

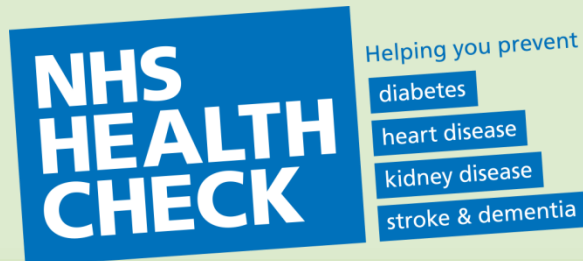
# Prevention of diabetes through the NHS Health Checks: Using audit to improve patient outcomes

Cathy Aiken – Public Health Vascular Nurse

Gillian Fiumicelli – Community Vascular Co-ordinator

Public Health – Education, Care and Health

London Borough of Bromley



# Aim of the audit:

To ensure patients identified at increased risk of diabetes at the NHS Health Check 2011 receive appropriate assessment and management.

## Objectives:

1. To develop audit standards to assess the quality of current services in identifying patients at high risk of diabetes.
2. To assess current practices in Bromley against these standards
3. To use the audit findings to improve patient outcomes



# NHS Health Checks Diabetes Filter

Body Mass Index  $\geq 30$  (or  $\geq 27.5$  if South Asian or Chinese)

Blood Pressure  $\geq 140$  mmHg Systolic and/or  $\geq 90$  mmHg Diastolic

## South London NHS Health Checks Diabetes Filter Pathway

- Identification of risk
- Provision of intensive lifestyle programme
- Review



# Audit Standards

## Standard 1:

If the individual has a Body Mass Index  $\geq 30$  (or  $\geq 27.5$  if South Asian or Chinese Population) or Blood Pressure  $\geq 140$  mmHg Systolic and/or  $\geq 90$  mmHg Diastolic, an HbA1c test or fasting plasma glucose (FPG) is required

## Standard 2:

If patients have a raised HbA1c  $\geq 42$  -  $<48$  mmols/mol (6.0-6.4%) or FPG  $\geq 5.5$  -  $\leq 6.9$  mmol/l, they should have had a repeat blood test for HbA1c or Fasting Blood glucose within 2 years of the NHS Health Check.

## Standard 3:

If patients have a raised HbA1c of  $\geq 42$  -  $<48$  mmols/mol (6.0-6.4%) or FPG  $\geq 5.5$  -  $\leq 6.9$  mmol/l they should be coded with an appropriate READ code indicating level of risk of diabetes and/or diagnostic code of pre diabetic state e.g. Impaired Fasting Glycaemia.

## Standard 4:

If patients have a raised HbA1c of  $\geq 42$  -  $<48$  mmols/mol (6.0 – 6.4%) or FPG  $\geq 5.5$  -  $\leq 6.9$  mmol/l, they should receive **intensive** lifestyle intervention (this will be measured by assessment of number of consultations for lifestyle intervention and any referrals to exercise programme, weight management, dietician, smoking cessation.)

## Standard 5:

Patient identified as high risk of diabetes should have improved risk factor profiles at 1-2 years:

Increased physical activity GPPAQ.

Weight loss been achieved and maintained.

Waist circumference reduced and maintained.

Repeated Blood test 1-2 yearly.

# Audit Standards

## **If the Diabetes Filter was met –**

1. Did they have a blood test to assess for diabetes risk ?

**If found to be at high risk of diabetes - HbA1c  $\geq 42$  -  $< 48$  mmols/mol (6.0 - 6.4%) or FPG  $\geq 5.5$  -  $\leq 6.9$  mmol/l**

2. Did they have a repeat blood test within 2 years ?
3. Did they have a READ code indicating high risk of diabetes ?
4. Did they receive any lifestyle interventions ?
5. Did their risk factor profile improve within 1-2 years ?

# Audit process

## **Phase I - Preparation**

- Support gained from local diabetes network group, local CVD strategy group, local authority councillors and LMC.
- Expression of interest sought from GP practices – incentivised.
- Development of standards.
- Development of EMIS searches and Practice Pack.

## **Phase II – Method and implementation**

- Lead clinician identified in each practice.
- Computer searches performed.
- Consent letters sent to patients prior to comprehensive notes review by PHVN.

## **Phase III – Review and intervention**

- Data analysis assessed against audit standards.
- Intervention to 'missed patients' offering assessment of risk of diabetes
- The results of the audit were used to address gaps in identification processes and inform GP Practices about their management of patients at High Risk of Diabetes.
- Re-audit.

**Baseline number of NHS Health Checks 2011-2013**

**15,367**

Patients who met the diabetes filter  
**5,379 (35%)**

Patients who met the diabetes filter, but **did not have** an HbA1c/FPG  
**1,786 (33%)**

Number who **had** an HbA1c and/or FPG  
**3,593 (66%)**

patients sent letter and pathology form requesting HbA1c

At high risk of diabetes and eligible for notes review  
**738 (20%)**

Patients at high risk of diabetes, but excluded as 1<sup>st</sup> blood test  $\geq 1$  year post NHS Health check  
**174 (5%)**

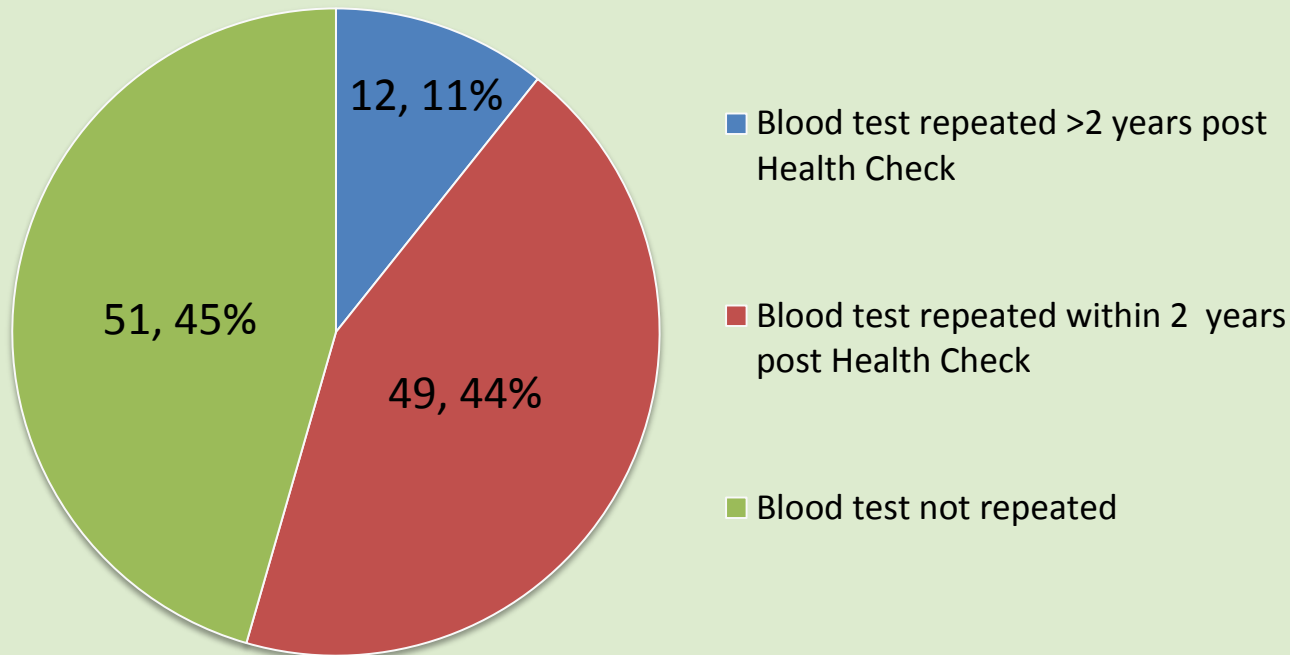
Patients who had an HbA1c and/or FPG and found not to be at risk of diabetes  
**2681 (75%)**

Patients at high risk of diabetes consented to notes review  
**426 (58%)**

Number of notes reviews undertaken (at least 20% or minimum of 2 sets of records per practice)  
**112**

# Results (n=112)

## Standard 2 – Repeated Blood Results



Of the 49 patients who had a repeat blood test, 10 did not have a like for like blood test and 13 had a test within 6 months.

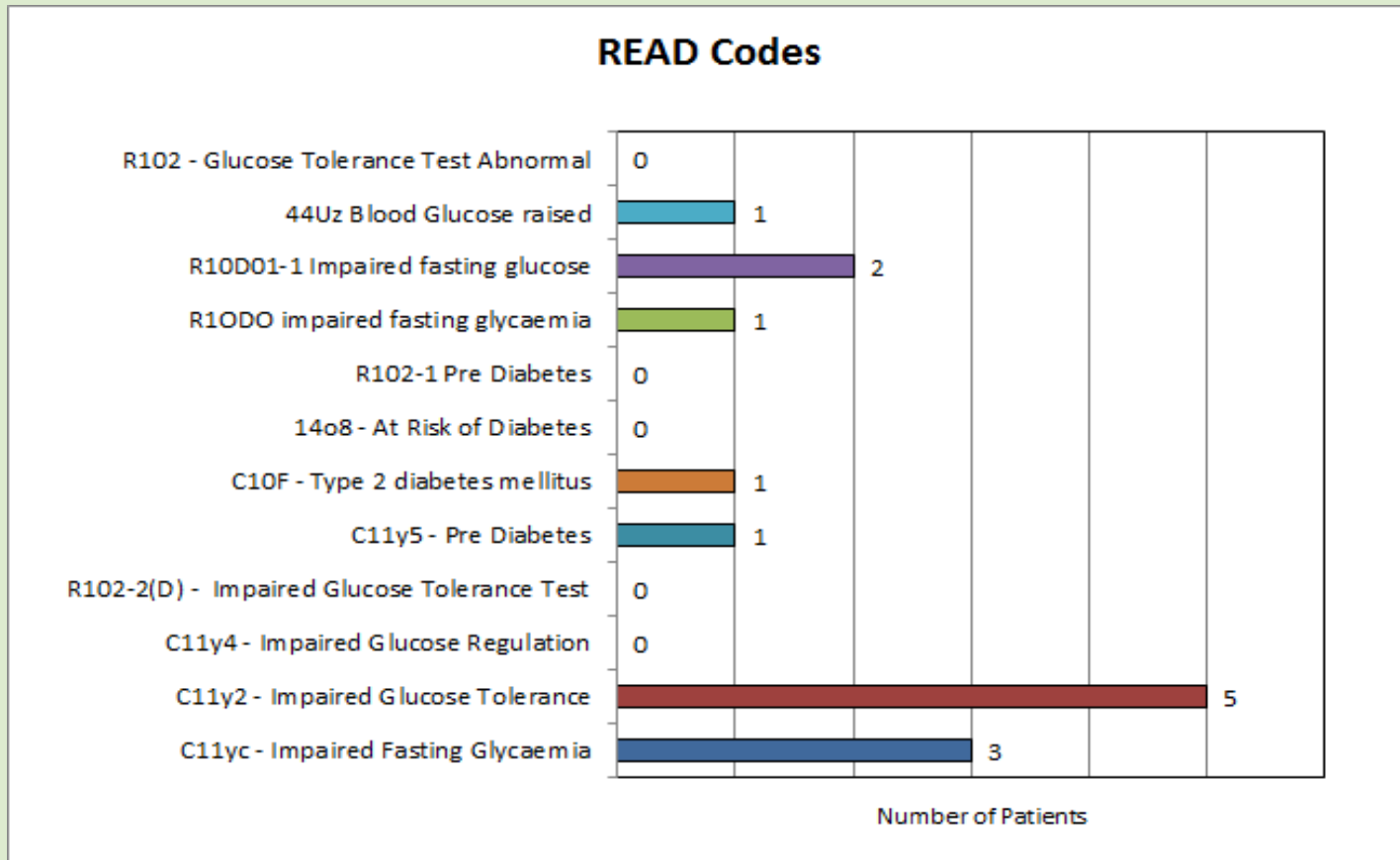


Of the remaining 26 patients, 9 (34%) patients had improved blood results and were no longer in the pre-diabetes risk group



# Results (n=112)

## Standard 3 - READ codes



13/112 (11%) patients had a READ code linked with high risk of diabetes.  
1 patient subsequently diagnosed with Type 2 Diabetes.



## Waist Circumference (WC)

91 out of 112 (81%) recorded <b><u>at</u></b> health check	33 women (90%) WC $\geq$ 80cms
	52 men (89%) WC $\geq$ 94 cms or $\geq$ 85 cms if South Asian/Chinese
7 out of 91 (8%) recorded <b><u>post</u></b> health check	4 patients had a reduction in WC, but remained in 'high risk' group

## BMI

110 out of 112 (98%) recorded <b><u>at</u></b> health check	BMI > 25 = 102 (92%)
	BMI >30 = 72 (65%)
Weight management discussed	62 (56%) patients
Weight management referral (lite4life)	10 (14%) patients
Attended weight management	3 patients
59 out of 112 (53%) recorded <b><u>post</u></b> health check	34 (58%) patients had a reduction in BMI 2 patients reduced their BMI <25

## GPPAQ

102 out of 112 (91%) recorded <b><u>at</u></b> health check	60 patients (58%) Moderately Inactive or Inactive
Physical activity discussed	87 (77%) patients
Referred to physical activity programme	3 (3%) patients
Attended physical activity programme	1
17 out of 112 (16%) recorded <b><u>post</u></b> health check	6 (32%) patients had in improvement in GPPAQ

# How we used the audit findings to improve patient outcomes



# Improvement required

## Identification

- Blood testing
- Understanding of blood test result
- Systematic READ coding:  
'non-diabetic hyperglycaemia'
- Computer searches

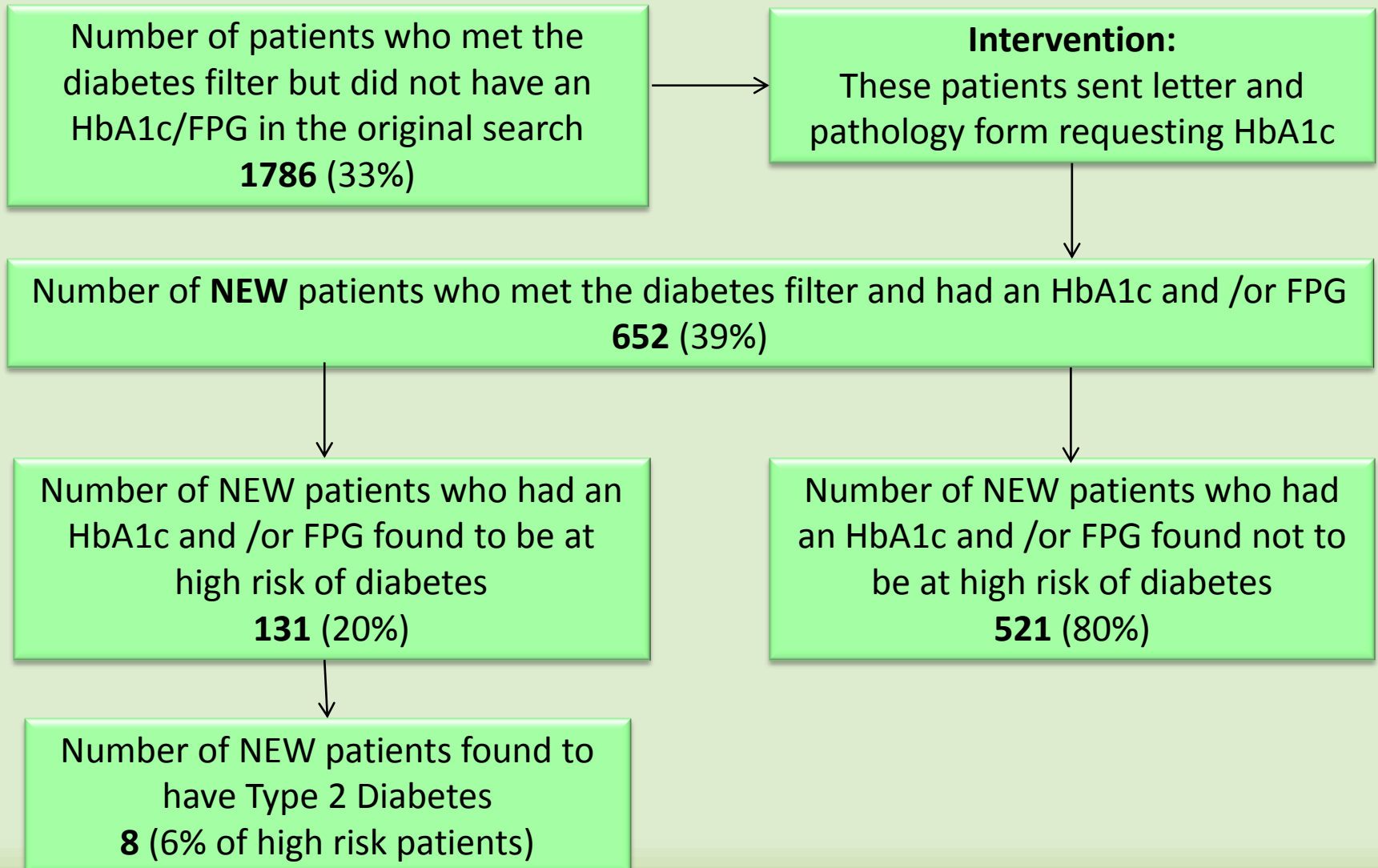
## Lifestyle Intervention

- Documentation and coding
- Diabetes Prevention intervention
- Increase referrals to lifestyle services

## Review

- 1 year review
- Risk factor profiles at 1 year:  
Weight, BMI, BP, HbA1c
- Pathway:  
education and implementation

# Intervention to offer blood test assessment to 'missing patients'



# Service improvements implemented

1.	<b>Education</b> to providers on whole pathway of identification and management of people at high risk of diabetes <ul style="list-style-type: none"><li>• Use of READ coding</li><li>• Promoting behaviour change through motivational interviewing</li><li>• Documentation of lifestyle interventions and referrals</li></ul>
2.	<b>Computer system:</b> <ul style="list-style-type: none"><li>• Improvements to templates including prompts to action</li><li>• Amended computer searches</li></ul>
3.	<b>Commissioning</b> to improve performance <ul style="list-style-type: none"><li>• POCT testing for HbA1c by Alternative Providers</li><li>• Service specification requirement to measure diabetes filter</li><li>• Specific diabetes prevention interventions</li></ul>
4.	<b>Joint working</b> to promote and facilitate best practice
5.	<b>Measuring progress</b> <ul style="list-style-type: none"><li>• Completed comparison of audit 2011-13 and end of year data</li><li>• More in-depth re-audit in planning stages due for implementation</li></ul>

# Improvements in blood testing

	2011-13	2013-14	2014-15
Number of people who met the diabetes filter	5,379	2,491	2,508
(Percentage of those who had received an NHS Health Check)	(35%)	(30.2%)	(31.8%)
Number of people met the diabetes filter <b>with</b> a blood test for HbA1c and/ or FPG	3,593	1,424	1,989
Percentage of people who met the diabetes filter <b>with</b> a blood test for HbA1c and/ or FPG	66%	57.2%	79.3%

**2 years** audit data shown in blue. Data collection August 2014.

# Current Diabetes Prevention Programmes



## Weight Watchers Diabetes Prevention Programme:

### 1 year intensive lifestyle support

- Patient Identified as 'at risk' of developing diabetes.
- Out of 166 referrals, 132 patients attended a welcome session (80%)

6 months outcome data 91/132 to date :

### 85% reduced risk

52 patients no longer at risk (57%)  
25 patients have reduced risk (28%)  
3 patients risk stayed the same (3%)  
11 patients have increased risk (12%)

## Walking Away from Diabetes Programme:

### 3 hour intervention

- Patient Identified as 'at risk' of developing diabetes.
- 407 completed intervention 2015/16

12 month outcome data 106/407 to date:

### 74% reduced risk

45 patients no longer at risk (42%)  
34 patients have reduced risk (32%)  
22 patients risk stayed the same (21%)  
5 patients have increased risk (5%)

Bromley will be part of the South London bid delivering the National Diabetes Prevention Programme



# Conclusion

- Audit has provided a very useful tool to demonstrate areas for improvement in NHS Health Checks
- Engagement of the GP Practices and other key stakeholders in the audit process
- Range of low cost service improvements have been implemented to address the gaps
- Improved patient outcomes have been demonstrated by providing high quality in the NHS Health Check programme

# Thank you

- Heart UK
- PHE
- Everyone in Bromley who participated
- Team in Public Health



# Contact details

Gillian Fiumicelli – Community Vascular Co-ordinator

[Gillian.fiumicelli@bromley.gov.uk](mailto:Gillian.fiumicelli@bromley.gov.uk)

020 8461 7789

Cathy Aiken – Public Health Vascular Nurse

[Cathy.aiken@bromley.gov.uk](mailto:Cathy.aiken@bromley.gov.uk)

020 8461 7593

Public Health Directorate

London Borough of Bromley

Bromley Civic Centre

Stockwell Close, Bromley, BR1 3UH

