Wolverhampton Integrated Diabetes Service

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Wolverhampton Diabetes Care
• Background

• Wolverhampton Diabetes Care Model

• Lessons Learned

• Future Vision
Next month's tasks prescribed

I'm sure you'd like to do what I've written down here

Yes, I would
“it is a waste of time and money unless the patient was thoroughly instructed to manage his own case”

“it is the object of this book to bring modern treatment of diabetes by diet and insulin within the scope of general practitioner and the understanding of patients whose intelligent co-operation is necessary for the best results”. 
Diabetes Care Delivery in the UK

- GP and Specialist work division
- Intermediate or tiered Care
- GP and Specialist Co-Working
- Community Diabetes
- Care Planning
- ?Evidence
Wolverhampton Legacy

Diabetic Clinics Today and Tomorrow: Mini-clinics in General Practice

P. A. THORN, R. G. RUSSELL

British Medical Journal, 1973, 2, 534–536

Metabolic control of diabetes in general practice clinics: comparison with a hospital clinic

B M SINGH, M R HOLLAND, P A THORN
Wolverhampton Diabetes Network
Integrated Diabetes Care

Self Care
In their community
Health Promotion
Public Health
Information
Education
Partnership

Primary
≥ 85 %

Specialist
≤ 15 %

Specialist Secondary & Tertiary

Integrated Care Pathways
Appropriate, effective care, risk managed according to need

Education Based
Patient Centred
Patient Empowered
Justice in Health
Equity of Access

Access, Capacity
Training
Support
Integration

Public awareness
User engagement
Education

Glycaemic control
Hypoglycaemia
Hypertension
CHD Risk
Retinal
Renal
Foot
Antenatal
Paediatric
In-patients
Emergencies
Readmissions
Dependency
End of life

Integrated & Governed
Wolverhampton Model of Diabetes Care

WICKED
Wolverhampton Interface Care Knowledge Empowered Diabetes
The WICKED Project

Service Activation
- Highly Specialised Care
- Specialist care
- Community Care
- Primary Care

Patient Activation
- In charge of care
- Self Care
- Education
- Information

Complex Diabetes

Uncomplicated Diabetes

Macro

Meso

Primary/Community care

Specialist care
Data is Knowledge and Power

Diabetes Flag

Central Pathology Lab

Central Diabetes Database (Diabeta-3) >97% accurate

Hospital PAS)

Diabetes Code

Diabetes Eye & Foot screening

Primary Care Datawarehouse
Patient Activation

• Empowerment of patients by providing them information.

• Achieved by sending out structured, personalised information about nine key care processes in the form of an A4 booklet.

• Outcomes are measured in terms of completion rates of these 9 care processes. Failure to complete care processes generated a score called “Failed Process Score (FPS)”.

• This document was tested in a RCT to measure outcomes around FPS and HbA1C.
Guidance Notes

My Diabetes Information Report

The report on page 2 has items of information about your diabetes.

Each item is a measure or test and has a description explaining what it is. It shows the latest result over the last 15 months. Ideally they should be less than 12 months old. If a test hasn’t been done or is out of date, please get it done as soon as possible. You may not be getting the correct care or treatment if out of date information is used.

It then gives you the guidance based on your results so you can work out if the situation is “Good”, “Borderline” or “Of Concern”. You may already be aware of this and you may already be on the correct treatment plan. In any case, judge whether you understand what the result means and whether you need to do something about it.

If you are still not clear about the result, or feel action is needed, see your GP team for advice - ask for a routine appointment (not urgent) with your GP surgery.

My Diabetes Plan

Having worked through your information in “My Information” and having come to your own view about each item of diabetes care, please look at “My Plan”.

Again there are a number of sections. Decide where you stand on each of them - mark down if it is “Good”, “Borderline” or “Of Concern”.

Decide where you would like to be. For example - what level of diabetes glucose control or blood pressure control are you aiming for? Always think of what is best for you in your situation. Then think about what you might need to do to get there and try and make a plan. Use this plan to improve your diabetes care. Feel free to use it with your diabetes team to help them understand your worries and your needs.

You may have other items of concern - please make a list of them as needed. There is space for you to make further notes and comments if you wish.

Definitions

Good = the result is satisfactory and acceptable with no need to worry. Lower risk.

Borderline = should be better and adjustments need to be made. Medium risk

Of Concern = in definite need of improvement and further testing and must be kept under close review. Higher risk.
### My Diabetes Information Report

Symbols: "<" means "less than" and ">" means "more than"
The levels that are in keeping with "Good" or "Of Concern" are shown.

<table>
<thead>
<tr>
<th>Measure or Result (Good, Of Concern)</th>
<th>Value</th>
<th>Clinical Comment</th>
<th>What is it?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Weight</strong></td>
<td>73.4</td>
<td>See BMI</td>
<td>Measure of weight in kilograms</td>
</tr>
<tr>
<td><strong>BMI</strong> (&lt;25, &gt;30)</td>
<td>32</td>
<td>Of concern</td>
<td>Weight in relation to height</td>
</tr>
<tr>
<td><strong>Blood pressure</strong> (&lt;140, &gt;160)</td>
<td>167</td>
<td>Of concern</td>
<td>Blood pressure (top number)</td>
</tr>
<tr>
<td><strong>Cholesterol or Chol to HDL ratio</strong></td>
<td>5.6</td>
<td>Borderline</td>
<td>Blood test of cholesterol or cholesterol corrected for &quot;good&quot; HDL cholesterol if known</td>
</tr>
<tr>
<td><strong>Smoker (Non-smoker)</strong></td>
<td>No</td>
<td>Good</td>
<td>Question of smoking status</td>
</tr>
<tr>
<td><strong>Blood vessel circulation risk</strong></td>
<td>Primary</td>
<td>Good</td>
<td>Circulation risk. Primary means no circulation illness. Secondary means heart, stroke, leg or foot circulation problems.</td>
</tr>
<tr>
<td><strong>Primary Risk Score</strong></td>
<td>24%</td>
<td>Borderline</td>
<td>Calculation of blood vessel circulation risk over 10 years.</td>
</tr>
<tr>
<td><strong>Eye Exam</strong></td>
<td>No Changes</td>
<td>Good</td>
<td>Test for diabetes changes at the back of the eye by photography.</td>
</tr>
<tr>
<td><strong>ACR</strong> (&lt;3.5, &gt;10)</td>
<td>15.7</td>
<td>Of concern</td>
<td>Urine protein test for early diabetes changes in kidneys.</td>
</tr>
<tr>
<td><strong>Creatinine</strong> (&lt;120, &gt;150)</td>
<td>138</td>
<td>Of concern</td>
<td>Blood test of kidney function.</td>
</tr>
<tr>
<td><strong>Foot exam</strong></td>
<td>Low risk</td>
<td>Good</td>
<td>Test for nerve or circulation damage.</td>
</tr>
<tr>
<td><strong>HbA1c DCCT</strong> (&lt;7.5%, &gt;8.5%)</td>
<td>7.2</td>
<td>Good</td>
<td>Blood test of long term diabetes or &quot;Sugar&quot; control.</td>
</tr>
<tr>
<td><strong>HbA1c IFCC</strong> (&lt;56, &gt;69)</td>
<td>55</td>
<td>Good</td>
<td>Same as above but using new units of measure (as above).</td>
</tr>
</tbody>
</table>

### My Diabetes Plan

<table>
<thead>
<tr>
<th>My opinion Where do I stand? Circle your status in each box</th>
<th>My Feelings Where do I want to be?</th>
<th>My Plan What steps should I take?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>My Lifestyle</strong> (Diet, exercise, smoking)</td>
<td>Good, Borderline, Of Concern</td>
<td></td>
</tr>
<tr>
<td><strong>My BMI (Weight)</strong></td>
<td>Good, Borderline, Of Concern</td>
<td></td>
</tr>
<tr>
<td><strong>My Blood Pressure</strong></td>
<td>Good, Borderline, Of Concern</td>
<td></td>
</tr>
<tr>
<td><strong>My Cholesterol</strong></td>
<td>Good, Borderline, Of Concern</td>
<td></td>
</tr>
<tr>
<td><strong>My Circulation Risk</strong></td>
<td>Good, Borderline, Of Concern</td>
<td></td>
</tr>
<tr>
<td><strong>My Eyes</strong></td>
<td>Good, Borderline, Of Concern</td>
<td></td>
</tr>
<tr>
<td><strong>My Kidneys</strong></td>
<td>Good, Borderline, Of Concern</td>
<td></td>
</tr>
<tr>
<td><strong>My Feet</strong></td>
<td>Good, Borderline, Of Concern</td>
<td></td>
</tr>
<tr>
<td><strong>My HbA1c (sugar control)</strong></td>
<td>Good, Borderline, Of Concern</td>
<td></td>
</tr>
<tr>
<td><strong>My Hypo Risk</strong></td>
<td>Low, Medium, High</td>
<td></td>
</tr>
<tr>
<td><strong>My Medication</strong></td>
<td>Good, Borderline, Of Concern</td>
<td></td>
</tr>
<tr>
<td><strong>My Diabetes Know how</strong></td>
<td>Good, Borderline, Of Concern</td>
<td></td>
</tr>
<tr>
<td><strong>My Well-being</strong></td>
<td>Good, Borderline, Of Concern</td>
<td></td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td>Good, Borderline, Of Concern</td>
<td></td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td>Good, Borderline, Of Concern</td>
<td></td>
</tr>
</tbody>
</table>

**My Comments:**
PA Outcomes

- All people with diabetes in Wolverhampton were sent this booklet in a cluster randomised way.

- FPS that can be between 0-9, a score of zero means full completion of nine key care processes while a score of nine means complete failure. FPS was analysed at baseline 3 and 12 month time points.

- Further analysis was done by dichotomising FPS into 2 categories
  - FPS ≤ 1 depicts complete or near complete achievements of care processes
  - FPS ≥ 2 depicts poor completion of care processes.
Pattern of Mean FPS change at 3 points between Active and Control Groups as Dichotomised FPS.

<table>
<thead>
<tr>
<th>Failed Process Score (FPS)</th>
<th>Groups</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dichotomised FPS (FPS ≥2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline</td>
<td>3.35 ± 1.58</td>
<td>3.38 ± 1.60</td>
</tr>
<tr>
<td>3 Months</td>
<td>2.14 ± 2.26</td>
<td>2.27 ± 2.29</td>
</tr>
<tr>
<td>12 Months</td>
<td>2.25 ± 2.29</td>
<td>2.38 ± 2.28</td>
</tr>
</tbody>
</table>
Mean HbA1C Change between active and control groups at 12 months in 3 HbA1C categories by univariate analysis.
# Survey Results

<table>
<thead>
<tr>
<th>Questions</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did you understand the <strong>purpose</strong> of this document and what it is meant to be used for?</td>
<td>85</td>
</tr>
<tr>
<td>Were the contents of the report easy to <strong>read</strong> and <strong>understand</strong> and do they make sense to you?</td>
<td>85</td>
</tr>
<tr>
<td>Was the information <strong>useful</strong>?</td>
<td>88</td>
</tr>
<tr>
<td>Did this information give you more <strong>knowledge</strong> about your diabetes?</td>
<td>77</td>
</tr>
<tr>
<td>Did this information help you to understand your diabetes better?</td>
<td>72</td>
</tr>
<tr>
<td>Would this information help you to <strong>improve</strong> your diabetes?</td>
<td>76</td>
</tr>
<tr>
<td>Would this information help you <strong>make changes</strong> in your diabetes?</td>
<td>76</td>
</tr>
<tr>
<td>Would this information help you feel more <strong>in charge</strong> or control of your diabetes?</td>
<td>76</td>
</tr>
<tr>
<td>Would you take this information with you to your <strong>next diabetes appointment</strong> with a doctor or a nurse?</td>
<td>74</td>
</tr>
<tr>
<td>Did you think this information will help in your next visit of diabetes review with a doctor or a nurse?</td>
<td>78</td>
</tr>
<tr>
<td>Would you like to receive information like this in the <strong>future</strong>?</td>
<td>78</td>
</tr>
<tr>
<td><strong>How often</strong> would you like to have this report with this sort of information about your diabetes?</td>
<td>85</td>
</tr>
<tr>
<td>Overall, do you think it is a <strong>good idea</strong> for people with diabetes to have this sort of report?</td>
<td>90</td>
</tr>
<tr>
<td>Overall, do you think people with diabetes will use this information to <strong>take better care</strong> of them?</td>
<td>87</td>
</tr>
</tbody>
</table>
Service Activation

- Over 17000 people with diabetes in Wolverhampton
- 6 Consultant Physicians
- 6 Community Diabetes Specialist Nurses
- 50 GP practices in Wolverhampton CCG
- Wolverhampton is divided into 6 clusters with a named consultant, a named DSN and 6-9 GP practices in each cluster.
Service Activation

- Total Number of people with Diabetes in WCCG = 17323

<table>
<thead>
<tr>
<th>Clinical Risk Tier 1</th>
<th>Clinical Risk Tier 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any of</td>
<td>Any of</td>
</tr>
<tr>
<td>HbA1c ≥ 8.5</td>
<td>HbA1c ≥ 9</td>
</tr>
<tr>
<td>Systolic BP ≥ 160</td>
<td>Systolic BP ≥ 160</td>
</tr>
<tr>
<td>Cholesterol ≥ 6</td>
<td>Cholesterol ≥ 6</td>
</tr>
</tbody>
</table>

4807 (28%) 3777 (22%)
Co-Working Outcomes for one cluster

<table>
<thead>
<tr>
<th>Category</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total diabetes population</td>
<td>2272</td>
</tr>
<tr>
<td>Those who had 2 HbA1C</td>
<td>1850</td>
</tr>
<tr>
<td>High Risk population</td>
<td>253</td>
</tr>
<tr>
<td>Baseline HbA1C</td>
<td>10.4 ± 1.3 (Mean % ± SD)</td>
</tr>
<tr>
<td>12 Months HbA1C</td>
<td>9.5 ± 1.8</td>
</tr>
<tr>
<td>Delta HbA1C</td>
<td>0.9 ± 1.8</td>
</tr>
</tbody>
</table>
Change in HbA1C in high risk cohort

Histogram

Mean = .87
Std. Dev. = 1.793
N = 253
Change in HbA1C in high risk group by individual GP practice
Outcomes

- A centralised electronic district diabetes register is achievable.

- Completion rate of care processes may be a marker to assess patient activation.

- Structured and individualised information to the patients can empower them to engage in their care and in care planning process/consultations.

- Service inertia can be addressed by targeting high risk patients in a co-working strategy.
Publications


- Gillani SMR, Holland M, Sidhu M, Singh BM; A case control study of use of the Failed Access Score for determination of failed access to structured diabetes care: the WICKED project; Practical Diabetes 2014; 31(3): 107-110


- Gillani SMR, Nevill AM, Singh BM. Patient activation amongst people with diabetes, as measured by diabetes care process attainment within a randomised controlled trial, is promoted through provision of structured information. The WICKED Project. Diabetic Medicine 2015; DOI: 10.1111/dme.12737

- Gillani SMR, Nevill A, Singh BM. The assessment by people with diabetes of the usefulness of a mail delivered personalised diabetes information booklet with insight into the association of patient activation to clinical risk: The WICKED Project. (Under review process)
Challenges and Aspirations

• Lack of a fully governed and commissioned framework to embed this model of care in routine diabetes care delivery.

• Further fragmentation in Primary Care can potentially be detrimental to the integrity of one model of care in a local CCG area.

• Aspiration is that the core principles of this model of care may be adapted by wider NHS.
Thank You