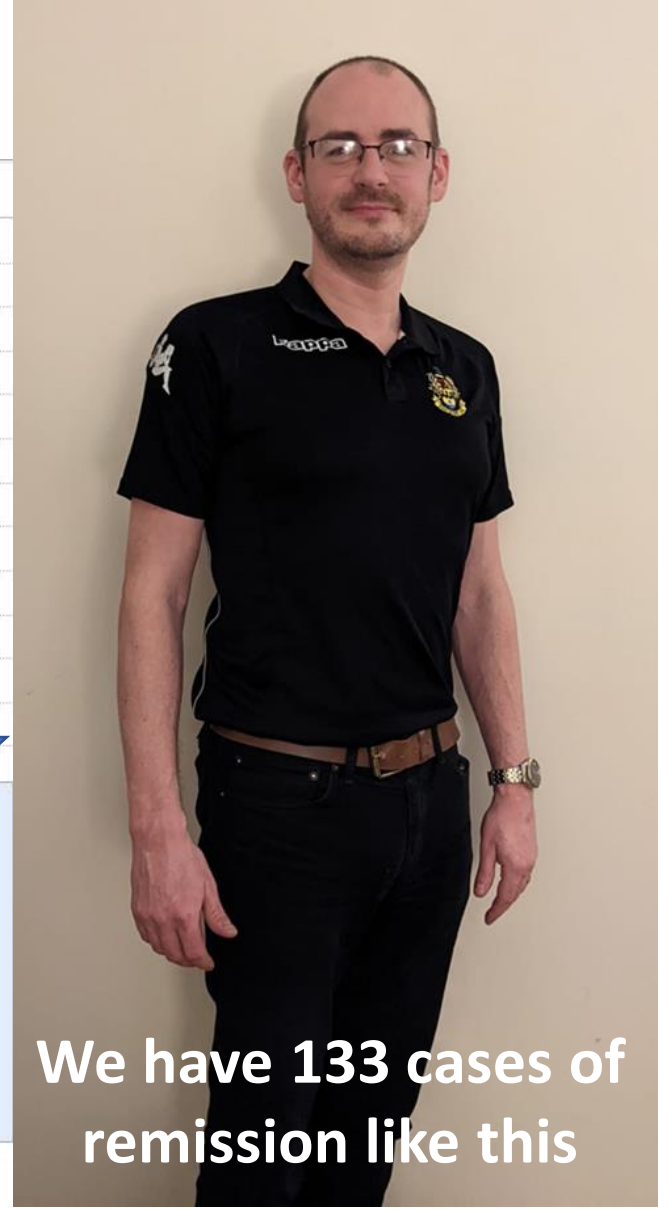
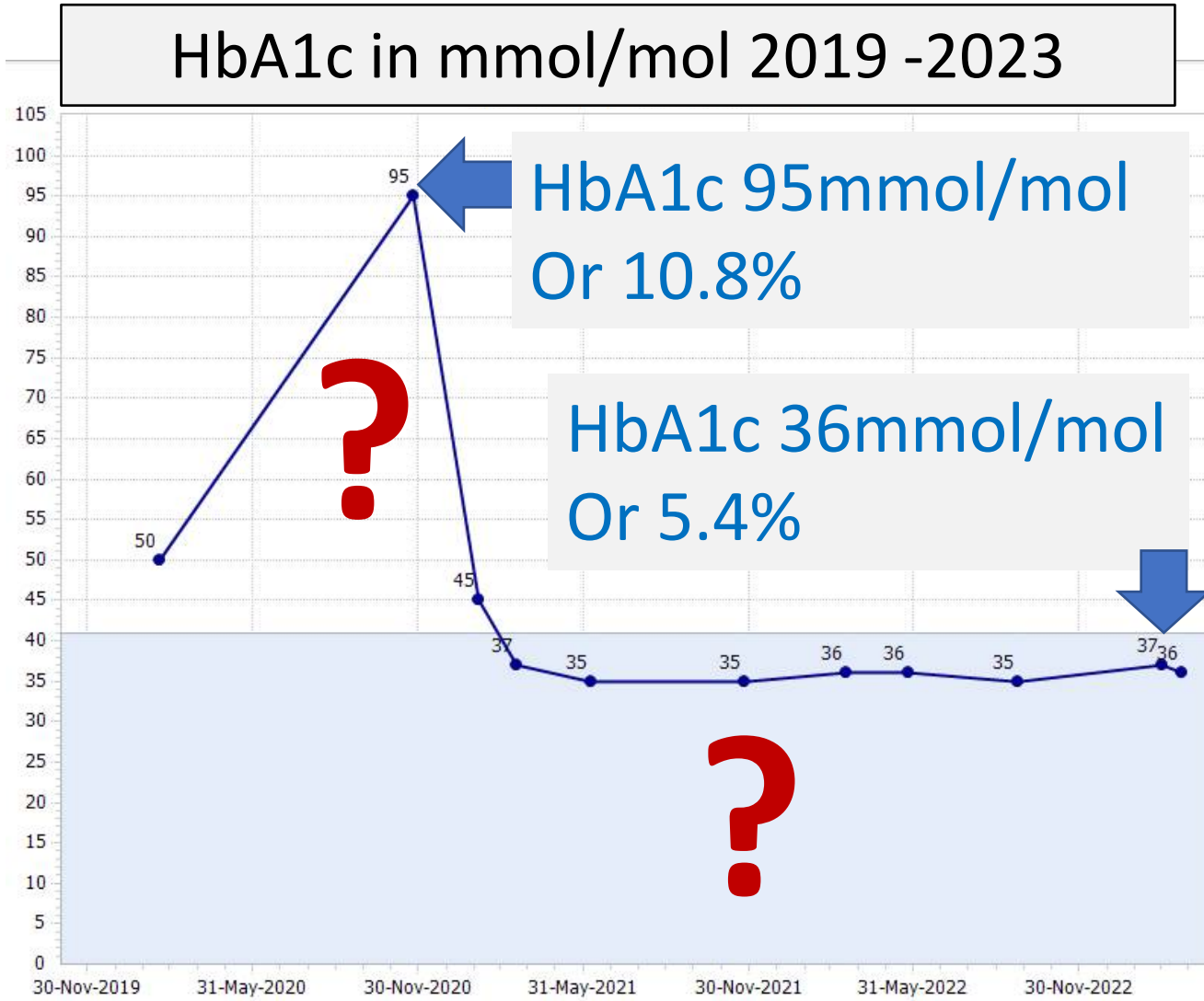


10 years of UK NHS 'real world' experience

**Dr David Unwin FRCGP, RCGP clinical expert in diabetes
COI. Level 2 (United Healthcare)**





Drug-free type 2 diabetes remission lasting 2+ years

*Heald AH, Stedman M, Davies M, Livingston M, Alshames R, Lunt M, et al. Estimating life years lost to diabetes: outcomes from analysis of National Diabetes Audit and Office of National Statistics data. Cardiovascular Endocrinology & Metabolism. 2020;9(4):183-5.

Type 2 Diabetes remission rates Norwood Surgery March 2017- May 2023; low carb approach

Data collected To:	Mean duration of low carb approach	Number of T2D cases in remission HbA1c <48*	Number choosing the approach	Remission rate for people who choose the low carb approach	Number of T2D patients on the diabetic register	Remission rate for Norwood practice
March 2017	13 months	15	48	31%	416	4%
May 2018	20 months	41	106	39%	454	9%
January 2019	22 months	59	123	48%	469	13%
March 2020	30 months	68	143	48%	485	14%
May 2022	28 months	117	224	52%	536	22%
May 2023	30 months	130	258 (45%)	50%	569	23%

*Type 2 diabetes remission defined as: previous diagnosis of type 2 diabetes (T2D) by WHO criteria and HbA1c <6.5% (<48mmol/mol) without antidiabetes medication.

Those achieving T2D remission are on 77grams of carb a day (SD35gr)

Insights from a general practice service evaluation supporting a lower carbohydrate diet in patients with type 2 diabetes mellitus and prediabetes: Unwin, D., et al., BMJ Nutrition, Prevention & Health, 2020

What predicts drug-free type 2 diabetes remission? Insights from an 8-year general practice service evaluation of a lower carbohydrate diet. Unwin D. Taylor R. et al. BMJ Nutrition, Prevention & Health, 2023

A high blood sugar?

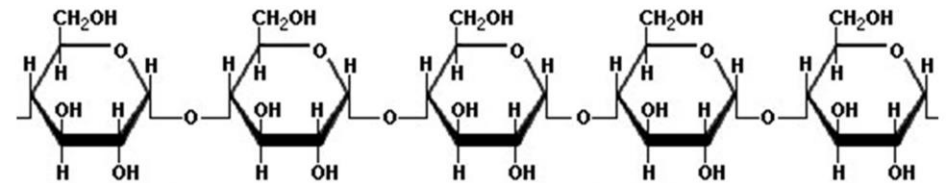
1. See this as a 'puzzle to be solved' rather than a 'problem'



2. So often it's something you ate

3. Try asking 'where is the sugar in my diet coming from?'

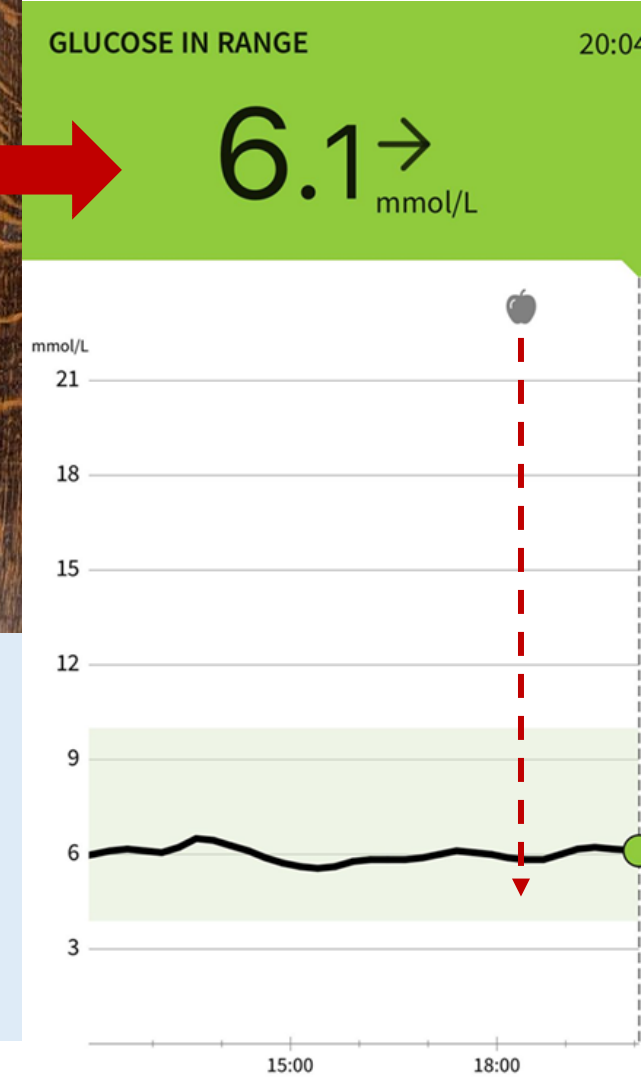
A Starch Molecule



Many glucose molecules are linked together – enzymal digestion will break them up again



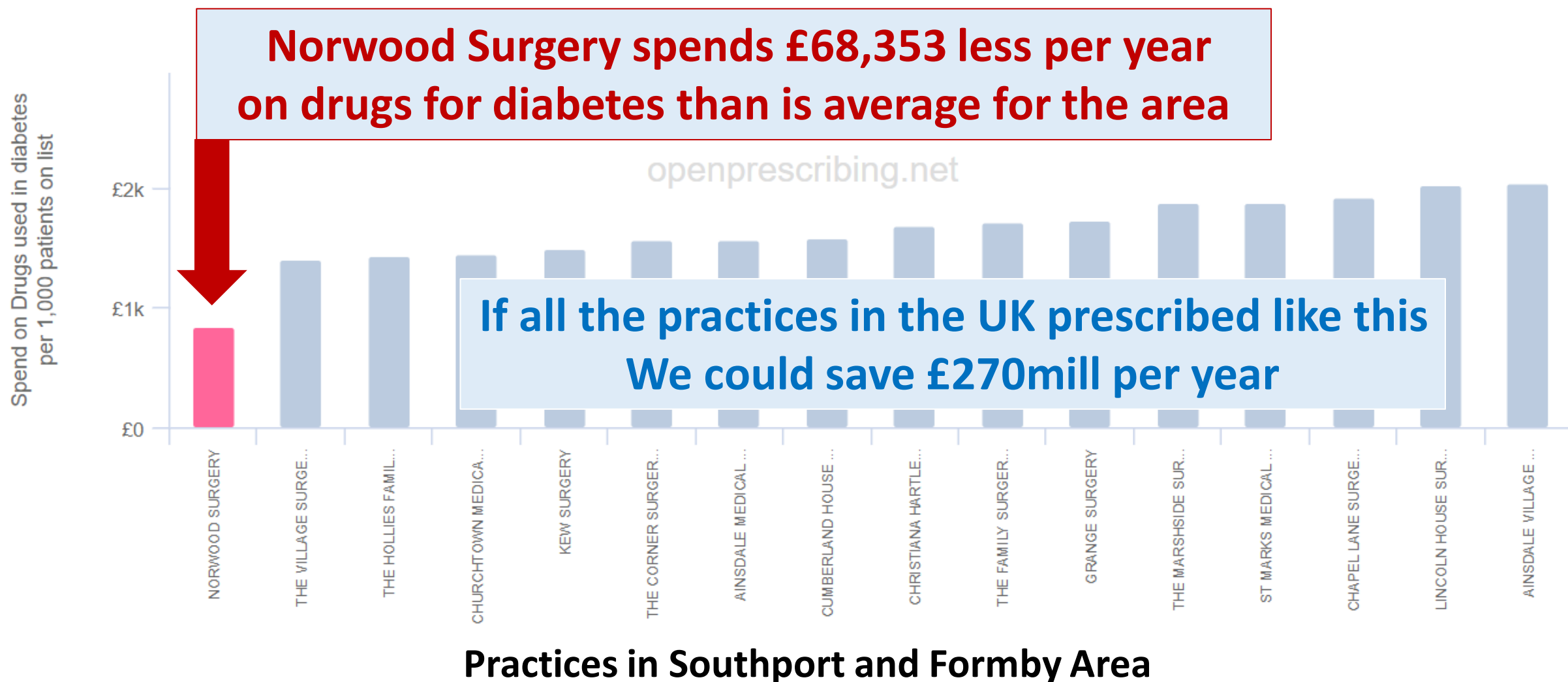
Chicken butter
curry
with roasted
sprouts



T2 Diabetes? Just eat nutrient dense foods that don't put your blood sugar up?



Spend on antidiabetic drugs (BNF 6.1) vs patients on list by NORWOOD SURGERY and other practices in Southport area. January 2022



Cohort of 186 T2D low carb participants.

Mean (SD) duration of diet: 33 (27) months: cardiovascular risk

Unwin D., Taylor R. et al., *What predicts drug-free type 2 diabetes remission? Insights from an 8-year general practice service evaluation of a lower carbohydrate diet with weight loss.* BMJ Nutrition, Prevention & Health, Jan 2023: p. e000544.



Picked up by **17** news outlets
 Blogged by **3**
 Tweeted by **4901**
 On **10** Facebook pages
 Reddited by **5**
 On **2** videos
42 readers on Mendeley

	Baseline measure median (IQR)	Latest follow up median (IQR)	Difference Mean (SD)	% change	p value	Matched pairs n (%)
Age (years)	63 (54, 73)	-	-	-	-	-
Weight (kg)	97 (84,109)	86 (76, 99)	-10 (8.9)	10.3	<0.001	181 (97%)
HbA1c (mmol/mol)	63 (54, 80)	46 (42, 53)	-21 (19)	33.3	<0.001	183 (98%)*
Serum cholesterol (mmol/L)	4.9 (4.1, 5.7)	4.3 (3.6, 5.0)	-0.5 (0.9)	10	<0.001	107 (58%)
HDL cholesterol (mmol/L)	1.1 (1.0, 1.3)	1.2 (1.0, 1.5)	+0.1 (0.3)	9	0.002	114 (61%)
Total chol/HDL ratio	4.0 (3.0, 5.0)	3.9 (3.0, 4.4)	0.5 (0.9)	12.5	<0.001	102 (58)
Calculated LDL cholesterol (mmol/L)	3.6 (2.9, 4.5)	3.1 (2.5, 3.6)	-0.5 (0.9)	13.9	<0.001	100 (54%)
Triglyceride (mmol/L)	2.1 (1.4, 3.2)	1.4 (1.0, 1.9)	-0.9 (1.2)	42	<0.001	108 (58%)
Systolic BP (mmHg)	140 (134, 150)	132 (122, 138)	-12 (16)	8.6	<0.001	128 (69%)
Diastolic BP (mmHg)	80 (78, 90)	78 (70, 80)	-5.8 (9.7)	7.2	<0.001	128 (69%)



Dave aged 60 diagnosed with type 2 diabetes.

HbA1c was 108mmol/mol (12%)

Weight was 118.8kgs,

Waist was 50 inches.

Freshwell
LOW CARB PROJECT **60,000**



level2 | United Healthcare
\$\$\$ / month

Just 16 weeks later.
HbA1C now 40mmol/mol (5.8)

LOW CARB PROGRAM **460,000**

