
<tr>
<td>Insulin</td>
<td>If HbA1c &lt;9.5% start NPH insulin eg Insulatard or Humulin I</td>
<td>Refer to community DSN, unless practice trained in insulin initiation.</td>
</tr>
<tr>
<td></td>
<td>If HbA1c ≥9.5% start biphasic human insulin bd eg Mixtard 30 (premixed)</td>
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<tr>
<td></td>
<td>or consider BBR eg Apidra+NPH</td>
<td></td>
</tr>
<tr>
<td>Drug</td>
<td>Regime</td>
<td>Comments</td>
</tr>
<tr>
<td>-----------------------------</td>
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<td>------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Thiazolidinedione</strong></td>
<td>Increase dose after 2m:</td>
<td>Only consider instead of insulin if insulin is unacceptable because of occupation, social, personal issues or obesity. Continue if HbA1c reduces by ≥0.5% in 6m, otherwise stop. Do not in established heart failure or if high risk of heart failure. Check LFTs at baseline and periodically after that.</td>
</tr>
<tr>
<td>(Pioglitazone)</td>
<td>1. Pioglitazone 15mg od</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Pioglitazone 30mg od</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Pioglitazone 45mg od</td>
<td></td>
</tr>
<tr>
<td><strong>Rapid-acting Insulin</strong></td>
<td>Increase dose after 1-2 weeks:</td>
<td>Only consider instead of SU if erratic lifestyle or Hypoglycaemia with SU.</td>
</tr>
<tr>
<td>Secretagogue (Repaglinide)</td>
<td>1. 500mcg tds 30min before meals</td>
<td></td>
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<tr>
<td></td>
<td>2. 1mg tds 30min before meals</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. 2mg tds 30min before meals</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. 3mg tds 30min before meals</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4mg tds 30min before meals</td>
<td></td>
</tr>
<tr>
<td><strong>DPP-4 Inhibitors</strong></td>
<td>Not currently on PCT formulary</td>
<td></td>
</tr>
<tr>
<td>(Sitagliptin)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>GPR-1 Analogue</strong></td>
<td>On PCT formulary. Refer to secondary care for individual case selection</td>
<td>Consider adding exenatide to metformin and a sulfonylurea if:</td>
</tr>
<tr>
<td>(Exenatide)</td>
<td></td>
<td>• BMI ≥35 in people of European descent and there are problems associated with high weight</td>
</tr>
<tr>
<td></td>
<td></td>
<td>or</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• BMI &lt; 35 and insulin is unacceptable because of occupational implications or weight loss would benefit other comorbidities. Only continue if HbA1c reduction by 1% point and weight loss of at least 3% of initial body weight at 6m, otherwise stop.</td>
</tr>
</tbody>
</table>
LIPID MANAGEMENT

When to consider statin:
Age under 40 years and poor CV risk profile  
Or  
Age over 40, unless all of the following apply:
  - not overweight for ethnic group
  - normotensive (< 140/80 mmHg in absence of antihypertensive therapy)
  - no microalbuminuria
  - non-smoker
  - LDL<2, TC<4
  - no metabolic syndrome (central obesity, low HDL and high TG)
  - no history of CV disease
  - no family history of CV disease
  - CV risk not >20%

Statin appropriate?

Yes

Commence Simvastatin 40mg (if concerned about side effects start at 20mg and titrate to 40mg). Check LFTs at baseline, 1m, 3m and 1yr.

No

Defer statin and review risk annually

TC<4 and LDL<2

No

Check concordance with medication and lifestyle before increasing to Simvastatin 80mg. If still not to target, change to Atorvastatin 20mg and titrate to achieve target.

Yes

Continue Simvastatin 40mg
High Serum Triglycerides

Assess and treat secondary causes, including poor glycaemic control, hypothyroidism, renal impairment, and liver disease (especially ETOH).

- TG > 10 mmol/L despite above measures
- TG > 4.5 mmol/L despite above measures

Offer Simvastatin

Reassess after 3m. If TG remains > 4.5 mmol/L despite maximal statin therapy, consider fenofibrate.

- TG > 10 mmol/L despite above measures

A fibrate may need to be started before a statin because of the risk of pancreatitis if left untreated, and the undesirability of starting the two drugs at the same time. Seek specialist advice.
BLOOD PRESSURE MANAGEMENT

Target BP should be <140/80mmHg or <130/80mmHg if kidney, eye or cerebrovascular complications

BP above target

Confirm readings. Start ACE-I and titrate to maximum dose. If Afro-Caribbean, add CCB or diuretic to ACE-I. (If ACE-I not tolerated due to cough, change to A2RB but switch back if cough persists.)

BP still above target

Add CCB or bendroflumethiazide. Titrate to reach target

BP still above target

Add CCB or bendroflumethiazide, whichever has not been started previously

BP still above target

Consider alpha-blocker, beta-blocker or potassium-sparing diuretic (latter requires potassium monitoring when in combination with ACE-I)
SCREENING FOR MICROALBUMINURIA

Annual screening for creatinine, eGFR and microalbuminuria (first pass urine)
Check there is no evidence of proteinuria on dipstick and UTI

If negative 1st sample, repeat screening pathway in 12m.
If ACR>2.5mg/mmol in M or >3.5mg/mmol in F on 1st sample, repeat test once or twice more in 3-4m to confirm on 2nd sample.

Microalbuminuria confirmed on 2nd sample?

No
Repeat screening pathway in 6m

Yes
Code, start ACE-I and titrate to maximal therapy. (If not tolerated due to cough, switch to A2RB. Switch back to ACE-I if cough persists)
Microalbuminuria is an independent CVD risk factor. Optimise glycaemic, lipid and BP control (target<130/80).

Suspect renal disease other than diabetic nephropathy if urine ACR raised and any of the following:
- no significant or progressive retinopathy
- BP is particularly high or resistant to treatment
- heavy proteinuria (ACR >100 mg/mmol) but ACR previously documented as normal,
- significant haematuria
- GFR has worsened rapidly
- the person is systemically unwell.

Consider further investigation/referral to renal physician.
# ANTI-PLATELET THERAPY

## Primary Prevention

Aspirin 75mg is not licensed in primary prevention of CVD. Consider on individual basis in diabetes with BP<145/90, if:
- age 50y and over
- age<50y but other significant CVD risk factors.

Consider the following CVD factors balanced against risk of GI bleeding:
- metabolic syndrome
- microalbuminuria
- hypertension
- smoker
- strong early family history of CVD

## Secondary Prevention

Licensed for secondary prevention if existing CVD.
FOOT CARE

**All** foot reviews should include palpation of pedal pulses, assessment for sensory neuropathy using 10g monofilament or neurothesiometer and assessment for any skin lesions and/or foot deformity. Foot wear should be assessed as accommodating of the foot. From this assessment a risk rating is set which will dictate the level of care required for the patient

**Low risk feet** have pedal foot pulses all present and no sensory neuropathy requiring annual review with competent HCP annual review

**Increased risk feet** have sensory neuropathy and/or impaired circulation but NO skin lesions or deformity. Review should be 3-6 monthly with competent HCP

**High risk feet** have sensory neuropathy and/or impaired circulation AND skin lesions or deformity. They should be under care of podiatry team.

**Urgent referral to specialist podiatry team for 24hr review:** New ulceration, chronic nonhealing wounds, acute trauma, swelling or discolouration.

**Immediate Secondary Care referral:** Charcot osteoarthropathy, deep foot infection or active cellulitis.

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**Neuropathic Pain**

Refer to PCT guideline: Guideline for the Management of Neuropathic Pain in Adults.
Reducing Variations between GP Practices in Diabetes Care

HbA1c is a marker of good diabetes care yet target achievement is statistically worse than national average. Expenditure in diabetes prescribing is one of the highest in the country indicating poor outcomes despite high costs. However, some GP practices are achieving relatively better outcomes and lower costs despite significant social deprivation and a high proportion of ethnic minority groups.

Reasons for Variations between GP Practices

Analysis of results from all GP practices in Bucks showed that differences in demographic factors alone were not likely to account for all variation. Practices from both the top and bottom quartiles for diabetes outcomes including QOF markers of care, prevalence and prescribing costs were visited to find out:

1. What do practices do differently in their diabetes pathway?
2. How do different practices overcome similar population barriers?
3. Can we extract these ideas for good practice and share them?

Reasons for Variation

- Problems with team structure
- Inconsistent screening and management of high risk groups
- Poor accessibility to appointments
- Lack of structured care pathways in some practices
- Variability in prescribing protocols
- Variable efforts made before exception reporting for informed dissent
- Difficulties with care for special groups including housebound and care home residents, and ethnic minority groups.

Impact and Recommendations

- Empowering GPs to improve diabetes care by sharing good practice between top and bottom quartiles
- Now rolled out to all GPs across Bucks.
- Targeted screening pathway implemented to find the missing thousands that are still undiagnosed.
- Patient pathway for prediabetics and new diabetics incorporating efficient use of resources and referrals
- Tailored support for patients with a new Patient Structured Education Pilot for South Asian diabetics

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DIABETES PROJECT TO ASSESS HEALTH INEQUALITIES AND VARIATIONS BETWEEN GP PRACTICES

SUMMARY

Key Facts

- In 2008/09 there were more than 18,000 adults diagnosed with diabetes, yet modelling suggests that over 2800 more are not yet diagnosed

- HbA1c is a marker of good diabetes care yet only 57.68% of adult diabetics have HbA1c<7.5% including exceptions. This is statistically worse than the national average.

- Good outcomes and lower costs were attained even in some practices with high levels of deprivation and a high proportion of BME (Black and Minority Ethnic) groups, and vice versa.

Methods

- A range of QOF and other indicators were analysed for all Bucks practices.

- Based on these, two groups of practices were selected, 5 of which were performing well overall and 5 of which were performing less well and falling further behind.

- A structured interview took place with each practice diabetes lead that covered a broad range of areas including their full diabetes pathway.

Results and Recommendations

The following table is a summary of the main findings and recommendations from this report.
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<th>Area Of Diabetes Care</th>
<th>Main Issues</th>
<th>Main Recommendations</th>
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<td><strong>LEADERSHIP, SKILLS AND EDUCATION</strong></td>
<td>• Variable interest, skills and expertise in diabetes</td>
<td>• A whole team approach to delivering diabetes care</td>
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<td></td>
<td>• Lack of workload sharing, lack of support to other colleagues within own practice.</td>
<td>• Further professional development and further training</td>
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<td></td>
<td>• Poor links with CDSNs in some cases.</td>
<td>• Reciprocal efforts from CDSNs and practices to improve working relationships</td>
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<td>• A whole team approach resulted in better outcomes.</td>
<td>• Tailored shared care between diabetes specialist teams and individual practices depending on capacity and capability of the practice.</td>
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<tr>
<td><strong>SCREENING OF HIGH RISK GROUPS AND MANAGEMENT OF PREDIABETICS</strong></td>
<td>• Patchy delivery of opportunistic screening.</td>
<td>• Targeted opportunistic screening of high risk groups.</td>
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<td></td>
<td>• Fear of opportunistic screening yielding unmanageable workload.</td>
<td>• Use of recall system for follow-up screening.</td>
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<td>• Lack of promoting patient awareness and active health promotion.</td>
<td>• Allocation of sufficient staff time for managing workload</td>
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<td>• High use of secondary care services to do OGTTs.</td>
<td>• Increase patient awareness of diabetes symptoms and screening.</td>
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<td></td>
<td>• Variable management and follow-up of prediabetic patients with lack of recall systems</td>
<td>• Use of HbA1c as an alternative to OGTT in secondary care</td>
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<td>• Standardised protocol prediabetic patient care.</td>
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<td>• Use of PBS prevalence model to predict undiagnosed case numbers at practice level, use of clinical audit to identify those not on diabetes register.</td>
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<td>• Active case-finding by PCT eg NHS Health Checks and outreach work.</td>
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<tr>
<td><strong>PATIENT PATHWAY FOR NEWLY DIAGNOSED TYPE 2 DIABETIC</strong></td>
<td>• Lack of structured care pathway in some practices</td>
<td>• Sharing of good practice with all GPs in Bucks</td>
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<td></td>
<td>• Variability in sharing of protocol and in adherence</td>
<td>• New integrated diabetes care pathway</td>
</tr>
<tr>
<td></td>
<td>• Variable referral rate to Structured Education</td>
<td>• Referral to Structured Education within 3m of diagnosis</td>
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<tr>
<td></td>
<td></td>
<td>• Exploration into new ways of enhancing shared management. This may involve enhanced skills training.</td>
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</tbody>
</table>
| **ACCESSIBILITY** | • Continued use of miniclinic systems despite problems with accessibility and bottlenecks  
• Barriers to follow-up including blocking of future appointments | • Practices with a miniclinic system should consider an open appointment system to improve accessibility, reduce impact of non-attendance and reduce delays in seeing a clinician  
• Practices should consider using email and telephone support between appointments.  
• The PCT could use CDSNs or other diabetes nurses to educate and drive implementation of the protocol in practices that do not already use one.  
• Practices should not block advanced appointments for people with long-term conditions who require regular ongoing care. |
| **DRUG PRESCRIBING** | • Variability in prescribing in primary, secondary and community care settings.  
• Lack of community based insulin conversion services.  
• Difficulties in reducing inappropriate test strip use in those already using them regularly. | • Agreed prescribing protocol between primary care, CDSNs, secondary care and the PCT  
• Practices audit of test strip prescribing within their own diabetes registers with further patient education where inappropriate use is an issue.  
• Services should be brought closer to patients and communities to increase uptake and utilisation. A community-based insulin conversion service would increase convenience to patients and allow more appropriate use of secondary care resources for practices that cannot support insulin conversion in-house. |
| **ANNUAL REVIEWS AND NON-ATTENDANCE** | • Variability in achievement in markers of care  
• Variable efforts made before exception reporting for informed dissent | • Markers of care and exception reporting should be audited annually, if not more frequently, to facilitate setting of inspirational targets, assess ongoing improvement and highlight practices and patient groups which are consistently falling behind.  
• Consider the use of PCT and practice IT tools to facilitate data collection in addition to QOF.  
• Support strategy to help practices that are underachieving above. |
| SPECIAL PATIENT GROUPS | • Difficulties with engagement and concordance in BME groups, particularly South Asian patients.  
• Lack of routine care and service provision to housebound and carehome patients.  
• Difficulties in engaging and managing those with severe mental health problems or learning difficulties in some practices. | • Practices should make significant efforts before exception reporting on informed dissent, eg use of telephone or prescription messaging to enhance user uptake, protected time to implement this.  
• A continual dialogue needs to be established with the diabetes community to maintain engagement and awareness of user issues.  
• Targeted Structured Education for South Asian diabetics and their carers—to commence in May 2010  
• Link work of Structured Education team with Partnership Development Team, as the latter are already involved with South Asian community health promotion events and have established links with the South Asian community and religious leaders  
• Sustain links with South Asian community to help advise development of targeted services and also to voice specific health messages, eg religious leader engagement to promote health messages regarding fasting for Ramadan.  
• Greater flexibility in the translation service is needed to promote more effective uptake of their services.  
• There needs to be a programme to facilitate diagnosis and treatment of carehome and housebound people, whom at present appear to be greatly disadvantaged with current primary care services.  
• Ongoing investigation into user uptake from different groups and achievement in QOF targets. This was not possible during this project due to lack of recording in practices of ethnicity and complexity in performing data searches without the application of Diabetes IT tools. |
INTRODUCTION

Aims

- To assess the variations between GP practices
- To find examples of good practice and share these with other practices
- To improve care of patients with diabetes, improve outcomes and reduce inequalities in line with PCT and World Class Commissioning targets

Key Facts

In 2008/09 there were more than 18,000 people aged 17 years and older diagnosed with diabetes in Buckinghamshire representing a prevalence of 3.5% with an estimated 87% of all diabetics in Buckinghamshire known to health services. Modelling suggests that over 2800 more are not yet diagnosed.

The UKPDS showed that up to 50% of people already have microvascular and macrovascular complications at diagnosis, with evidence that some people have the condition between 9 and 12 years before diagnosis.

HbA1c is a marker of good diabetes care, yet only 57.68% of adult diabetics in Buckinghamshire have HbA1c ≤ 7.5% including exceptions which is statistically significantly worse than the national average of 60.18% However, prescribing spend per diabetic patient is the highest in the country, indicating poor outcomes despite high costs.

In Buckinghamshire it does not appear that performance is particularly dependent on deprivation with some practices in very deprived areas achieving relatively good outcomes and vice versa.

![Chart 1. HbA1c ≤ 7.5% per Buckinghamshire practice according to deprivation.](image-url)
METHODS

A range of diabetes QOF indicators were analysed for all established 59 practices in Buckinghamshire for the year 2008/09, including data for achievement, non achievement and exception reporting rates, and HbA1c trend data for the preceding QOF year. Practice prevalence and cost of prescribing was also taken into account. Based on these findings, 2 groups of practices were selected. Group 1 consisted of 5 practices which were performing well overall and Group 2 consisted of 5 practices which were performing less well and appeared to be falling further behind.

A letter was sent to each practice manager explaining the aims of the project. A 1 hour discovery interview was then arranged with the diabetic lead(s) for each practice using a questionnaire derived from a number of resources that covered a broad range of areas encompassing diabetes care which included the full diabetes pathway from screening and diagnosis, prediabetic and new diabetic care and follow-up.

RESULTS: Variations by Practice

Prevalence

Practice prevalence of diabetes showed more than 2.5-fold variation, ranging from 2.3 to 6.25%. PCT average prevalence was 3.47%, compared to the national average of 4.06%.

The Doncaster model suggests that the known prevalence in Buckinghamshire is 3.5% and that about 2800 diabetics are not known to health services. Some of the variation between practices will be due to differences in age and other demographics but this is not likely to account for all the variation. Some practices with a greater ethnic population, have a lower known prevalence of diabetes compared to other practices with similar levels of ethnicity suggesting significant levels of undiagnosed diabetes.

Glycaemic Targets

Practice achievement of HbA1c ≤7.5% varied from 42.34% to 76.85%, with a PCT average of 57.48%. There were some relatively good achievements in very deprived practices. However, of the 14 practices which are in the highest ethnicity quartile, half of these appear in the lowest HbA1c<7.5% achievement quartile and only 2 appear in the highest achievement quartile.
Practice exception reporting for HbA1c ≤7.5% varied from 0.38% to 42.34%, with a PCT average of 10.77%. This is above the national average of 9.2%. Some practices were able to gain relatively high achievement and low exceptions even in very deprived areas, for example one practice in the most deprived quintile and a relatively high ethnicity of 8.54% was able to achieve HbA1c<7.5% in 69.09% of their register, and exception report 9.82%. Another practice in the least deprived quintile with a low ethnicity of 2.13%, achieved only 48.95% and excepted 15.26%.

**Cost-Effective Prescribing**

Insulin spend per patient with diabetes was the highest in the country in 2007/08 (£89.90), the national average being £76.85. Spend per diabetic patient on monitoring agents was the second highest of PCTs nationally, as was PCT spend on all diabetic agents together. This high cost is not reflected in better care or better outcomes for diabetic patients in Buckinghamshire.

The total diabetic drug cost per patient in 2008/09 varied from £181.44 to £392.05. The total insulin cost per patient was £105.47 to £245.05 Out of the ten practices with a total diabetic drug spend per patient of more than £350, 6 were in the lowest quartile for achievement of glycaemic control.
Further Markers of Care

<table>
<thead>
<tr>
<th>Indicator</th>
<th>PCT Average Achievement including exceptions</th>
<th>Practice Range for Achievement including exceptions</th>
<th>PCT Average Exception Reporting</th>
<th>Range for Exception Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>BP&lt;145/85</td>
<td>74.31%</td>
<td>54.52% to 89.09%</td>
<td>6.63%</td>
<td>0.82% to 17.12%</td>
</tr>
<tr>
<td>Total chol-5mmol/L</td>
<td>74.72%</td>
<td>64.88% to 73.88%</td>
<td>9.57%</td>
<td>3.40% to 24.32%</td>
</tr>
<tr>
<td>Peripheral pulse foot screening</td>
<td>86.65%</td>
<td>76.32% to 96.98%</td>
<td>6.24%</td>
<td>0.38% to 21.50%</td>
</tr>
<tr>
<td>Retinal screening</td>
<td>84.71%</td>
<td>59.48% to 96.60%</td>
<td>6.10%</td>
<td>0.9% to 35.06%</td>
</tr>
<tr>
<td>Emergency Admission Rate</td>
<td>1.34%</td>
<td>0.28% to 3.66%</td>
<td>n/a</td>
<td>n/a</td>
</tr>
</tbody>
</table>

Structured Education Uptake

There were 813 patients referred, of whom 558 engaged with the programme. 85% were White British and 8.6% from BME groups, with a range of 1 to 59 referrals per practice in 2009. Interestingly some practices with the highest proportion of BME groups had some of the lowest referral rates, and vice versa.
RESULTS AND RECOMMENDATIONS FROM PRACTICE VISITS

1. Leadership, Skills and Education

Practice Team Structure

Group 1: Sharing of workload and good clinical support.

3 practices said they shared diabetes management among both GPs and PN without a specific lead clinician. The remaining 2 practices had a Nurse Lead who did the bulk of the management but felt well supported by the GPs.

Group 2: Single lead clinician

2 practices had a single GP lead who did the bulk of diabetes management with a PN. 2 practices had a Nurse Lead with some variable or little input from GPs. 1 singlehanded practice said there was no diabetes lead.

Areas of good practice: 1 GP recognised increasing workload and plans to appoint a Nurse Practitioner in the near future to expand the diabetes team.

Areas for concern: All clinicians interviewed at one practice expressed no interest, and tended to feel isolated and unsupported by community and secondary care colleagues, though they had no desire to increase the diabetes skills training or employ additional staff with more interest and skills in diabetes. Some practices reported less of a team approach to care and less interest from the rest of the team. Other factors reported that were felt to be contributing to poor performance included low workplace morale, high turnover of clinical and administrative staff with lack of continuity and poor support from colleagues in managing the workload.

Diabetes Training and Accreditation

Group 1 and 2: Warwick training and Insulin Initiation

4 practices from Group 1 had at least 1 clinician who was Warwick-accredited, of which 3 practices also had skills in insulin initiation. 1 practice had neither.

3 practices from Group 2 had at least 1 clinician who was Warwick-accredited of which 2 practices also had skills in insulin initiation. 1 practice had a GP who had trained in diabetes clinics, and 1 practice had no further diabetes training.

Diabetes Interest

Group 1 and 2: Interested clinicians

In group 1, 4 practices specifically expressed an interest in diabetes.

In group 2, 3 practices specifically expressed an interest and 1 practice specifically expressed little interest.
Community Support

Group 1: Excellent links with community diabetes specialist nurses
3 practices specifically expressed this contributed to the success of their team.

Group 2: Little support from community diabetes specialist nurses
3 practices felt inadequately supported by CDSNs

Problem areas: One GP who had no further diabetes training reported feeling helpless when patients with high HbA1cs were discharged back to him from community clinics.

Secondary Care Links

Group 1+2: Lack of continuity and communication
2 practices said they tried to keep as many of their diabetics in the community where possible because patients were not seen as regularly in secondary care, there was lack of continuity in secondary care and they appeared to have worse control. It was acknowledged the latter may be due to the case mix.

Problem Areas: Both groups found written communication from secondary care clinics incomplete, with details of examination or results not included. This led to patients often being recalled into the surgery for a duplicate test or examination which patients found annoying and often complained about.

SUMMARY OF MAIN ISSUES FOR LEADERSHIP, SKILLS AND EDUCATION

- Variable expressed interest in diabetes.
- Low motivation in improving own skills and knowledge in managing diabetes.
- Lack of team work and workload sharing within own practice.
- Lack of support to other colleagues within own practice.
- Poor links with CDSNs in some cases.
- A whole team approach resulted in better outcomes.

RECOMMENDATIONS

- In view of increasing prevalence of diabetes and its longterm nature, it would be in the practices’ best interests to consider a sustainable whole team approach to delivering diabetes care with sharing of workload responsibilities.
- Where there are highly skilled or interested clinicians in diabetes, individual patient care could be shared between them and their usual GP.
- Practices should be aware of limitations in skills and knowledge within their own staff and promote professional development and further training, A personal development portfolio could facilitate in this.
- Practices and CDSNs should make reciprocal efforts to improve working relationships in order to facilitate the provision of ongoing support and advice.
- A balance of shared care agreed between diabetes specialist teams and individual practices may need to be tailored depending on capacity and capability of the practice.
2. Screening of High Risk Groups

Promoting Clinician Awareness

Group 1+2: Mainly opportunistic screening
In both groups the majority of practices carried out opportunistic screening over a range of high risk groups, but at the individual GP’s knowledge and discretion.

Areas of good practice: 1 practice had a clear screening protocol disseminated to all clinical staff with a recall system in place, and a clear objective of active health promotion. 1 practice had their mental health register on annual recall for screening. 1 practice did urine dipstick on all new patients. Some used flag prompts on patient records to alert high risk for diabetes if on steroids or major antipsychotics. 1 practice who had a high BME diabetes prevalence said they screened most new BME patients.

Problem areas: Screening was ad hoc and patchy in most cases. Those patients with severe mental health problems, or those taking major antipsychotics, a history of gestational diabetes and PCOS were commonly groups that did not have screening. 1 practice restricted screening to just 2 patient groups: obese or hypertensive patients. 2 practices only screened if the patient was having bloods for something else.

All practices in Group 1 agreed a protocol would be helpful but the main barrier to writing this was lack of time.

Most practices in Group 2 felt the main barrier would be managing the increased workload that a higher yield of diagnoses would incur.

Promoting Patient Awareness

Group 1: Wide use of promotional material in waiting rooms
4 out of 5 practices kept posters or leaflets to promote diabetes awareness. 1 practice would also participate by promoting Diabetes Awareness Week.

Group 2: No use of promotional material
None of the practices had diabetes material in waiting rooms or other areas. One had a “no poster” policy. 1 practice questioned the value of written materials as they had a high prevalence BME population, many of whom were illiterate in their own languages. However a number of other practices reported they encourage all patients who do not speak English to bring an English-speaking family member with them to their appointments.

Oral Glucose Tolerance Tests

Group 1: Majority referred to hospital
Only 2 practices did these in-house. The main barrier was lack of appointment time.

Group 2: Majority referred to hospital
1 practice did HbA1c instead of OGTTs.
Management of Prediabetics (Impaired Fasting Glucose and Impaired Glucose Tolerance)

Group 1:  **Lifestyle Advice and Variability**

All practices said they would give verbal lifestyle advice and 3 written advice as well. 3 practices used other clinicians in the practice (PN, GP or dietician) or CDSN to reinforce the message.

**Areas of good practice:** 1 practice would do a CVD risk calculation to guide further medicines management.

**Other issues:** 1 practice mentioned one of their GPs sometimes started these patients on metformin.

Group 2:  **Lifestyle Advice and variability**

All practices would give verbal lifestyle advice. 3 practices would sometimes refer the patient, either to a hospital dietician or DM lead in the practice but this was variable for individual patients.

Follow-Up of Prediabetics

Group 1:  **Annual follow-up**

In patients with IGT, all practices said they would do an annual fasting glucose, with 3 practices using a recall system for this and 2 practices asking the patient to remember to come in for a repeat test. 1 practice would initially do a 6 month recall.

Group 2:  **Variable Follow-up**

1 practice had all IGT patients on annual recall, the other 4 practices would ask the patient to repeat the blood test after 2, 3, 4 or 12m respectively.

**Problem Areas:** IFG patients not followed up. Variability in management and follow-up of IGT patients, with the onus on the patient to come in for follow-up.

MAIN ISSUES WITH SCREENING OF HIGH RISK GROUPS AND MANAGEMENT OF PREDIABETICS

- Patchy delivery of opportunistic screening.
- Fear of opportunistic screening yielding unmanageable workload.
- Lack of promoting patient awareness and active health promotion.
- High use of secondary care services to do OGTTs.
- Variable management and follow-up of prediabetic patients with lack of recall systems.

RECOMMENDATIONS

- Practice-based systematic targeted screening of high risk groups.
- Identified high risk groups should be on a recall system for follow-up screening.
- Practices should make diabetes a high priority as to ensure enough staff time is available to deliver high quality standardised care.
- Efforts should be made to ensure practice populations have an awareness of diabetes, who is at high risk, and how to be tested for it, eg through visual promotional materials in the waiting room.
• Practices should understand the evidence for using HbA1c in primary care as an alternative to OGTT in secondary care, in select cases which would save time and resources. This can be implemented through a protocol.
• There should be standardised care and follow-up for all identified prediabetic patients.
• There are variations between prevalence per practice and against national average, suggesting it may be helpful to practices to use the PBS prevalence model to predict case numbers at practice level.
• An audit of diabetes drugs and other markers may yield further patients not on the diabetes register, who currently may miss out on clinical interventions.
• A programme to support case-finding of people undiagnosed with diabetes can be implemented through a targeted opportunistic screening protocol, recall systems and NHS Health Checks.
• A programme to raise awareness in certain target groups may be implemented through outreach work.
3. New Patient Pathway

**Group 1:**

*Average achievement for HbA1c<7.5% was 67.58%*

All practices had a consistent, planned and structured approach for their diabetes pathway.

New diabetics were initially followed up more intensively with the majority of practices delivering 4 planned appointments in the first 3 months of diagnosis. Total appointment contact was between 40 and 115 min.

All practices integrated the following features: anticipatory care, with a large emphasis on education and re-education of the longevity of the condition and complications, informing the patient what care to expect, the rationale behind care, planned regular review of smoking status and CVD risk.

There were checking systems built into the pathways to ensure patient engagement with retinal screening and structured education.

The majority of practices reviewed patients with unsatisfactory glycaemic control 2-3 monthly until satisfactory, used an aggressive approach and titrated drug therapy to maximum before referring and reinforced lifestyle advice, eg giving them ideas for exercise, and offering dietician input and structured education re-referral.

The majority of practices reviewed well-controlled patients 6 monthly.

1 practice who ran a fixed miniclinic gave a lot of email and telephone support due to bottlenecks in appointments.

1 PN lead found GP to GP variability in the way they would manage abnormal blood results. This practice had a PN diabetes pathway but not one for GPs.

**Group 2:**

*Average achievement for HbA1c<7.5% was 47.12%*

3 practices did not have a protocol, 1 practice had a nursing protocol but this was not shared with the GPs even though they too were part of the diabetic pathway, and 1 practice had a protocol but it was not followed.

For newly diagnosed patients, there were 2 to 3 appointments in the first 3m with total appointment time 20 to 60 min.

The content covered in appointments was less consistent, depending on appointment availability and which clinician they saw. 2 pathways appeared to have unnecessary duplication of content suggesting wastage of appointment time. 2 pathways had up to a 6 week delay to first appointment in a newly diagnosed Type 2 diabetic.

Comprehensive education featured in 4 pathways.

CVD risk was explicitly managed in 2 practices. However in 2 PN-led practices, GP management of abnormal blood and urine results was felt to be inconsistent.

No pathway specifically integrated a checking system for referrals. 2 practices did not integrate structured education as part of their pathway, and 2 others offered it as a “social group” rather than a integral part of diabetes education.
Well controlled patients had a 6m review in 1 practice and annual in the other 4 practices.

For poorly controlled patients, 1 practice offered 3 month review if appointments were available, 2 practices offered 6 month review, 1 practice offered annual review and relied on his PN to inform him of problems though admitted patients do “slip through the net”. One practice had an undefined policy.

3 practices acknowledged they did not have an aggressive approach to CVD and glycaemic treatment and were more guided by patient choice with fear of giving too much information, too many changes to medication and too much patient contact when perhaps not wanted.

1 practice had a South Asian dietician for SA patients who would give more in-depth recipe ideas.

Patients seeking OOH care or Hospital Admissions

Follow-up

Group 1: All practices follow-up if appropriate

In Group 1 all practices would follow up patients who had sought help from OOH or hospital, by a telephone call if the GP or nurse lead deemed it was appropriate.

Group 2: 3 practices said they would follow-up if appropriate, 2 practices did not.

MAIN ISSUES WITH NEW PATIENT PATHWAY

- Lack of structured care pathway and protocols in some practices
- Variability with whom the protocol was shared.
- Variability in adherence to the protocol
- Variability among different clinicians in the same practice with managing abnormal results
- Variable referral to Structured Education programme with mixed messages given to patients regarding its purpose

COMMENTS

Research has shown better HbA1c achievement is associated with a central computerised recall system, structured care, and interested doctors.\textsuperscript{1011} Structured education will save time and resources as all patients will meet a dietician and this therefore will negate the need for individual referral in most cases.

95% of diabetes is self-managed with only a few hours with a health care professional per year.\textsuperscript{12} A shared care approach and individual goal-setting are key components of supported self-management of long-term conditions. The Year of Care programme uses a personalised care planning approach and prepares GPs for this by training them in motivational interviewing skills. This has been shown to be a cost-effective teachable method of enhancing consultation skills in short consultations for inducing patient compliance and behaviour change.

Also as part of the programme, some practices send a letter of results 2 weeks prior to appointment. This allows patients time to reflect and think of questions, making more effective use of time for
informed discussion. 98% of patients have reported feeling more involved in decision making with this technique.

RECOMMENDATIONS

- Practices should be informed of good practice findings from this project. This has already been piloted successfully with a practice in Group 2 who have implemented changes into their care pathway.
- Practices should use a structured, consistent care pathway for managing the new diabetic. This can be implemented through a protocol for practices that do not already use one. It should be shared with all clinicians and consider sending a patient result letter in advance wherever possible. These will be distributed at the next GP PLT sessions.
- Practices should refer all new patients for Structured Education as an integral part of the care pathway within the first 3 months of diagnosis.
- Variations in referral rates to structured education by individual practices needs to be investigated further as there are currently marked variations. These may reflect differences in incidence, ethnicity or even differences in awareness of the services.
- Practices should employ a shared management strategy and incorporate individual goal-setting.
- Consideration should be given to specific training in consultation skills to enhance techniques in improving patient behaviour and motivation, and new ways of engaging patients should be explored eg Motivational interviewing sessions are run for GPs by Novo Nordisk.
- Local patient pathways must be designed with appropriate provision of behaviour change support, eg lifestyle interventions (local council services and partnership development projects).
4. Accessibility

Appointment Structure and Availability

Group 1: *Good accessibility in majority of practices*

4 practices offered appointments throughout the working week so as to improve accessibility for patients, to increase the number of appointments available and to reduce the impact of DNAs. 2 of these practices had run a diabetes miniclinic system previously where appointments were offered during 1 or 2 fixed sessions a week only. However these practices had since abolished the miniclinic system because of the above reasons.

1 practice continued to run miniclinics though acknowledged they had up to a 4 week wait for patients. To compensate the lead PN would use telephone and email consultations to assess changes in management eg blood sugar profiles could be emailed to her following change in insulin dose.

Group 2: *Problems with accessibility*

3 practices reported problems with accessibility for patients due to the miniclinic system with extended appointments. One of these had a 6 week wait. One practice policy was to block appointments for the following month, so that patients could not book follow-up in advance and would have to remember to call the following month. This created a sudden increase in demand for appointments at the same time, and was frustrating for patients. 2 practices did not know about their appointment accessibility.

**MAIN ISSUES WITH ACCESSIBILITY**

- Continued use of miniclinic systems despite problems with accessibility and bottlenecks
- Barriers to follow-up including blocking of future appointments

**COMMENTS**

Blocking future appointments has been met with frustration by patients and is counterproductive to supporting self-management, and may encourage increase fallout of vulnerable patients.

**RECOMMENDATIONS**

- Practices with a miniclinic system should consider an open appointment policy so as to improve accessibility and flexibility for patients, to reduce the impact of DNAs and to reduce bottlenecks and delays in seeing a clinician.
- Practices should consider using email and telephone support between appointments.
- The PCT could use CDSNs or other diabetes nurses to educate and drive implementation of the protocol in practices that do not already use one.
- Practices should not block advanced appointments for people with long-term conditions who require regular ongoing care.
5. Drug Prescribing

**Oral Drug Choice**

**Group 1+2:** *Maximum 2\(^{nd}\) line therapy*

All practices would use metformin as the usual first line and gliclazide as second line, titrated to maximum tolerated therapies. Pioglitazone was occasionally used as a third line drug but most reported concerns with using it due to drug safety.

In Group 2, 1 practice frequently used pioglitazone and sitagliptin, and 1 preferred to put most patients on modified release formulations.

**Insulin Choice**

**Group 1+2:** 4 practices in Group 1 were in the top quartile for cost-effective use of insulins by HbA1c ≤ 7.5%. Of the 3 practices that initiated insulin, Humalog, Novomix, and Insulatard were the preferred brands used. Glargine was used only if patients had problematic hypoglycaemia, or for needle preference. In 2008/09 2 practices had a LES for insulin initiation.

2 Practices in Group 2 reported a large number of patients were on glargine or levimir initiated in secondary care and explained this as the cause of their high costs.

**Referral to CDSN or Secondary Care**

**Group 1:** *Appropriate Referral*

Referred following 2\(^{nd}\) line drug use if HbA1c not controlled, for insulin conversion or for consideration of restricted drug if appropriate.

**Group 2:** *Generally Appropriate Referral*

Following 2\(^{nd}\) or 3\(^{rd}\) line drug use if HbA1c not controlled, for insulin conversion or for consideration of restricted drugs.

**Problem areas:** 1 practice reported most insulin conversions were done in a secondary care setting as this was the most local referral point for their patients. They expressed a need for a more community based service. 2 practices reported too heavy use of glargine from CDSN and secondary care, but felt frustrated as they have had to continue these high cost drugs, a message which has been reinforced at PLT sessions where GPs have been told not to change drugs once started.

**Main Influences for Drug Choice**

**Group 1+2:** *Guidelines and Warwick Training*

NICE, PCT and familiarity from Warwick training were the usual reasons for preferred choice. All but 1 practice avoided expensive modified release formulations. 3 practices had been advised by a PCT pharmacy advisor.
Use of Test Strips

Group 1+2: **Difficulties with reducing test strip use**

6 practices reported difficulties in reducing prescription of test strips as many T2DM patients on metformin or gliclazide had been testing daily for a long time. This was recognised as inappropriate and new patients were being discouraged.

**Areas of good practice:** 1 practice GP in Group 1 was leading to manage this problem by reviewing test strip use in all T2DM.

**Problems Areas:** In Group 2, 1 practice said most secondary care patients are overusing test strips. 1 practice said their company pharmacist has taken all patients off repeat test strip prescriptions even if on insulin or sulphonylurea, and they now have to book an appointment for a new prescription-she found this an inappropriate use of appointment time.

**MAIN ISSUES WITH DRUG PRESCRIBING**

- Variability in prescribing in primary, secondary and community care settings.
- Lack of community based insulin conversion services.
- Difficulties in reducing inappropriate test strip use in those already using them regularly.

**RECOMMENDATIONS**

- A prescribing protocol should be agreed between primary care, CDSNs, secondary care and the PCT prescribing committee and adhered to. This should include recommended allowance and criteria for test strips prescribing.
- Practices should audit test strip prescribing within their own diabetes registers and further educate patients where inappropriate BG monitoring is an issue.
- Services should be brought closer to patients and communities to increase uptake and utilisation. For practices who cannot support insulin conversion in-house, a local, community-based insulin conversion service would be more convenient for patients and allow more appropriate use of secondary care resources.
6. Annual Reviews: Managing Attendance and Exception Reporting

Exception Reporting Rates

**Group 1:** Low rates of exception reporting
3 out of 5 practices had the lowest rates for exception reporting for HbA1c $\leq$ 7.5%, and 4 out of 5 practices had some of the lowest exception reporting rates for BP, cholesterol, retinal screening and peripheral pulse screening targets.

**Areas of good practice:** The practices with the lowest exception reporting said their policy was that exception reporting was just not done, or only done if absolutely necessary.

**Group 2:** High rates of exception reporting in informed dissent in some practices

![Chart: Group 2 practice with high level of exception reporting for informed dissent.]

Example of Group 2 Practice Exceptions for HbA1c $\leq$ 7.5% (66 excepted diabetic patients out of total register of 355)

Annual Review Management

**Group 1+2:** Recall System
All practices operate a recall system, either computerised or they employed staff to do monthly QOF searches.
Areas of good practice: In Group 1, one practice gave administrative staff protected time to do recall for annual review and every month they would follow up non-attendees with a telephone call, in total 3 times.

Again in Group 1, GPs would use repeat prescriptions awaiting signature, as a trigger to check patients are up to date with reviews and their last follow-up. If overdue, a reminder message was printed on the prescription. Administrative staff also put alerts on records for overdue patients as an additional reminder.

In Group 2, all practices send 3 letters over 1 month intervals and if they do not attend they are exception reported by IT in 3 practices, or by the lead clinician in the other 2 practices at the end of the QOF year. 1 practice reported their population of BME patients are often out of the country.

Managing Non-Attendance

Group 1: Not a major problem
This was not reported to be a major problem in the majority of practices due to flexibility in appointments, no fixed miniclinic and enough capacity to fit in same or next day appointments.

Areas of good practice: Abolishment of fixed miniclinic system in response to limited accessibility with a resulting improvement in attendance. Patients who DNA repeatedly are rebooked with the GP to reinforce the attendance. 1 practice reported improved attendance by making their annual diabetic review in the patient’s birthday month. They also reduced prescription supplies from 2m to 1m to 2wk until patients attend.

Problem areas: 1 practice has a fixed miniclinic system associated with bottlenecks. In 1 practice with above average exception reporting rates, the lead PN reported patients would be excepted after 3 letters as she had little time to follow them up, and no administrative support for this task.

Group 2: Problem in majority of practices
2 practices would note a patient DNA on the medical record so this could be mentioned the next time a patient attended. Another practice would put a post-it note on the repeat prescription to remind them their review is overdue.

In 1 practice the DNA rate is higher for the PN than the GP. They have started specifying an appointment date and time in the recall letter now which has helped. Also the PN rings her patients the day before. Repeat offenders are rebooked with the GP.

MAIN ISSUES WITH ANNUAL REVIEWS AND NON-ATTENDANCE
- Variability in achievement in markers of care
- Variable efforts made before exception reporting for informed dissent,
COMMENTS

It was attempted as part of this project to derive a breakdown per practice of their diabetes population demographics to see if this may correlate with poorer QOF performance. However some practices had incomplete data, with less than 50% ethnicity recorded and difficulties in accessing data such as current drug history and complications. Such data needs to be recorded, coded correctly and accessible to the PCT, in order to ensure a realistic assessment of the size and nature of the diabetes problem locally, and its distribution geographically and demographically. An appropriate tool would also be able to audit established complications at diagnosis and inform how timely diagnoses currently are.

Exception reporting is potentially a mechanism whereby inequalities gaps can be driven wider. Practices should have an exceptions strategy, and use recall systems and other communication methods to enhance user uptake.

Diabetic patients should be involved in design, modification and improvement of services. The last workshop in Buckinghamshire was held in 2007, where problem areas highlighted were accessibility, variable knowledge, variable prescribing policy and slippage of regular checks-all of which have been confirmed in this project.

RECOMMENDATIONS

- Markers of care and exception reporting, should be audited annually, if not more frequently, to facilitate setting of inspirational targets, assess ongoing improvement and highlight practices and patient groups which are consistently falling behind. A number of IT tools exist (eg DiabetesE) which can assist data collection per practice.
- There should be a strategy to support practices that are underachieving on QOF. This may involve tailored shared care with diabetes specialist teams as mentioned above. Some PCTs use a bonus scheme to reward achievement beyond minimum QOF limits.
- Practices should make significant efforts before exception reporting on informed dissent. This may include communicating by telephone or prescription messaging to enhance user uptake, and may require staff to have protected time to implement this,
- A continual dialogue needs to be established with service users to maintain engagement with the diabetes community.
7. Specific Patient Groups

BME Groups

Group 1+2: **Challenging in areas of high prevalence**
Practices with self-reported high prevalence of BME groups reported problems with communication.

**Areas of good practice:** 1 practice in Group 1 had a GP who spoke the same language and would see these patients when available.

**Problem areas:** Language barriers caused problems frequently, although patients were encouraged to bring English-speaking family members. The translation service was rarely used due to the need for advanced notice, and the interpreter supplied was female only which sometimes caused cultural difficulties for some male patients.

In some patients children would be administering insulin to parents but then would not attend with the patient.

A number of South Asian men who are taxi drivers by occupation were particularly difficult to manage as they were reluctant to take medication in fear of losing their licence.

Education was a difficult area and patients usually had worse structured education uptake. There were problems in getting hold of appropriate literature and some could not read and write in their own language.

Muslim women often did not want to exercise for modesty reasons. Women also tend to be the main cooks and having a family meal together was a core part of family life and they would be reluctant to change their diet. They tended to use more saturated fats eg ghee, red meat, and salt.

There was reported lack of motivation to change lifestyle or accept medicines. For some there was a fear of insulin and everything else but insulin would be acceptable. Some patients once on insulin thought they could eat anything without restriction.

Many BME patients who had been diagnosed for sometime had a lack of awareness and understanding of longterm complications and reasons behind ongoing monitoring.

**Afro-Caribbean Population:** 1 practice has a high prevalence and reported lack of awareness of diabetes and an adversity to taking medication in this group.

Housebound and Carehome residents

Group 1+2: **Domiciliary visits challenging in majority of practices**

**Areas of good practice:** In group 1, 1 practice are developing a Vulnerable Patient List for which they will employ a former district nurse to manage and coordinate care with GPs. 1 practice would check during home visits that hospital transport was arranged for retinal screening.
Problem Areas: Currently practices were relying on the goodwill of district nurses to do domiciliary bloods after which the GP would visit with their results for annual review. In the majority of practices in both groups, DNs will not do this and these patients would “often slip through the net” unless they could be brought to the surgery. In Nurse-led settings GPs were less likely to complete annual reviews during home visits.

In Group 2, 4 practices said they were not doing domiciliary visits for annual reviews as they had no phlebotomy support. 1 practice reported the majority of these patient groups were Caucasian. BME elderly patients often had family who would bring them to the surgery.

Patients with Severe Mental Health or Learning Difficulties

Group 1: **Key is good relationship with carers**

3 practices who reported diabetics within the above groups all felt maintaining a good relationship with the carers was key to implementing lifestyle strategies eg diet and exercise.

Group 2: **Problems with MH**

2 practices reported difficulties in managing patients with severe mental health problems as they were less concordant with medication and lifestyle management, and sometimes presented difficulties in accessing the surgery.

MAIN ISSUES WITH SPECIAL PATIENT GROUPS

- Difficulties with engagement and concordance in BME groups, particularly South Asian patients.
- Lack of routine care and service provision to housebound and carehome patients.
- Difficulties in engaging and managing those with severe mental health problems or learning difficulties.

COMMENTS

Self management is challenging for anyone but in people with poor educational attainment, low literacy, language and cultural barriers, poor social networks and dependency on others, it is even more so. The one-size-fits-all approach will not be as effective as targeted support.

BME groups and socially disadvantaged populations are associated with a higher prevalence of diabetes, late diagnosis, poor self-management and increased rates of complications. Practices in areas of increased deprivation and ethnicity can find it harder to reach targets. Education which is didactic and short-term has limited benefit in these populations and instead the programme needs to be supported by substantial expertise and knowledge of local communities. There is evidence that community outreach projects, culturally tailored programmes and more intensive strategies are more effective.

In the workshop of 2007, South Asian people requested more advice on diet, especially targeted at women of the household and relating to Asian foods, prefasting Ramadan advice, structured education in GP practices, a need for GPs to direct patients to be more proactive in taking responsibility of their own health, better education about insulin and its modern synthetic origin, training of younger members of the community to spread health messages, insulin services to be very local, ideas for engagement, eg religious leaders, community groups, DVD format education, and posters in surgeries,
Best practice elsewhere in the UK has included narrative or picture based education programmes, the use of well trained health workers from similar ethnic backgrounds and outreach projects.\textsuperscript{15}

Milton Keynes PCT uses a one-stop diabetes service to screen eyes, feet and do annual review to improve user uptake. Tameside and Glossop PCT have community members employed as Asian Diabetes Support Workers to visit patients in their own homes, assess their lifestyles, with a diet assessment that incorporates a kitchen assessment and recipe sharing.

Residents in institutional settings are a vulnerable group, with a lack of care planning, inadequate lifestyle guidance, lack of national standards, and increased prevalence of complications.\textsuperscript{16}

Patients who cannot access their surgery need their service provision to be addressed. Some PCTs provide a diabetes Nurse Practitioner/Matron service for shared domiciliary care with GPs.

**RECOMMENDATIONS**

- As a result of the project findings, the structured education team will be piloting sessions aimed at South Asian diabetics in 2 practices in 2010. Different techniques will be used in each practice and the programme will evolve with continued experience. They will be linking with Deborah Taylor (Partnership Development Manager) to promote diabetes awareness at a “Free Mini Health Check” event in Castlefield Community Centre, and plan to meet with COT (Castlefield and Oakridge Trust) a local group of Muslim laypeople that lobby awareness for the health of their local community with links to 4 local mosques and community religious leaders.
- Sustained links should be established with diabetics and their carers from different groups, eg BME groups, to facilitate development of targeted services and also to voice specific health messages, eg religious leader engagement to promote health messages regarding fasting for Ramadan.
- There is a need for greater flexibility in the translation service to promote more effective uptake of their services.
- There needs to be a programme to facilitate diagnosis and treatment of carehome and housebound people, whom at present appear to be greatly disadvantaged with current primary care services.
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