Gold Sponsor Breakout Sessions

Monday 14 October – 11:45 and 13:35

Square Health *– Are You Sitting Comfortably?*

SCOR *– Diabetes – The Challenges It Has For Everyone Now and in the Future*

Gen Re *– Mitigating Social Media Wildfires*

ClaimVantage *– The Trust Game – How InsurTech Can Help You Win*

Imperial College London

DIABETES UK
KNOW DIABETES. FIGHT DIABETES.

DIABETES – the paradigm is shifting

DR VICTORIA SALEM MBBS PHD MRCP
SENIOR CLINICAL RESEARCH FELLOW
CONSULTANT IN DIABETES AND ENDOCRINOLOGY
IMPERIAL COLLEGE LONDON

Take Home……

Type 2 Diabetes – a global burden

HbA1c - is lower always better?

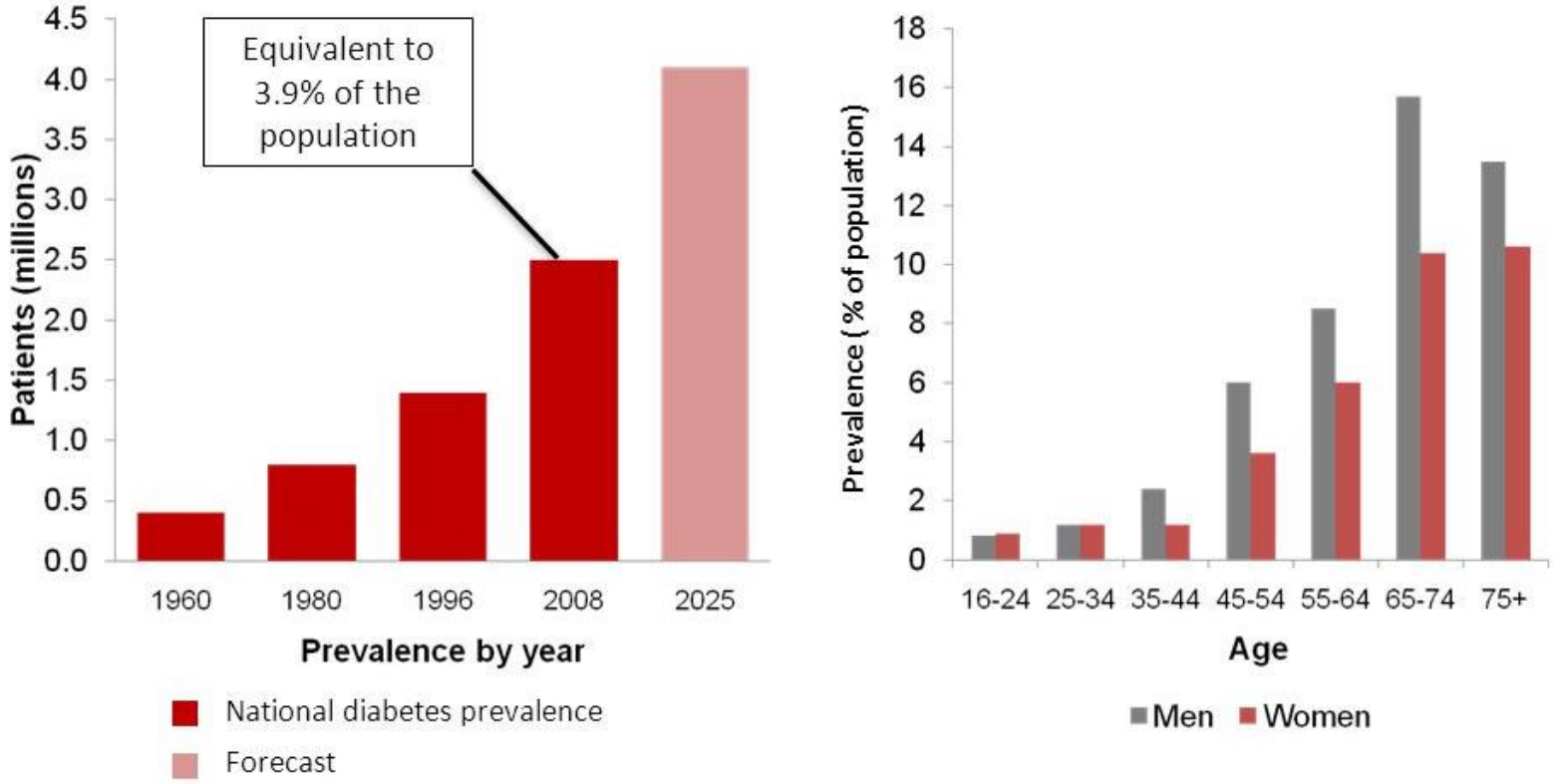
“5 types” of Diabetes (and personalised medicine)

Diabetes IS curable – the paradigm is shifting!

Technology, self-care and wellbeing

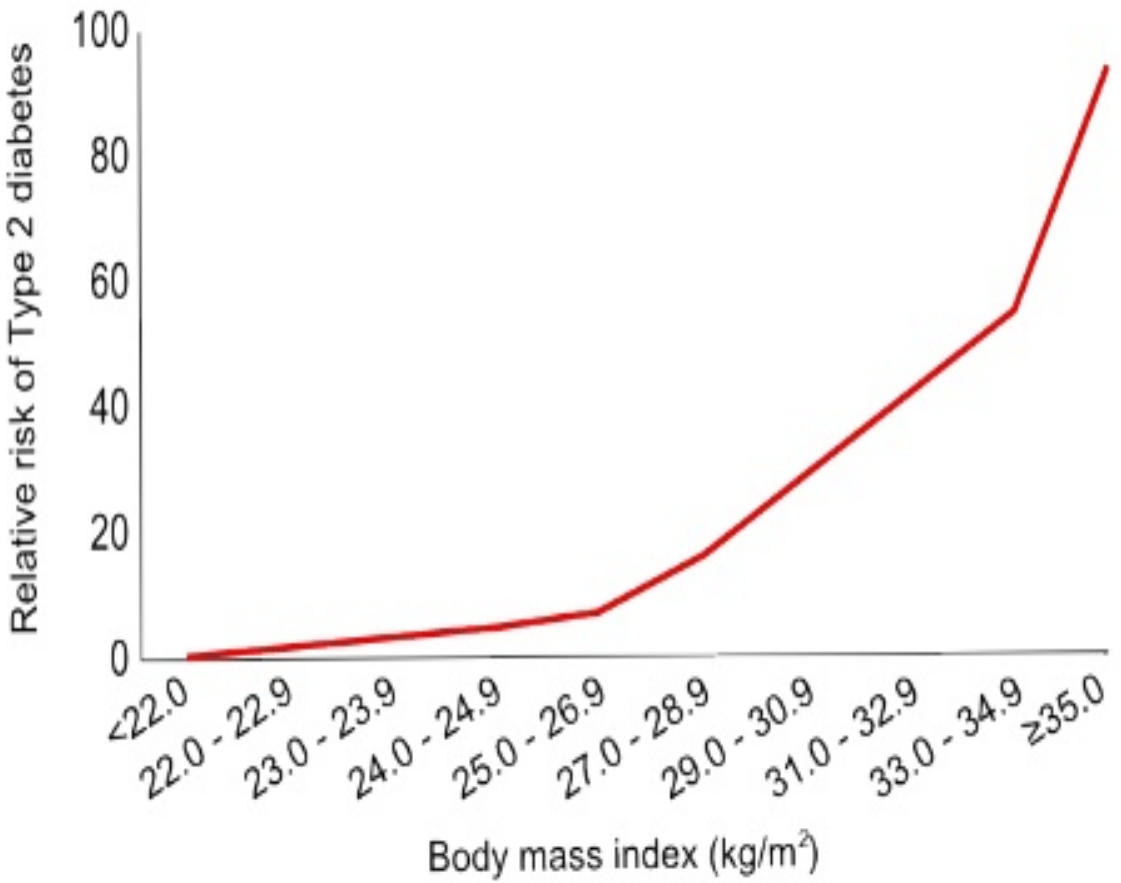
Is there a role for insurance companies in promoting self care?

The Diabetes “Epidemic”



(DUK, 2008)

BMI and relative risk of T2DM



Ann Int Med 1995 122 481-86

Diabetes Mellitus: Epidemiology

WHO Region	Prevalence (%)		Number (millions)	
	1980	2014	1980	2014
African	3.1%	7.1%	4	25
Americas	5.0%	8.3%	18	62
Eastern Mediterranean	5.9%	13.7%	6	43
European	5.3%	7.3%	33	64
South-East Asia	4.1%	8.6%	17	96
Western Pacific	4.4%	8.4%	29	131
Total	**4.7%**	**8.5%**	**108**	**422**

The Burden of Diabetes

2010-11

- Treatment £2.1 billion
- Complications £7.7 billion

2035

- Estimated £16 billion

The Human Costs

- Each year in the UK, 24,000 people with diabetes die early
- Cardiovascular disease remains the top killer in the world
- Diabetes is the leading cause of blindness in people of working age in the UK
- Leading cause of kidney failure
- Over 100 amputations are carried out every week on people with diabetes
  - Up to 80 per cent of these are preventable
- Psychological

Insulin, Glucose and Diabetes Mellitus

Insulin is a hormone produced by the beta cells of the Islets of Langerhans of the pancreas

Insulin is released from the pancreas when blood glucose levels rise, e.g. after a meal

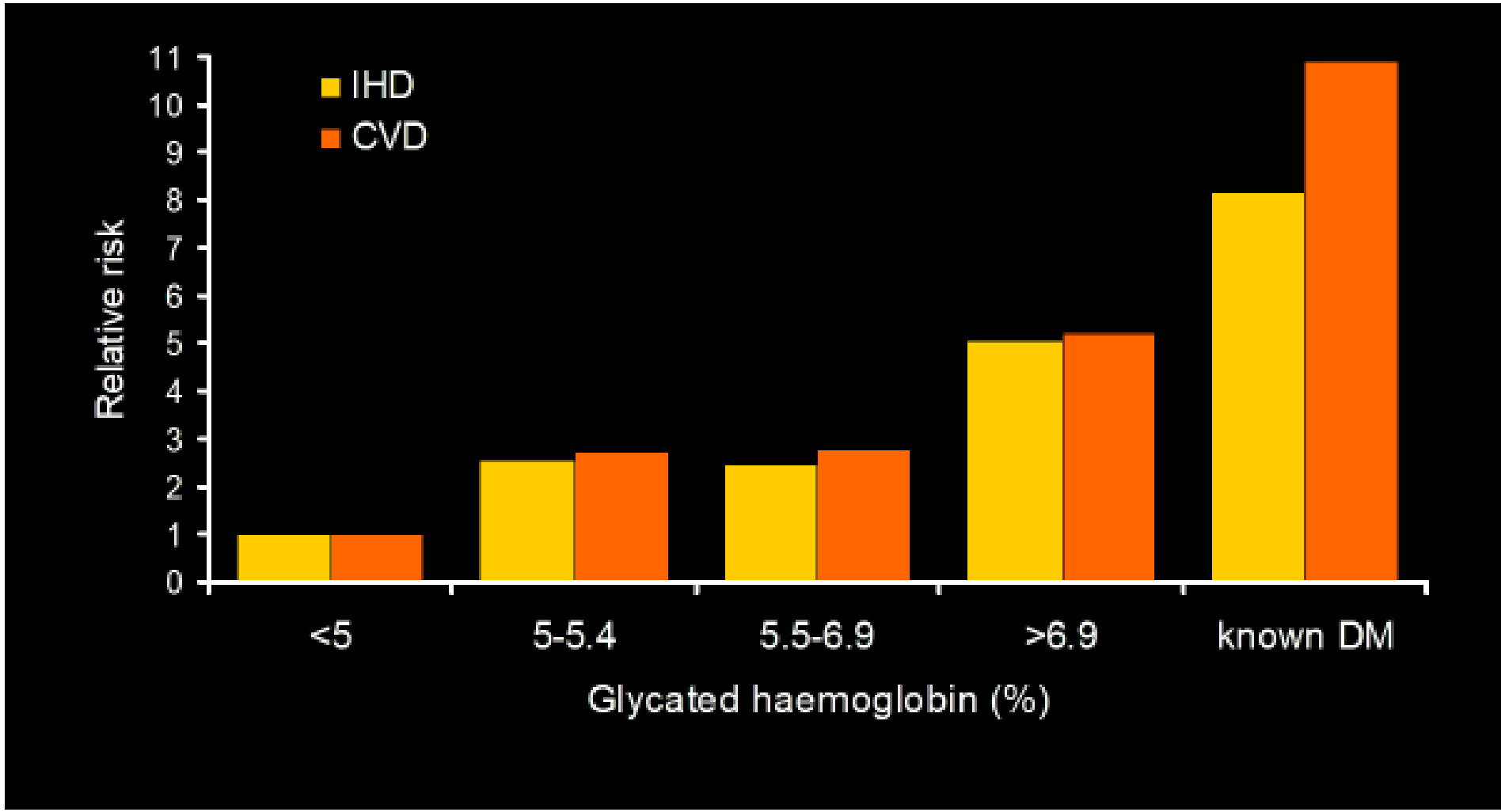
Insulin causes glucose to be removed from the blood to provide energy or to be stored as fat

Diabetes mellitus (DM) is caused by insulin deficiency

- In Type 1 Diabetes (10%) the insulin deficiency is ABSOLUTE (autoimmune destruction of beta cells)
- In Type 2 (~90%) the insulin deficiency is relative to insulin resistance, promoted by pathological fat deposition especially in the liver

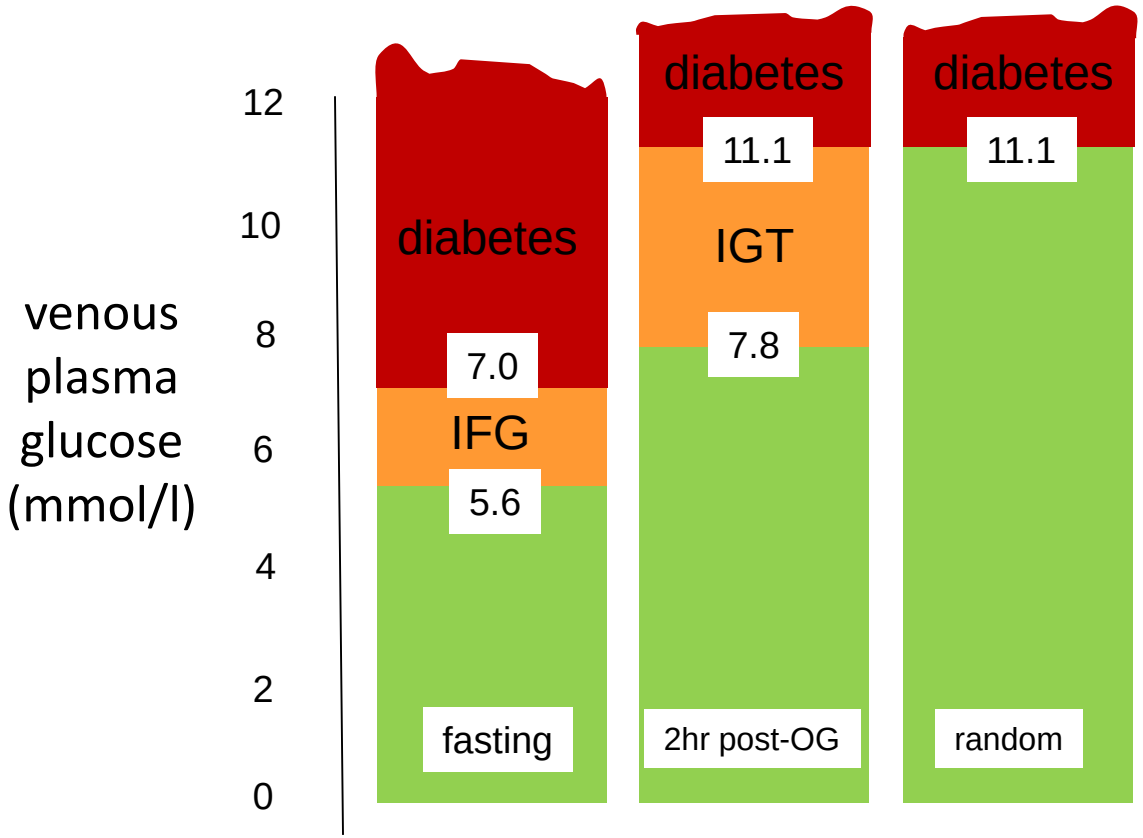
DM causes MICROVASCULAR (eyes, kidneys, nerve) and MACROVASCULAR (heart disease and stroke)

Age adjusted relative risk of macrovascular disease by baseline glycated haemoglobin status



BMJ 2001;322:1-6

Traditionally, diabetes mellitus has been diagnosed on the basis of raised plasma glucose levels



More recently, glycosylation of haemoglobin has come to be used as an index of raised plasma glucose levels

- Glycosylated haemoglobin (HbA1c) provides a measure of average glucose levels over the lifetime of the red blood cells (i.e. the preceding month)

- Diabetes Mellitus: HbA1c 48 mmol/mol (6.5%) or more

- TARGET for treatment

Diabetes Mellitus: Treating to Target?

- for many decades diabetes clinicians simply tried to keep their patients symptom-free and the urine free of sugar
- as more people with diabetes survived longer the importance of the long-term vascular complications came to the fore
- would lowering blood glucose levels to as near as normal as possible reduce the development of vascular complications?
- T1DM: The Diabetes Control and Complications Trial (DCCT)
- T2DM: The UK Prospective Diabetes Study (UKPDS)

Compare intensive with standard glucose control in:

Type 1 diabetes

Diabetes Control and Complications Trial (DCCT, n=1,441)

(The DCCT Research Group. N Engl J Med 1993;329:977)

- 39% reduction in microalbuminuria
- 54% reduction in albuminuria
- beneficial effects on retinopathy and neuropathy
- macrovascular events 23 v 40 over 6.5 years (p=0.08)

Type 2 diabetes

U.K. Prospective Diabetes Study (UKPDS, n=3,867)

(UK Prospective Diabetes Study Group. Lancet 1998;352:837)

- 25% reduction in microvascular end-points
- 1% decrease in HbA1c associated with 35% reduction in end-points
- no significant benefit for macrovascular disease
- intensive blood pressure control gave 37% reduction

Lower is Better?

In Type 1 diabetes, lower glucose levels unequivocally results in lower risk of MICROVASCULAR complications (DCCT)

In Type 2 diabetes the accelerated cardiovascular disease is MULTIFACTORIAL

Long term follow up studies

- Lifestyle management
- Glycaemic AND lipid AND BP control

The Metabolic Syndrome

Obesity – GOOD FAT vs BAD FAT

Insulin resistance

Hyperglycaemia

Chronic inflammation

Dyslipidaemia

Hypertension

CARDIOVASCULAR DISEASE

ACCORD

10251 randomised
- age ~62
- diabetes duration ~10 years
- mean A1c 8.3%

HbA1c:

	Start	4 months	12 months
Intensive	8.1	6.7	6.4
Standard	8.1	7.5	7.5

Discontinued at 3.5 years follow-up

Higher mortality in Intensive group (22% ↑RR)

1 extra death per 95 patients treated

Action to Control Cardiovascular Risk in Diabetes Study Group. N Engl J Med 2008;358:2545

YUDKIN in the Lancet

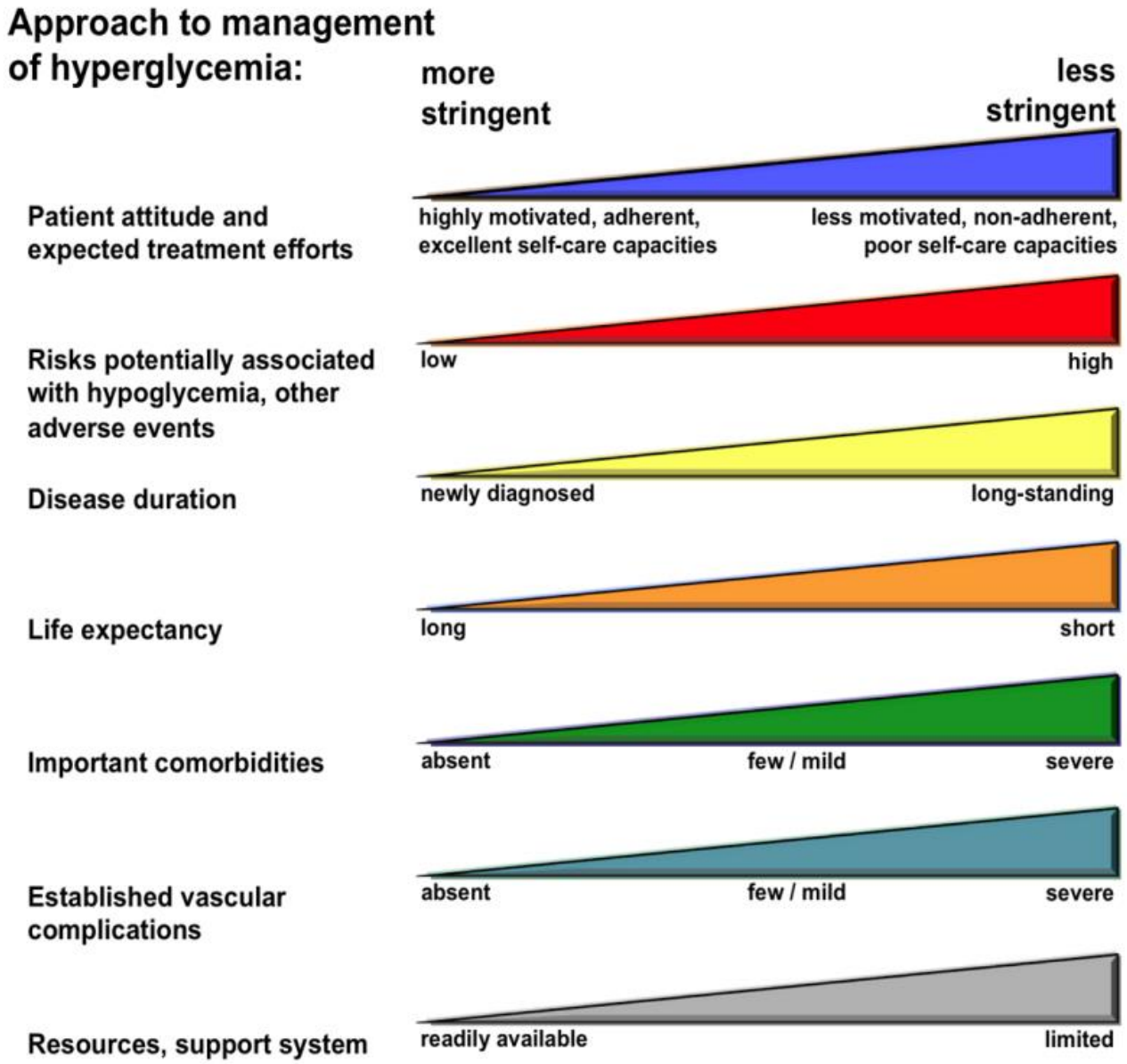
90% people started on glucose-lowering treatment will not benefit

- ↓1% HbA1c adds 10 months QALY for 45 year old
- ↓1% HbA1c adds 6 weeks QALY for 75 year old

These ‘gains’ are eliminated by treatment that reduces QOL by >3% …. even a drug with CVS benefit may not be a good choice

“… measures of likely health gains ***matter*** because such treatments, although potentially providing benefit in aggregate outcomes, are being used for individual benefit”

Yudkin et al. Lancet 2014:384;1095



ADA/EASD Joint Position Statement, 2012

THE PARADIGM IS SHIFTING

Non-Insulin-Dependent Diabetes -The Great Debate

- 1969 “Does diabetes begin with insulin resistance?”
  Kipnis, Nobel Symposium

- 1976 “Nonketotic diabetes mellitus: insulin deficiency or insulin resistance?”
  Reaven, American Journal of Medicine

- 1988 “Beta-cell deficiency, insulin resistance, or both?”
  Editorial, New England Journal of Medicine

- 1998 “Insulin resistance versus insulin deficiency in non-insulin-dependent diabetes mellitus: problems and prospects”
  Ferrannini, Endocrine Reviews

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Health

Diabetes is actually five separate diseases, research suggests

By James Gallagher
Health and science correspondent, BBC News

2 March 2018 Share

Cluster	N (%)	Characteristics	Name
1	577 (6.4)	Early disease onset (at a young age), essentially corresponds with type 1 diabetes and LADA, relatively low BMI, poor metabolic control, insulin deficiency (impaired insulin production), GADA+	Severe autoimmune diabetes (SAID)
2	1575 (17.5)	Similar to cluster 1 but GADA–, high HbA_{1c}, highest incidence of retinopathy	Severe insulin-deficient diabetes (SIDD)
3	1373 (15.3)	Insulin resistance, high BMI, highest incidence of nephropathy	Severe-insulin resistant diabetes (SIRD)
4	1942 (21.6)	Obesity, younger age, not insulin resistant	Mild obesity-related diabetes (MOD)
5	3513 (39.1)	Older age, modest metabolic alterations	Mild age-related diabetes (MARD)

ANDIS: Swedish All New Diabetics in Scania; BMI: body mass index; GADA: glutamic acid decarboxylase antibodies; LADA: latent autoimmune diabetes in adults. N in ANDIS cohort.

Genome-Wide Association Studies (GWAS) for T2 Diabetes

ARTICLES

A genome-wide association study identifies novel risk loci for type 2 diabetes

Robert Sladek[1,2,4], Ghislain Rocheleau[1]*, Johan Rung[4]*, Christian Dina[5]*, Lishuang Shen[1], David Serre[1], Philippe Boutin[5], Daniel Vincent[4], Alexandre Belisle[4], Samy Hadjadj[6], Beverley Balkau[7], Barbara Heude[7], Guillaume Charpentier[8], Thomas J. Hudson[4,9], Alexandre Montpetit[4], Alexey V. Pshezhetsky[10], Marc Prentki[10,11], Barry I. Posner[2,12], David J. Balding[13], David Meyre[5], Constantin Polychronakos[1,3] & Philippe Froguel[5,14]

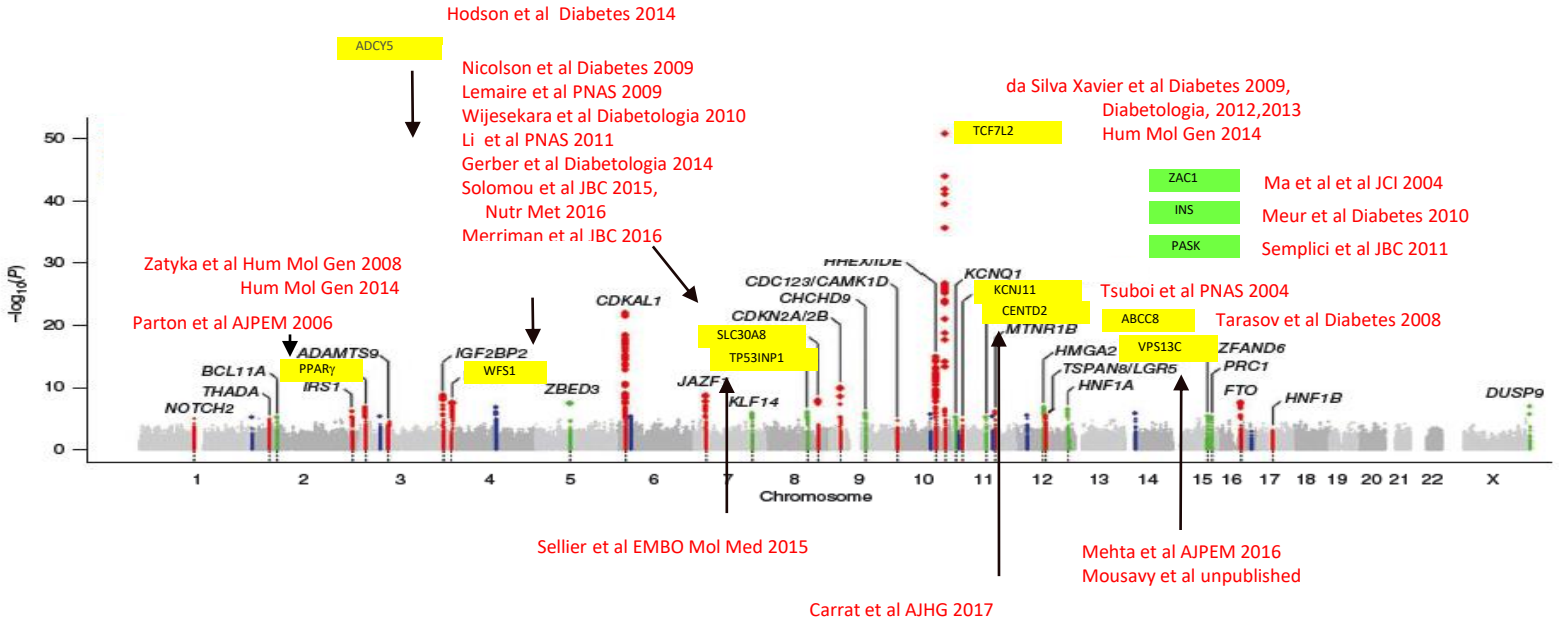
Replication of Genome-Wide Association Signals in UK Samples Reveals Risk Loci for Type 2 Diabetes

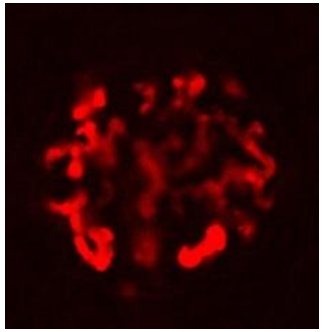
Eleftheria Zeggini,[1,2]* Michael N. Weedon,[3,4]* Cecilia M. Lindgren,[1,2]* Timothy M. Frayling,[3,4]* Katherine S. Elliott,[2] Hana Lango,[3,4] Nicholas J. Timpson,[2,5] John R. B. Perry,[3,4] Nigel W. Rayner,[1,2] Rachel M. Freathy,[3,4] Jeffrey C. Barrett,[2] Beverley Shields,[4] Andrew P. Morris,[2] Sian Ellard,[4,6] Christopher J. Groves,[1] Lorna W. Harries,[4] Jonathan L. Marchini,[7] Katharine R. Owen,[1] Beatrice Knight,[4] Lon R. Cardon,[2] Mark Walker,[8] Graham A. Hitman,[9] Andrew D. Morris,[10] Alex S. F. Doney,[10] The Wellcome Trust Case Control Consortium (WTCCC),† Mark I. McCarthy,[1,2]‡§ Andrew T. Hattersley[3,4]‡

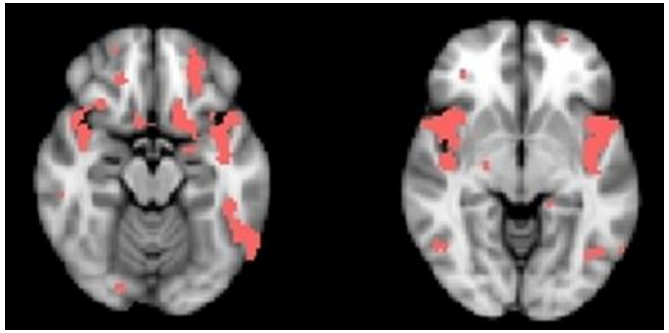
Genome-Wide Association Analysis Identifies Loci for Type 2 Diabetes and Triglyceride Levels

Diabetes Genetics Initiative of Broad Institute of Harvard and MIT, Lund University, and Novartis Institutes for BioMedical Research*†

“Functional Genomics”







Voight et al, Nature Genetics 2010

NHS
UK Genetic Testing Network

Promoting gene testing

Home | Find a Test | Resources | About Us

Search by Disorder & Gene | Search by Laboratory | Online Directory | Gene Dossiers | Testing Criteria | Other Databases

Diabetes, Monogenic, 25 Gene Panel

Laboratories | Genes & Disorders | Testing Criteria & Gene Dossiers | Specialties

1 laboratory offers this test:

Service Level: All

Referral Category: All

Laboratory: All

Search

Service level	Referral category	Laboratory	Calendar Days	NHS Price
Sequencing of the entire coding region of gene (s) PLUS copy number analysis	Postnatal Diagnosis Routine	Exeter RGC	112	£650
Sequencing of the entire coding region of gene (s) PLUS copy number analysis *Note:* If Sanger sequencing previously done of a specific MODY gene (GCK, HNF1A, HNF4A or HNF1B	Postnatal Diagnosis Routine	Exeter RGC	112	£300

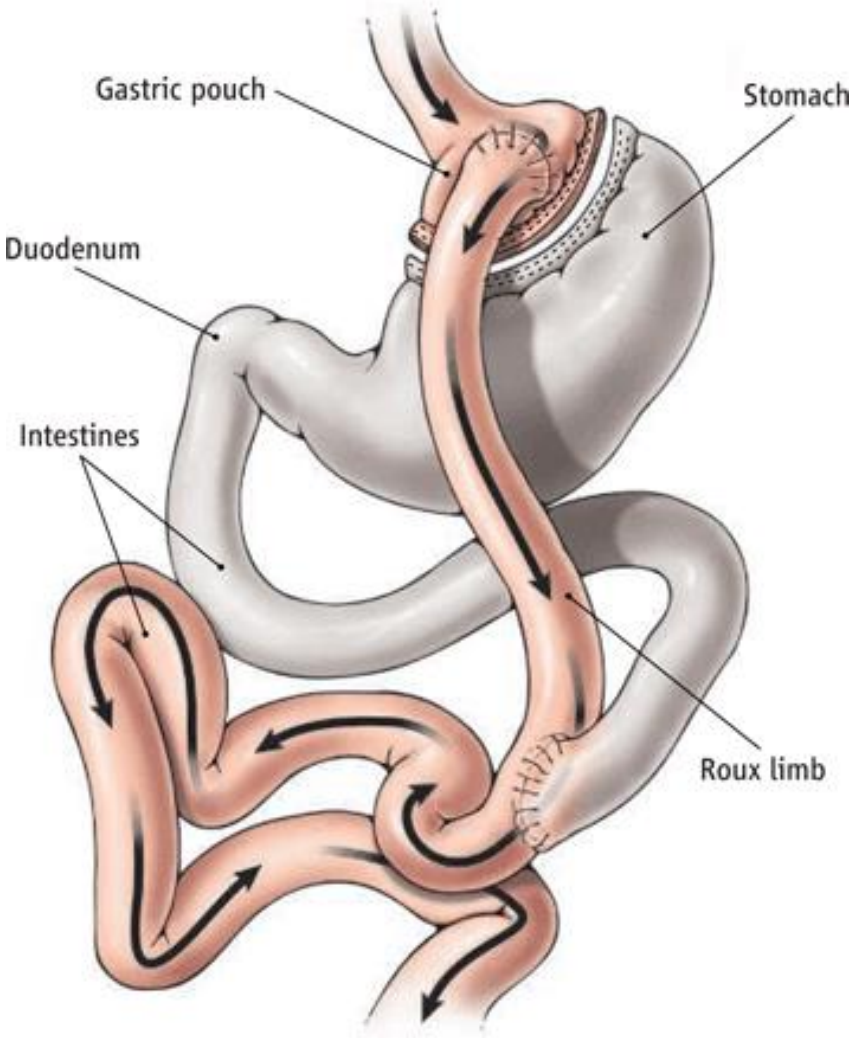
European Alliance for Personalised Medicine

Diabetes is curable

WHO WOULD HAVE THOUGHT IT? AN OPERATION PROVES TO BE THE MOST EFFECTIVE THERAPY FOR ADULT-ONSET DIABETES MELLITUS

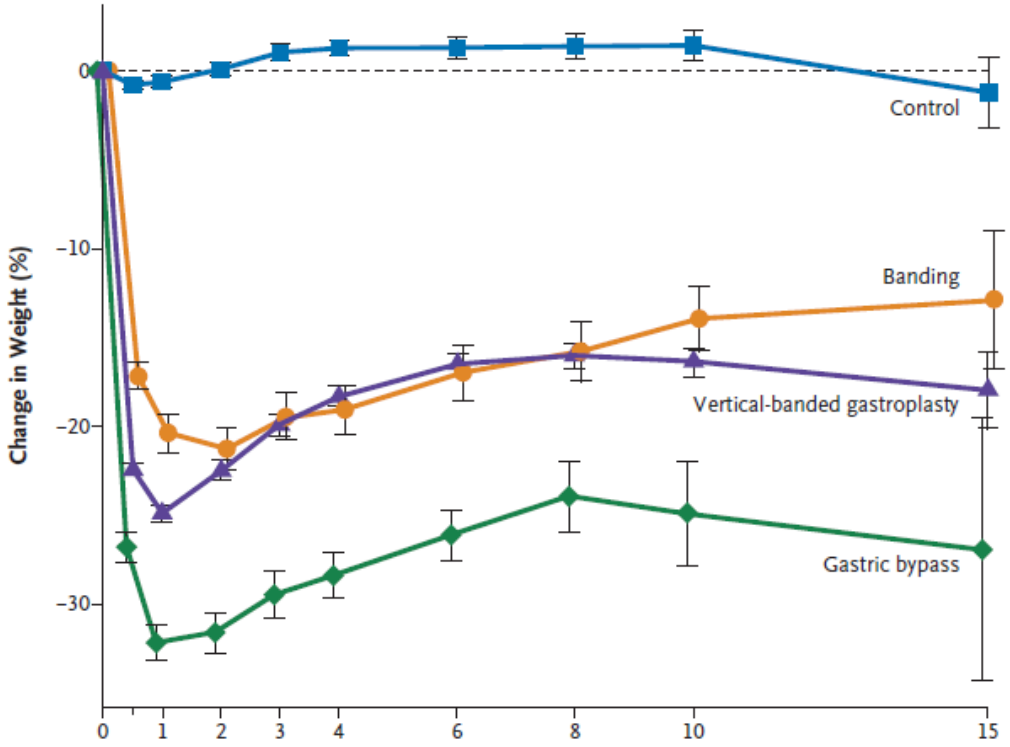
PORIES WJ ET AL ANN SURGERY (1995) 222:339-352

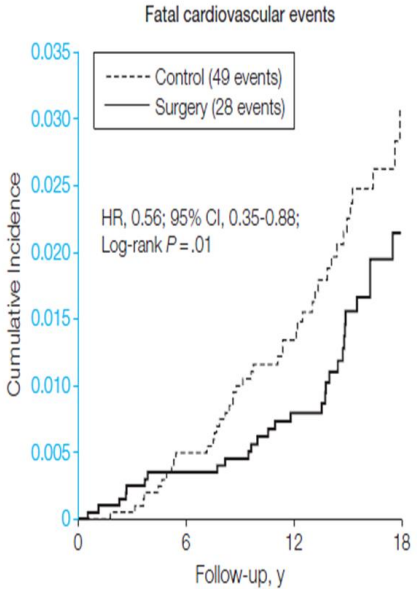
Gastric bypass - It's five operations in one!

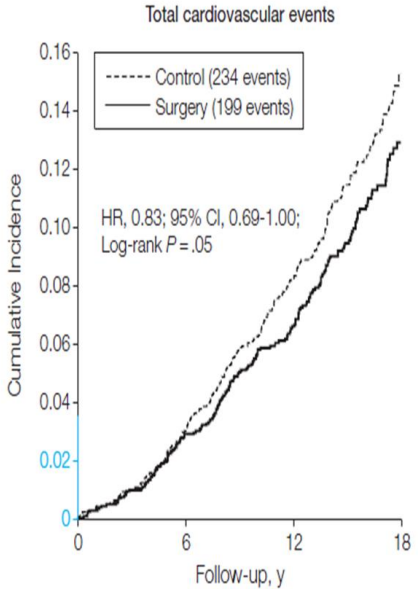


1. Small pouch
2. Bypassed stomach and duodenum
3. Altered bile flow
4. Distal jejunum in contact with food earlier
5. Vagal manipulation

Weight loss in the long term saves lives







Sjöström et al. N Engl J Med 2007

Sjostrom et al, JAMA 2012

Metabolic surgery cures AND prevents diabetes

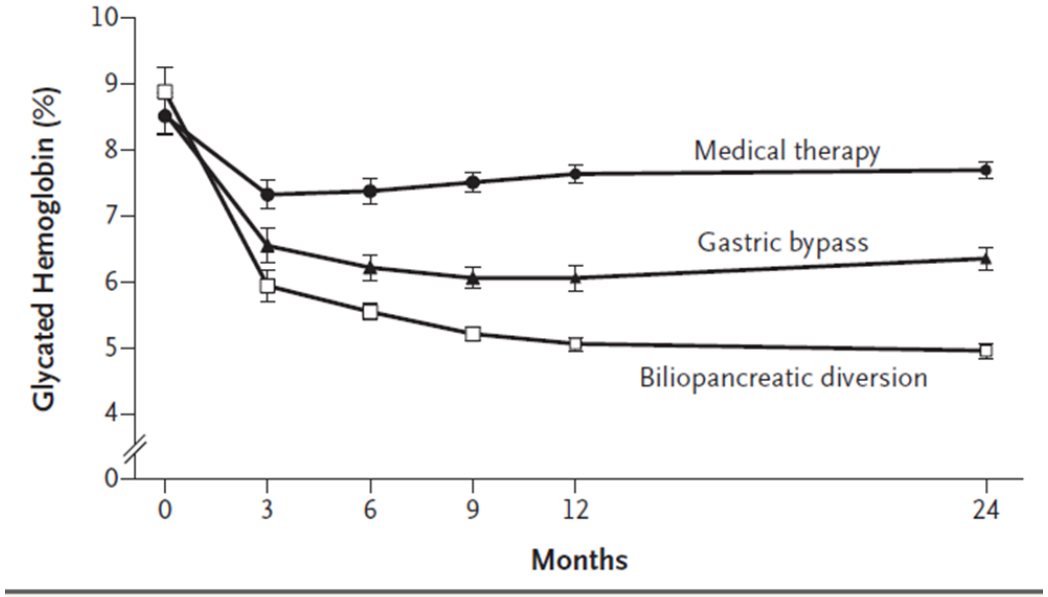
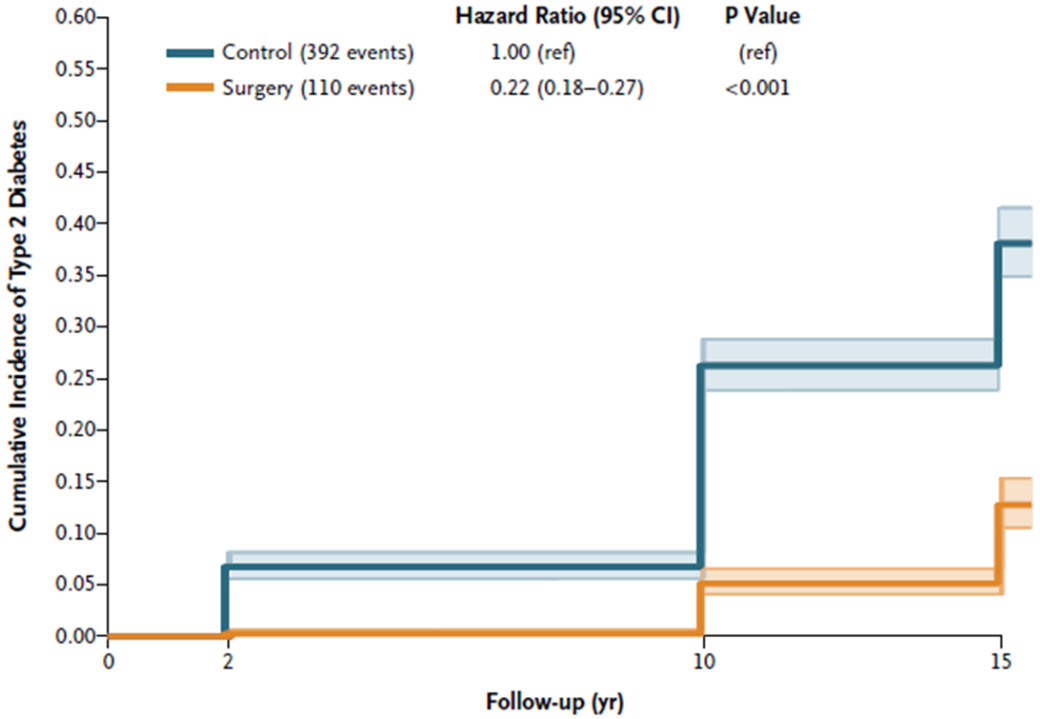


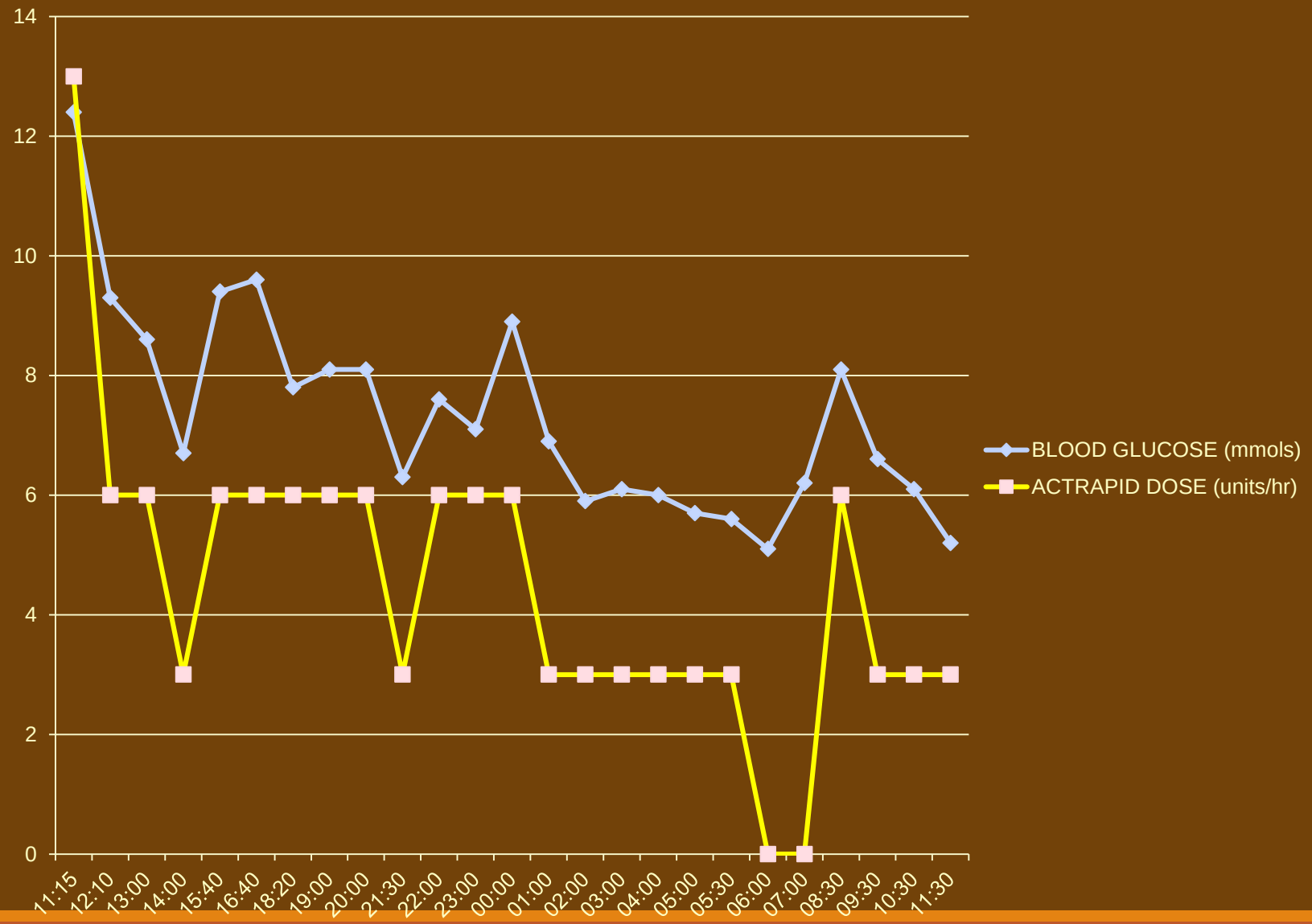
Figure 2. Glycated Hemoglobin Levels during 2 Years of Follow-up.



Mingrone G et al , N Engl J Med 2012

Carlsson LM at al, NEJM 2012

Insulin requirememements drop IMMEDIATELY



OUT OF SURGERY

A bit of background on DiRECT

We awarded our largest ever research grant of £2.5 million to help our scientists find out if an intensive low-calorie, diet-based, weight management programme can put Type 2 diabetes into remission, and keep it there. And to test if this can be delivered entirely within the NHS.

Professor Roy Taylor at Newcastle University and Professor Mike Lean at the University of Glasgow are leading the study.

Professors Roy Taylor (left) and Mike Lean (right)

They're building on the results of two previous smaller studies, which gave us the first evidence that a low-calorie diet approach could put Type 2 diabetes into remission.

Structured Programme in Primary Care Setting

Practice nurse/dietitian programme delivery

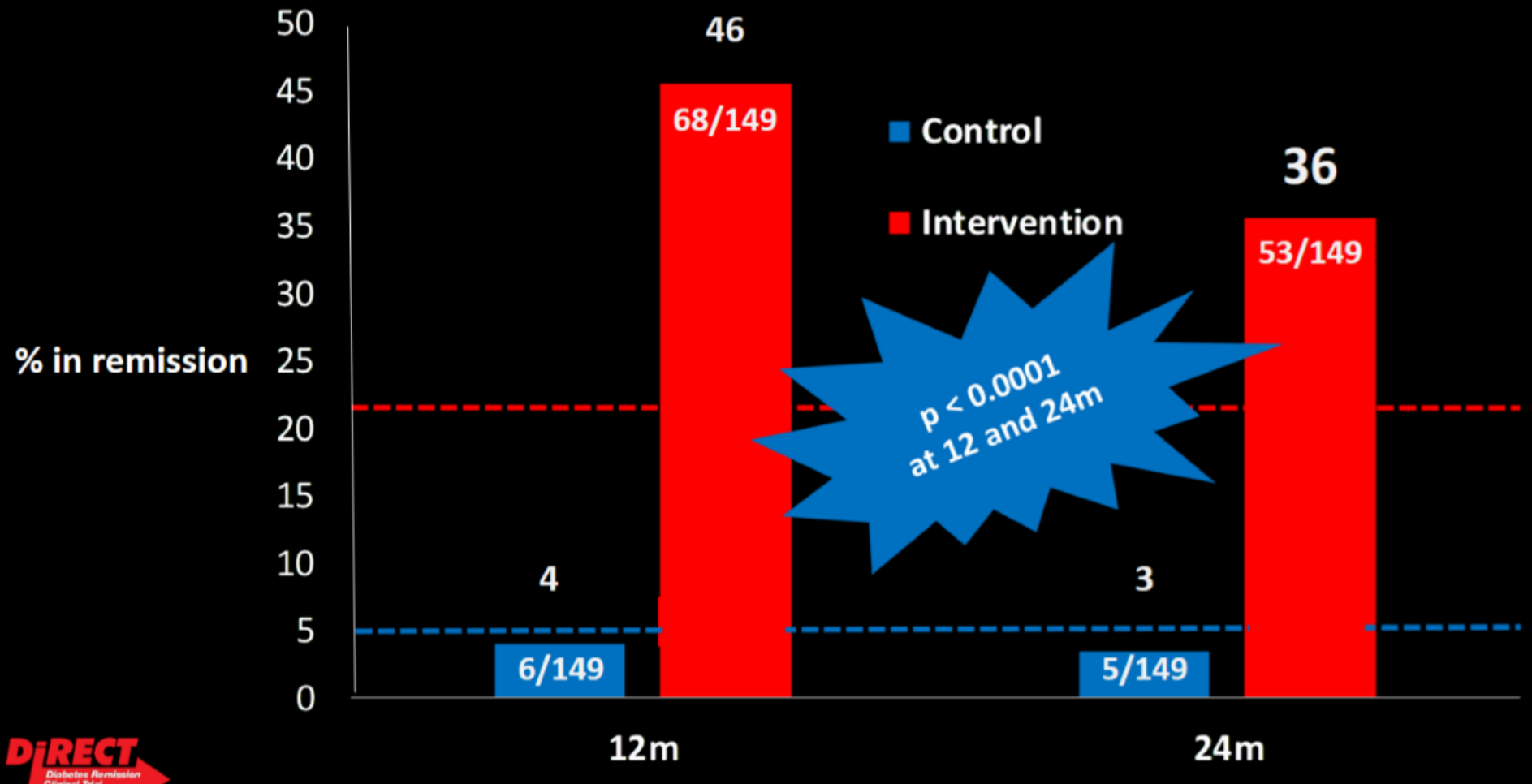
Withdraw Anti-diabetic and anti-hypertensive medications	Total Diet Replacement	Food Reintroduction	Weight Loss Maintenance
Start of TDR	~ 3 months	~ 2 months	to 24 months

During year 2, average number of 'monthly' appointments was 7.7

DiRECT Diabetes Remission Clinical Trial

Leslie WS et al *BMC Family Practice* 2016; 17:20

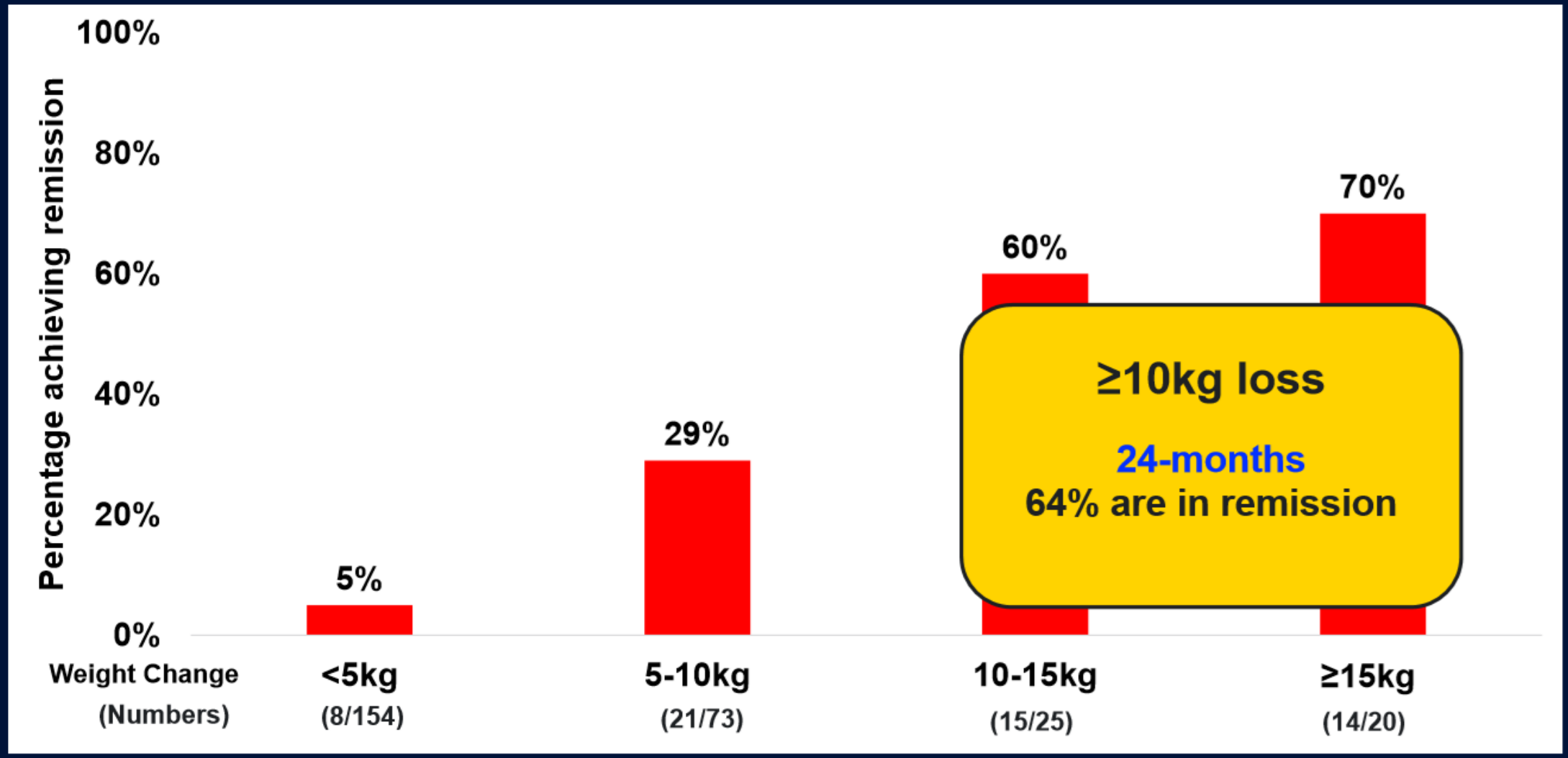
Remissions at 24 months



DiRECT Diabetes Remission Clinical Trial

Lean ME et al *Lancet Db&End* 2019

Remissions by 24-month weight loss: entire study population



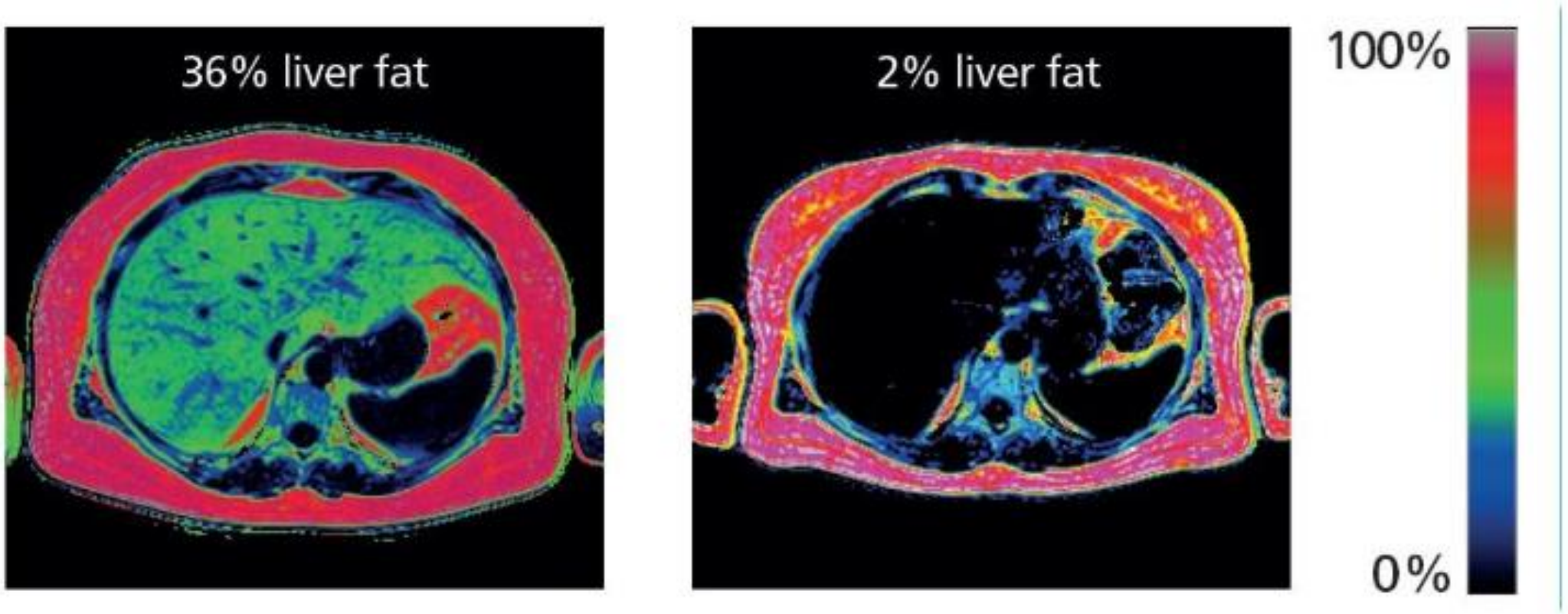
DiRECT Diabetes Remission Clinical Trial

Lean et al, Lancet Diabetes and Endocrinology (2019)

University of Glasgow

Newcastle University

DiABETES UK CARE. CONNECT. CAMPAIGN.



An MRI scan of the liver - shows high levels of fat in green (left) and a big decrease in fat after a low-calorie diet (right)

Diabetes mellitus: primary prevention

Prevention trials

- **Da Qing Impaired Glucose Tolerance and Diabetes Study**
  incidence of diabetes was reduced 46% by exercise, 31% by diet and 42% by diet and exercise

  Pan et al. Diabetes care 1997;20:537
- **Diabetes Prevention Programme**
  multiple, modest lifestyle changes or metformin reduced incidence of diabetes by ~60% in individuals with IGT

  Knowler et al. N Engl J Med 2002;346:393
- **Finnish Diabetes Prevention Study**
  moderate-to-vigorous leisure time physical activity reduces incidence of diabetes by 65% in subjects with IGT

  Laaksonen et al. Diabetes 2005;54:158
- **India SMS Diabetes Prevention Trial**
  lifestyle modification reinforcement by SMS messaging reduces incidence of diabetes by 36% in pre-diabetes

  Ramachandran et al. Lancet Diab Endocrinol 2014;1:191

Case Study 1

Female aged 60 years

Date of Birth: 22/12/1948

Non-Smoker

Policy Type:

1) PRODUCTS / WOL 2nd death

Amount Proposed:

1) GBP 750,000

PMHx

1990 chest pain – not MI

1997 Diabetes – Type 2

2000 started on insulin

2014 HbA1c 10.6%

2014 background diabetic retinopathy

2016 peripheral neuropathy, no ulceration

Welcome to the QRISK®3-2018 risk calculator https://qrisk.org/three

This calculator is only valid if you do not already have a diagnosis of coronary heart disease (including angina or heart attack) or stroke/transient ischaemic attack.

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About you

Age (25-84): 60

Sex: ○ Male ◉ Female

Ethnicity: White or not stated

UK postcode: leave blank if unknown

Postcode:

Clinical information

Smoking status: non-smoker

Diabetes status: type 2

Angina or heart attack in a 1st degree relative < 60? ☑

Chronic kidney disease (stage 3, 4 or 5)? ☐

Atrial fibrillation? ☐

On blood pressure treatment? ☑

Do you have migraines? ☐

Rheumatoid arthritis? ☐

Systemic lupus erythematosus (SLE)? ☐

Severe mental illness?
(this includes schizophrenia, bipolar disorder and moderate/severe depression) ☐

On atypical antipsychotic medication? ☐

Are you on regular steroid tablets? ☐

A diagnosis of or treatment for erectile disfunction? ☐

Leave blank if unknown

Cholesterol/HDL ratio: 2

Systolic blood pressure (mmHg): 126

Standard deviation of at least two most recent systolic blood pressure readings (mmHg):

Body mass index

Height (cm): 160

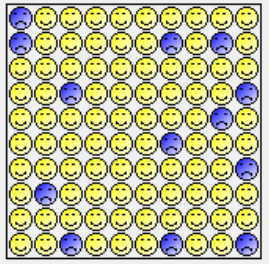
Weight (kg): 82

Your results

Your risk of having a heart attack or stroke within the next 10 years is:

13.1%

In other words, in a crowd of 100 people with the same risk factors as you, 13 are likely to have a heart attack or stroke within the next 10 years.



Risk of
a heart attack or stroke

Your score has been calculated using estimated data, as some information was left blank.

Your body mass index was calculated as 32.03 kg/m^2.

How does your 10-year score compare?

Your score

Your 10-year QRISK®3 score	13.1%
The score of a healthy person with the same age, sex, and ethnicity*	5.1%
Relative risk**	2.6
Your QRISK®3 Healthy Heart Age***	72

* This is the score of a healthy person of your age, sex and ethnic group, i.e. with no adverse clinical indicators and a cholesterol ratio of 4.0, a stable systolic blood pressure of 125, and BMI of 25.

** Your relative risk is your risk divided by the healthy person's risk.

*** Your QRISK®3 Healthy Heart Age is the age at which a healthy person of your sex and ethnicity has your 10-year QRISK®3 score.

Case Study 1

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Non-Smoker

Policy Type:

1) PRODUCTS / WOL 2nd death

Amount Proposed:

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Decision

Declined due to ongoing poorly controlled diabetes

PMHx

1990 chest pain – not MI

1997 Diabetes – Type 2

2000 started on insulin

2014 HbA1c 10.6%

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ClinRisk

Welcome to the QRISK®3-2018 risk calculator https://qrisk.org/three

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Atrial fibrillation? ☐

On blood pressure treatment? ☐

Do you have migraines? ☐

Rheumatoid arthritis? ☐

Systemic lupus erythematosus (SLE)? ☐

Severe mental illness?
(this includes schizophrenia, bipolar disorder and moderate/severe depression) ☐

On atypical antipsychotic medication? ☐

Are you on regular steroid tablets? ☐

A diagnosis of or treatment for erectile disfunction? ☐

Leave blank if unknown

Cholesterol/HDL ratio: 1.5

Systolic blood pressure (mmHg): 118

Standard deviation of at least two most recent systolic blood pressure readings (mmHg):

Body mass index

Height (cm): 160

Weight (kg): 60

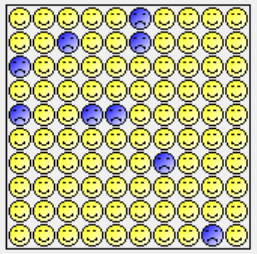
Calculate risk

Your results

Your risk of having a heart attack or stroke within the next 10 years is:

8.9%

In other words, in a crowd of 100 people with the same risk factors as you, 9 are likely to have a heart attack or stroke within the next 10 years.



Risk of a heart attack or stroke

Your score has been calculated using estimated data, as some information was left blank.

Your body mass index was calculated as 23.44 kg/m^2.

How does your 10-year score compare?

Your score

Your 10-year QRISK®3 score	8.9%
The score of a healthy person with the same age, sex, and ethnicity*	5.1%
Relative risk**	1.7
Your QRISK®3 Healthy Heart Age***	67

* This is the score of a healthy person of your age, sex and ethnic group, i.e. with no adverse clinical indicators and a cholesterol ratio of 4.0, a stable systolic blood pressure of 125, and BMI of 25.

** Your relative risk is your risk divided by the healthy person's risk.

*** Your QRISK®3 Healthy Heart Age is the age at which a healthy person of your sex and ethnicity has your 10-year QRISK®3 score.

Case Study 2

Female aged 32 years

Non-Smoker

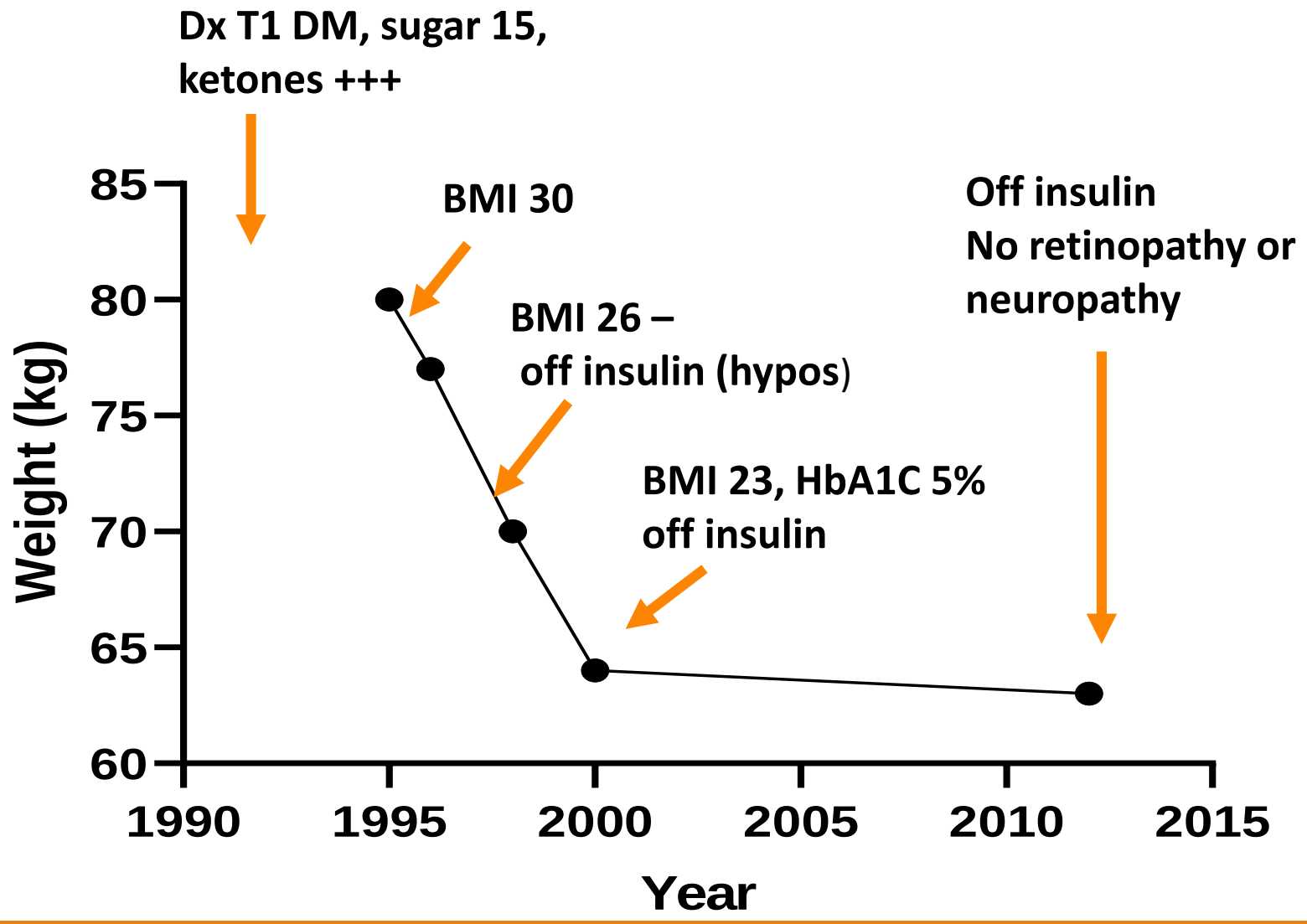
No relevant family history

Policy Type:

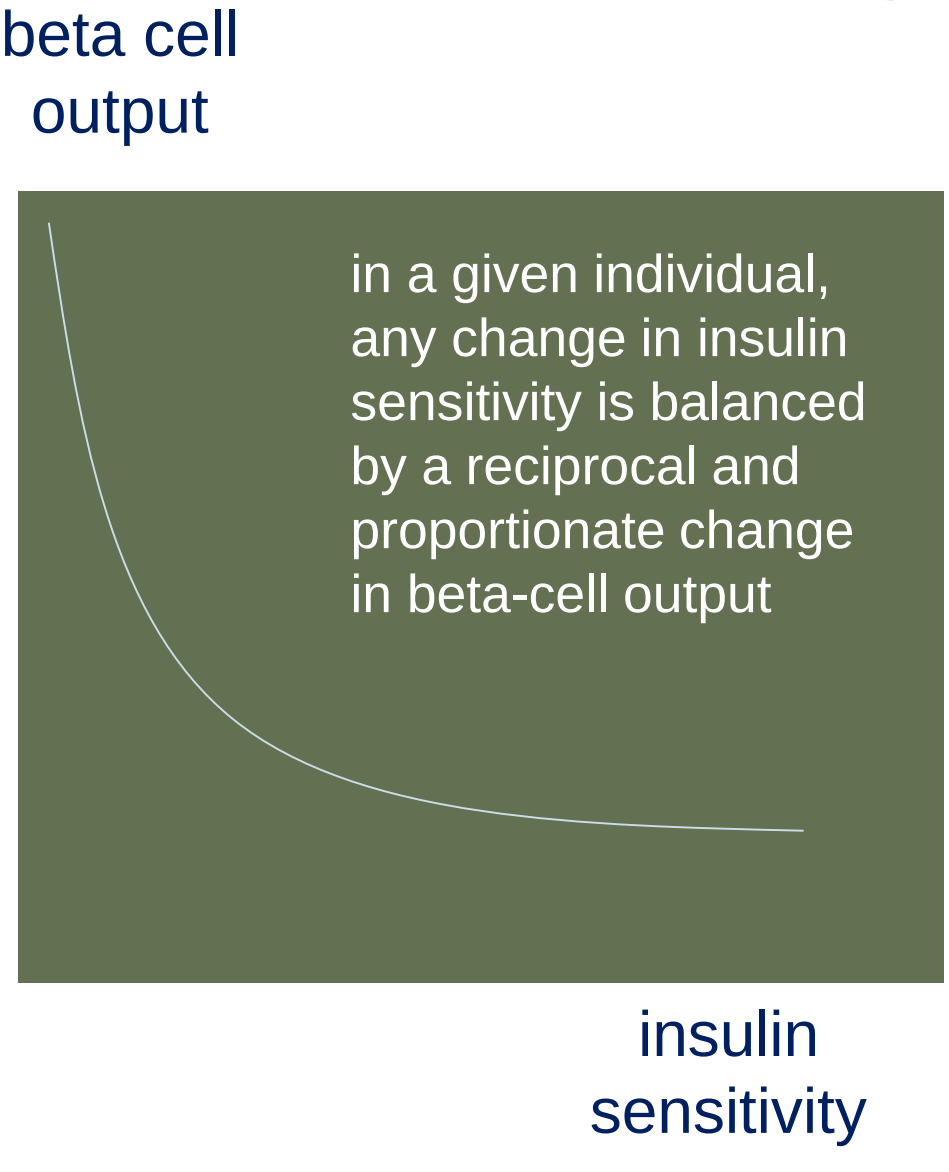
1) PRODUCTS / LTA 30 years

Amount Proposed:

1) GBP 300,000



Beta cell output and insulin sensitivity



- if beta cell output is normal, insulin levels rise with increasing insulin resistance and glucose levels remain unchanged
- if beta cell output becomes deficient and insulin resistance lessens, glucose levels remain unchanged
- if beta cell output becomes deficient and insulin resistance stays constant, glucose levels rise
- if beta cell output becomes deficient and insulin resistance increases, glucose levels rise substantially

Case Study 2

Female aged 32 years

Non-Smoker

No relevant family history

Policy Type:

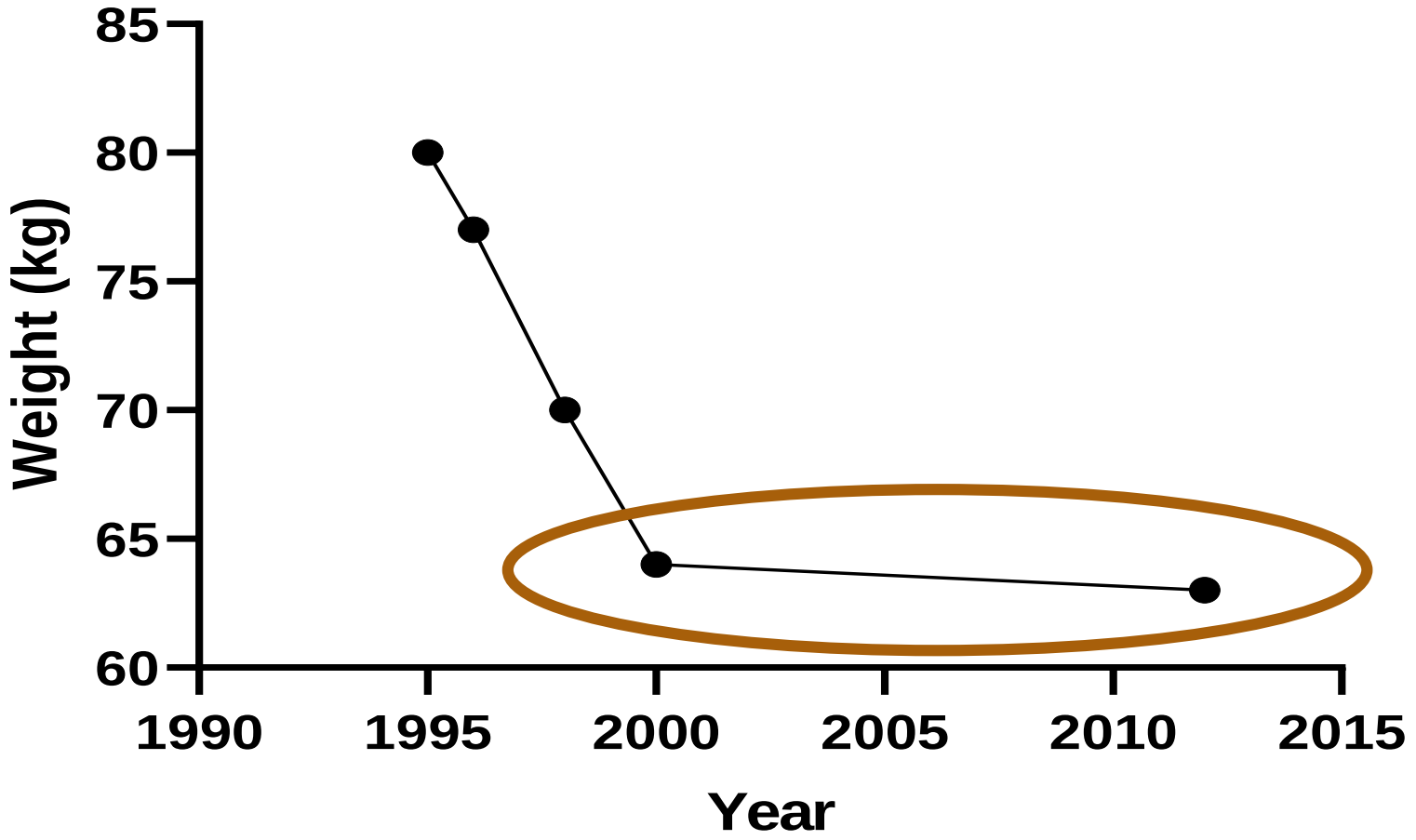
1) PRODUCTS / LTA 30 years

Amount Proposed:

1) GBP 300,000

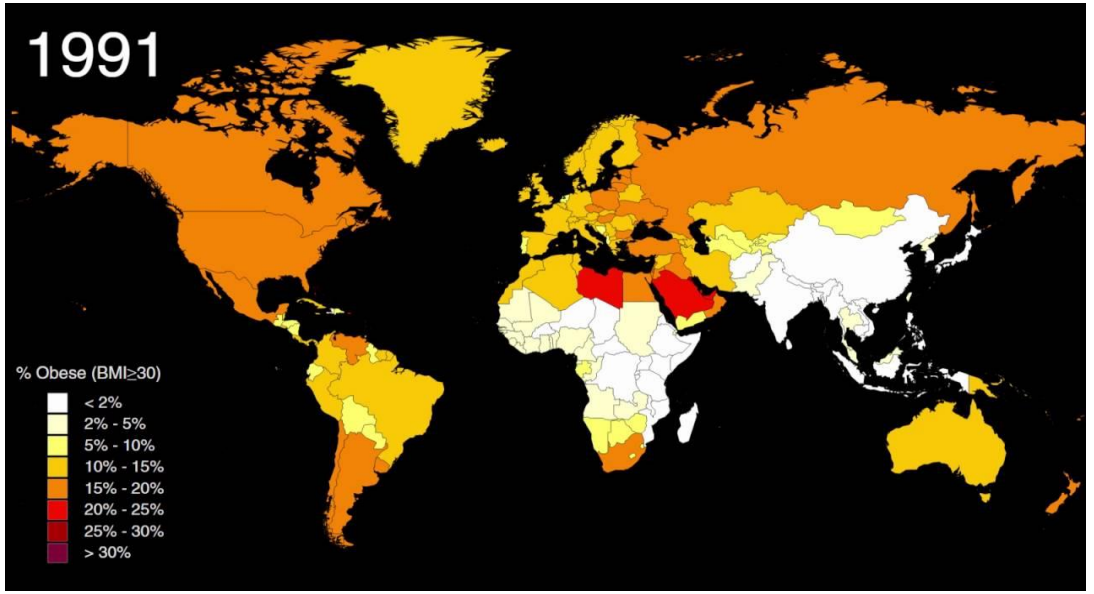
<u>Decision</u>

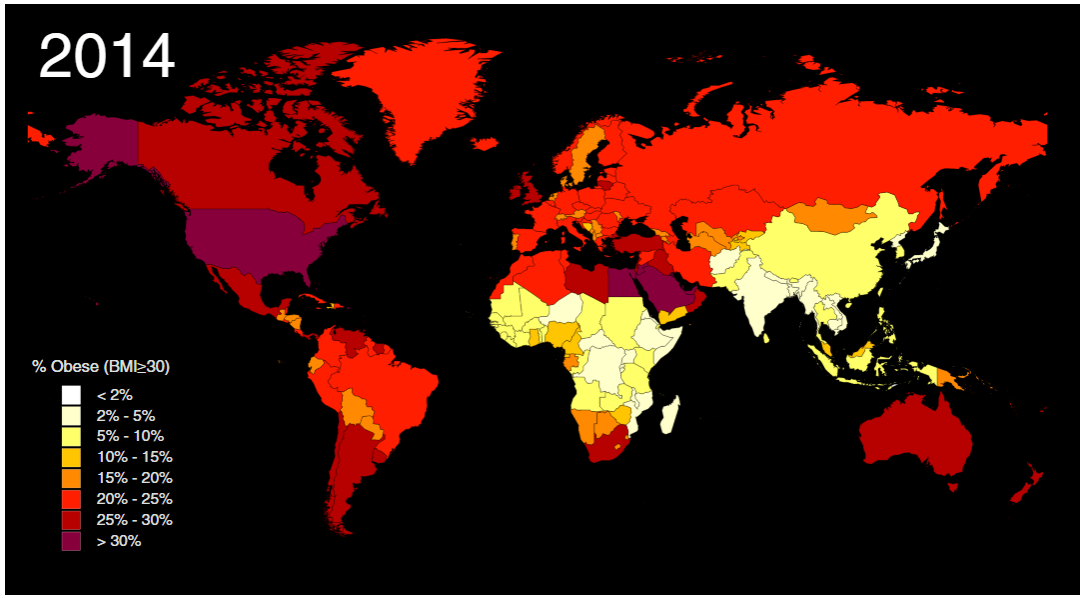
Allowed at Standard Rates as the applicant is seemingly “cured” of diabetes



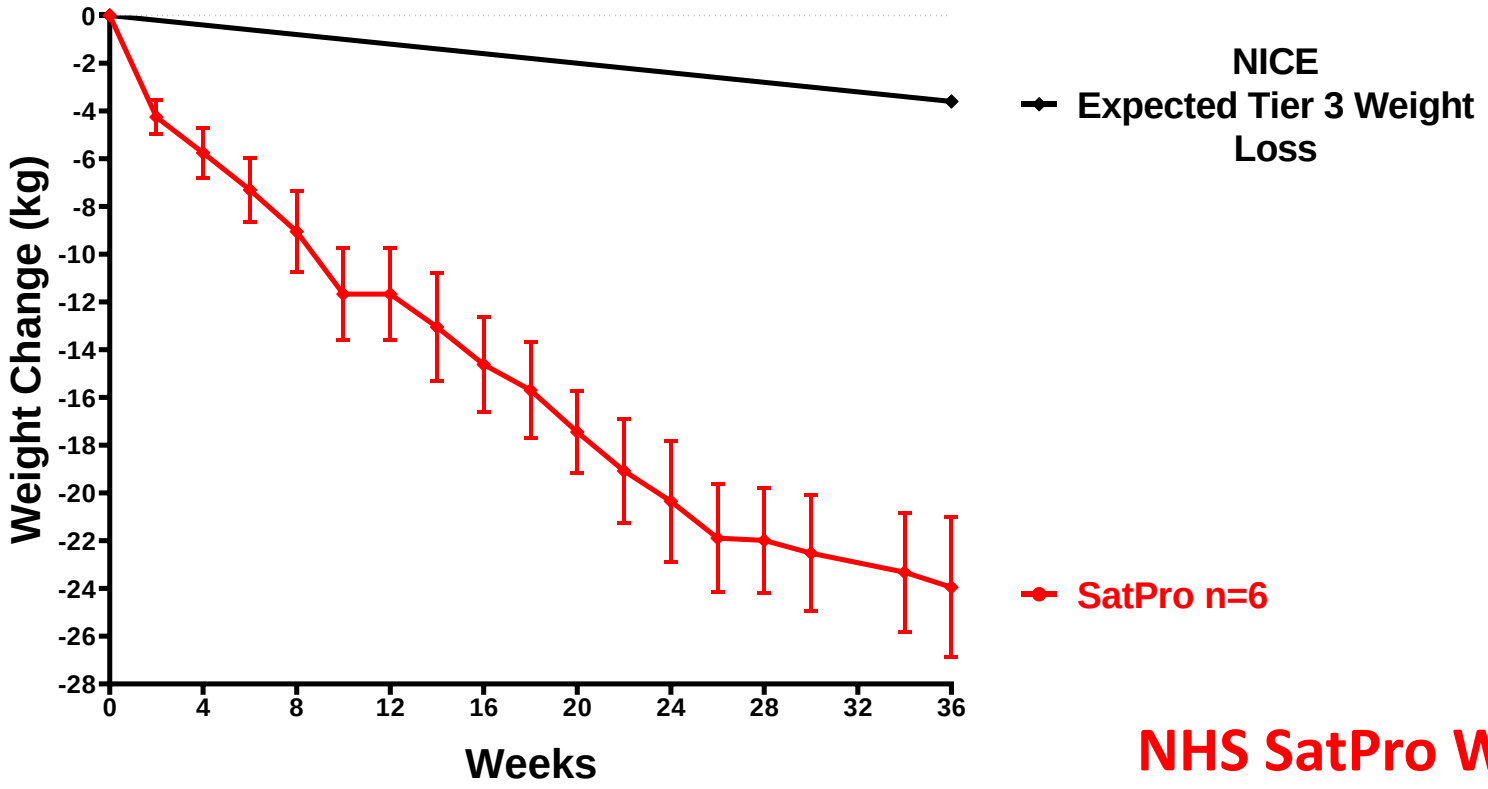

Jimmy's mother knows McDonald's hamburgers are 100% beef.
Jimmy just knows they're good.
It's really kind of disappointing. We'd like children to know why the hamburgers are so good.
We tell our meat suppliers to give us 100% beef in every shipment. And our quality controls make sure that they do.
It pays off.
Parents trust a McDonald's hamburger. That's why we sell over two million a day!
Ask any mother why McDonald's is her kind of place. She'll give you all kinds of answers: Quality. Cleanliness. Fast Service. Ask any child and he'll tell you McDonald's is fun.
And the hamburgers taste good.
McDonald's


www.StrangeCosmos.com


1991
% Obese (BMI≥30)
< 2%
2% - 5%
5% - 10%
10% - 15%
15% - 20%
20% - 25%
25% - 30%
> 30%


2014
% Obese (BMI≥30)
< 2%
2% - 5%
5% - 10%
10% - 15%
15% - 20%
20% - 25%
25% - 30%
> 30%

MY CLINIC RESULTS!



NHS SatPro Weight Loss

-22.4 ± 2.9kg (-16.2%)

Courtesy Dr Saira Hameed, St Mary's Hospital

HANDS UP!

Eat 5 fruit and veg a day

Take 20 mins exercise three times a week

Know your systolic blood pressure?

Know your cholesterol?

Can insurers help?

Changing risk factors could translate into lower claims costs.

This reduction in costs could feasibly be passed on to engaged clients.

Premiums could change as your health improves.

NHS could save billions by offering cash reward to quit smoking

Quitters 50% more likely to succeed if offered a financial incentive, researchers find

Nur Pirbhai

Wed 17 Jul 2019 06.01 BST

279

▲ Smoking costs the economy about £13bn a year, £3bn of that in NHS and social care costs. Photograph: Jonathan Brady/PA

Offering financial rewards to people trying to quit smoking could save the NHS billions of pounds a year and boost the economy, according to research.

The review found people were 50% more likely to stop smoking when receiving a financial reward than those who were not. The value of the rewards ranged from £35 to £912 in the form of cash payments, gift vouchers or deposits paid by participants that were later refunded.

BMJ Open

Supported self-management for people with type 2 diabetes: a meta-review of quantitative systematic reviews

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► Prepublication history and additional material for this paper are available online. To view these files, please visit the journal online (http://dx.doi.org/10.1136/bmjopen-2018-024262.

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ABSTRACT

Objectives Self-management support aims to give people with chronic disease confidence to actively manage their disease, in partnership with their healthcare provider. A meta-review can inform policy-makers and healthcare managers about the effectiveness of self-management support strategies for people with type 2 diabetes, and which interventions work best and for whom.

Design A meta-review of systematic reviews of randomised controlled trials (RCTs) was performed adapting Cochrane methodology.

Setting and participants Eight databases were searched for systematic reviews of RCTs from January 1993 to October 2016, with a pre-publication update in April 2017. Forward citation was performed on included reviews in Institute for Scientific Information (ISI) Proceedings. We extracted data and assessed quality with the Revised-Assessment of Multiple Systematic Reviews (R-AMSTAR).

Strengths and limitations of this study

- Meta-reviews provide a high-level overview of evidence ideal for informing policy and health service development, but fine-grained detail is lost as randomised controlled trials (RCTs) are synthesised into systematic reviews and then meta-reviews.
- A comprehensive search strategy in line with a predefined protocol was used to gather a large evidence base examining the impact of diverse self-management support interventions on different type 2 diabetes populations from 1993 to 2017.
- Individual RCTs may be included in multiple systematic reviews; this precludes meta-analysis and means that that some RCTs may be over-represented in our synthesis; we have identified and report this overlap.
- The research team encompassed public health, statistics, epidemiology, primary care and health

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adapting Cochrane methodology.

Setting and participants Eight databases were searched for systematic reviews of RCTs from January 1993 to October 2016, with a pre-publication update in April 2017. Forward citation was performed on included reviews in Institute for Scientific Information (ISI) Proceedings. We extracted data and assessed quality with the Revised-Assessment of Multiple Systematic Reviews (R-AMSTAR).

Primary and secondary outcome measures Glycaemic control as measured by glycated haemoglobin (HbA1c) was the primary outcome. Body mass Index, lipid profiles, blood pressure and quality of life scoring were secondary outcomes. Meta-analyses reporting HbA1c were summarised in meta-forest plots; other outcomes were synthesised narratively.

Results 41 systematic reviews incorporating data from 459 unique RCTs in diverse socio-economic and ethnic communities across 33 countries were included. R-AMSTAR quality score ranged from 20 to 42 (maximum 44). Apart from one outlier, the majority of reviews found an HbA1c improvement between 0.2% and 0.6% (2.2–6.5 mmol/mol) at 6 months post-intervention, but attenuated at 12 and 24 months. Impact on secondary outcomes was inconsistent and generally non-significant. Diverse self-management support strategies were employed; no single approach appeared optimally effective (or ineffective). Effective programmes tended to be multi[illegible]mponent and provide adequate [illegible]t time (>10 hours). Technology-facilitated self-management support showed a similar impact as traditional approaches (HbA1c MD −0.21% to −0.6%).

Conclusions [illegible] using a range of approaches improve short-term glycaemic control in people with type 2 diabetes including culturally diverse populations. These findings can inform researchers, policy-makers and healthcare professionals re-evaluating the provision of self-management support in routine care.

base examining the impact of diverse self-management support interventions on different type 2 diabetes populations from 1993 to 2017.

- Individual RCTs may be included in multiple systematic reviews; this precludes meta-analysis and means that that some RCTs may be over-represented in our synthesis; we have identified and report this overlap.
- The research team encompassed public health, statistics, epidemiology, primary care and health psychology expertise, enabling a multi-disciplinary approach to interpretation.

Further research should consider implementation and sustainability.

INTRODUCTION

The burden of type 2 diabetes is a prominent global health challenge currently estimated to affect 415 million adults worldwide[1] with greatest prevalence among socio-economically deprived populations and those of African, Afro-Caribbean, South Asian and Middle Eastern ethnicity.[2] An increasingly obese, sedentary, ageing population is expected to drive this number up to an estimated 642 million (one adult in 10) by 2040.[2] Healthcare service providers, commissioners and policy-makers must meet the increasingly complex needs and expectations of diverse patient populations with type 2 diabetes despite limited resources.

Supported self-management aims to give people with chronic disease confidence in taking an active role in all aspects of their


Move
10:09
312
OF 600 CALS
Exercise
10:09
14
OF 30 MINS
Stand
10:09
3
OF 12 HRS
Workout
10:09
Running
Last: 8.0 Miles
September 6, 2014
Walking
Cycling
Activity
10:09
MOVE
EXERCISE
STAND


Track daily calories, exercise and more.
MyPlate
Today
817 Calories left
630
Consumed
0
Burned
630
Net
230
Breakfast
400
Lunch
Dinner
Snack
Exercise
170
Weight
16
Water
Food Diary
Fats: 34 g / 57%
Carbs: 50 g / 37%


Join our active community for support and motivation.
Support & Motivation
MONDAY GOALS
Transformation in progress
Need Some Motivation
Crazy Sexy, You


Search our massive food database.
Breakfast
Done
Recent
My Food
My Meals
Tracked for Today
Bread, wheat, toasted
Grapes, Seedless (Red And Green)
Butter, whipped, with salt
Recently Tracked
Coffee, Black
whole egg

Should insurers help?

- Nutrition or other self-care models predict big reductions in total death claims.
- For life insurers paying billions in death claims annually, such reductions would mean substantial gains.
- More importantly, it would reduce the premature loss of life from conditions that are preventable and reversible.
- Developing such responsive products in the life and health insurance sector will require a fundamental shift in how you underwrite and how you DYNAMICALLY engage with policyholders

THANK YOU

Do persons with diabetes know their (A1C) number?

75% survey respondents reported having A1C tests in the past year,

24% of those who reported having a test remembered the actual value

Self-reported values correlated weakly with the last A1C on the medical record.

Among those with a documented A1C value, half described their blood glucose as very well controlled.

The last A1C value, however, was < 7.0% in only half of those respondents.

Diabetes Educ. 2002 Jan-Feb;28(1):99-105

LUCID

Lunch and Exhibition

Buffet lunch, tea and coffee are now in the exhibition area