



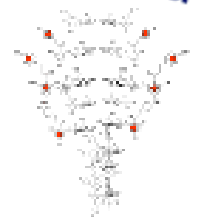
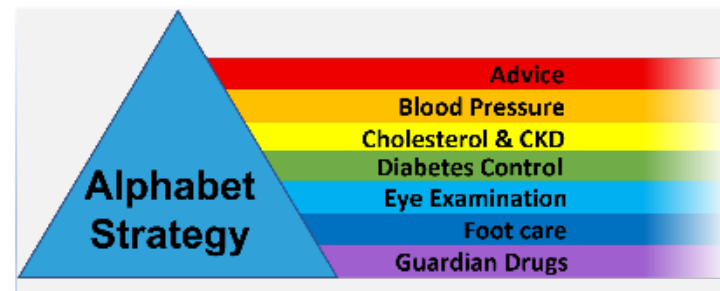
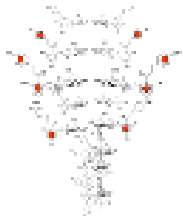
# Delivering Holistic Care in the Diabetes Review: *A Broad Approach and the Alphabet Strategy*

**Prof. Vinod Patel**

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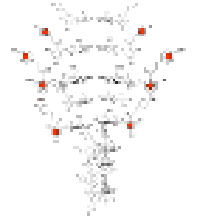


Long Term Conditions and Prevention Clinical Network  
NHS England- Midlands



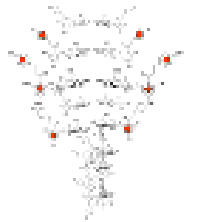
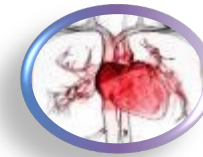
# Disclosures

- **I have worked with most of the large pharmaceutical industry groups over the years with the majority of the work being in education of Healthcare Professionals in Diabetes Care**
- **This includes Novo Nordisk, Lilly, MSD, BI, Sanofi, Napp, Takeda, Mylan and AZ. I have been part of an Advisory Board on occasions. From these companies I would have received Conference Arrangements and Lectures Fees. All fees are donated to registered Charities.**
- **I am a trustee of the SAHF Charity (South Asian Health Foundation)**



## **Delivering Holistic Care in the Diabetes Review: *A Broad Approach and the Alphabet Strategy***

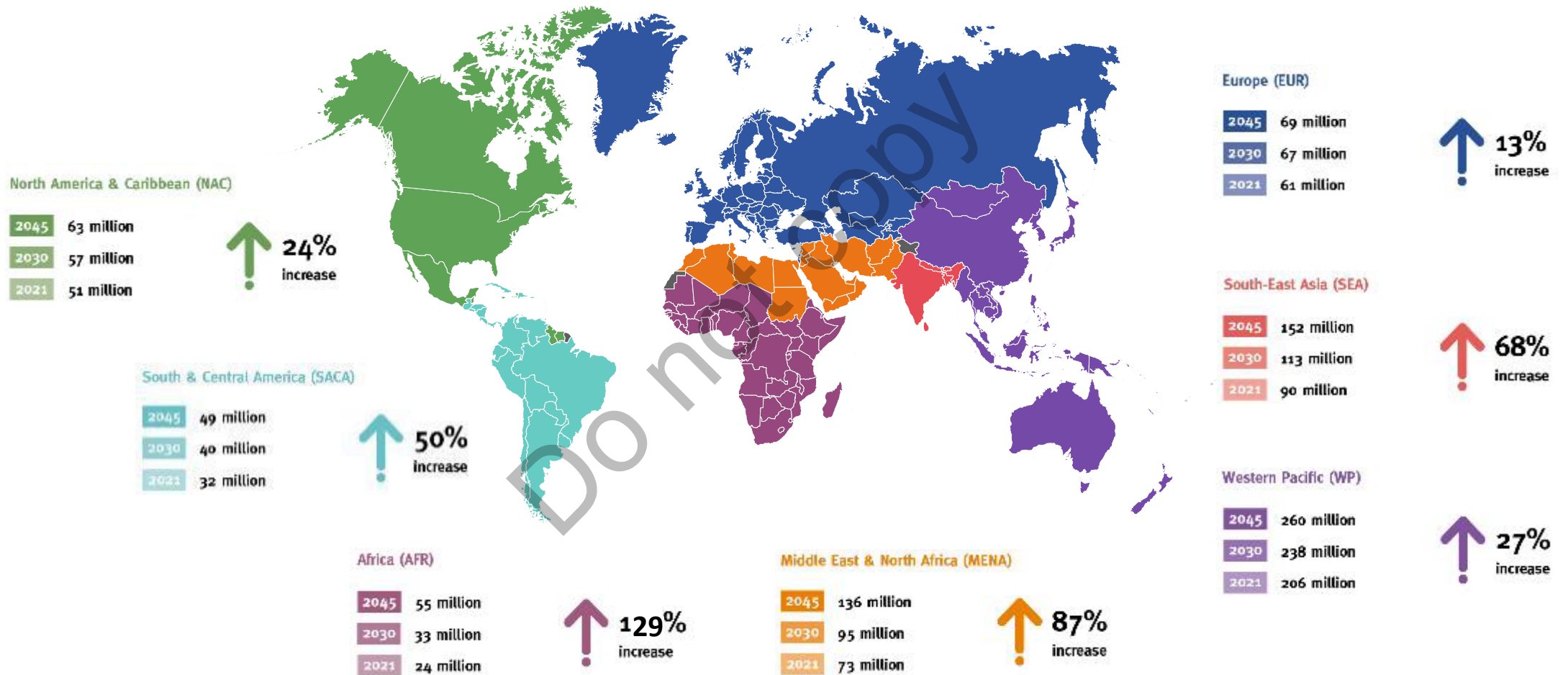
- The Problem and the POETIC Vision
- Evidence for the NDA Processes and Targets
- Midlands Data
- The Alphabet Strategy for Diabetes Care
- Conclusions
- Your Questions and Comments please!





# Number of people with diabetes

Aged 20–79 years globally and by IDF region



# Complications of Diabetes

***A chronic, lifelong condition with considerable morbidity and mortality***

- Hyperglycaemia is a major and independent risk factor for both microvascular and macrovascular complications of diabetes<sup>1</sup>

## Macrovascular complications



The risk of stroke in newly treated type 2 diabetes is more than double that of the general population<sup>2</sup>



People with diabetes are twice more likely to have cardiovascular disease than someone without diabetes<sup>3</sup>



There is almost a 10% increase in the risk of myocardial infarction<sup>6</sup>



Hypertension is a significant risk factor for the complications of type 2 diabetes<sup>7</sup>



Peripheral vascular disease affects 1 in 3 people with diabetes and increases the risk of heart attack and stroke<sup>8</sup>

## Microvascular complications

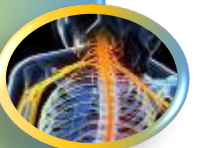
Damage to the kidney filtering systems from diabetes (diabetic nephropathy) is a leading cause of kidney failure<sup>4</sup>



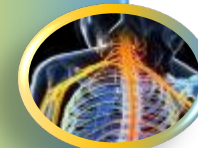
Microvascular damage to the retina from diabetes (diabetic retinopathy) is a leading cause of blindness<sup>5</sup>



Damage to the nerves from diabetes (diabetic neuropathy) is a leading cause of foot wounds and ulcers which frequently lead to foot and leg amputation<sup>9</sup>. Erectile Dysfunction.



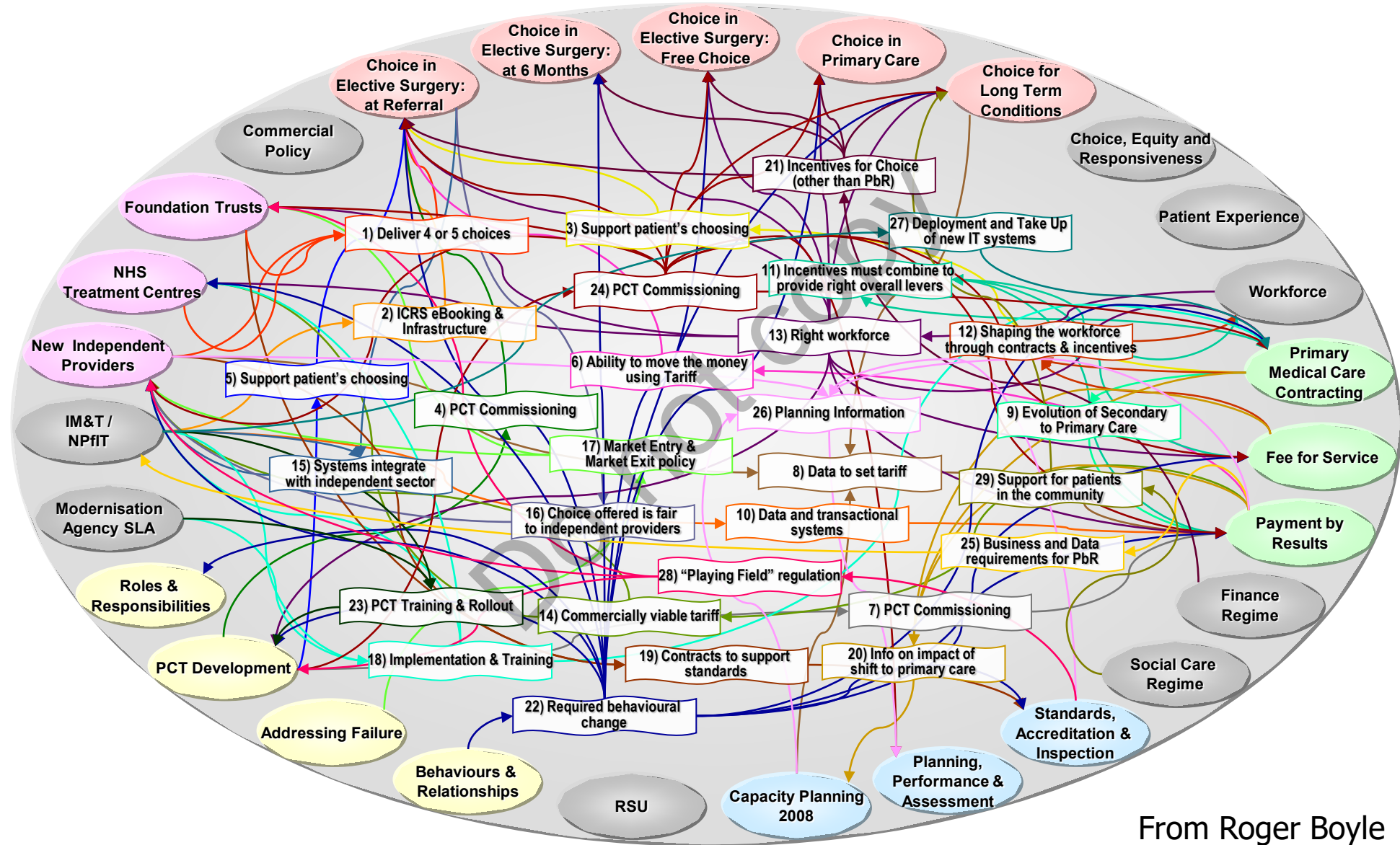
**Others: Obesity, Depression, Anxiety, Dementia, Heart Failure, Increased cancer risks, Increased risk of death from Covid-19, Increased Cancer risk**



### References

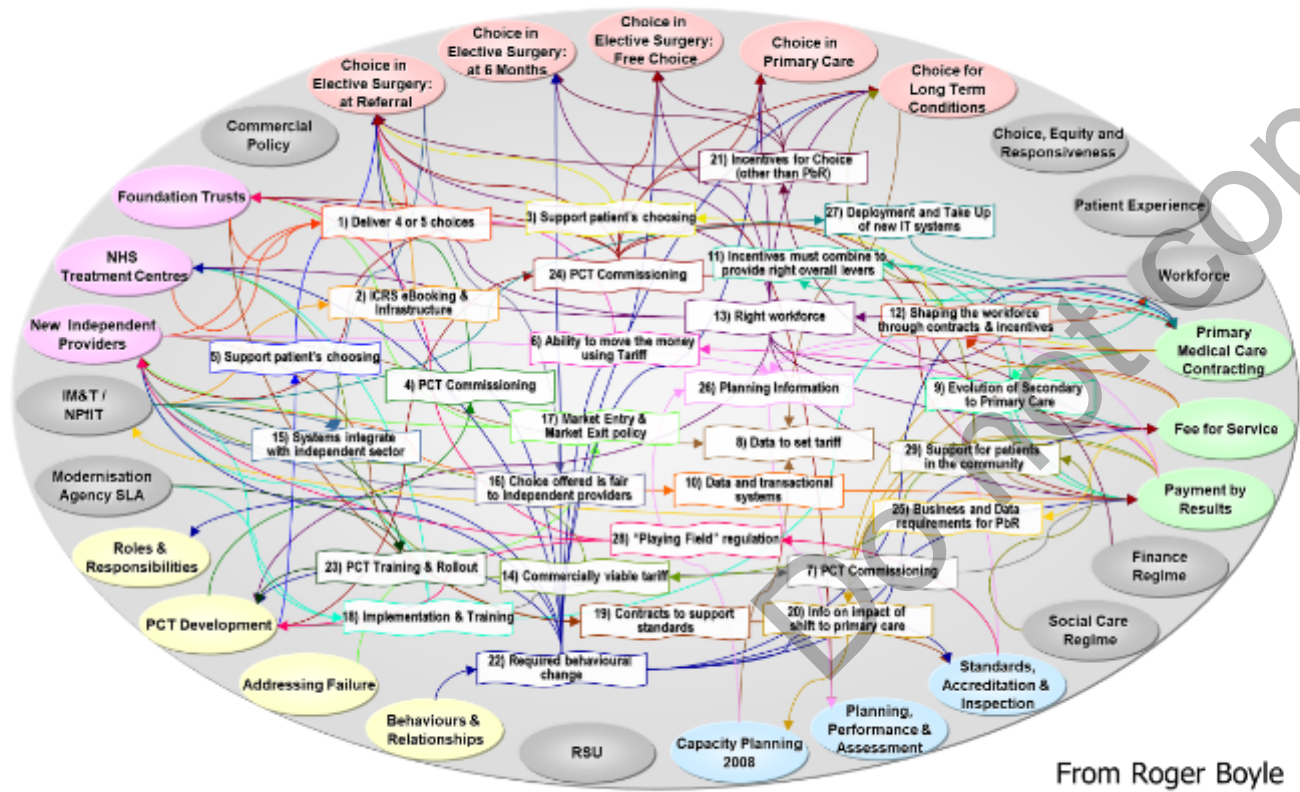
1. Stratton IM *et al.* on behalf of the UK Prospective Diabetes Study Group. *BMJ* 2000;**321**:405–12;
2. Jeerakathil T *et al.* *Stroke* 2007;**38**(6):1739–1743.
3. World Heart Federation. Cardiovascular Risk Factors – Diabetes. Available at: [www.worldheart.org/cardiovascular-health/cardiovascular-disease-risk-factors/diabetes/](http://www.worldheart.org/cardiovascular-health/cardiovascular-disease-risk-factors/diabetes/) (Accessed May 2010)
4. Hovind P *et al.* *Kidney Int* 2001;**59**(2):702–709; 5. Fong DS *et al.*, *Diabetes Care*. 2004;**27**(10):2540–2553; 6. Deshpande AD *et al.* *Phys Ther* 2008;**88**:1254–1264.
7. Adler AI *et al.* on behalf of the UK Prospective Diabetes Study Group. *BMJ* 2000;**321**:412-9.
8. Peripheral artery disease. Available at: [www.diabetes.co.uk/diabetes-complications/peripheral-artery-disease.html](http://www.diabetes.co.uk/diabetes-complications/peripheral-artery-disease.html) (Accessed June 2014)
9. Dang CN *et al.*, *Int J Low Extrem Wounds* 2003;**2**(1):4-12.

# A Guide to delivering care in the NHS



From Roger Boyle

# A Guide to delivering care in the NHS

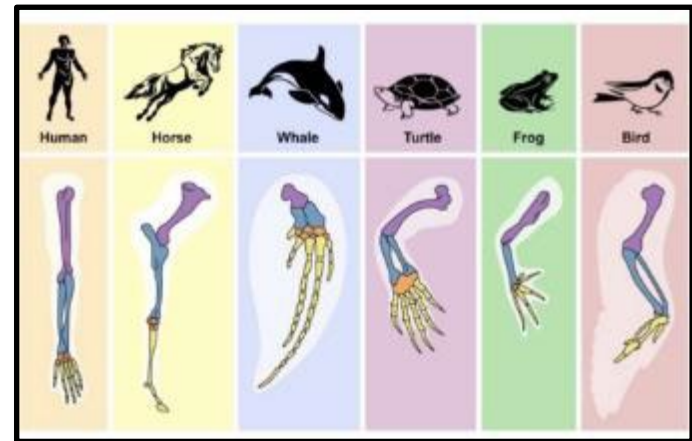


From Roger Boyle



## A Pentadactyl Limb

Five digits (e.g. five fingers or toes) Present in many species, including mammals, reptiles and amphibians.



# The Algebra of Effective Healthcare?

## *The POETIC Vision*

P  
O  
E  
T  
I  
C



**George Eliot: Mary Ann Evans (1819-1880)**  
Novelist and Poet. 8 novels *Middlemarch*, and *Daniel Deronda*.



**Clinical Leadership Skills and The Poetic Vision**

Vinod Patel, Winston Crasto, Kiran Patel.

J Hosp Health Care Admin 2018 118-23

Source: Vinod Patel & John Morrissey



# The Algebra of Effective Healthcare?

## *The POETIC Vision*



**P**

**Patient-centred:**

**Patient-Centred & Safe, Public Health-Driven  
Professionally inspired**

**O**

**Outcomes-clear:**

**What are we trying to achieve? And why? Is the  
patient interested?**

**E**

**Evidence-based:**

**At least informed by Clinical Audit. Research by  
the right people essential**

**T**

**Team orientated:**

**Multidisciplinary, well-trained, validated**

**I**

**Integrated:**

**Primary, secondary care, schools, community,  
councils. National aspirations.**

**C**

**Cost-effective:**

**Cost efficient, but clinically governed**



# Daniella Deronton: Taxi Driver and Odd Jobs

Self-Employed

## Daniella Deronton:

- 48 years old, works as a part-time taxi driver and has an odd-jobs business
- Eg: fitting windows, mending roofing and guttering on houses
- She is overweight and desperate to lose weight with a pending wedding and daughter's graduation
- She had been told that she has pre-diabetes. However, 3 years later T2DM is diagnosed
- Current Medications: Metformin 1000mg bd, Gliclazide 80mg bd, Lisinopril 20mg am,
- Other medications: Sertraline,



## Key Aspects of Care:

Advice on Lifestyle	BMI: 32.2. Active- at work and wonders whether she had enough activity, Smokers 10 cigs a day, Alcohol a bottle wine twice a week with friends at the pub						
BP	154/92						
Cholesterol & CKD	TC: 4.2 mmol/l	HDL: 1.0	Tg: 2.1	LDL 2.5	Creatinine: 96 umol/l	UACR: 6.3 mg/mmol	eGFR: 84
Diabetes Control	Hypos?: Yes, if snacks missed	HbA1c: 76 mmol/mol	BG: Waking 9.2	BG: Pre-lunch 8.4	BG: Pre Ev. Meal 8.6	BG: Pre-Bed 11.2	Driving Safety? DVLA rules covered
Eyes	Retinal Screening last year: No Diabetic Retinopathy						
Feet	Normal on inspection, normal pulses and capillary return, no neuropathy. Recent examination by Practice Nurse. Daily self-examination stressed						
Guardian Drugs	Statin: No	Aspirin: No Not indicated	ACEi/ARB: Lisinopril 20mg od	SGLT2i or GLP1 RA: No	Others:		
HCP Advice	Check Driving Safety, Details of occupation, Dietary history re snacks, Effective Contraception stressed (not menopausal)						

# National Diabetes Audit: 2023-24

## Report 1: Care Processes and Treatment Targets Care Processes

All people with diabetes aged 12 years and over should receive all of the nine NICE recommended care processes<sup>1,2,3,4,5</sup> and attend a structured education programme shortly after diagnosis.

**Table 2: Nine Annual Care Processes for all people with diabetes aged 12 and over**

Responsibility of Diabetes Care providers (comprising the NDA 8 Care Processes)	
<b>1. HbA1c</b> (blood test for glucose control)	<b>5. Urine Albumin/Creatinine Ratio</b> (urine test for risk of kidney disease)
<b>2. Blood Pressure</b> (measurement for cardiovascular risk)	<b>6. Foot Risk Surveillance</b> (examination for foot ulcer risk)
<b>3. Serum Cholesterol</b> (blood test for cardiovascular risk)	<b>7. Body Mass Index</b> (measurement for cardiovascular risk)
<b>4. Serum Creatinine</b> (blood test for kidney function)	<b>8. Smoking History</b> (question for cardiovascular risk)
Responsibility of NHS Diabetes Eye Screening (NHS England, Public Health England)*	
<b>9. Digital Retinal Screening</b> (photographic eye test for early detection of eye disease)	

### 'Meeting all three treatment targets':

is achieved if -

<b>HbA1c</b> ≤58mmol/mol	<b>Cholesterol</b> <5mmol/L	<b>BP</b> ≤140/80 mmHg
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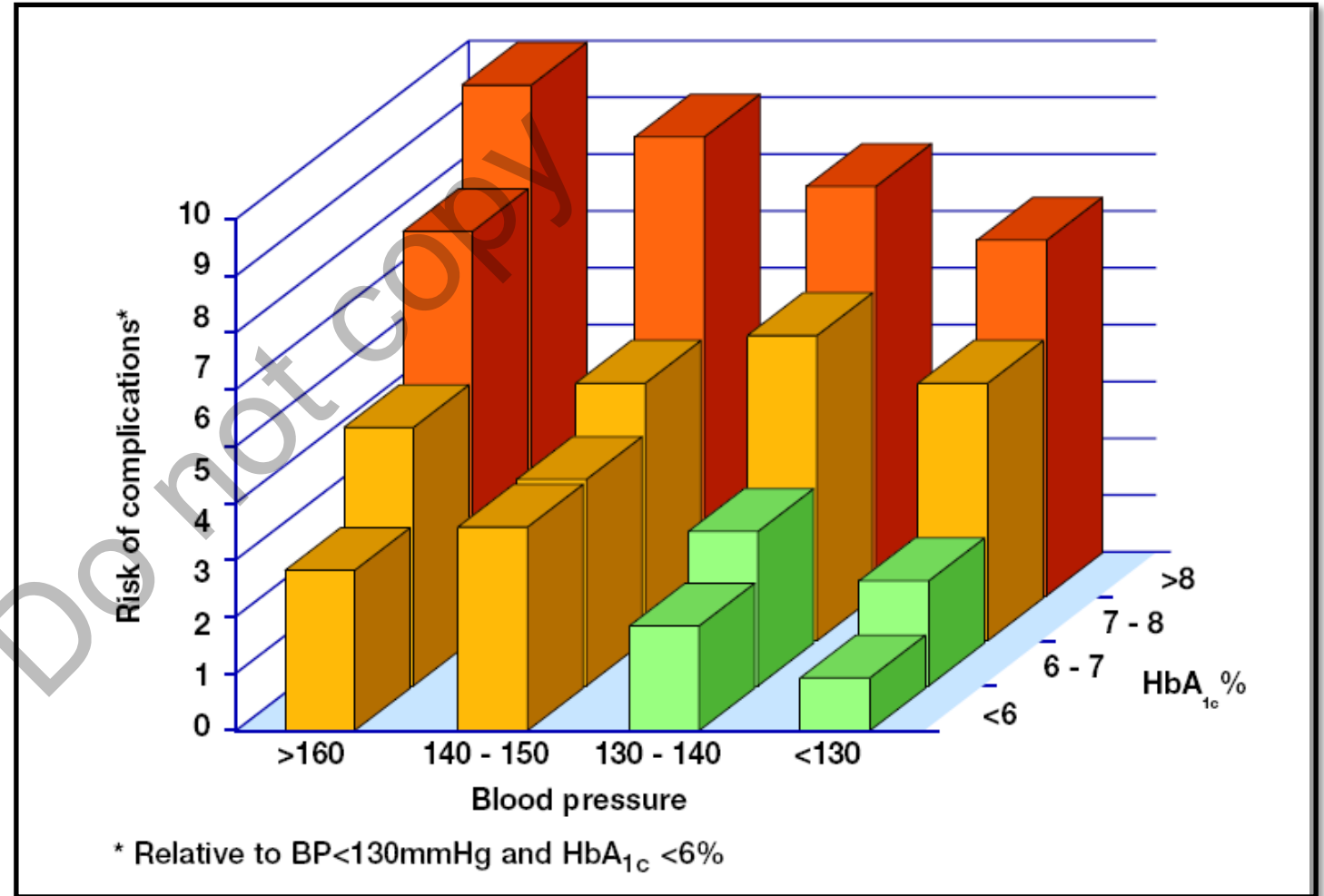
1,2,3,4,5. Please see full list of footnotes in the definitions and footnote section

\* The screening registers are drawn from practice registers but the outcomes are recorded in screening management systems that presently cannot export data to the NDA



# UKPDS: T2DM Risk of diabetes complications

NB: 10% of patients were BAME background



The risk of diabetes complication based on the UKPDS Study. From Mogensten C-E. Diabetic nephropathy: evidence for renoprotection and practice. *Heart* 2000; 84(suppl): i26 -28. Reproduced with permission from the BMJ Publishing Group.

# Risk Factor Control. Mortality and CVD Outcomes in Patients with Type 2 Diabetes

% increased risk			
399	288	210	39

**Diabetes Patients** are at higher risk of CVD and Death, investigation into risk factor control and effect on these outcomes

**Cohort Study:** 271,174 T2DM Pts followed for 5.7 years median. Swedish database. 1,355,870 controls matched for age, sex, country

## 5 Risk factors:

**HbA1c > 53 mmol/mol (7%)**

**BP ≥ 140/80**

**Albuminuria (Micro or Macro)**

**Current Smoker**

**LDL ≥ 2.5 mmol/l**

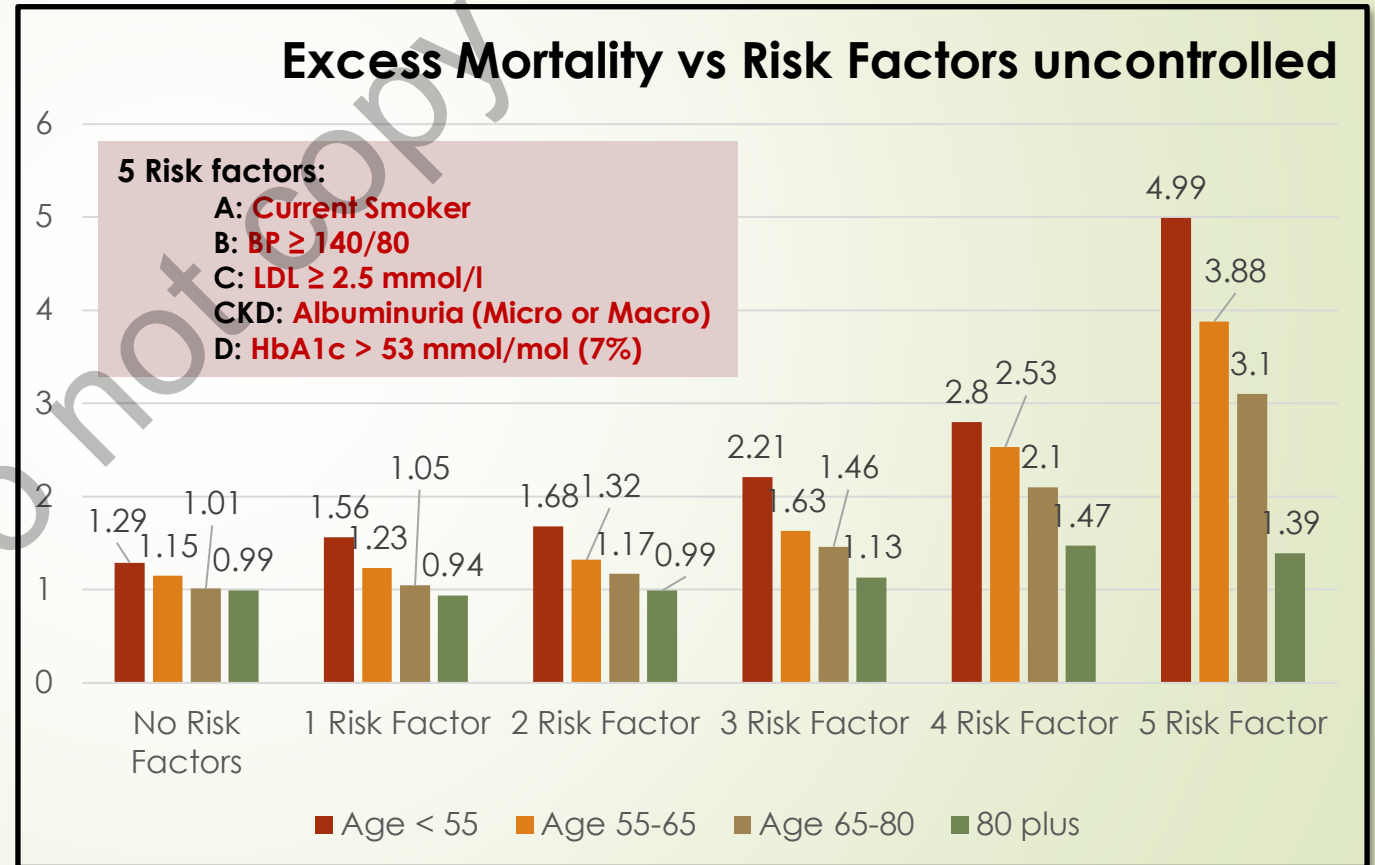
**Age groups:** < 55, ≥55-65, ≥65-80, ≥80

**Models adjusted** for Socio-economic status (income, marital status, immigrant status, educational level). Deaths adjusted for CHD, HF. MI adjusted for AF and HF. Heart failure adjusted for AF and CHD. Stroke adjusted for AF, HF and CHD.

## Similar Trends for:

- Excess MI
- Excess Stroke
- Excess Heart Failure

Rawshani A et al. NEJM  
2018;379:633-644.



# Type 1 in the Midlands – NDA data

**Green** 3% better vs England

**Average Processes**

**Red** 3% worse



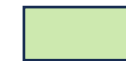
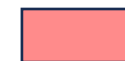
ICS	All Eight Care Processes - T1								Three Treatment Targets							
	2021/22 %	2022/23 (Q1) %	2022/23 (Q2) %	2022/23 (Q3) %	2022/23 (Q4) %	2022/23 (Full year) %	2022/23 GP practice range	Trend	2021/22 %	2022/23 (Q1) %	2022/23 (Q2) %	2022/23 (Q3) %	2022/23 (Q4) %	2022/23 (Full year) %	2022/23 GP practice range	Trend
Birmingham and Solihull	36.3	14.6	26.6	36.7	47.1	47.2	0-100%		21.7	20.6	22.7	23.4	24.9	24.9	0-100%	
Coventry and Warwickshire	27.1	7.8	14.1	21.0	27.9	33.5	0-100%		22.9	21.6	22.9	22.8	25.0	24.1	0-100%	
Derby and Derbyshire	36.9	13.9	22.7	32.1	41.3	44.4	8.3-85.7%		20.6	19.6	21.4	22.2	23.1	23.0	8.3-50%	
Herefordshire and Worcestershire	32.5	15.0	24.2	32.7	41.3	41.3	8.3-70.6%		20.6	19.3	22.1	23.6	25.4	25.4	0-100%	
Leicester, Leicestershire and Rutland	32.8	13.7	21.9	29.7	40.3	41.8	0-100%		23.6	20.0	21.7	22.1	24.3	24.3	0-100%	
Lincolnshire	33.2	15.0	24.0	31.7	40.4	40.9	12.5-85.7%		21.0	20.2	23.8	23.5	24.7	24.3	0-50%	
Northamptonshire	26.6	11.5	20.4	27.5	34.8	35.3	0-83.3%		19.6	19.2	20.6	20.8	22.4	22.2	0-100%	
Nottingham and Nottinghamshire	38.1	13.9	22.0	29.3	37.6	37.7	9.1-75%		19.5	19.7	22.3	22.6	23.6	23.5	0-100%	
Shropshire, Telford and Wrekin	16.3	9.0	15.8	22.0	29.7	30.1	0-100%		21.0	19.0	22.3	22.9	24.3	24.5	12.5-100%	
Staffordshire and Stoke on Trent	26.2	11.7	19.8	28.4	40.6	41.7	0-100%		20.2	18.3	19.1	20.2	21.2	21.1	0-100%	
The Black Country and West Birmingham	28.4	11.3	19.1	27.6	36.9	38.3	0-100%		21.7	20.9	21.9	22.5	23.0	22.7	0-100%	
<b>England</b>	<b>35.2</b>	<b>13.4</b>	<b>22.3</b>	<b>31.1</b>	<b>40.5</b>	<b>42.8</b>			<b>22.4</b>	<b>21.3</b>	<b>23.0</b>	<b>23.3</b>	<b>24.4</b>	<b>23.9</b>		

# Type 2 in the Midlands – NDA data

**Green** 3% better vs England

**Average Processes**

**Red** 3% worse



ICS	All Eight Care Processes - T2								Three Treatment Targets							
	2021/22 %	2022/23 (Q1) %	2022/23 (Q2) %	2022/23 (Q3) %	2022/23 (Q4) %	2022/23 (Full year) %	2022/23 GP practice range	Trend	2021/22 %	2022/23 (Q1) %	2022/23 (Q2) %	2022/23 (Q3) %	2022/23 (Q4) %	2022/23 (Full year) %	2022/23 GP practice range	Trend
Birmingham and Solihull	51.6	21.9	39.2	52.1	64.3	64.3	3-94.9%		37.4	33.2	35.2	36.0	38.2	38.2	18.0-70.5%	
Coventry and Warwickshire	32.5	11.5	30.7	31.8	40.1	40.2	2.3-77.8%		38.3	33.9	37.4	38.3	40.0	40.0	22.2-59.1%	
Derby and Derbyshire	48.7	20.9	35.1	47.8	58.6	58.7	11.1-86.8%		33.9	31.0	34.5	35.0	35.3	35.3	20.6-48.1%	
Herefordshire and Worcestershire	47.9	21.7	35.5	48.6	59.0	59.0	11.1-85.5%		36.2	33.7	37.1	38.0	39.2	39.2	17.4-58.4%	
Leicester, Leicestershire and Rutland	46.7	18.5	31.8	43.3	54.6	54.7	6.3-85.1%		36.3	32.4	35.6	36.7	38.2	38.2	20.0-62.6%	
Lincolnshire	47.5	20.2	33.3	45.0	55.8	55.9	6.5-84.3%		36.6	34.2	36.7	37.7	38.2	38.2	23.0-59.3%	
Northamptonshire	38.8	16.7	21.3	39.4	49.1	49.2	4.7-82.7%		33.9	31.4	35.3	36.3	37.9	37.9	23.5-71.4%	
Nottingham and Nottinghamshire	47.0	19.5	31.9	43.8	55.0	55.0	11.1-83.8%		32.0	35.1	33.9	35.3	35.4	35.4	18.8-66.7%	
Shropshire, Telford and Wrekin	26.1	12.3	22.5	32.7	42.5	42.5	3.4-79%		32.4	30.6	33.9	34.6	35.8	35.8	23.5-46.0%	
Staffordshire and Stoke on Trent	38.5	16.6	29.5	41.6	55.5	55.7	5.8-87.1%		35.5	33.0	35.1	36.1	37.4	37.4	21.8-55.6%	
The Black Country and West Birmingham	44.2	17.8	31.9	43.3	55.3	55.6	3.1-88.4%		35.8	32.7	35.9	36.8	39.0	38.9	18.7-61.8%	
<b>England</b>	<b>47.9</b>	<b>19.5</b>	<b>33.5</b>	<b>46.2</b>	<b>57.8</b>	<b>57.9</b>			<b>35.7</b>	<b>32.8</b>	<b>35.8</b>	<b>36.7</b>	<b>37.9</b>	<b>37.9</b>		

## Completion of annual diabetes care processes and mortality: A cohort study using the National Diabetes Audit for England and Wales

**Type 1 in the Midlands – NDA data**

Green 3% better vs England  
Average Processes  
Red 3% worse

ICS	All Eight Care Processes - T1							Three Treatment Targets								
	2021/22 %	2022/23 (Q1) %	2022/23 (Q2) %	2022/23 (Q3) %	2022/23 (Q4) %	2022/23 (Full year) %	2022/23 GP practice range	Trend	2021/22 %	2022/23 (Q1) %	2022/23 (Q2) %	2022/23 (Q3) %	2022/23 (Q4) %	2022/23 (Full year) %	2022/23 GP practice range	Trend
Birmingham and Solihull	36.3	14.6	26.6	36.7	47.1	47.2	0-100%	✓	21.7	20.6	22.7	23.4	24.9	24.9	0-100%	✓
Coventry and Warwickshire	27.1	7.8	14.1	21.0	27.9	33.5	0-100%	✓	22.9	21.6	22.9	22.8	25.0	24.1	0-100%	✓
Derby and Derbyshire	36.9	13.9	22.7	32.1	41.3	44.4	8.3-85.7%	✓	20.6	19.6	21.4	22.2	23.1	23.0	8.3-50%	✓
Herefordshire and Worcestershire	32.5	15.0	24.2	32.7	41.3	41.3	8.3-70.6%	✓	20.6	19.3	22.1	23.6	25.4	25.4	0-100%	✓
Leicester, Leicestershire and Rutland	32.8	13.7	21.9	29.7	40.3	41.8	0-100%	✓	23.6	20.0	21.7	22.1	24.3	24.3	0-100%	✓
Lincolnshire	33.2	15.0	24.0	31.7	40.4	40.9	12.5-85.7%	✓	21.0	20.2	23.8	23.5	24.7	24.3	0-50%	✓
Northamptonshire	26.6	11.5	20.4	27.5	34.8	35.3	0-83.3%	✓	19.6	19.2	20.6	20.8	22.4	22.2	0-100%	✓
Nottingham and Nottinghamshire	38.1	13.9	22.0	29.3	37.6	37.7	9.1-75%	✓	19.5	19.7	22.3	22.6	23.6	23.5	0-100%	✓
Shropshire, Telford and Wrekin	16.3	9.0	15.8	22.0	29.7	30.1	0-100%	✓	21.0	19.0	22.3	22.9	24.3	24.5	12.5-100%	✓
Staffordshire and Stoke on Trent	26.2	11.7	19.8	28.4	40.6	41.7	0-100%	✓	20.2	18.3	19.1	20.2	21.2	21.1	0-100%	✓
The Black Country and West Birmingham	28.4	11.3	19.1	27.6	36.9	38.3	0-100%	✓	21.7	20.9	21.9	22.5	23.0	22.7	0-100%	✓
England	35.2	13.4	22.3	31.1	40.5	42.8		✓	22.4	21.3	23.0	23.3	24.4	23.9		✓

**Aim:** Assess whether the completion of NDA diabetes care processes is associated with mortality.

**Methods:** NDA cohort 179 105 T1DM and 1 397 790 T2DM, adjusted for all risk factors.

**Results:** Over a mean follow-up of 7.5 and 7.0 years there were 26 915 deaths (T1DM) and 388 093 deaths (T2DM).

Completion of five or fewer, compared to eight, care processes:

- **Mortality (HR) of 1.37** (1.28-1.46) in **T1DM**
- **Mortality (HR) of 1.32** (1.30-1.35) in **T2DM**

**Conclusions:** People with diabetes who have fewer routine care processes have higher mortality.

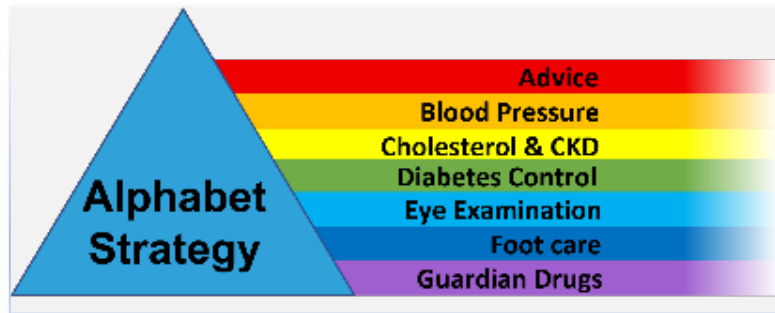


# Alphabet Strategy for Diabetes Care: “Checklist”

A Safety “Checklist”, Patient-Centred, Multi-Professional,  
Evidence-based Approach

## National Diabetes Audit Eight Process Checks

- HbA1c, BP, cholesterol
  - Urine albumin, Creatinine
  - Foot examination
  - BMI and smoking
- (Eye screening)



## National Diabetes Audit Targets:

BP:  $\leq 140/80$  mmHg  
HbA1c:  $\leq 58$  mmol/mol  
Cholesterol:  $< 5$  mmol/L

### New Target Statins:

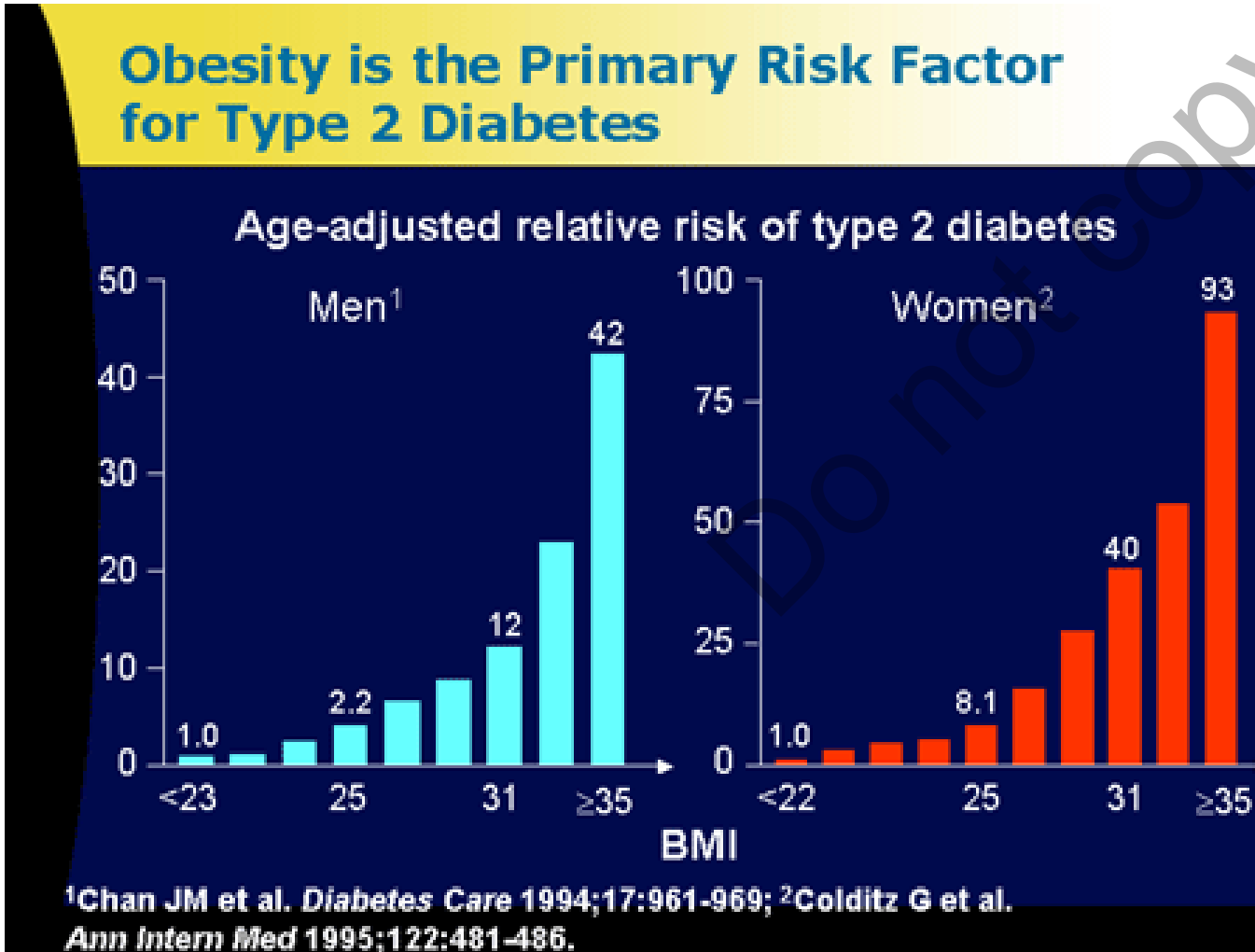
Primary & Secondary Prevention of CHD

- **Advice:**
  - Diet and weight control, Physical activity, not smoking, Good Infection Control Measures, Appropriate PPE, COVID-19 Symptoms, appropriate vaccinations
- **Blood Pressure:**
  - aim  $\leq 140/80$ ,
  - CVD or CKD  $\leq 130/80$
- **Cholesterol & CKD Prevention**
  - Most Atorvastatin 20mg or 80mg, TC  $\approx 4$  mmol/l
  - UACR yearly and treat
- **Diabetes Control:**
  - HbA1c  $< 59$  (7.5%) usual target, ideal  $< 48$  (6.5%)
  - Outcome based Rx: ? SGLT2-i, ? GLP-RA
  - Safer insulins where needed
- **Eyes:**
  - check yearly at least
- **Feet:**
  - daily self-care, HCP check yearly at least
- **Guardian Drugs:**
  - ?Aspirin 75mg (CVD atheroma), ?ACE-i, ARBs (esp CKD, HF, CVD), appropriate SGLT2-i (NICE NG-28), GLP-RA
- **Healthcare Professional Advice:**
  - Contraception & Pre-conception Advice
  - Driving and Occupation Advice
  - Hospital Admission Care
  - Other individualised advice eg Ramadan, Travel

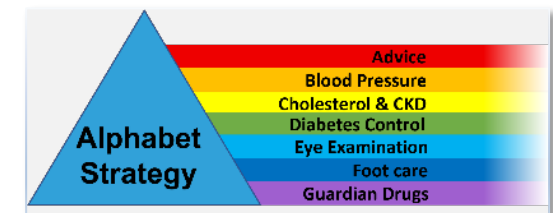
# Prevention of Diabetes

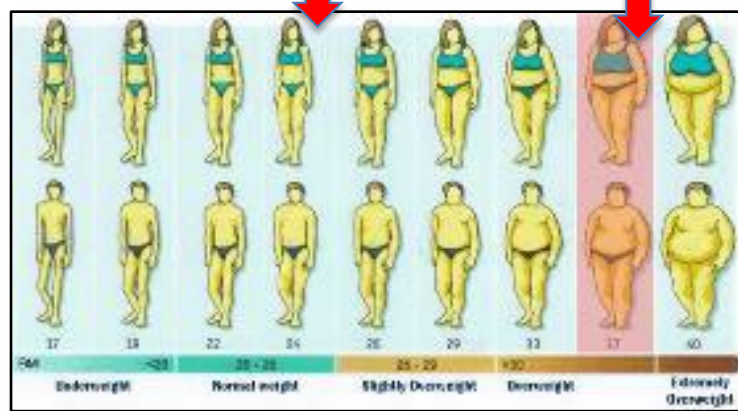
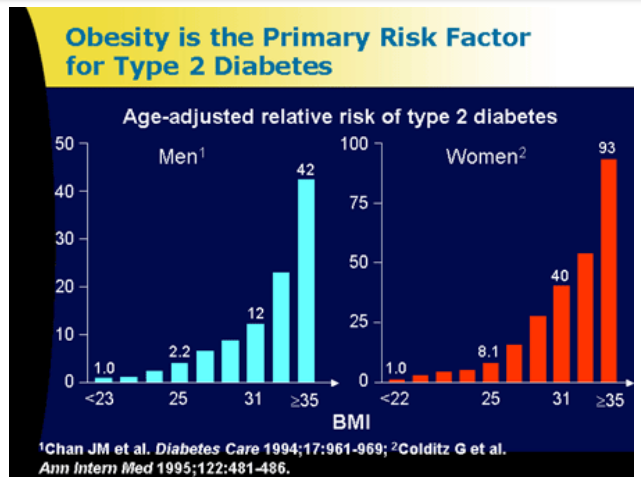
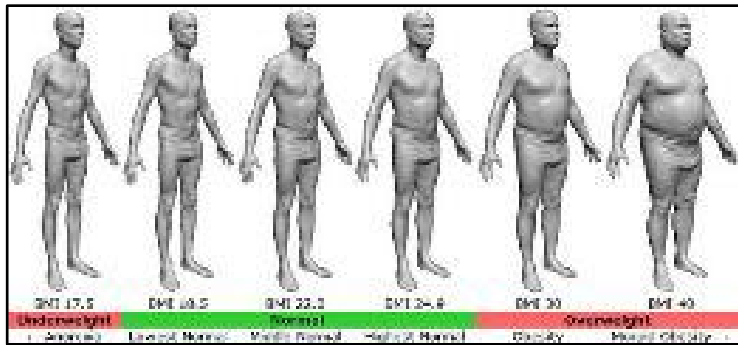
- Overweight and Obesity prevention, Optimising Physical Activity
- Balanced diet (less carbohydrate-rich diet)

**What is the % increase in risk of Diabetes with a BMI of <23 versus  $\geq 35$**



**Men: ...%**  
**Women: ...%**





**What is the % increase in risk of Diabetes BMI of <23 versus ≥ 35 ?**

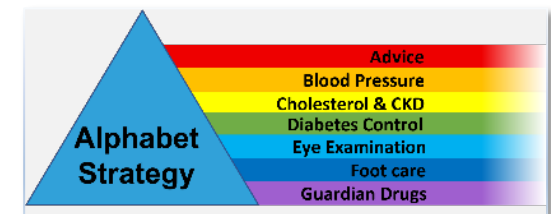
A: Men **42%**, Women **93%**

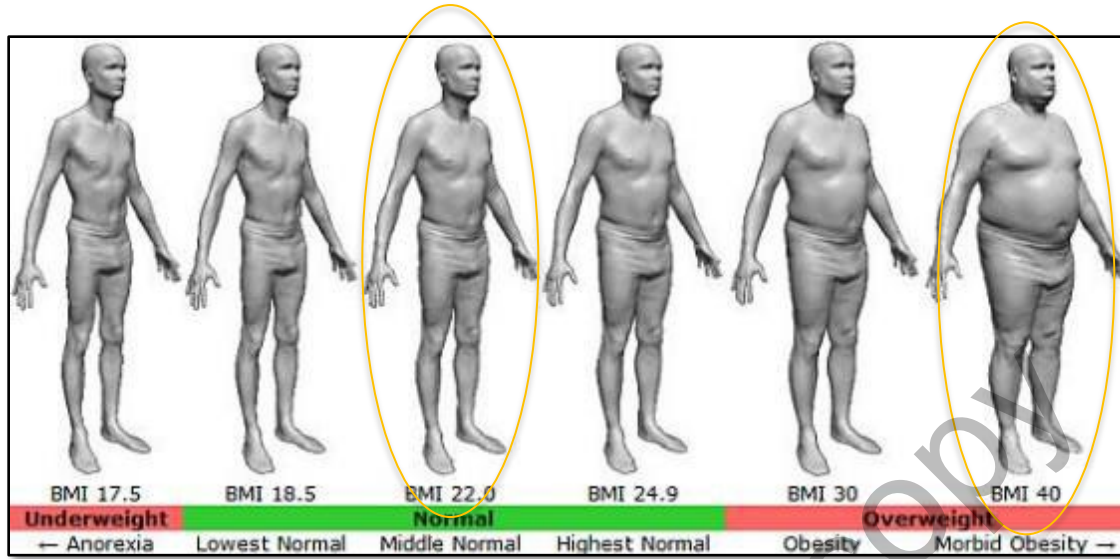
B: Men **100%**, Women **120%**

C: Men **420%**, Women **600%**

D: Men **4100%**, Women **9200%**

E: Men **200%**, Women **300%**



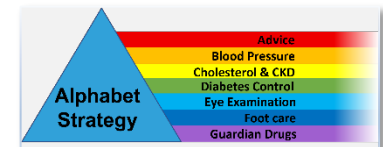
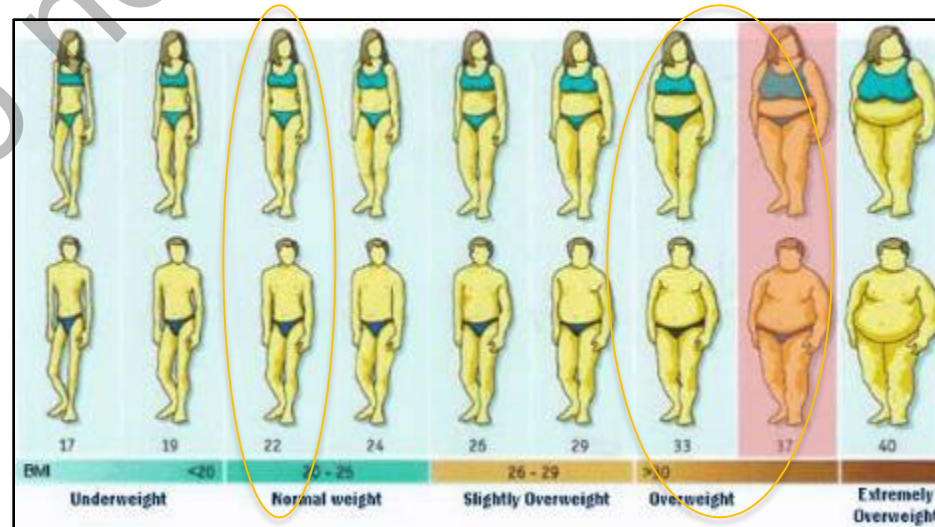
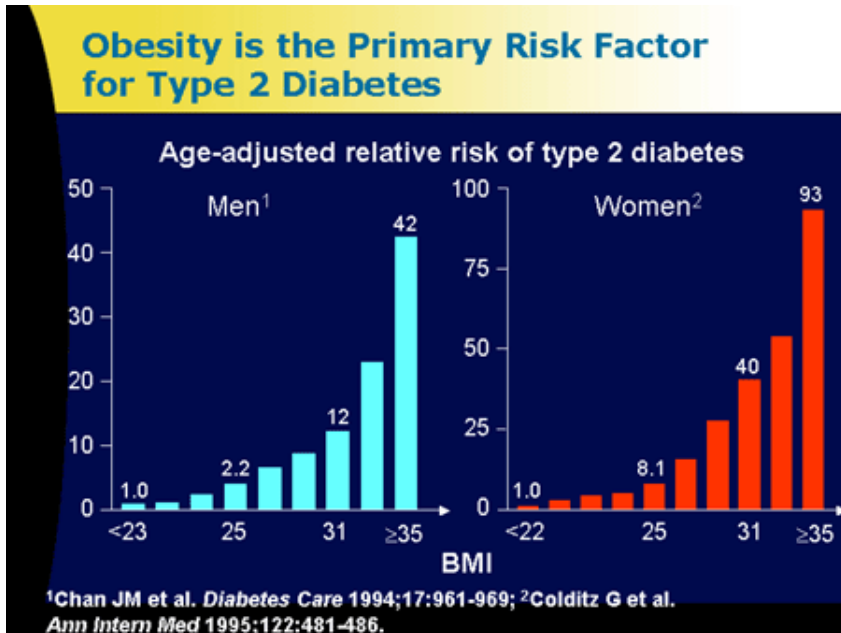


Actually!

Men: 4100 %

Women: 9200%

What is the % increase in risk of Diabetes: BMI of <23 versus  $\geq 35$



**Potential prevention of diabetes and obesity by achieving macronutrient balance: a guide for diet and fast food**

JAMES EL MACKINTOSH,<sup>1</sup> JEMINIE PATEL MISTRY,<sup>2</sup> SARAH N ALI,<sup>3</sup> VINOD PATEL<sup>1</sup>

**Abstract**  
Protein is the most satiating macronutrient. Animal studies have indicated that there may be a discrete amount of protein that an individual needs to consume each day. Given this to be true, a person will continue to eat until this amount of protein has been consumed. Once the target is met, hunger signals are switched off. By altering the proportion of protein in a diet, you can affect how many calories are required to meet this target. A diet with a protein content >15% drives weight loss through the reduction of calories consumed to meet protein needs. We hypothesise that changing the proportion of calories from protein in a person's diet from 12% to 20% could alter their total intake by 1000 kcal each day. This equates to a weight change of 0.9 kg each week. Maintaining a healthy weight is not as simple as changing a single variable. Eating habits in the UK are governed by a range of complex interdependent factors including hunger, emotions, cost, accessibility, education and culture. However, we suggest that by addressing satiety, and thereby hunger, we may remove a significant barrier for those trying to alter their diet for weight loss.

**Key words:** macronutrients, protein, weight loss, fast food, satiety

**Introduction**  
The UK is undergoing an obesity epidemic. In England 64% of adults are classified as overweight or obese.<sup>1</sup> In 2017/18 there were 10,660 hospital admissions directly attributable to obesity and 711,000 admissions where obesity was a factor.<sup>2</sup> It is estimated that the NHS spent £5.1 billion on overweight and obesity-related ill health in 2014-2015.<sup>3</sup> This problem is widely acknowledged by healthcare professionals, government policy

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<sup>2</sup> Diabetes, Queen Elizabeth Hospital, Edingburgh, UK  
<sup>3</sup> Endocrinology Department, Royal Free Hospital, Hampstead, London, UK  
**Address for correspondence:** Mr James El Mackintosh  
 Warwick Medical School, Gibbet Hill Road, Warwick, CV4 7HL, UK  
 Email: J.Mackintosh@warwick.ac.uk  
<https://doi.org/10.15272/ajd.2020.245>

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COMMENTARY



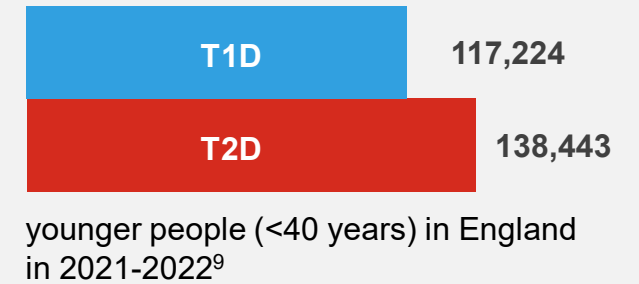
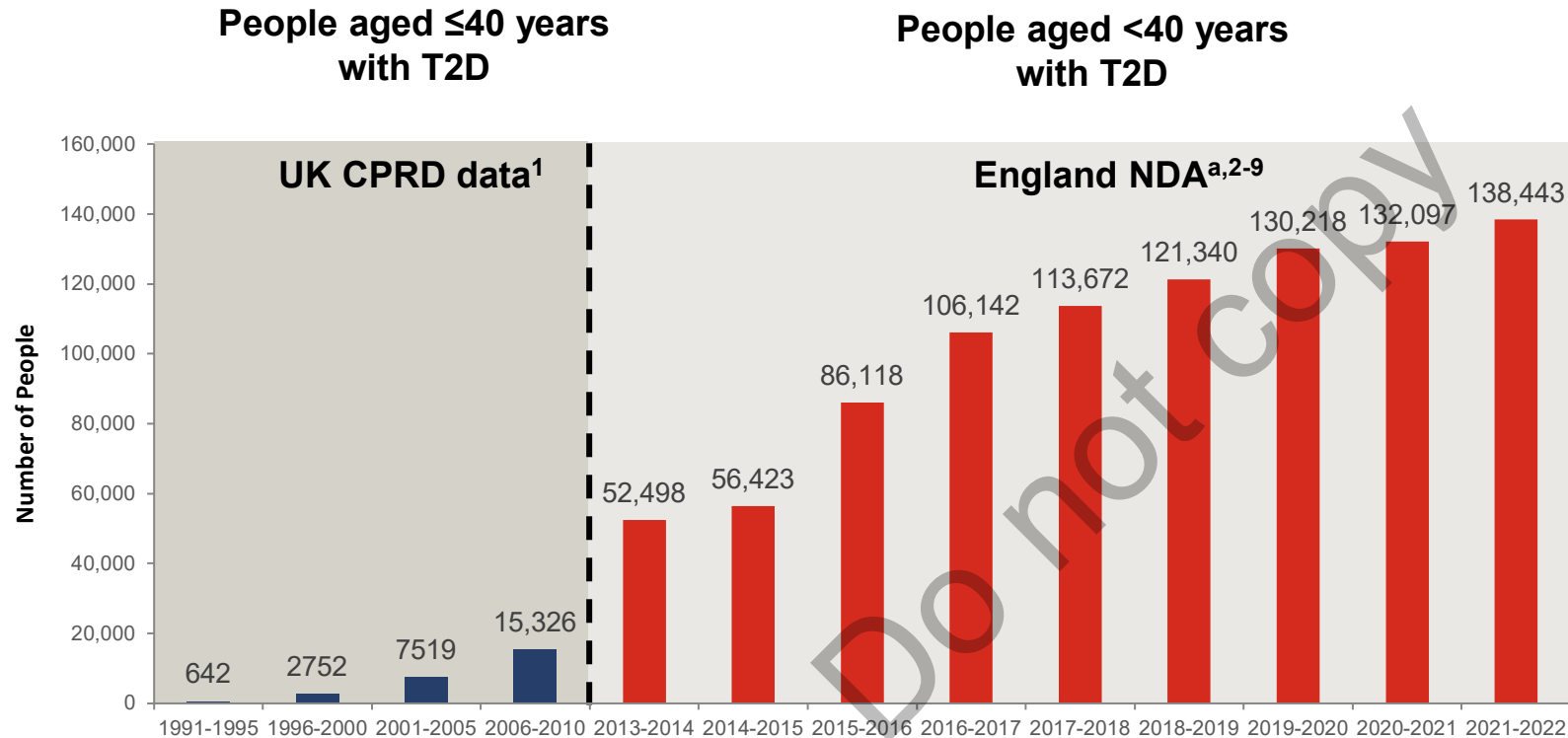
**Too Much Carb and not enough Protein**

**A Barrier to Preventing Diabetes and Good Diabetes Control in South Asian and some other communities?**



Mackintosh JE, Mistry JP, Ali SN, Patel V. Potential prevention of diabetes and obesity by achieving macronutrient balance: a guide for diet and fast food. British journal of diabetes. 2020 Jun 5;20(1):61-9.

# T2D Onset in Younger People is a Growing Problem



**T2D is now more prevalent than T1D in younger people in England<sup>7-9</sup>**

**Recorded Increase by 21,464% !**

<sup>a</sup>Listed as Type 2 and other registrations.

Notes: There is no standard definition for younger adults, however the National Diabetes Audit (NDA) typically includes people aged <40 years. Two different datasets covering different geographical regions are shown in the graph and cannot be compared directly but show a trend in onset of diabetes in younger people.

CPRD=Clinical Practice Research Datalink; NDA=National Diabetes Audit; T2D=Type 2 Diabetes.

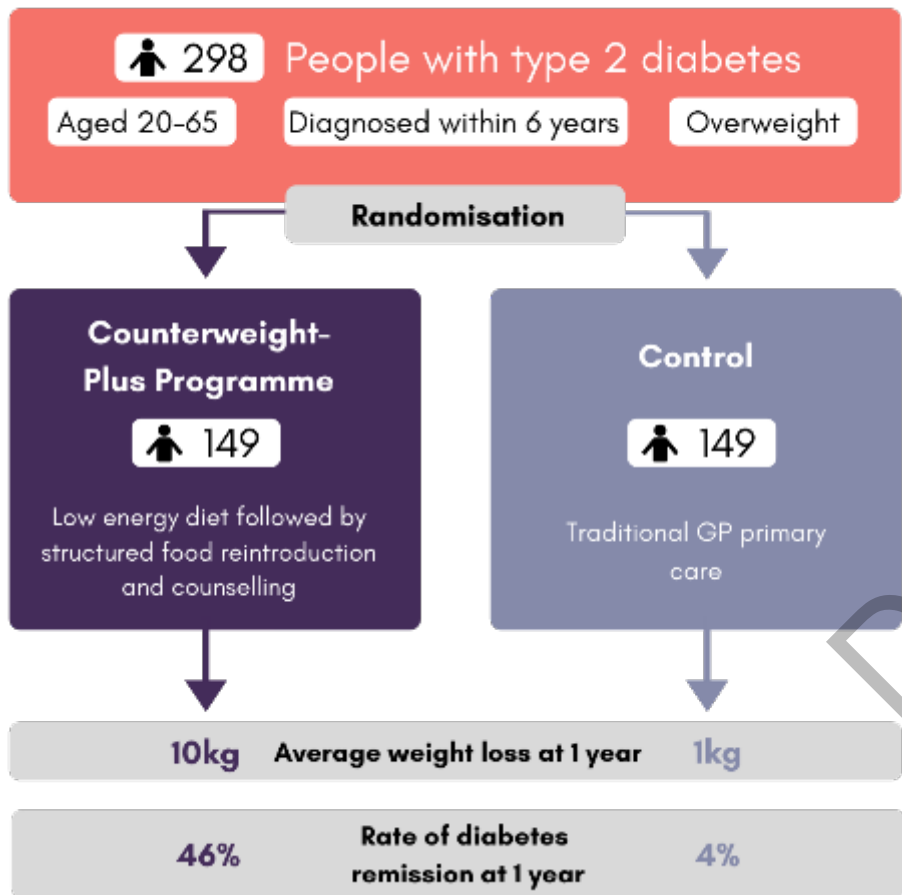
1. Holden SE, et al. *Diabetes Obes Metab.* 2013;15(9):844-852. 2. National Diabetes Audit 2013-15. 3. National Diabetes Audit 2014-16.

4. National Diabetes Audit, 2016-2017. 5. National Diabetes Audit 2017-2018. 6. National Diabetes Audit, 2018-2019. 7. National Diabetes Audit 2019-2020.

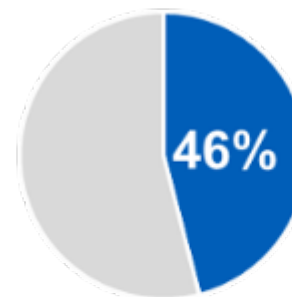
8. National Diabetes Audit 2020-2021. 9. National Diabetes Audit 2021-2022.

# Remission of T2 Diabetes

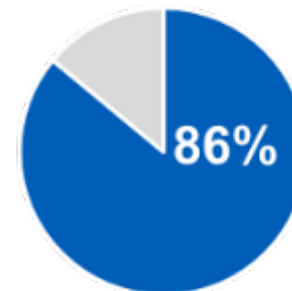
## DiRECT Clinical Trial



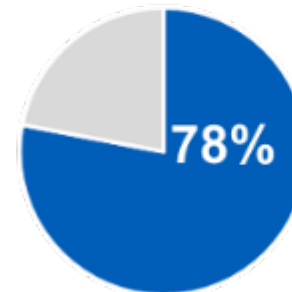
Nearly half (46%) of people were in remission at 1 year



Almost 9 out of 10 people who lost more than 15kg achieved remission



More than three quarters (78%) had managed to stop their diabetes medication



Lean ME, et al. "Primary care-led weight management for remission of type 2 diabetes (DiRECT): an open-label, cluster-randomised trial". *Lancet*. 2018. 391(10120):541-551.

# Metformin for Prevention of Diabetes

## *Now licensed: December 2017*

### Therapeutic indications

Reduction in the risk or delay of the onset of T2DM in adult, overweight patients with IGT\* and/or IFG\*, and/or increased HbA1C who are:

- **at high risk for developing overt T2DM and still progressing towards T2DM despite implementation of intensive lifestyle change for 3 to 6 months**
- Treatment with Glucophage SR based on risk based on appropriate measures of glycaemic control and including evidence of high CVD risk
- Lifestyle modifications should be continued when metformin is initiated, unless the patient is unable to do so because of medical reasons.

\*IGT: Impaired Glucose Tolerance;

IFG: Impaired Fasting Glucose

HbA1c- 42-47 mmol/mol





# Metformin for Prevention of Diabetes

## *Renal impairment*

- GFR before metformin initiation, and at least annually thereafter
- In patients at an increased risk of further progression of renal impairment and in the elderly, assessed frequently, e.g. every 3-6 months.

GFR (mL/min)	Total max daily dose	Notes
60-89	2000mg	Dose reduction may be considered in relation to declining renal function.
45-59	2000mg	Factors that may increase the risk of lactic acidosis (see section 4.4) should be reviewed before considering initiation of metformin. The starting dose is at most half of the maximum dose.
30-44	1000mg	
<30	Do not use	

# Preventing death, CVD and Renal Complications in Type 1 Patients: *The Triple Shield of BP control, lipid-lowering and Glycaemic control*

- *Huo et al 2016*: Type 1 diabetes **12.2 years of life lost on average**
- *Hero et al 2016*: 24230 Type 1 patients, Cohort Study, 5387 (22%) on lipid-lowering (97% statins), rest 18843 not, 6 year follow up, Sweden
- Statin Treatment associated with:

- **40% CVD reduction**
- **44% Stroke reduction**
- **22% MI reduction**
- **44% Death reduction**



- Number needed to save one death was 297 treatment years or 50 patients treated for 6 years.

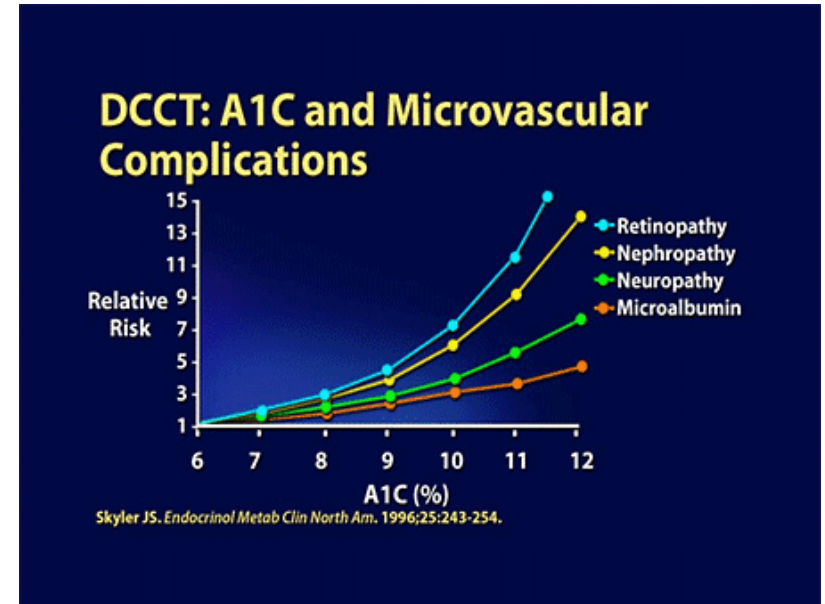
**One key message for today is consider all  
Type 1 patients statins according to NICE Guidelines**

All over 40 years of age or if > 10 years diabetes duration  
Effective Contraception Essential in females

**Focus on Diabulimia, General Poor Glycaemic Control. Obesity  
Role of SGLT2 inhibitors with DEPICT Trial data**

# Preventing Death, CVD and Micro-vascular Complications in Type 1 Patients: The Triple Shield of BP control, lipid-lowering and Glycaemic control

- *Huo et al 2016*: Type 1 diabetes 12.2 years of life lost on average
- *Hero et al 2016*: 24230 Type 1 patients, Cohort Study, 5387 (22%) on lipid-lowering (97% statins), rest 18843 not, 6 year follow up, Sweden
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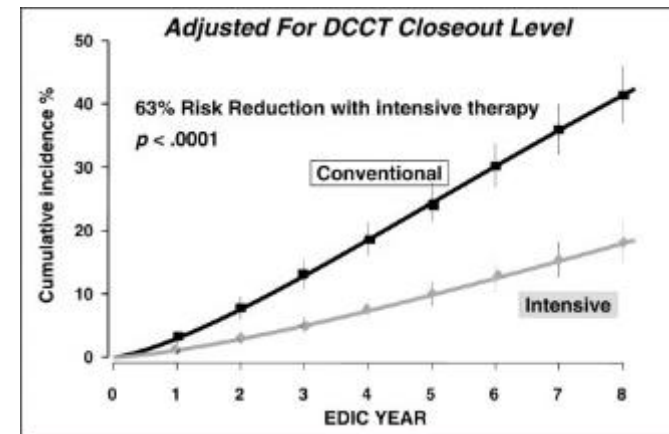


**One key message- always- is to consider Statins for all Type 1 patients according to NICE Guidelines**  
All over 40 years of age or if > 10 years diabetes duration  
Effective Contraception Essential in females

## Hypertension and Cholesterol Goals

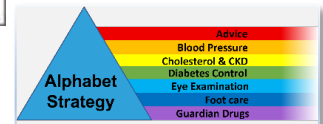
Driven mainly by strong relationships (RR range 1.8-12.1) with mortality, CAD, and overt nephropathy, suggested goal levels are as follows:

- LDL chol. <2.6 mmol/l, HDL chol. >1.1 mmol/l, trigs. <1.7mmol/l
- Systolic BP <120 mmHg, Diastolic BP <80 mmHg
- Age, sex, glycaemic control had little influence on these independent goals.



**HbA1c:**  
9% vs 7%  
75 vs 53 mmol/mol

Orchard TJ et al. Lipid and BP goals for type 1 diabetes: 10-year incidence data from the Pittsburgh Epidemiology of Diabetes Complications Study. *Diabetes Care*. 2001 Jun;24(6):1053-9. doi: 10.2337/diacare.24.6.1053. PMID: 11375370.



# Preventing Death, CVD and Micro-vascular Complications in Type 2 Patients: The Triple Shield of BP control, lipid-lowering and Glycaemic control

## Primary Prevention: Atorvastatin 10mg

Treatment Effect on the Primary Endpoint

Event	Placebo*	Atorva*	Hazard Ratio	Risk Reduction (CI)
Primary endpoint**	127 (9.0%)	83 (5.8%)		37% (17- 52) p=0.001
Acute coronary events	77 (5.5%)	51 (3.6%)		36% (9- 55)
Coronary revascularisation	34 (2.4%)	24 (1.7%)		31% (-16- 59)
Stroke	39 (2.8%)	21 (1.5%)		48% (11- 69)

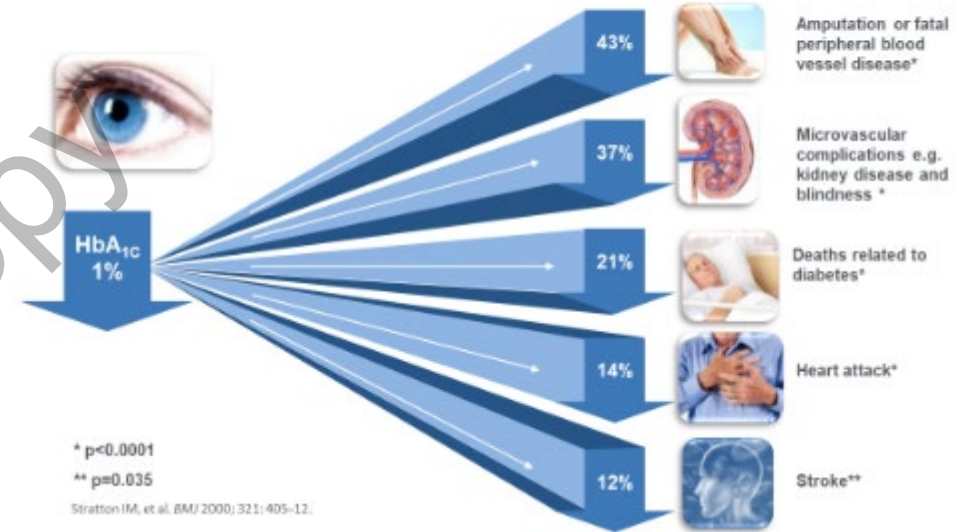
\*\*Fatal MI ,Other acute CHD death, non fatal MI, Unstable angina, CABG, Fatal stroke, non fatal stroke  
\* N (% randomised)

**Favours Atorvastatin      Favours Placebo**



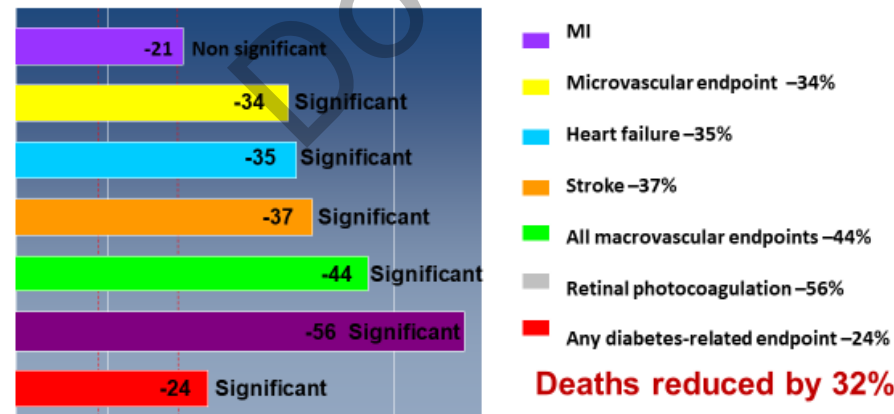
## Diabetes Control: UKPDS

1% (10 mmol/l) decrease in HbA<sub>1c</sub> associated with reduction in complications

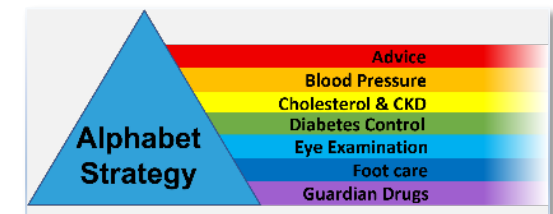


## Blood Pressure

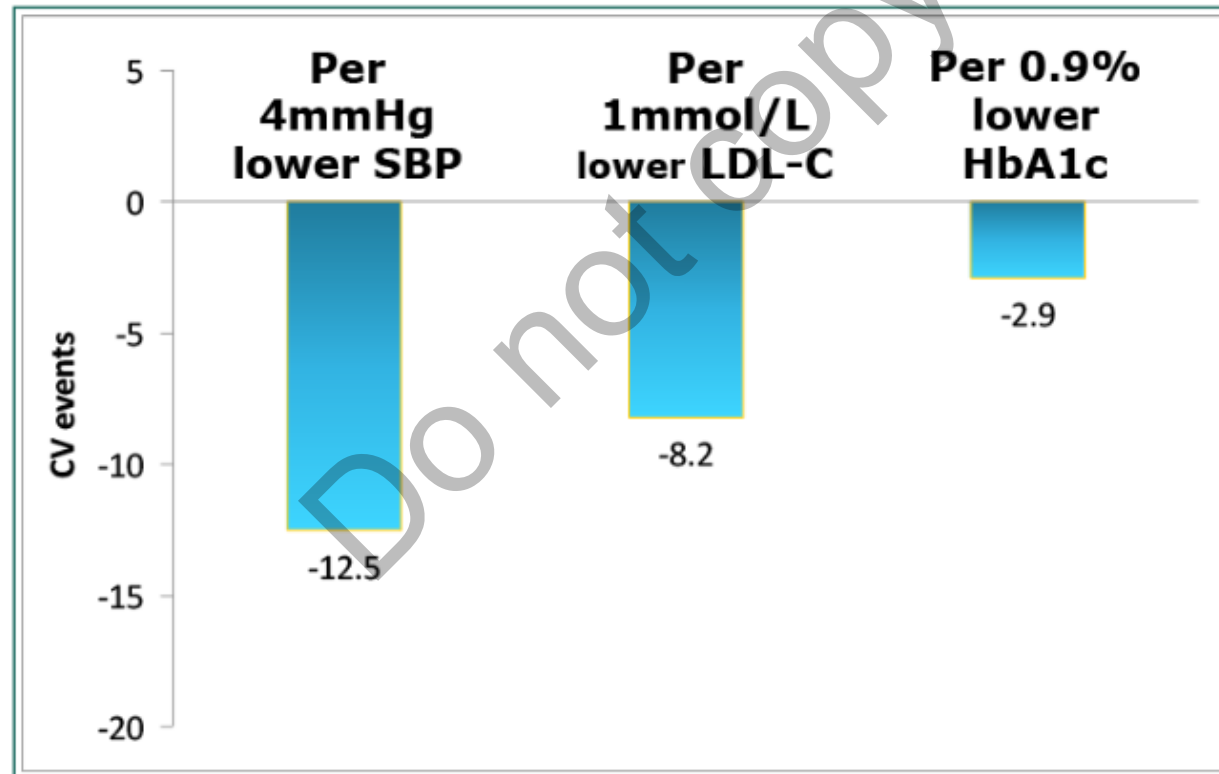
UKPDS 38: 154/87 versus 144/82



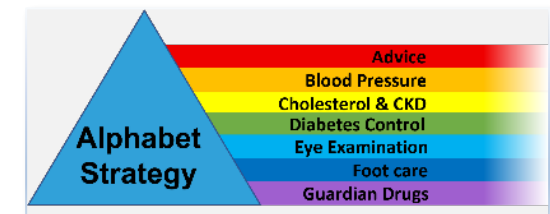
UK Prospective Diabetes Study (UKPDS) Group (38). BMJ 1998;317:703-713



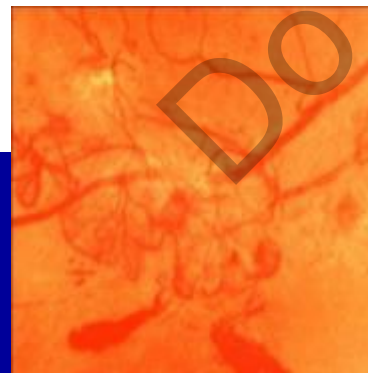
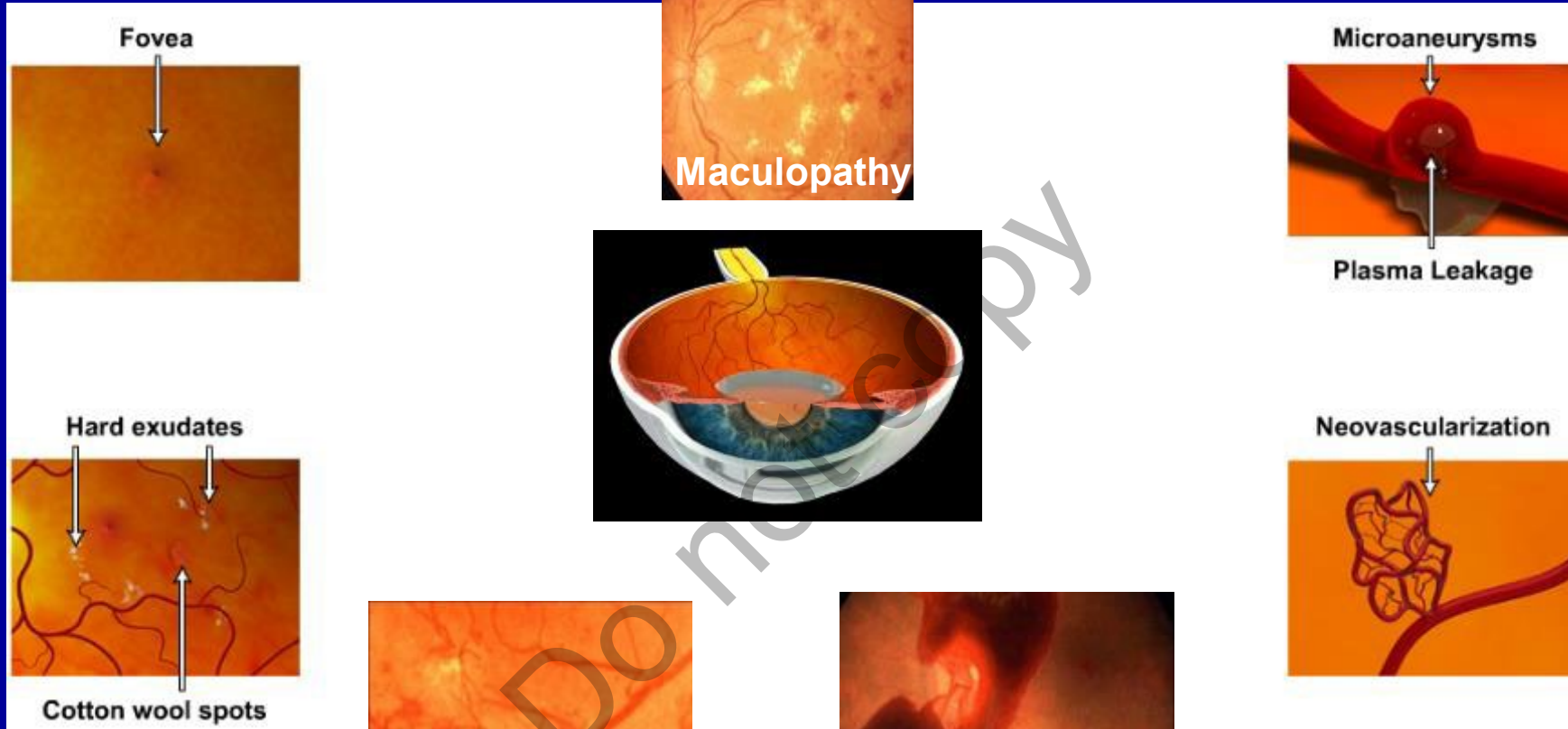
## Lowering BP and LDL-C Trump Glucose for CV Events



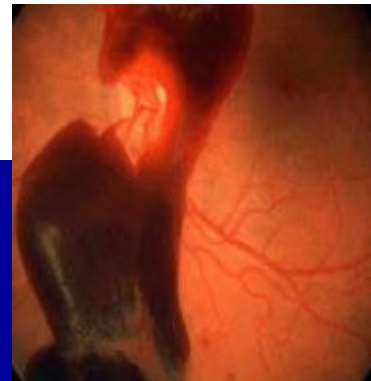
Ray K et al. *Lancet*. 2009;373:1765-1767.



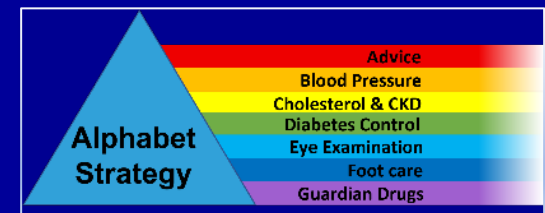
# Diabetic Retinopathy



**Proliferative DR**



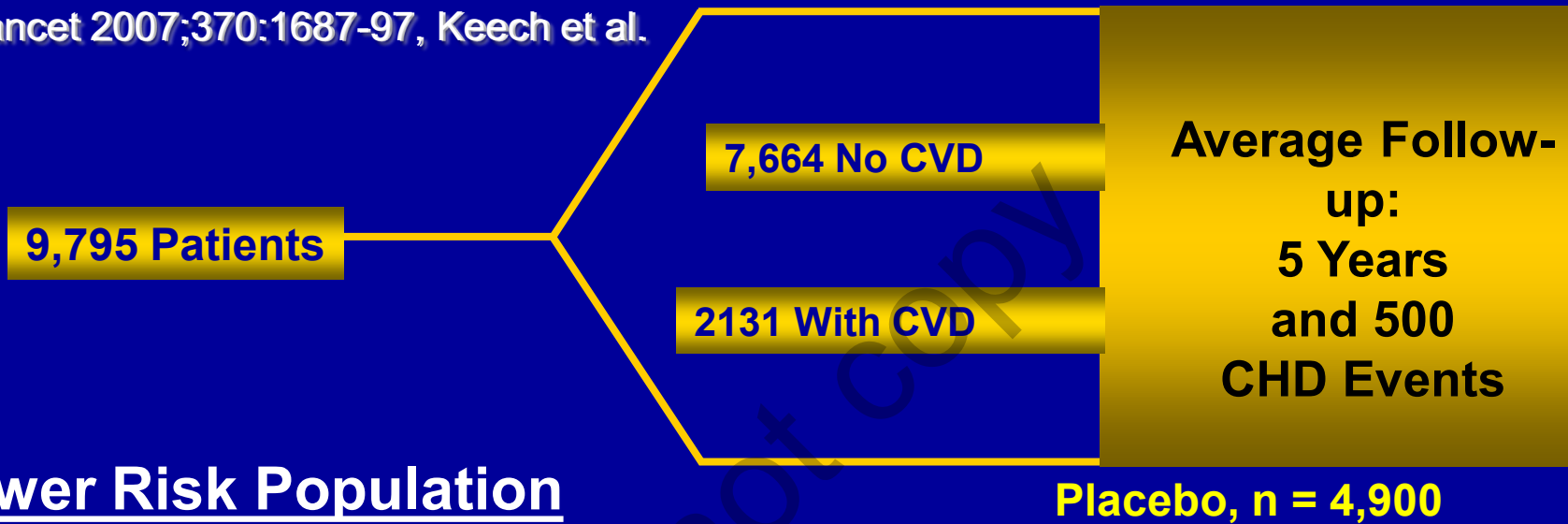
**Vitreous Haemorrhage  
± Retinal Detachment**



# FIELD Fenofibrate Study

\*Fenofibrate 160mg/day, n = 4,895

Lancet 2007;370:1687-97, Keech et al.



## Lower Risk Population

Duration of Diabetes: 5 years,  
(no CVD)

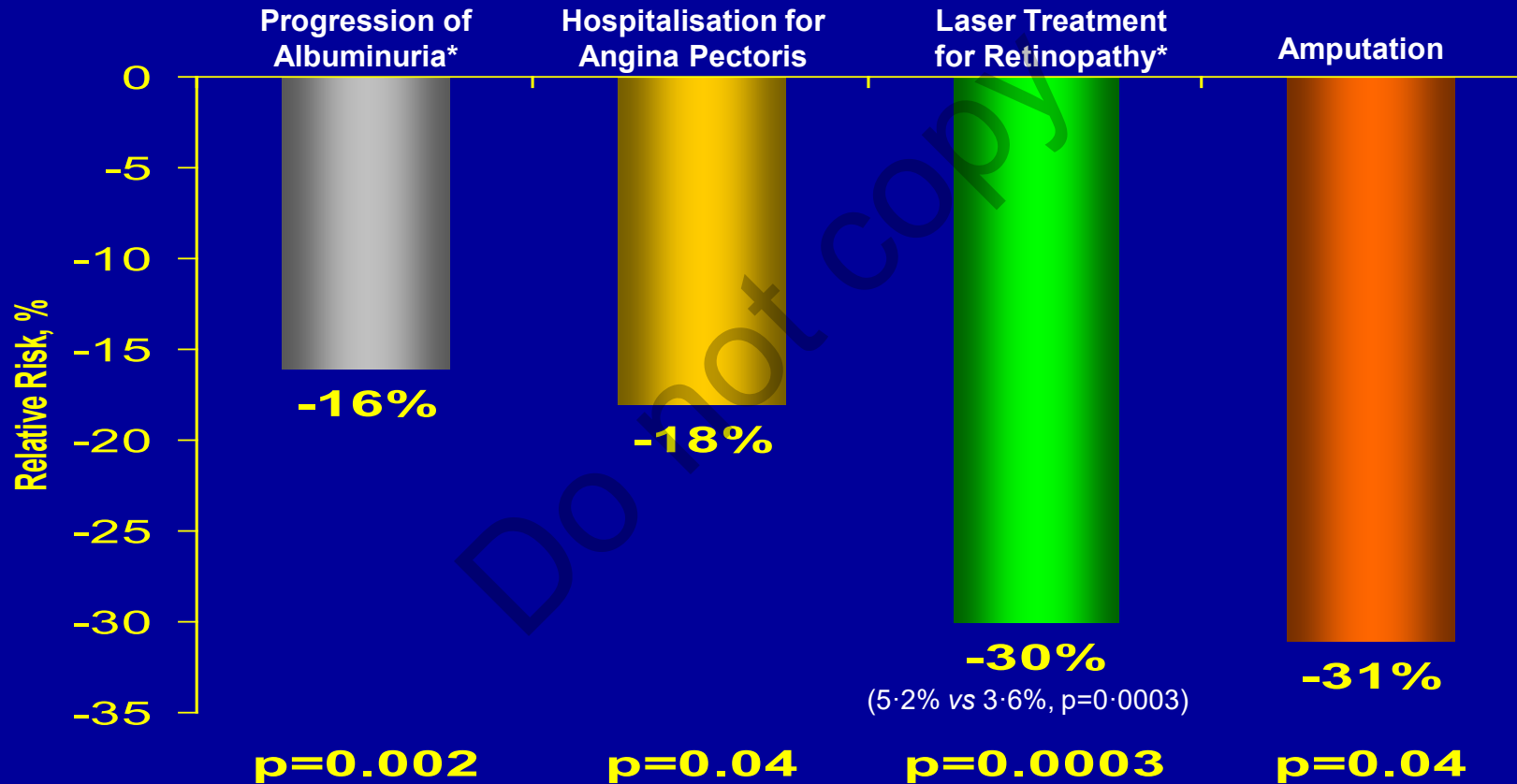
No clear need for lipid lowering therapy

- » **TC: 5.03** mmol/L
- » **LDL: 3.07** mmol/L
- » **HDL: 1.10** mmol/L
- » **TG: 1.74** mmol/L
- » **HbA1c: 6.9%**
- » **BP: 140/82**

Total CVD events were significantly reduced from 13.9% to 12.5% (0.89, 0.80–0.99; p=0.035).

\* < £4 per month

# Diabetes Complication Reduction: Reduction in Microvascular Disease



These effects cannot be explained by changes in HbA<sub>1c</sub> or concomitant medications, or by the minor reduction in blood pressure in the fenofibrate group

There was a slight increase in pancreatitis (0.5% vs 0.8%, p=0.031) and pulmonary embolism (0.7% vs 1.1%, p=0.022), but no other significant adverse effects.



# PUTTING FEET FIRST

## A footcare pathway for people with diabetes

### Annual Foot Review

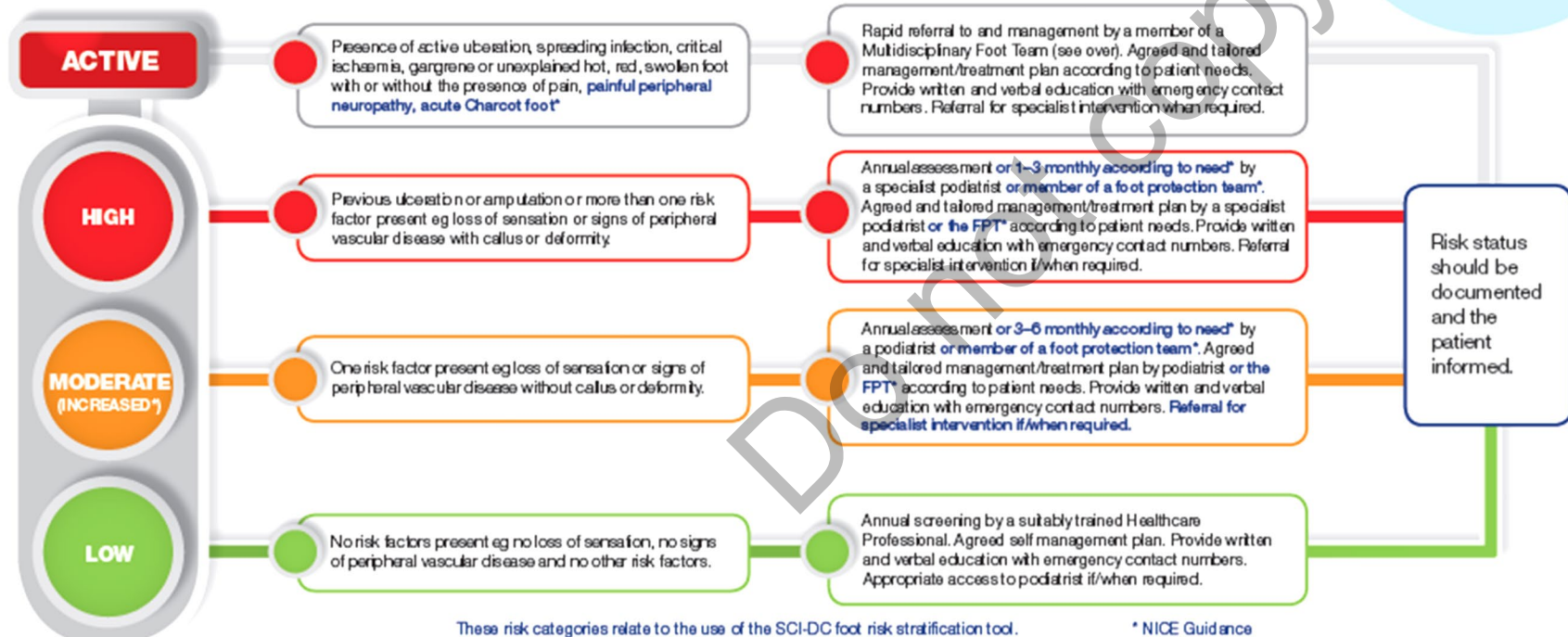
#### Foot examination with shoes and socks/stockings removed

- Test foot sensations using 10g monofilament or vibration
- Palpate foot pulses
- Inspect for any deformity
- Inspect for significant callus
- Check for signs of ulceration
- Ask about any previous ulceration
- Inspect footwear
- Ask about any pain

#### ADVISE THE PATIENT TO:

- Check their feet every day
- Be aware of loss of sensation
- Look for changes in the shape of their foot
- Not use corn removing plasters or blades
- Know how to look after their toenails
- Wear shoes that fit properly
- Maintain good blood glucose control
- Attend their annual foot review

### DIABETIC FOOT RISK STRATIFICATION AND TRIAGE/IDENTIFICATION OF RISK STATUS



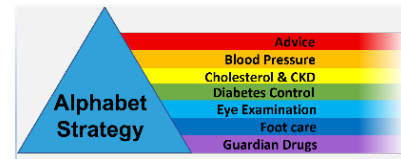
These risk categories relate to the use of the SCI-DC foot risk stratification tool.

\* NICE Guidance

Produced by the Scottish Diabetes Foot Action Group



www.diabetes.org.uk A charity registered in England and Wales (215190) and in Scotland (SC030138). © Diabetes UK 2012

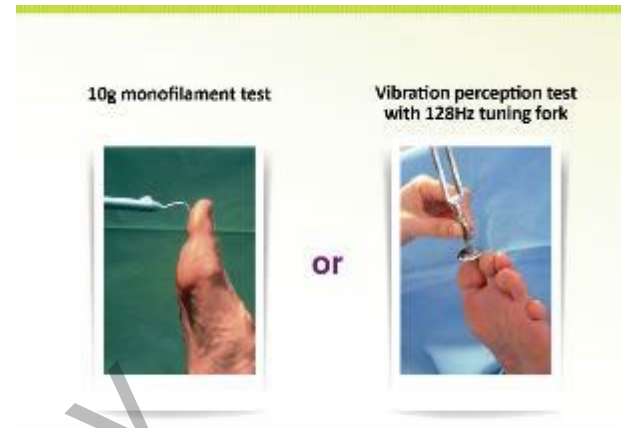


# NST: Nuneaton Sniff Feet

Should your patient's feet smell...somewhat ?

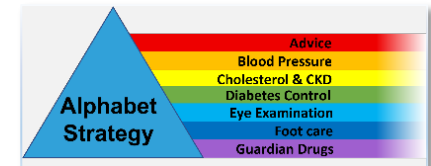
A: Yes

B: No



## References cited

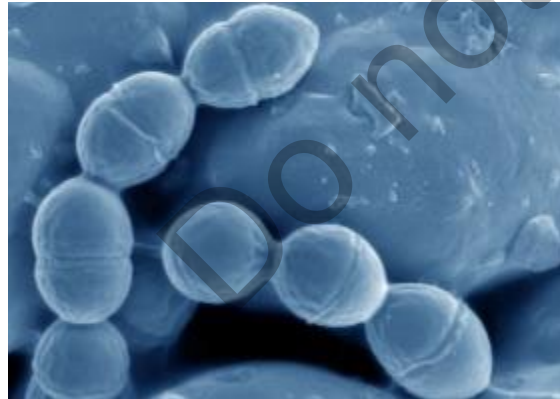
1. Agapakis, C. 2011. Human Cultures and Microbial Ecosystems. <http://agapakis.com/cheese.pdf>
2. Gelsomino, R. et al. 2002. Sources of Enterococci in Farmhouse Raw-Milk Cheese. *Applied and Environmental Microbiology* 68(7): 3560-3565.
3. Deetae, P. et al. 2009. Effects of *Proteus vulgaris* growth on the establishment of a cheese microbial community and on the production of volatile aroma compounds in a model cheese. *Journal of Applied Microbiology* 107(4):1404-1413.



# NST: Nuneaton Sniff Test:

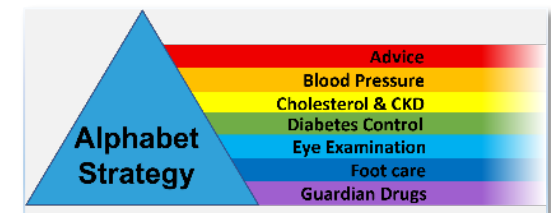
## No smell ? Peripheral Neuropathy- less sweating

*Lactococcus lactis* is vital for manufacturing cheeses such as Cheddar, cottage cheese, cream cheese, Camembert, Roquefort and Brie, as well as other dairy products like cultured butter, buttermilk, sour cream and kefir. It may also be used for vegetable fermentations such as cucumber pickles and sauerkraut.



### References cited

1. Agapakis, C. 2011. Human Cultures and Microbial Ecosystems. <http://agapakis.com/cheese.pdf>
2. Gelsomino, R. et al. 2002. Sources of Enterococci in Farmhouse Raw-Milk Cheese. *Applied and Environmental Microbiology* 68(7): 3560-3565.
3. Deetae, P. et al. 2009. Effects of *Proteus vulgaris* growth on the establishment of a cheese microbial community and on the production of volatile aroma compounds in a model cheese. *Journal of Applied Microbiology* 107(4):1404-1413.



## Clinician Decision Aid: Summary of Clinical Outcomes for SGLT2i Group of Drugs<sup>1</sup>

→	1		2		3A		3B		4			
	ASCVD		ASCVD or High-Risk CVD		Heart Failure ± DM:						Chronic Kidney Disease	
<b>Individualise To Patient</b>	<ul style="list-style-type: none"> <li>MI or Angina</li> <li>Stroke or TIA</li> <li>PVD</li> <li>CABG or Stents</li> </ul>		ASCVD or Over ~50 with: <ul style="list-style-type: none"> <li>High BP or Smoker or LDL &gt;3.36 mmol/l or lipid-lowering Rx</li> </ul>		HF reduced EF <ul style="list-style-type: none"> <li>NYHA Class II-IV</li> <li>HFrEF: LVEF ≤ 40%</li> <li>Elevated NT-proBNP</li> </ul>		HF preserved EF <ul style="list-style-type: none"> <li>NYHA II-IV</li> <li>HFrEF: LVEF &gt; 40%</li> <li>Elevated NT-proBNP</li> </ul>		<ul style="list-style-type: none"> <li>UACR at least 23-565</li> <li>eGFR reduced &lt;75</li> <li>on ACE-I or ARB &gt; 4 weeks</li> </ul>			
<b>RCT Trial Name</b> <i>Median Duration</i>	<b>EMPA-REG</b> 3.1 years	<b>VERTIS CV</b> 3.5 years	<b>CANVAS</b> <b>CANVAS-R</b> 3.6 years	<b>DECLARE-TIMI 58</b> 4.2 years	<b>DAPA HF</b> 1.5 years	<b>EMPEROR-REDUCED</b> 1.33 years	<b>EMPEROR-Preserved</b> 2.2 years	<b>DELIVER-Preserved</b> 2.3 years	<b>CREDENCE</b> 2.6 years	<b>DAPA-CKD ± DM</b> 2.4 years	<b>EMPA Kidney ± DM*</b> 2 years	
<b>Special Considerations</b>		Age ≥ 40 yrs	Micro-Alb. or Low HDL	Men ≥ 55, Women ≥ 60 if no ASCVD			49% DM	44.8% DM	eGFR: 30-89 UACR: 34-565	eGFR 25-75 UACR: 23-565	eGFR 20-44 or 45-90 + UACR ≥ 22.6	
<b>SGLT2i Specific Drug</b>	Empagliflozin 10 or 25mg	Ertugliflozin 5 or 15mg	Canagliflozin 100 or 300mg	Dapagliflozin 10mg	Dapagliflozin 10mg	Empagliflozin 10mg	Empagliflozin 10mg	Dapagliflozin 10mg	Canagliflozin 100mg	Dapagliflozin 10mg	Empagliflozin 10mg	
<b>Baseline HbA1c (if DM)</b>	65 mmol/mol (8.1%)	66 mmol/mol (8.2%)	66 mmol/mol (8.2%)	67 mmol/mol (8.3%)		64 mmol/mol (8.0%)			67 mmol/mol (8.3%)			
<b>MI or Stroke or CVD Death<sup>^</sup></b>	-14%	-3%	-14%	-7%					-20%			
<b>Heart Attack (MI: fatal or any)</b>	-13%	+4%	-11%	-11%								
<b>Stroke (fatal or nonfatal)</b>	+18% (0.89-1.56)	+6%	-13%	+1%								
<b>Heart Failure hospitalization</b>	-35%	-30%	-33%	-27%	-30%	-31%	-27%	-21% or Worse HF	-39%			
<b>CV deaths</b>	-38%	-8%	-13%	-2%	-18%	-8%		-12%	-22%	-17%	-28%	
<b>CV deaths + HF hospitalization</b>	-34%	-12%	-22%	-17%	-25%	-25%	-21%	-18%	-31%	-29%	↕ Combination Endpoint	
<b>All-cause mortality</b>	-32%	-7%	-13%	-7%	-17%	-8%		-6%	-17%	-31%		
<b>Renal Endpoint</b>	-46%	-19%	-40%	-47%	-29%	-50%	eGFR less decline		-34%	-44%	-28%	
<b>Progression to ESRD</b>	-55%								-32%	-36%	-27% (with CV Death)	
<b>Study Subjects</b>	7020	8246	10,142	17,160	4744	3730	5988	6263	4401	4304	6609	

NICE Guidelines NG-28: Consider SGLT-2i for all T2DM with QRISK 2 score greater than 10%- consider on a statin why not an SGLT-2i?

# Diabetes Care Plan

A Safety "Checklist", Patient-Centred, Multi-Professional, Evidence-based Approach

- **Patient Information:** Background and Personal Targets based on National Diabetes Audit
- **Diabetes UK 15 Healthcare Essentials:** Brief summary of main points
- **Reducing Complication:** Statement for information and endorsing collaborative care
- **Key Contacts:** Table of key contacts and roles, patient to fill in details



- ▲ Your diabetes should not prevent you living a normal, healthy life. This Care Plan using the Alphabet Approach can help you.
- ▲ You should work towards achieving your personalised targets for BP, cholesterol and diabetes control. National targets have been advised by Diabetes UK.
- ▲ Diabetes UK has stated 15 Healthcare Essential Standards that everyone with diabetes should receive. This includes:
  - ▲ Specialist team to provide long term care
  - ▲ Safe driving and work-related advice
  - ▲ High-quality care if admitted to hospital
  - ▲ Specialist care if planning to have a baby
  - ▲ Opportunity to discuss any sexual problems
  - ▲ Access to psychological support if needed
- ▲ These targets and Healthcare Essential Standards will help you reduce the risk of all the complications of diabetes including: heart disease, strokes, amputation, blindness, kidney disease and hospital admissions for complications. A good outcome to a pregnancy would also be far more likely for mother and baby.

Key Contact	How can they help	Contact Details
GP Practice Nurse	Management and Co-ordination of Care	
Pharmacist	Help with medicines	
Podiatrist	Foot care	
Dentist	Oral care	
Dietitian	Diet	
Diabetes UK	Support / Info	
Eye Screening	Annual screening	
Hospital Team	Specialist Care	

# Diabetes Care Plan

A Safety "Checklist", Patient-Centred, Multi-Professional, Evidence-based Approach

- **Alphabet Strategy Information:** Notes of each aspect of care
- **Personal Targets:** as agreed by patient with HCP advice
- **Result 1:** Result at current review, or previous result to compare to Result 2
- **Result 2:** Result at current review, to compare to Result 1
- **National Targets:** Usual National Targets to guide collaborative agreed personalised targets for the patient



Date:	Your target	Result 1	Result 2	National Targets
<b>Advice on Lifestyle:</b> •Weight and Body Mass Index:  •Stop smoking: if you smoke  •Diet and Physical activity	Kg BMI	1	1	≤25
		2	2	Non smoker
		3	3	Within 12 mths diagnosis
<b>Blood Pressure:</b> • Yearly check: High BP can cause heart disease, stroke, eye and kidney disease	Reading	4	4	140/80 or less
<b>Cholesterol and CKD Prevention</b> • High cholesterol can cause heart disease, stroke and poor circulation the legs with risk of amputation • CKD: Chronic Kidney Disease Prevention -Yearly kidney tests (Creatinine and UACR)	Cholesterol	5	5	Less than 5 mmol/l
	Creatinine UACR	6	6	Kidney tests yearly
<b>Diabetes Control:</b> • HbA1c test: measures the amount of glucose sticking to your blood in the last 2 months • Hypo avoidance: essential to avoid low glucose levels of less than 4 • Driving: Remember to check before driving: glucose 5 or more to drive	HbA1C Avoid Hypos	7	7	HbA1c 58 mmol/mol or less (7.5%)
<b>Eyes:</b> • It is important that your eyes are examined yearly. Treatment may be needed to stop blindness	Date last Check	8	8	Annual check
<b>Footcare:</b> • Examine your feet daily: check for heat (infection), ulcers, numbness, circulation. Yearly HCP examination.	Date last Check	9	9	Daily and annual check
<b>Guardian Drugs / Flu jab</b> • Take your medications as advised. Many are essential to avoid heart and kidney disease.		10	10	? taken regularly

# Diabetes Care Plan

A Safety "Checklist", Patient-Centred, Multi-Professional, Evidence-based Approach

## Patient's Agenda

- **Tick Section:** Main areas to indicate what they want to discuss with the HCP.
- **Any specific questions:** Patient to fill in, with help if needed.
- **Reflection on current health status:** Statement from patient
- **Goal setting by Patient:** Patient to indicate their specific goals & what they feel they need to do to achieve these
- **Key Contacts:** Table of key contacts and roles, patient to fill in details
- **Patient to indicate importance of personal Goals:** Likert scale and indication of time scales



My current health and wellbeing	
Things I would like to discuss or have help with – please tick	
Smoking	Blood Pressure
Weight Management & diet	Cholesterol control
Physical activity	Diabetes control
Driving	Eye Care
Pregnancy	Foot Care
Travel	Medications
Sexual Health	What to do when ill?
Any questions I have?	
What is good or has improved about my health?	
Concerns I have about my current health and wellbeing	
<b>MY GOALS:</b> To improve my health & wellbeing I want to be able to?	
To achieve them I will need to do the following?	
How important are they to me?	
<i>Not important</i> 1 2 3 4 5 6 7 8 9 10 <i>Important</i>	
How long will this take?	

# Diabetes Care Plan

A Safety "Checklist", Patient-Centred, Multi-Professional, Evidence-based Approach

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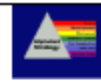
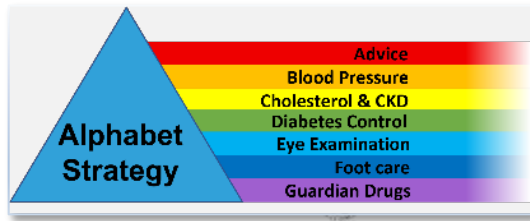


# Diabetes Care

## HCP One Page Guideline

A Safety "Checklist", Patient-Centred, Multi-Professional, Evidence-based Approach

- **Advice on Lifestyle:** 3 Sections
  - General for all T1 and T2 DM
  - Diabetes Prevention
  - Diabetes Remission
- **Blood Pressure:** National usual targets, summary of NICE Guidelines
- **Cholesterol:** National usual targets, summary of NICE Guidelines
- **CKD Prevention:** Guidance on main focus on UACR testing and ensuring ACEi or ARB



### Diabetes NICE Clinical Guidelines 2018: Locally Adapted Guidelines Diabetes Care: the Alphabet Strategy Approach

#### Advice on Lifestyle:

##### General

- Smoking cessation, physical activity, diet, weight control (5-10% loss/year if overweight). Details below
- Structured education: especially self-management, beliefs, knowledge, skills, driving, occupation
- Regular follow-up with Care Planning. Annual Review is essential. 20% with early severe complications will be persistent Diabetes Clinic non-attenders. Ramadan advice. Advise Diabetes UK membership.

##### Diabetes Prevention Lifestyle (PH 38) and for diagnosed Diabetes

- **Physical Activity:** choose activities that are enjoyed and fit into daily lives. At least 150 minutes (2½ hours) of moderate intensity activity in bouts of 10 minutes or more, eg: 30 mins./ 5 days a week. Or 75 mins. vigorous intensity activity across the week or combinations of moderate and vigorous intensity activity. Also resistance physical activity to improve muscle strength at least two days a week. Minimise being sedentary (sitting)
- **Weight management:** encourage overweight and obese people to gradually reduce calorie intake. Explain 5-10% weight loss in 1 year is realistic initial target. Use evidence-based behaviour change techniques. Motivate and support to achieve and maintain a healthy BMI. General population, 18.5-24.9 kg/m<sup>2</sup>, South Asian or Chinese descent, 18.5 and 22.9 kg/m<sup>2</sup>. Orlistat an option (as below).
- **Dietary advice:** Advise the right amount of calories for the level of activity (daily usually: men 2,500 cals., women 2,000 cals). Most adult/some children have too many calories from carbs. Ensure protein intake adequate. Satiety: protein > fat > carbs. Ensure ≥ 3 fruit & veg/day. Cut down on saturated fat (eg butter, cheese, cakes, sausages) to < 30g men, 20g women. Cut down on sugars. Salt < 6g/day. Carbs: more complex. Don't confuse thirst with hunger. Smaller regular meals. Don't skip breakfast.
- **Metformin:** HbA1c rising despite participation intensive lifestyle program or unable to participate. Particularly if BMI > 35. Explain long-term lifestyle change can be more effective than drugs in preventing or delaying T2DM. Continue lifestyle advice. Check renal function before Rx, then x2 yearly or more. Start low dose (eg 500 mg od), increase to 1500-2000 mg daily. If intolerant, consider metformin MR. Prescribe for 6-12 months. Monitor HbA1c or fasting plasma glucose at 3-month intervals and stop the drug if no effect.
- **Orlistat:** Use clinical judgement on whether to offer orlistat if BMI ≥ 28.0 kg/m<sup>2</sup> for obesity. Discuss benefits & side effects. Advise low-fat diet (<30% daily energy as fat, over 3 main meals). Review use after 12 weeks. If weight loss not at least 5%, stop Rx. Use orlistat for > 12 months, only after discussing benefits & side effects

##### Diabetes Remission Protocol (DIRECT Study):

- If diabetes duration < 6 yrs: 830 cal diet for around 12 weeks (calories from: protein 26%, fat 13%, carbs 61%). Then 400 cal. meals introduced. Vitamins and minerals replete. Off all anti-diabetic and anti-hypertensive Rx. Optimal Physical Activity advised (ideally 15000 steps per day). Relapse with weight gain treated.
- 86% chance of remission at 1 year if ≥15kg weight loss. 57% remission if 10-15kg weight loss.

##### Blood pressure: National Diabetes Audit target < 140/80, ≤ 130/80 if kidney, eye or any CVD

- Step 1. Age < 55 yrs: A (ACEi or ARB), ≥ 55 yrs or African-Caribbean C (Ca<sup>2+</sup> blocker) or D (indapamide)
- Step 2. A + D or A + C : Step 3. A + C + D
- Step 4. Add K<sup>+</sup> sparing diuretic (e.g. spironolactone) or α-blocker (doxazosin) or β-blocker (eg bisoprolol)

##### Cholesterol: NDA < 5mmol/l, NICE > 40% reduction in non-HDL Chol. Secondary Prevention

##### Primary Prevention: Type 1 DM:

- Atorvastatin 20mg od if >40years or duration > 10 years or established nephropathy or other CVD risk factors

##### Primary Prevention: Type 2 DM: Atorvastatin 20mg od if ≥ 10% 10 year CVD risk on QRISK 2

Secondary Prevention (all): Atorvastatin 80mg od. CVD (MI, angina, stroke, TIA, PVD). Initiate lower dose Atorvastatin if older, low muscle mass, impaired renal function or patient preference

##### CKD Patients:

- Atorvastatin 20mg. If > 40% reduction in non-HDL cholesterol not achieved, increase dose. Agree use of high-dose statin with renal specialist if eGFR <

Other Rx: Ezetimibe 10mg and/or Fenofibrate 160mg/200mg may be useful in statin intolerance to reach targets. Hydrophilic Pravastatin and Rosuvastatin less side-effects (simvastatin side-effect oprofile increased with amlodipine, diltiazem, verapamil, > 250ml of grapefruit juice daily). PCSK9-i: specialist advice

# Diabetes Care

## HCP One Page Guideline

A Safety "Checklist", Patient-Centred, Multi-Professional, Evidence-based Approach

- **Diabetes Control:** National usual targets, summary of NICE Guidelines
- **Eye Screening:** Yearly screening with management of risk factors, possible use of fenofibrate to reduce progression in those with diabetic retinopathy
- **Feet Screening:** Yearly screening by HCP. Daily foot inspection by patient. Management of risk factors for ulcers, infection and PVD
- **Guardian Drugs:** Appropriate use of aspirin. Generally ensuring important drugs are taken and reviewed.
- **Pre-conception Advice:** No ACEi, ARBs or statin in preconception or pregnancy. Folate 5mg preconception.

**CKD Prevention: Micro Alb:** ACEI, or ARB. Ramipril 10mg daily daily data shows stroke reduction, MACE reduction and mortality reduction by 24%. **Proteinuria:** 20-28% reduction death/ESRD (losartan 100mg od),

**Diabetes control: Individually-agreed targets. NDA HbA1c  $\leq$  58mmol/mol ( $\leq$ 7.5%) individualized**

- **Type 2 Initial Rx:** Lifestyle (optimal diet, optimal weight, physical activity), Metformin 500mg bd, 850mg bd, 1000mg bd (usual doses). Contraindicated if creat.  $>$  150  $\mu$ mol/l or eGFR  $<$  30 ml/min. Consider B12 check
- **Type 2 First Intensification: Individualise to pt: If non-obese** SU eg: gliclazide start low dose eg 40mg od then titrate eg 80 mg bd, 160 mg bd max- note hypo risk. **If obese:** DDP-4i (weight neutral) or SGLT-2i (weight loss). If CKD adjust dose (except linagliptin, 5mg). Pioglitazone or GLP-1RA sc also options. **Consider Insulin** if ketones high, losing weight, marked symptoms & glucose  $>$  15 mmol/l or very high HbA1c ( $>$ 86 mmol/mol)
- **Type 2 Second Intensification: Individualise to pt:** Use appropriate 3<sup>rd</sup> line agent from above choices
- **Type 2 Third Intensification: Individualise to pt:** Appropriate agent from above ? insulin ? GLP-agonist sc
  - **Insulin regimes:** NPH, glargine, levemir, degludec, toujeo overnight, biphasic bd, basal bolus regimes.
  - **GLP- agonists:** Exenatide (bd or once-weekly), Liraglutide od, Lixisenatide od, dulaglutide (once-weekly) in HbA1c%  $\geq$  7.5%. Consider instead of insulin or TZD in BMI  $\geq$  35 if problems with  $\uparrow$  weight, occupation issues, insulin unacceptable or weight loss would benefit co-morbidities. Consider stopping unless HbA1c%  $\geq$  1% better and  $\geq$  3% weight loss in 6 months.
- **New Type 2 Guidelines: EASD/ADA guidance:** If clinical CVD SGLT-2i or GLP-1RA with proven CV benefit is recommended. If CKD or clinical heart failure and atherosclerotic CVD, a SGLT-2i inhibitor with proven benefit is recommended. GLP-1RA are generally recommended as first injectable Rx.
- **Type 1:** Insulin essential to life. Use suitable regime usual basal bolus, premix bd in some patients. Classic symptoms may not be present eg: ketones high, losing weight, marked symptoms with hyperglycaemia  $>$  15 mmol/l. Aim no/minimal hypoglycaemia. DKA avoidance. Safe Driving advice. Consider flash monitoring, CGMS, Pump therapies as per guidelines. **NB: Metformin is insulin sparing if obese Type 1**

**Eye screening: Screening for and effective management of Diabetic Retinopathy.**

- BP and Glycaemic Control essential.
- Screen annually using a digital retinal camera. Aspirin/ACE-I/ARB in most patients with retinopathy. Consider fenofibrate.- some evidence of reduced need for laser Rx is diagnosed retinopathy. Several national unit use it for maculopathy (FIELD Study reduction in retinal laser and other outcomes by 34%)

**Feet screening: Foot care advice and Annual review essential** by GP, Practice Nurse or podiatrist.

- All risk factors to be controlled aggressively.
- Inspection, pedal pulses, 10g MF testing. If neuropathic or ischaemic, foot-care advice and regular podiatry review essential to prevent ulceration/amputation. Ulcers: refer urgently to MDT Foot At Risk Team.
- In the FIELD Study there was a 36% reduction in amputation using fenofibrate 160mg od. ? consider in individual cases with previous amputation?

**Guardian drugs:**

- **Aspirin 75mg od when BP  $<$ 150 systolic:** in any atheromatous CVD. Clopidogrel 75 mg if further atheroma events on aspirin or aspirin intolerance.
- **ACEI reduce complications. Ramipril 10mg od consider for most diabetes pts (Best Evidence in T2DM)**
- **ARB: Microalbuminuria (Best evidence: Irbesartan 300mg od) also if ACE not tolerated. Proteinuria to retard progression to death and ESRD (Best evidence: losartan 100mg od)**

NHS England (West Midlands) Diabetes Expert Advisory Group c/o [vinod.patel@warwick.ac.uk](mailto:vinod.patel@warwick.ac.uk)

**NB: No statins, No ACE-Is, No ARBs in Pre-conception or Pregnant, 15% Foetal malformation. Pre-conception Care Essential (Folate 5mg od. Vit D 400 IU) Aim HbA1c%  $\leq$  7.5% = 58mmol/mol**



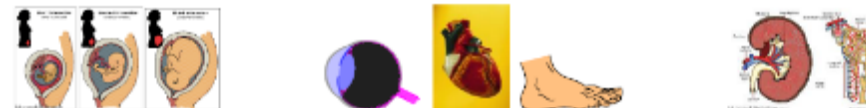
# Diabetes Care Referral Criteria


A Safety "Checklist", Patient-Centred, Multi-Professional, Evidence-based Approach

- Primary Care Referral:** All dependent of level of resources and expertise
  - Early Referral
  - Referred may not be required
  - Referral normally not needed
- Secondary Care Referral:** All dependent on diabetes care expertise
  - Early Referral
  - Referred may not be required
  - Referral normally not needed




Diabetes Care Referral Criteria	
In all cases referral depends on expertise of Primary Care. In many cases, discussion will ensue with a secondary care colleague or the Community Diabetes Specialist Nurse. Format is similar to that adopted by the "Think Glucose" Campaign and the Portsmouth "Super 6" Service Model	
Primary care	In-patient care
<b>Early Referral</b> <ul style="list-style-type: none"> <li>(1) Inpatient diabetes*                             <ul style="list-style-type: none"> <li>To optimise control and safe/early discharge</li> </ul> </li> <li>(2) Foot diabetes (predefined criteria)*                             <ul style="list-style-type: none"> <li>Foot Ulceration, Charcot, Infection</li> </ul> </li> <li>(3) Type 1 DM, all adolescents*                             <ul style="list-style-type: none"> <li>All new Type 1 Diabetes patients</li> </ul> </li> <li>(4) Insulin Pump services*                             <ul style="list-style-type: none"> <li>Insulin Pump Care</li> <li>New Therapies eg GLP-injectables + insulin</li> </ul> </li> <li>(5) Low eGFR/renal dialysis*                             <ul style="list-style-type: none"> <li>Creatinine &gt; 150 umol/l or CKD 3</li> <li>Proteinuria: UACR ≥ 30mg/mmol</li> <li>Optimise risk factors then renal referral</li> </ul> </li> <li>(6) Antenatal diabetes*                             <ul style="list-style-type: none"> <li>Any diabetes patient or Gestational DM</li> <li>Pre-conception Care: asap much neglected</li> </ul> </li> </ul> <b>Other Possible Criteria:</b> <ul style="list-style-type: none"> <li>All patients pre Surgery with HbA1c% &gt; 8.5% (72mmol/mol)</li> <li>Individualised "Poorly controlled":                             <ul style="list-style-type: none"> <li>HbA1c% &gt; 9% (75 mmol/mol)</li> <li>BP &gt; 140/90</li> <li>T: Chol &gt; 5 mmol/l or LDL &gt; 3)</li> </ul> </li> <li>DM Acute CHD or Stroke (last 3 months)</li> <li>Severe hypoglycaemia ( episode requiring 3<sup>rd</sup> party assistance or HCP help)</li> <li>Retinopathy requiring laser Rx or grade ≥3</li> </ul>	<b>Early Referral</b> <ul style="list-style-type: none"> <li>Hyperglycaemia: glucose &gt; 12 on treatment, in pregnancy if glucose &gt; 5.5 pre-meals and &gt;7.7 after meals</li> <li>DKA/Hyperglycaemic Hyperosmolar state</li> <li>Severe hypoglycaemia</li> <li>Admission for urgent/ major elective surgery</li> <li>Acute coronary syndrome or Sepsis or Severe Vomiting or Impaired consciousness</li> <li>Unable to self manage</li> <li>Previous diabetes problem as inpatient</li> <li>IV insulin infusion glucose outside limits</li> <li>IV insulin for over 48 hrs</li> <li>Parenteral or enteral nutrition</li> <li>Foot ulceration</li> <li>Newly diagnosed type 1 or type 2 diabetes</li> <li>Pancreatitis in DM pt</li> <li>Patient request</li> <li>Gestational Diabetes (or pre-existing DM)</li> </ul> <b>Gestational diabetes (GDM)</b> is detected by OGTT, usually at 24-28 wks. If previous GDM. OGTT carried out at 16-18 wks, followed by repeat OGTT at 28 wks if first test normal. GDM is any one of these values on OGTT or fasting: <ul style="list-style-type: none"> <li>Fasting or base-line: ≥ 5.1 mmol/l</li> <li>1 hour value: ≥ 10 mmol/l</li> <li>2 hour value: ≥ 8.5 mmol/l</li> </ul>
<b>Referral May Be Required</b> <ul style="list-style-type: none"> <li>Diabetes Care Education: Desmond, GERTIE (Type 1 Education Programme)</li> <li>Neuropathy: GI tract, hypotension, ED</li> <li>Diabetic "Arthritis" eg Carpal Tunnel Syn.</li> <li>Isolated nerve palsy: 3<sup>rd</sup> Nerve, foot drop</li> <li>PCOS with or without Diabetes</li> <li>Obesity management: DM with BMI &gt; 35</li> <li>Secondary DM: eg steroid use, acromegaly, psychoses Rx, pancreatitis</li> <li>Low level of concordance with care</li> <li>Pre- Ramadan advice</li> </ul>	<b>Referral May Be Required</b> <ul style="list-style-type: none"> <li>IV insulin infusion with good glucose control</li> <li>Nil By Mouth more than 24hrs post-surgery</li> <li>Significant educational need</li> <li>Persistent hyperglycaemia</li> <li>Possible Type 2 diabetes diagnosis</li> <li>Stress hyperglycaemia</li> <li>Poor wound healing</li> <li>Steroid therapy</li> <li>Pancreatitis</li> <li>Discharge planning: if change in treatment needs facilitating</li> </ul>
<b>Referral Not Normally Required</b> <ul style="list-style-type: none"> <li>Stable Diabetes care: consider Tele-health consultation</li> <li>Impaired Glucose Tolerance, Impaired Fasting Glucose</li> <li>New Diagnosis of type 2 Diabetes</li> </ul>	<b>Referral Not Normally Required</b> <ul style="list-style-type: none"> <li>Minor, self-treated hypoglycaemia</li> <li>Transient hyperglycaemia</li> <li>Basic educational need or routine dietetic advice</li> <li>Well controlled diabetes</li> <li>Good self-management skills, Routine care</li> </ul>





## FASTING WITH DIABETES DURING RAMADAN


The holy month of Ramadan can vary in length of fast depending on which month it falls. When Ramadan falls in the summer months the fasting period can be lengthy and up to 22 hours. In Islam you may be exempt from fasting if you have diabetes. Managing your medication and diabetes can be challenging. This leaflet provides some tips on preparing for Ramadan for those with Type 2 Diabetes. Those who are unsure about fasting should always seek advice from your healthcare professional.

 SOUTH ASIAN HEALTH FOUNDATION

## Ramadan Care Plan

Based on Design by  
**Alia Gilani**

adapted by  
**Raj Gill**




## EXERCISE

Light/moderate exercise is encouraged in Ramadan.


The taraweeh (night prayer) is considered to be part of an individual's exercise regime as it entails standing, sitting, bowing and prostrating.

Excessive or strenuous exercise should be avoided during Ramadan.


If you fast ensure you are doing so safely and if your health worsens during this period you must consider it is against the spirit of Islam. You can compensate by paying fidyah or paying alms to the poor. Your ability to fast with diabetes may change one year to the next so a decision to fast should be revisited annually.

 **Eid Mubarak**

These materials were developed by Alia Gilani on behalf of the South Asian Health Foundation.  
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 MSD

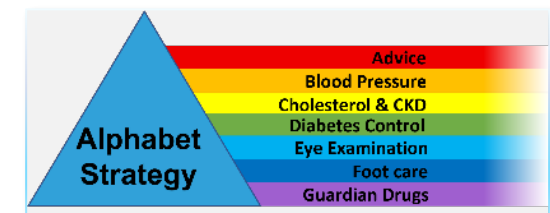
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 SOUTH ASIAN HEALTH FOUNDATION

[www.sahf.org.uk](http://www.sahf.org.uk)    @SouthAsianHF    [info@sahf.org.uk](mailto:info@sahf.org.uk)

**Care plans** provide direction for individualized **care** of the patient. A **care plan** flows from each patient's unique list of diagnoses and should be organized by the individual's specific needs. The **care plan** is a means of communicating and organizing the actions of a Healthcare Team to the patient and their carers.

**RCN adapted**

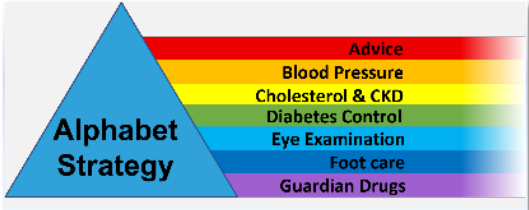
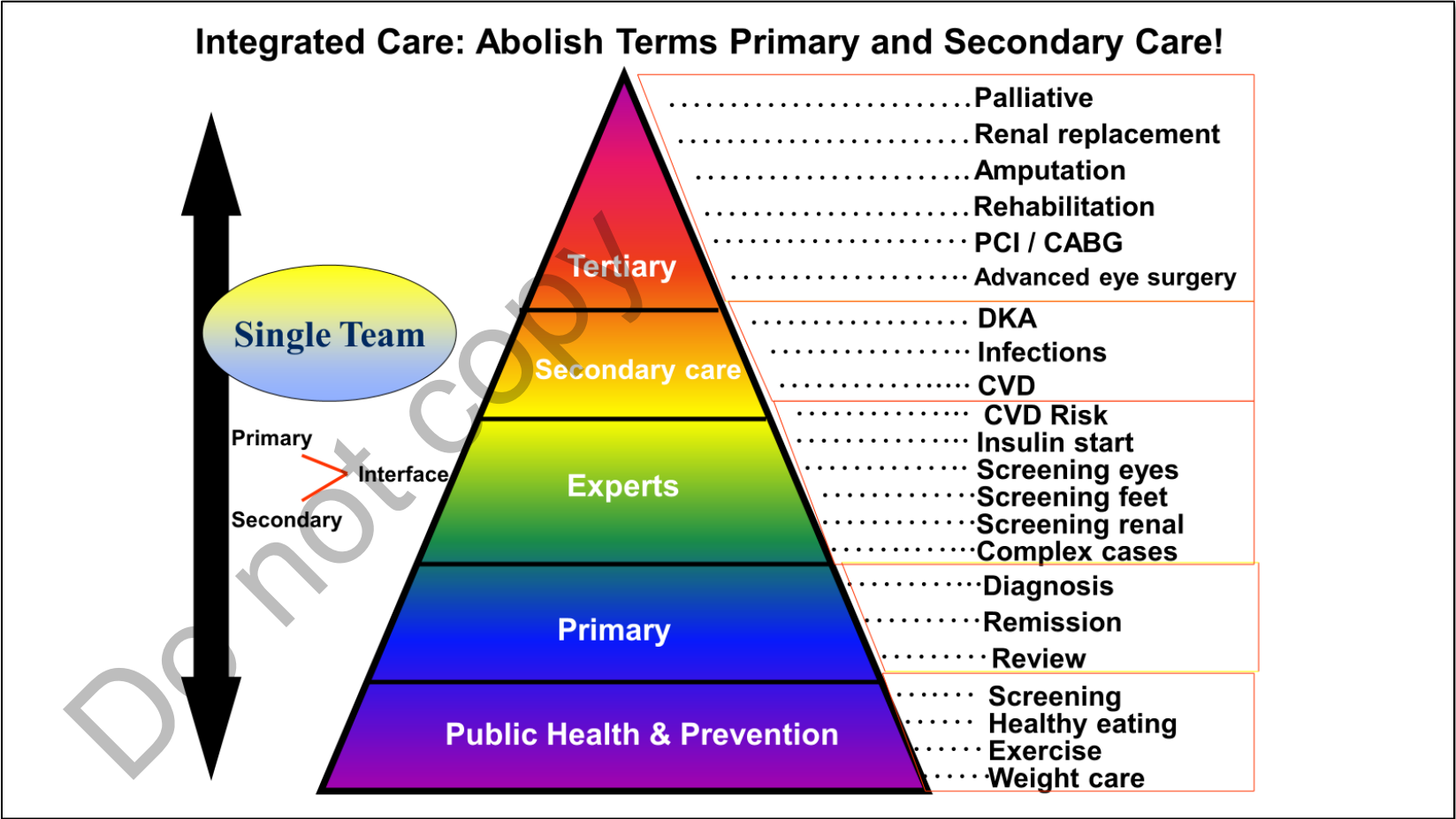




# Diabetes Matrix

## An Integrated Approach to Prevention and Care

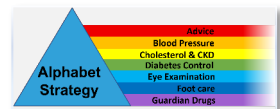
Diabetes Matrix Level
1: Community Prevention
2: Pre-Diabetic Screening
3: Early Diagnosis
4: Forging Foundations
5: Rolling Review
6: Early Escalation
7: Curbing Complications
8: Avoidable Admissions
9: Unavoidable Admissions
10: Rationalised Long Term Care



# Diabetes Matrix

## *An Integrated Approach to Prevention, Care and Commissioning*

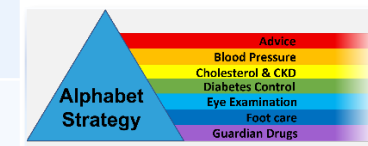
Level	Target Group
<b>1: Community Prevention</b>	Entire Local Population
<b>2: Pre-Diabetic Screening</b>	At risk groups within the local population
<b>3: Early Diagnosis</b>	Pre-diabetic population, Known impaired glucose tolerance, newly diagnosed DM
<b>4: Forging Foundations</b>	Newly diagnosed: excellent care from start focus on lifestyle, education, experience, outcomes, concordance, preventing complications
<b>5: Rolling Review</b>	<b>5A:</b> Well controlled with few risk factors to manage. Achieving high quality care parameters <b>5B:</b> Complicated, higher risk or psychological or social issues affecting engagement with high quality care
<b>6: Early Escalation</b>	Uncontrolled clinical and social factors at high risk of complications, admission or morbidity. eg hypertension, poor concordance, poor glycaemic control
<b>7: Curbing Complications</b>	<b>7A:</b> Patients with known complications/conditions: eg pregnancy, concurrent illness, planned surgery <b>7B:</b> Patients with unpredictable complications: reactions to medications, polypharmacy
<b>8: Avoidable Admissions</b>	Hypoglycaemia, DKA, Foot ulceration and infection,
<b>9: Unavoidable Admissions</b>	Patients with advanced disease and complications: acute coronary syndromes, stroke, amputation, nephropathy, neuropathy
<b>10: Rationalised Long Term Care</b>	Patients with co-morbidities not amenable to treatment: end-stage renal disease, review of medications, end-of-life care





# Diabetes Matrix: An Integrated Approach to Prevention, Care and Commissioning

Level	Target Group	Recommendations
<b>1: Community Prevention</b>	Entire Local Population	GP , Local Authority, Employers, Community to promote healthy lifestyle choices: eg HEALTH Passport, Change 4 Life
<b>2: Pre-Diabetic Screening</b>	At risk groups within the local population	GP screening for at risk individualised: questionnaire, HbA1c%, GTT (dependant on group)
<b>3: Early Diagnosis</b>	Pre-diabetic population, Known impaired glucose tolerance, newly diagnosed DM	GP : monitors and manage those with IGT, IFG and newly-diagnosed diabetes
<b>4: Forging Foundations</b>	Newly diagnosed: excellent care; lifestyle etc preventing complications	GP: Individualised care-planning and excellent clinical care according to current best practice and NICE
<b>5: Rolling Review</b>	<b>5A:</b> Well controlled with few risk factors to manage. High quality care <b>5B:</b> Complicated, higher risk , poorer quality care	GP: “Year of care” or all main clinical needs embedded within an Annual Review: feet examination, eye examination, BP, Cholesterol profile, Urine Albumin etc
<b>6: Early Escalation</b>	Uncontrolled clinical and social factors at high risk of complications, admission or morbidity:	GP: Aggressive management of difficult to control risk factors, consider referral or seek advice.
<b>7: Curbing Complications</b>	<b>7A:</b> Patients with known complications/conditions: <b>7B:</b> Patients with unpredictable complications:	GP and Shared care: advice sought from best local advice, consider specialist referral
<b>8: Avoidable Admissions</b>	Hypoglycaemia, DKA, Foot ulceration and infection,	Specialist Acute Care with Diabetes input: “Think Glucose” management to reduce Length of Stay. Discharge to GP or Shared care to continue
<b>9: Unavoidable Admissions</b>	Patients with advanced disease and complications:	Specialist Acute Care with Diabetes input: “Think Glucose” management to reduce Length of Stay. Usually Shared care with GP/Specialist to continue
<b>10: Rationalised Long Term Care</b>	Patients with co-morbidities not amenable to treatment:	GP or Specialist or Both to rationalise care: review clinical targets, outcomes and medication. Co-ordinate care acceptable to patient/carers. High quality End-of-Life Care



**MY DIABETES SELF MANAGEMENT PLAN: Title Calling Name Surname**  
 Keep this safe & accessible in an emergency with any other care plans, and bring to your diabetes check-ups

**Alphabet Strategy**  
 www.diabetes.org.uk  
 Advice  
 Blood Pressure  
 Cholesterol  
 Diabetes Control  
 Eye Examination  
 Foot Care  
 Guardian Drugs

Your diabetes should not prevent you living a normal, healthy life.  
 This will be helped by you working towards and achieving the appropriate targets for blood pressure, cholesterol and diabetes control. Targets have been advised by Diabetes UK  
 Diabetes UK has suggested the 15 Healthcare Essential Standards that everyone with diabetes should receive

These targets and Healthcare Essential Standards will help you reduce the risk of all the complications of diabetes including: heart disease, strokes, amputation, blindness and kidney disease.

Care Plan	Diabetes checks	National Targets	My Latest Result	My Goal
<b>Advice on Lifestyle</b> 	<b>Body Mass Index:</b> indicates weight/body shape	18.5 - 25	Single Code Entry: Body mass index Single Code Entry: Waist circumference Single Code Entry: O/E - weight	
	<b>Stop smoking:</b> if you smoke	Stop	Single Code Entry: Current smoker...	Single Code Entry: Smoking cessation advice
	<b>Dietary Advice:</b>	Healthy	Single Code Entry: Health ed. - diet	
	<b>Physical activity:</b>	Healthy	Single Code Entry: Health ed. - exercise	
	<b>Group education course:</b>	Learn	Single Code Entry: Referral to diabetes structured education programme...	
	<b>Flu vaccination:</b> available free	Annual	Single Code Entry: 1st intramuscular seasonal influenza vacc given by other HCP... Single Code Entry: Pneumococcal vaccination given...	
<b>Blood pressure</b> 	<b>BP:</b> if high can harm heart, brain, eyes, kidneys	<140/80	Single Code Entry: O/E - blood pressure reading	Single Code Entry: Target systolic blood pressure Single Code Entry: Target diastolic blood pressure Single Code Entry: Provision of written information about diabetes and high BP
<b>Cholesterol &amp; CKD prevention</b> 	<b>Cholesterol:</b> if high can harm heart, brain, circulation	<4.0	Single Code Entry: Serum cholesterol	Single Code Entry: Target cholesterol level Single Code Entry: Provs written information about diabetes & high cholesterol
	<b>Kidney tests:</b> to prevent Chronic Kidney Disease (CKD) blood test eGFR, urine test for UACR	eGFR>60 Urine ACR<3	Single Code Entry: GFR calculated abbreviated MDRD Single Code Entry: Urine albumin:creatinine ratio	
<b>Diabetes Control</b> 	<b>HbA1c:</b> measures the amount of glucose sticking to your blood in the last 2 months	<58	Single Code Entry: Haemoglobin A1c level - IFCC standardised	Single Code Entry: HbA1c target level - IFCC standardised Single Code Entry: Provision written information abt diabetes & high HbA1c level
	<b>Home glucose test:</b>	5-8	Single Code Entry: Self monitoring of blood glucose	
	<b>Have you been having hypos?</b>		Single Code Entry: Recurrent severe hypos	Single Code Entry: Hypoglycaemia education
<b>Eyes</b> 	<b>Retinopathy screening:</b> annually to prevent blindness	Annual	Single Code Entry: Digital retinal screening	
<b>Footcare</b> 	<b>Foot checks:</b> check your feet daily, annual diabetic clinic check for numbness, circulation and damage	Daily Self Care	Single Code Entry: O/E - Right diabetic foot at low risk...	
		Annual Clinic	Single Code Entry: O/E - Left diabetic foot at low risk...	
<b>Healthcare Professional</b>				<input type="checkbox"/> Advised to inform DVLA and advised to inform/liase with Occupational Health <input type="checkbox"/> Specialist care if diabetes related hospital admission <input type="checkbox"/> Contraception advice for fertile women.

<b>Advice</b> 	<input type="checkbox"/> Referral to pre-conception clinic if planning a baby <input type="checkbox"/> Erectile Dysfunction discussed <input type="checkbox"/> Mental Health and Wellbeing discussed	
<b>Follow up plan</b> 	<input type="checkbox"/> 3 months <input type="checkbox"/> 6 months <input type="checkbox"/> 12 months <input type="checkbox"/> Other: _____	Today's date: Short date letter merged

Medications: Title Calling Name Surname	Additional Info
Medication	
Diabetes self-management plan agreed - Short date letter merged	
Name of professional - Current User	Patient Signature - .....

# Birmingham and Solihull CCG My Diabetes Self Management Plan

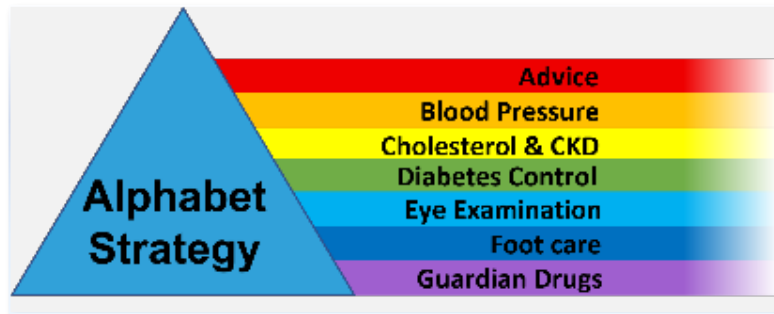


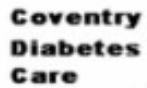
**Works through GP Systems- eg EMIS, and  
printable to give or post to patients**




# Delivering Holistic Care in the Diabetes Review: A Broad Approach and the Alphabet Strategy

## Effective communication to other HCP





**Coventry Diabetes Care**



**Alphabet Strategy**

Our Ref: VP/CP/ N52035 Clinic date - 04/05/2004

Dr Alf A Bett  
The Park Medical Centre  
39 Barton Road, Coventry

Dear Dr Bett

**Re James Bond (25/12/1843)**  
19 St Bart's Drive, Nunoventry

**Appointment Type:** Annual Review

<p><b>Diabetes Diagnoses</b></p> <ol style="list-style-type: none"> <li>Type 2 diabetes 1996, Insulin treated 2001</li> <li>Hypercholesterolemia statin treated</li> <li>Angina- stable</li> <li>Metabolic Syndrome (WHO)</li> </ol>	<p><b>Other Diagnoses</b></p> <ol style="list-style-type: none"> <li>Psoriasis</li> <li>Recent admission for pneumonia</li> <li>Prostatism</li> </ol>
<p><b>Diabetes Rx</b></p> <ol style="list-style-type: none"> <li>Metformin 500 mg bd</li> <li>Aspirin 75 mg od</li> <li>Ramipril 10 mg od</li> <li>Atorvastatin 10 mg od</li> </ol>	<p><b>Other Rx</b></p> <ol style="list-style-type: none"> <li>Tamsulosin 1 daily</li> <li>GTN spray as required</li> </ol>

<b>Advice</b>	WE: 86.6	BMI:	Diet:	Smoking: N	Cess advice: NA	Exercise: little	Flu Vacc 11/03
<b>BP</b>	BP 1: 154/79		BP 2: 152/82			BP ↑	
<b>Chol</b>	TC: 4.3	LDL: 2.1	HDL: 1.4	TG: 1.6	Creatinine: 80	Cr Cl: NAD	UA CR: Microalb
<b>Diabetes</b>	HbA1c: 7.9%		Hypos: No		Home Glucose: Stable 5 to 8		
<b>Eyes</b>	R VA: 6/6	DR: Background DR			L VA: 6/12	DR: Exudates Maculopathy	
<b>Feet</b>	R PT: Y	DP: Y	PN: N	Ulc: N	L PT: Y	DP: Y	PN: N, Ulc: N
<b>Guardians</b>	Aspirin Y		ACEI: Y		AIIA: N		Lipid Rx: Y
<b>Heart Risk</b>	UKPDS heart disease risk @ 10 yrs: 16.5%						

**Assessment and changes to management**  
I reviewed this chap in clinic, there were two concerns. Firstly blood pressure being elevated and I have added in a diuretic. He also complains of muscle aches and pains and I have stopped the statin which can cause myalgia and I have given Ezetimibe 10mg od. I note he has an appointment to see Mr Kumar for her retinopathy shortly. Insulin dose has been adjusted. Other treatment remains unchanged.

**Follow up and Investigations**  
Review in 3 months time with HbA1c, U&E, Creatinine full Lipid Profile, TFTs checked before.  
Yours sincerely

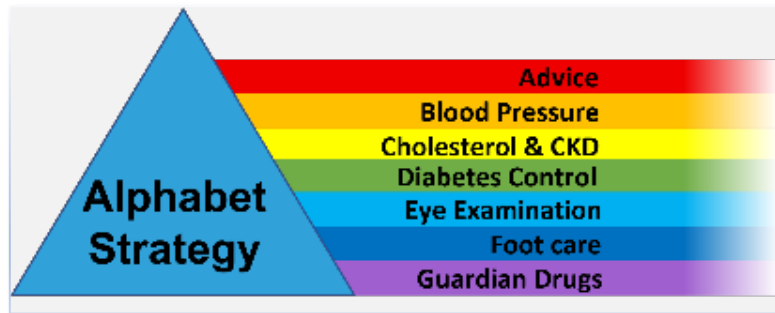
**Dr Ali Fabet**  
Consultant Physician

# Alphabet Strategy for Diabetes Care: “Checklist”

A Safety “Checklist”, Patient-Centred, Multi-Professional,  
Evidence-based Approach

## National Diabetes Audit Eight Process Checks

- HbA1c, BP, cholesterol
  - Urine albumin, Creatinine
  - Foot examination
  - BMI and smoking
- (Eye screening)



## National Diabetes Audit Targets:

BP:  $\leq 140/80$  mmHg  
HbA1c:  $\leq 58$  mmol/mol  
Cholesterol:  $< 5$  mmol/L

### New Target Statins:

Primary & Secondary Prevention of CHD

- **Advice:**
  - Diet and weight control, Physical activity, not smoking, Good Infection Control Measures, Appropriate PPE, COVID-19 Symptoms, appropriate vaccinations
- **Blood Pressure:**
  - aim  $\leq 140/80$ ,
  - CVD or CKD  $\leq 130/80$
- **Cholesterol & CKD Prevention**
  - Most Atorvastatin 20mg or 80mg, TC  $\approx 4$  mmol/l
  - UACR yearly and treat
- **Diabetes Control:**
  - HbA1c  $< 59$  (7.5%) usual target, ideal  $< 48$  (6.5%)
  - Outcome based Rx: ? SGLT2-i, ? GLP-RA
  - Safer insulins where needed
- **Eyes:**
  - check yearly at least
- **Feet:**
  - daily self-care, HCP check yearly at least
- **Guardian Drugs:**
  - ?Aspirin 75mg (CVD atheroma), ?ACE-i, ARBs (esp CKD, HF, CVD), appropriate SGLT2-i (NICE NG-28), GLP-RA
- **Healthcare Professional Advice:**
  - Contraception & Pre-conception Advice
  - Driving and Occupation Advice
  - Hospital Admission Care
  - Other individualised advice eg Ramadan, Travel

Do not copy