Newham Protected Learning Time

15th June 2023, 14:30 – 17:30



Agenda Items		Lead	Times
1	Women's Health Including Menopause	Sangeeta Agnihotri - Consultant in Maternal Medicine, Obstetrics & Gynaecology	14:30 - 15:00
2	Introduction	Tamara Hibbert – Newham GP Diabetes Clinical Lead	15:00 - 15:05
3	Why is diet important in diabetes management?	Gabby Ramlan – Clinical Lead Dietitian (Adults) – Newham Hospital	15:05 – 15:35
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DIABETES AND WEIGHT MANAGEMENT

NEWHAM PLT JUNE 2023

WELCOME AND INTRODUCTIONS

- Tamara Hibbert
- Gabby Ramlan
- Clinical lead dietitian (adults) Newham Hospital

GP, Newham diabetes clinical lead

Oviva clinical lead T2DR

- ► Keren Miller
- Adeola Agebiyi Deputy Director of Public Health (interim) LBN

CASE FOR ACTION

Type 2 Diabetes Affects 8-10 % of Newham's Adult GP registered population have Type 2 Diabetes- 4th Highest in all London boroughs comparable to lowest Richmond at 3.7% ^[1]

3 in 4 T2DM patients in Newham are at least overweight [2]

Diabetes Cause's **500 premature preventable Deaths** a week complications like Stroke, Heart Attack, Heart Failure in England and wales (T1DM & T2DM)^[3]

Newham: 523 Hospital admissions between Jan 2019 – Oct 2021 due to D2M (87% emergencies)^[4] **Doubles** the risk of COVID death in those with D2M

D2M is a casual factor in **heart attacks**, high blood pressure, stroke, **blindness**, impotence, infections and sepsis, kidney disease and nerve damage leading to **amputation** (Figure 1)

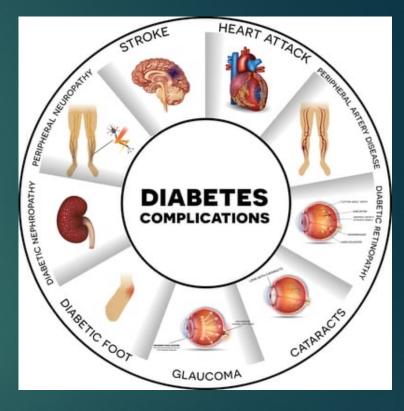
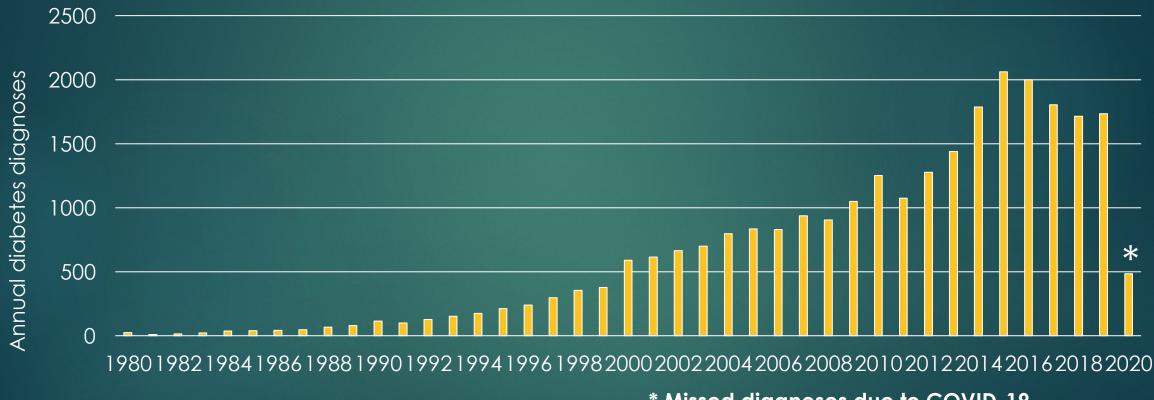


Figure 1. Complications from type 2 Diabetes Andrew Briskin. et al. (2022) Weight loss can help you prevent diabetes complications

CASE FOR ACTION

Type 2 Diabetes Affects 8-10 % of the Newham Adult GP registered population have Type 2 Diabetes



* Missed diagnoses due to COVID-19

CASE FOR ACTION

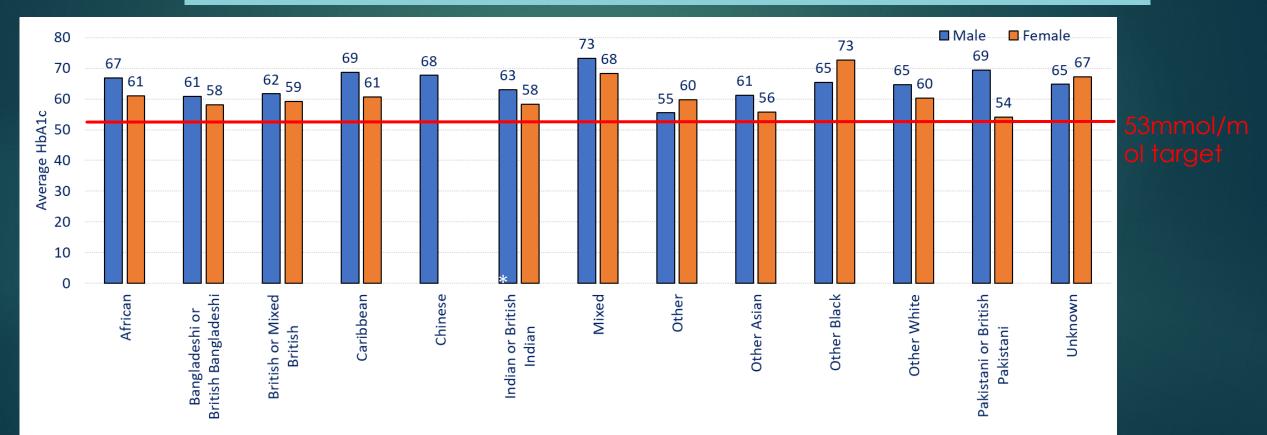


Type 2 Diabetes in Newham by BMI

Data source: Clinical Effectiveness Group (CEG) – data snapshot April 2020

Average HbA1c at diagnosis by ethnic group and gender

Average HbA1c at diagnosis* of T2D by ethnic group, by gender



*Diagnosis refers to value taken between 3 months before to 14 days after T2D diagnosis Data source: Clinical Effectiveness Group (CEG) – data snapshot April 2020 *No data due to low numbers

GAMECHANGING REMISSION PATHWAY

The NHS Type 2 diabetes pathway to remission programme (formally LCD, now T2dR)

Focus on newly diagnosed and those diagnosed within the last SIX years

Shared decision making with patients

An alternative offer to the typical pharmacological management of diabetes

CHOICE for patient at diagnosis

Diabetes into REMISSION- 'T2dR' FREE – Shakes and supported changes to diet and activity

DESMOND - Structured education FREE group training to promote self-care and self-management

Typical pharmacological management

STRUCTURED EDUCATION OFFER TYPE 2 DIABETES

DESMOND (ELFT)

- 1 full day
- Delivered weekly
- Delivered f2f & virtually
- DESMOND App
- PC refer via ELFT diabetes referral form

COMMUNITY LANGUAGES ELFT

- > 2 hour session
- Delivered f2f
- Referral via ELFT diabetes referral form

1:1 (ELFT)

- 1 hour
- Delivered as required
- Delivered f2f
- PC refer via ELFT diabetes referral form

Healthy Living (NHSE national commission)

- Offered on line
- Self referral

STRUCTURED EDUCATION TYPE 2 DIABETES DATA – REFERRALS / UPDATE LAST 3 MONTHS

Referral & update information for longer time period requested from BI team

October

- Bengali 3 attended, 9 DNA
- Map 1 & 2 DESMOND 117 referrals – 8 attended, DNA ?
- N/B not all referrals received in November will be expected to attend in Nov i.e re rec 30th – will count for November referrals but would feature in Dec uptake

November

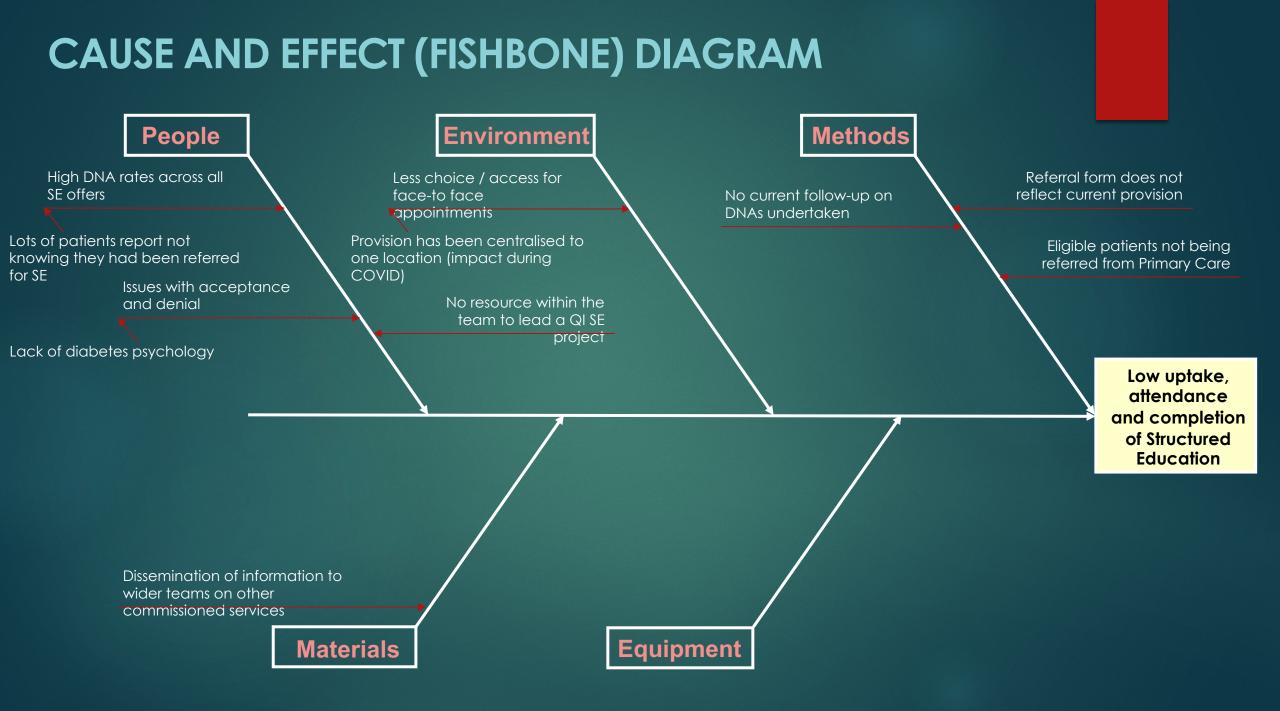
- Bengali 25 referrals, 6 attended, 19 DNA
- DESMOND 84 referrals, 34 attended
- Conversation map 4 21 referred, 8 attended
- N/B not all referrals received in November will be expected to attend in Nov i.e. re rec 30th – will count for November referrals but would feature in Dec uptake

December – to date

- Bengali 14
- Desmond 10
- 1:1 5
- Urdu 2

Data request sent to ELFT BI Team:

- Referrals, attendances, DNAs, completions.
- By service type, age, sex, ethnicity.
- Capacity of service.



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Diabetes, Diet & Dietitians in Newham

Gabby Ramlan

Advanced Diabetes Specialist Dietitian

Newham University Hospital, Barts Health NHS Trust

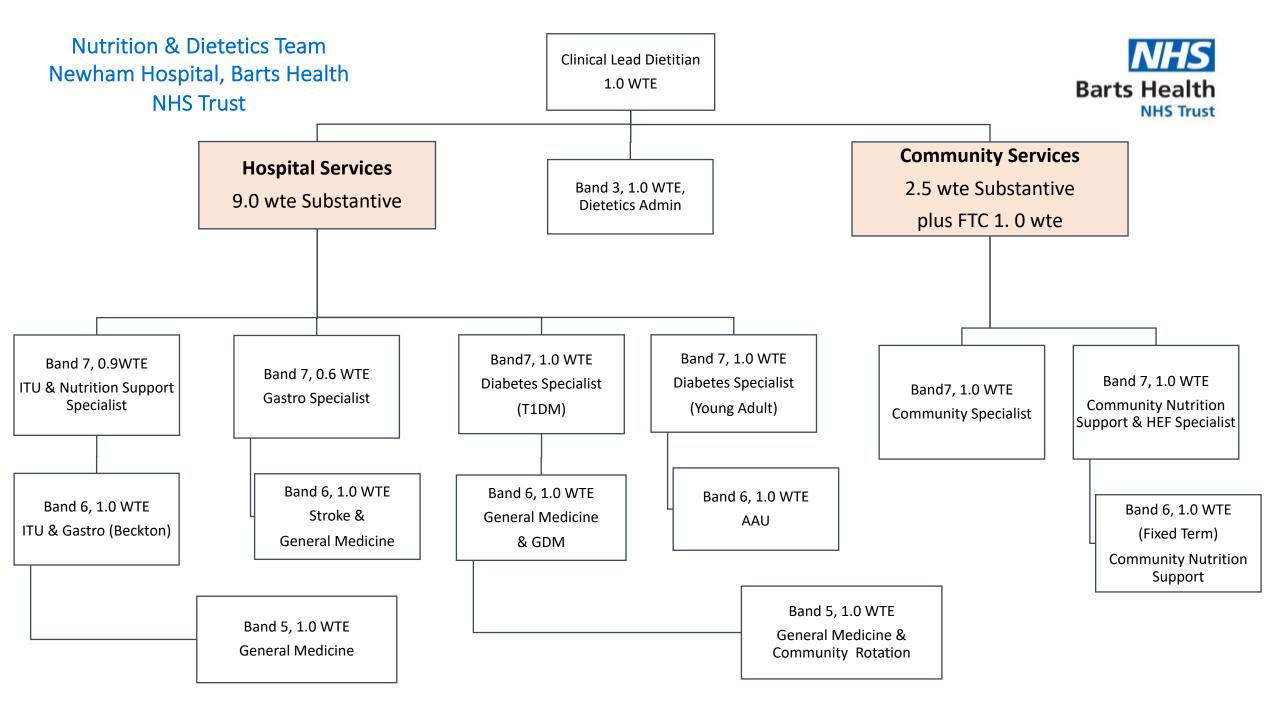


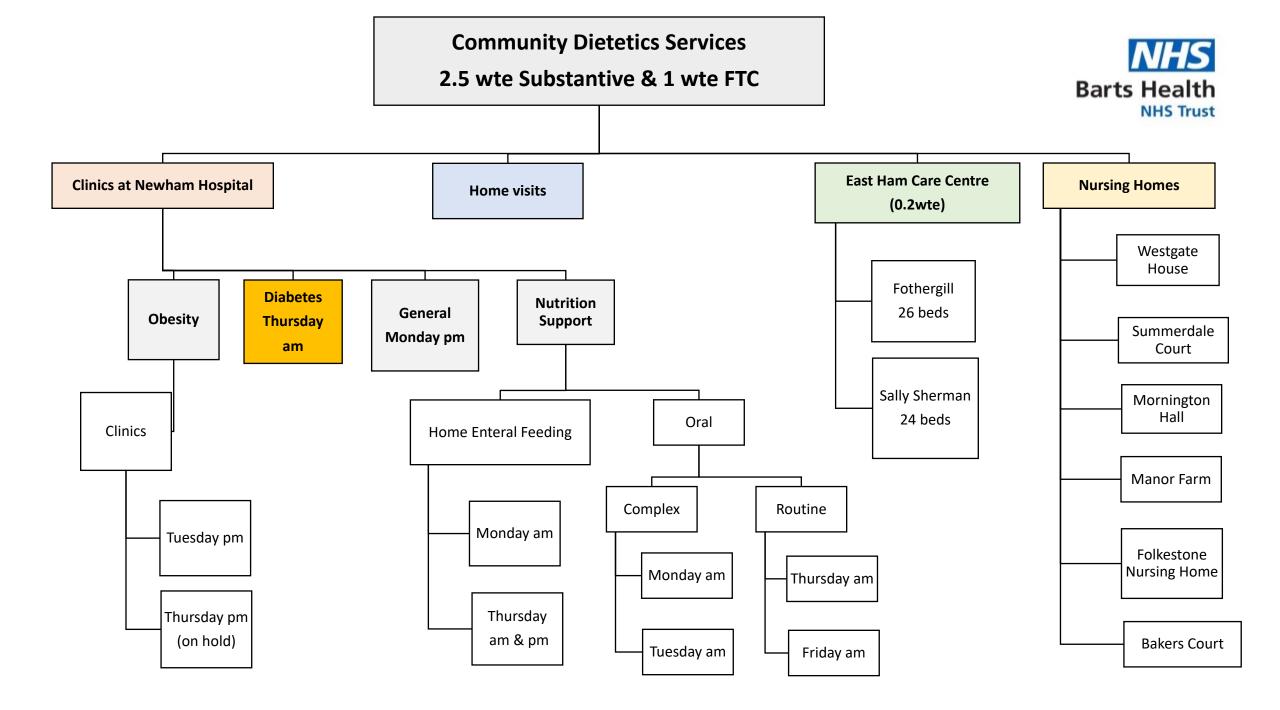
Today we will be discussing ...

- Dietetics Services in Newham Hospital vs Newham Borough
- Diabetes & Diet

Nutrition & Dietetics Team

Newham Hospital Barts Health NHS Trust





Diabetes & Carbohydrates

What did you eat & drink yesterday?



- Breakfast
- Lunch
- Dinner
- Supper
- Snacks
- Alcohol

Now, identify your carbohydrate sources.

What is Carbohydrate?

• Flour based

• Bread, pasta, noodles, cereals, pastry, chappati, pitta bread, pide, pies, dumplings, biscuits, cakes

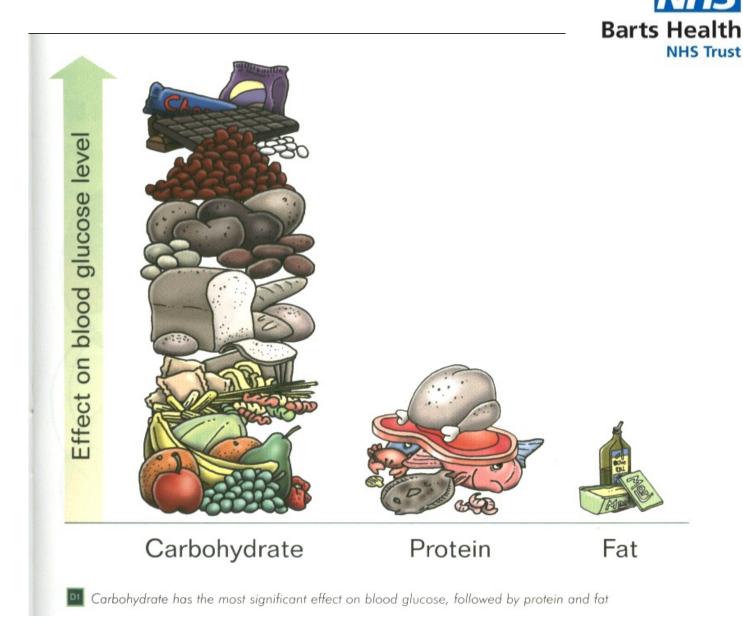
Barts Healt

NHS Trus

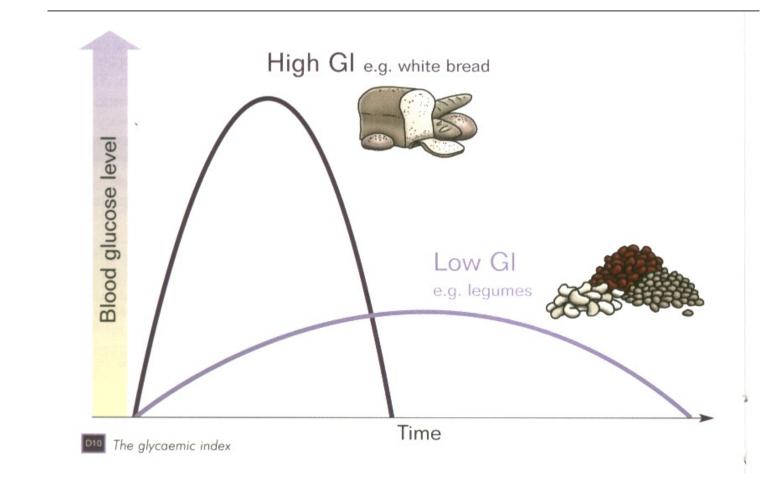
• Starchy foods

- Rice, bulgur, couscous, potatoes, yam, cassava, plantain, sweet potatoes, parsnip, pumpkin
- Fruits all
- Milk based all except cheese
 - Milk, yoghurt, custard, ice cream, rice pudding

The effect of macronutrients on BGLs







Glycaemic Index

Glycaemic Index



LOW (0-55)

Rich Tea Bisc Chapatti All bran Porridge Pasta Basmati Rice Sweet corn, beans& lentils Apple Mango Orange Grapes MOD (56-69) Digestive bisc Ryvita Shredded wheat Instant oats Boiled/new potatoes Couscous Beetroot/millet

> Banana just ripe Melon Raisins

<u>HI (70-100)</u>

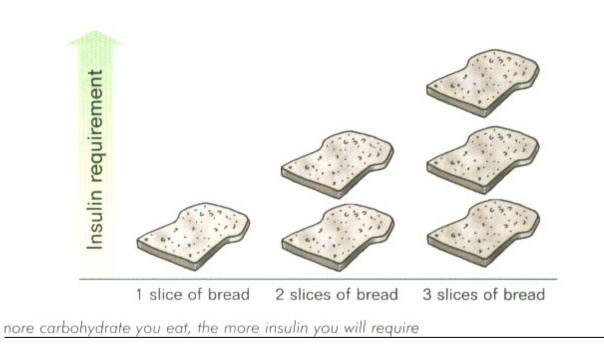
Water biscuit Rice cake Cornflakes Puffed Rice Jacket/mashed potatoes Brown/white rice Parsnip/ Pumpkin

Watermelon Lychees Over-ripe banana

Glycaemic Load

GL = GI / 100 x amount Carbohydrates (g)

Glycaemic Load (GL) measures the glycaemic response and the insulin demand of specific food





Type 2 Diabetes & Diet

Healthy eating & balance diet



Source: Public Health England in association with the Welsh Government, Food Standards Scotland and the Food Standards Agency in Northern Ireland

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Healthy eating advice

- Low fat
- Low sugar
- Low salt
- High fibre



Carbohydrate & obesity



- NHANES 2004 reports from 1974 to 2000, fat intake decreases, carb intake increases by 7%, calorie intake increases
 - \rightarrow Increased in T2DM & obesity



Carbohydrate Restriction in T2DM as first approach (Feinman et al, 2015)

Benefits of dietary carbohydrate restriction do not require weight loss

Carbohydrate restriction is better diet for weight loss

Better adherence

Improve lipid profile especially triglyceride level & increase HDL

Reduce and eliminate medication

No side effects compared to taking more medications

What is Low Carb Diet? (American Diabetes Association)

¹Very low carbohydrate ketogenic diet (VLCKD)

- Accurso et al. 2008
 - CHO 20-50g/d or <10% of 2000kcal/d
 - Induced ketosis

²Very Low Carbohydrate Diet, Evert et al. 2019

- - CHO between 10% to 26% of calories/day
- - not ketogenic

²Low carbohydrate diet:

• CHO <225g/d in 2000kcal or 26% - 45% total energy

¹*High carbohydrate diet:* >45%

ADA, American Diabetes Association ¹Accurso et al. 2008, ²Evert et al 2019

Ketosis Prone Diabetes

(Lebovitz & Banerji, 2018)

- More common in African-Caribbean, sub Saharan Africans, Asian and Indian populations, Hispanics populations
- Mainly male
- Middle age
- Overweight to obese
- Family Hx of T2DM
- GAD & Islet cell antibody negative



What is best to replace Carbohydrates?

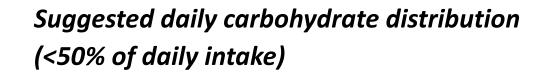
Fat?

• VLCKD – generally replaced carbohydrate with fat

Protein?

- HPLCD shown more favourable effect on weight loss, body composition, resting metabolic rate & cardiovascular risk (Santos et al., 2012)
- A meta regression of 87 RCTs with 165 interventions showed greater weight loss, fat mass loss, fat-free mass loss (Kreiger et al., 2006)

How does low carb diet look like?



For 850kcal daily

106g Carbs per day - <30g Carbs per meal x 3, <5g Carbs per snack per day <u>For 1200kcal daily</u> <40g Carbs per meal, <15g carbs per snack x 2 per day

For 1500kcal daily 50g CHO per meal, <15g carbs per snack x 2 per day

<u>For 1800kcal daily</u>
60g CHO per meal, <15g carbs per snack x 2 per day</p>

For 2000kcal daily

70g CHO per meal, <15g carbs per snack x 2 per day



How does 50g Carbs look?



1 small fist size potato

5 egg size potatoes

Approximately 150g cooked rice, pasta, bulgur, noodles

Approximately 2/3 takeaway container of cooked rice, pasta, noodles

2.5 to 3 slices medium thick bread

1 bagel

DiRECT (Diabetes Remission Clinical Trial)

- Subjects recruited from GPs in Scotland and Tyneside
- n = 157 intervention vs 149 control (age 20-65yo)
 - 98% white, 0.7% Black African, 0.6% South Asian & 0.3% others
- Intervention:
 - 8 hours TDR training given by research dietitian to nurses or local dietitians (up to 15)
 - Dietary replacement (825 to 853kcal per day from formula diet) for 12 to 20 weeks.
 - Stepped food introduction (6 to 8 weeks)
 - Structured support for weight maintenance
- At 12 months, <u>46% achieved remission</u> and 25% achieved >15kg weight loss
- At 24 months, <u>36% remission of diabetes</u>, 17% loss of 15kg (p=0.0023)

Other similar studies...

Authors	Ethnic Group	% Remission in <12mo	% Remission in >24mo
Gregg et al. 2012	Hispanic & African American	11.5% in 12mo	4.3% in 4 years
Sarathi et al 2017	South Asian	75% in 3mo	69% in 2 years
Amphosathien et al. 2019	Thai/ Siamese	30% in 12mo	-
Taheri et al. 2020	Middle Eastern	61% in 12mo	-

Diabetes in older patients (International Diabetes Federation 2013)



- Aim: Safety, avoid malnutrition and hypoglycaemia
- Blood glucose targets tailored to individual
- Depends on:
 - Comorbidities, cognitive & functional status
 - Independency vs Dependency (Frail vs end-of-life)
- Feeding route

Type 1 Diabetes & Diet

Carbohydrate Counting Principle: What does it mean?

Carbohydrates, Carbs, CHO?

Basic principle

Snacking principle

Ketone management or sick day guidance

Basal testing



REMEMBER!

CHO & Insulin Dose Adjustment

Change	Only change one thing at a time
Eliminate	Eliminate nocturnal hypoglycaemia
Aim	Always aim for FBG to be within the target first
Work	Always work with target BGs

Role of Diabetes Dietitian



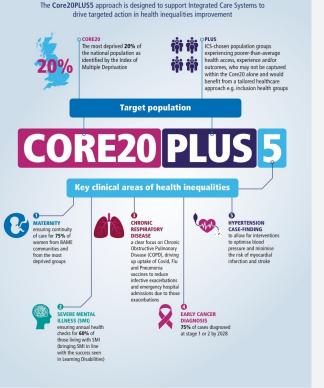
- Expert in diabetes related dietetics advice
 - Carb Counting Principle or DAFNE (Dose Adjustment For Normal Eating)/BERTIE
 - Diet & Insulin pump
 - Preconception, pregnancy, young adults
 - Co-morbities: LTC, Coeliac Disease, Cystic Fibrosis, eating disorder

Reduction of HbA1c up to 22mmol/mol (Franz et al. 2008)

- <u>Personalised dietetic assessment</u> to complement medical diagnosis and culturally relevant
 - Diet vs medications e.g. insulin, medication with side effect on nutrients absorption
- Training students, health professionals

REDUCING HEALTHCARE INEQUALITIES

NHS





Impact of dietetic led interventions in T2D

- HbA1c reduction up to 21mmol/mol or 2% (Liu et al, 2015)
- 23.5% reduction visits to physicians
- Cost effective! (Wolf et al, 2007)
- Dietitians are best placed to support (BDA 2020):
 - Obesity prevention
 - CVD
 - Diabetes
 - Respiratory disease prevention
 - Long term condition management https://committees.parliament.uk/writtenevidence/11137/pdf/



THANK YOU

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D2M Maximising and Optimising

Supporting Diabetes Remission, Prevention and Improvement in Newham Building on the opportunity of T2DR June 15th 2023



DRIVERS & CAUSES

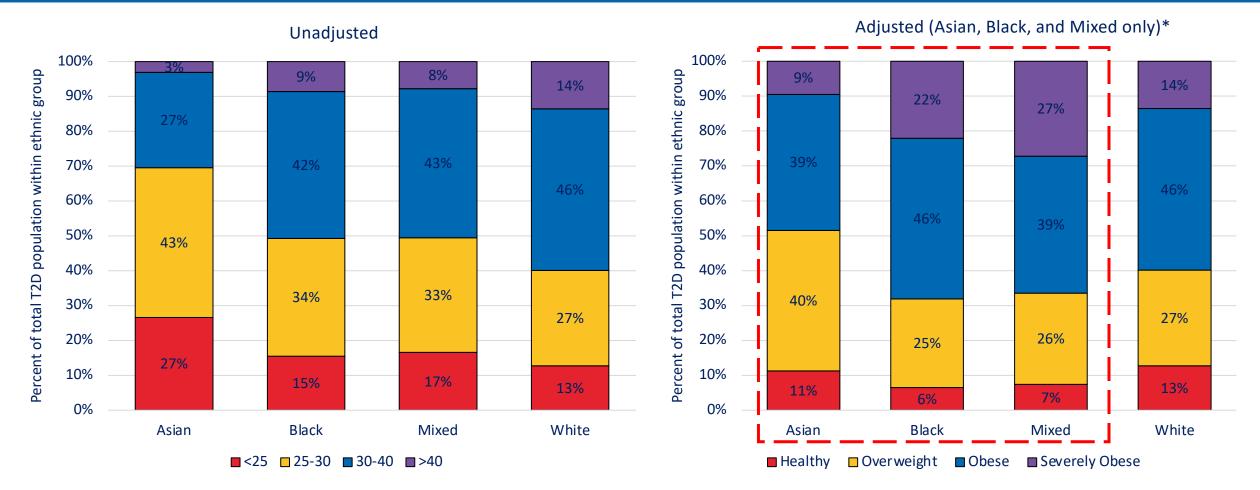
Causes of causes and approaches to mitigations



WE ARE NEWHAM.

BMI of Newham's type 2 diabetic population by ethnic group (unadjusted and adjusted)





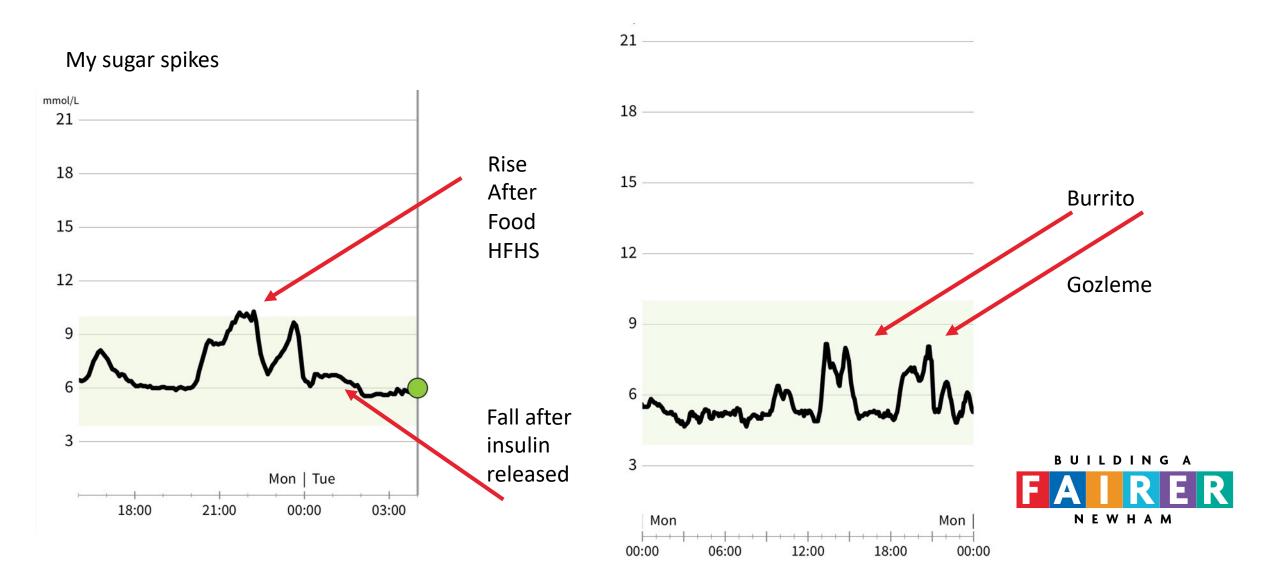
WE ARE NEWHAM. Data source: Clinical Effectiveness Group (CEG) –

data snapshot April 2020

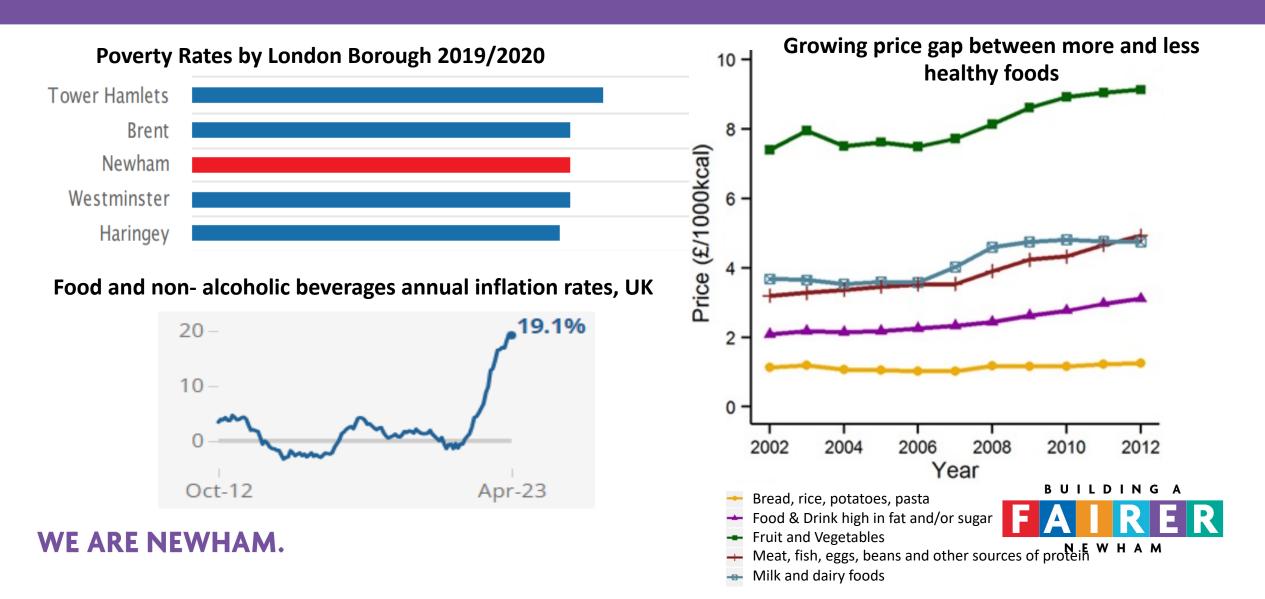
*BMIs are adjusted to account for certain ethnic groups which provides a more valid BMI category. After adjusting BMI thresholds, the % of Asian, Black and Mixed groups who are obese or severely obese increases.

People at the Heart of Everything We Do





Driver/Cause- Cost of healthy food



Newham London

Driver/Cause – prevalence and cost of UPF Newham London

Ultra-processed foods Typically 5+ ingredients containing many additives, preservatives, emulsifiers, sweeteners, artificial flavours and colours are readily **available**, cheap and obesogenic



WE ARE NEWHAM.

Ice cream Ham Sausages Crisps Mass-produced bread **Breakfast cereals Biscuits Carbonated drinks Fruit-flavoured yogurts** Instant soups Some alcoholic drinks including whisky & gin **BUILDING A**



SUGGESTED DIETARY CHANGES





WE ARE NEWHAM.





> Type 2 Diabetes damage to the body is more likely to happen because of a mix of factors:-

- Commercial determinants Healthy food costs at least 2x more than ultra processed unhealthy food and staple processed common carbohydrates (bread pasta rice potatoes) Unhealthy food actively promotes weight gain.
- Social determinants Stress increases appetite, mood is stabilised by carbohydrate, stress is not equally distributed. Racism acts as an ongoing trauma and stressor. Domestic violence and misogyny act as stressors.
- Wider determinants Poor air quality PM2.5 increase risk of D2M by 15% and reduces likelihood of outdoor physical activity. Stressful physical environments in cities
- Individual issues -
 - Family history and genetic risk Family history is very important
 - Social and economic determinants Time & Money -> food type and quality Access to and ability to pay for fresh healthy food, cooking skill and tools
 - Psycho social sugar UPFF 'addiction' carbs -> mood stabilising Ability to manage stress
 - Access to support personal, programmes, services, support groups After service contact

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BUILDING A



SOME FACTS ABOUT D2M, NEWHAM and HEALTH

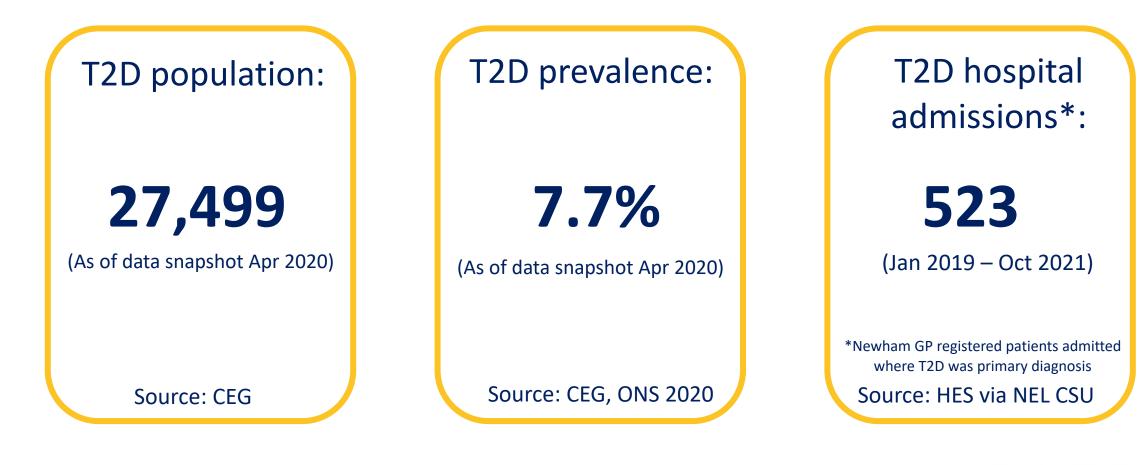




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B Type 2 diabetes (T2D) in Newham



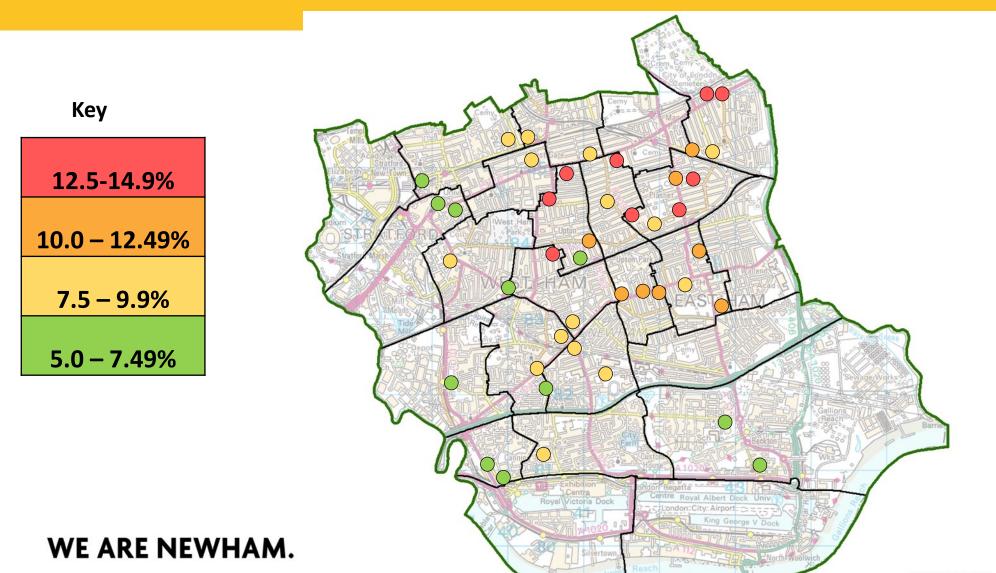


People at the Heart of Everything We Do

WE ARE NEWHAM.

Diabetes prevalence by GP practice mapped (Type 1 and Type 2 diabetes mellitus) as at Nov 2021





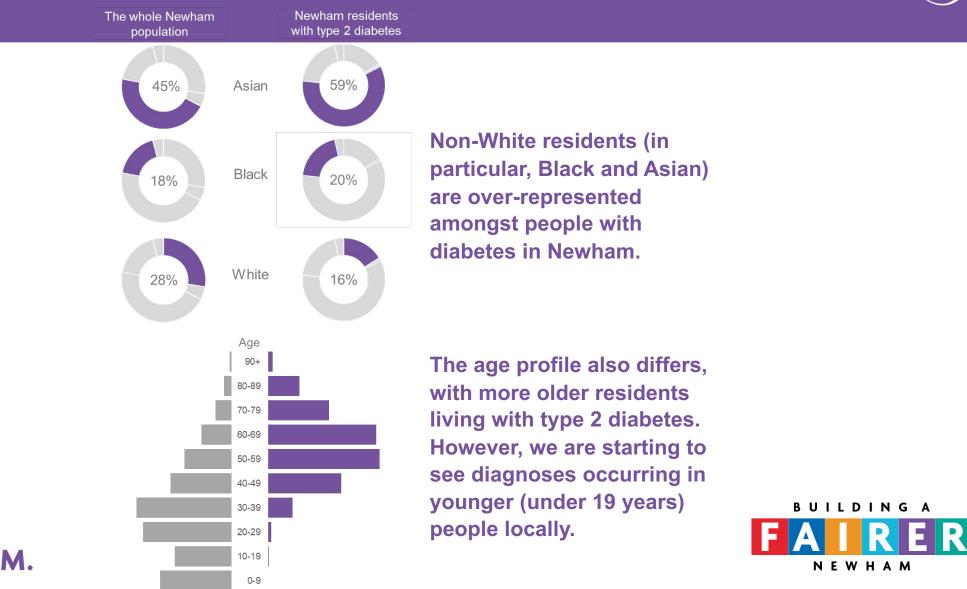
Data source: OHID Fingertips

People at the Heart of Everything We Do

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AGE & ETHNICITY





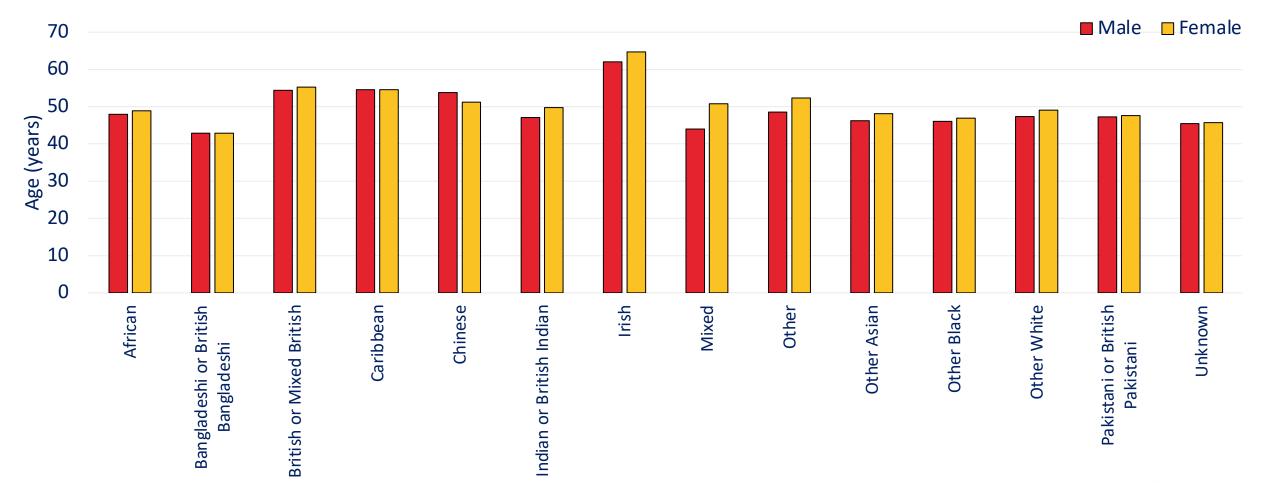
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30.0% 20.0% 10.0% 0.0% 0.0% 10.0% 20.0% 30.0%

Type 2 diabetes – average age at diagnosis by ethnic group and gender



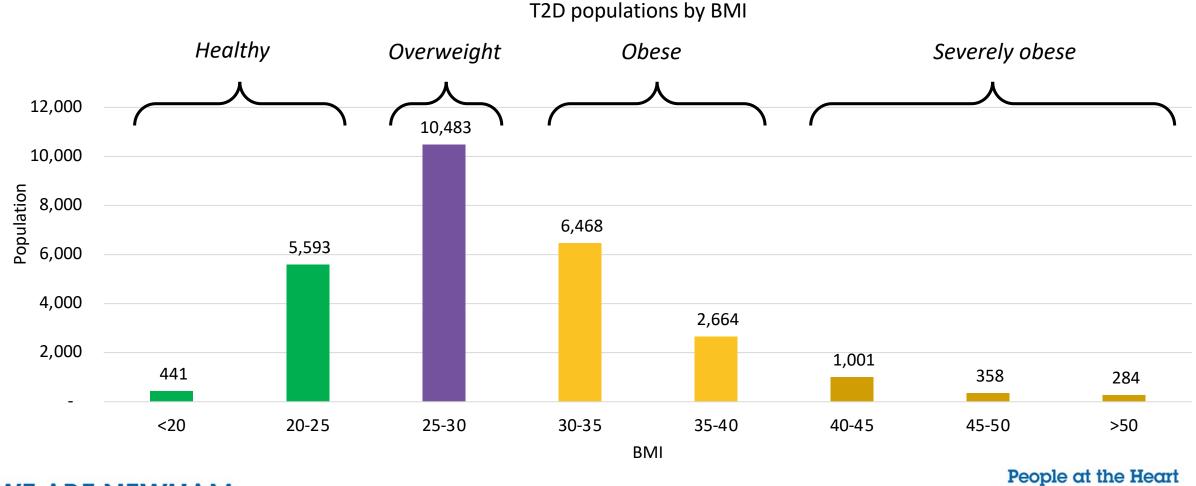
Newham London



Data source: Clinical Effectiveness Group (CEG) – data snapshot April 2020

BMI of Newham's type 2 diabetic population





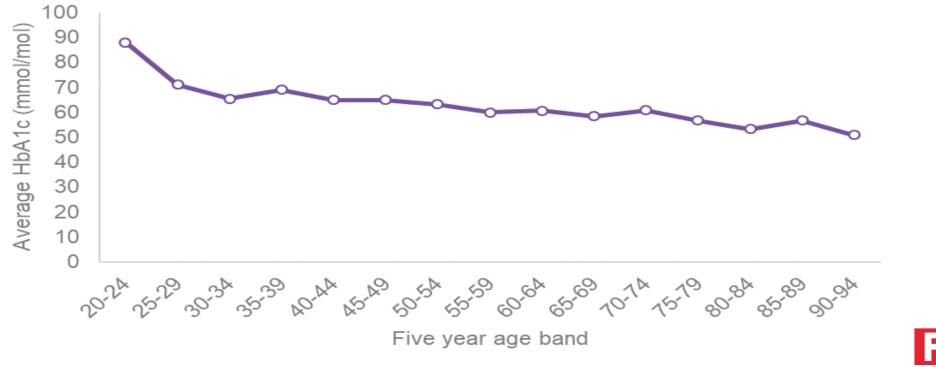
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HBA1c before at and after diagnosis

Figure 8: Average blood sugar level (in HbA1c) in the three months before to two weeks after diagnosis with type 2 diabetes, by five year age band.





Newham London

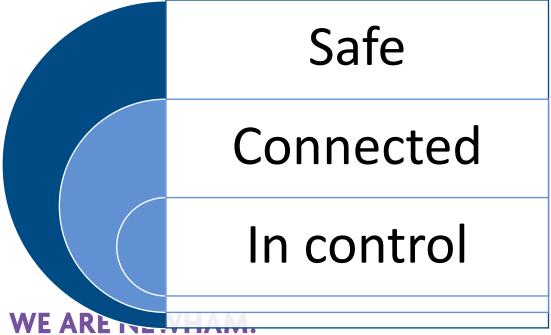
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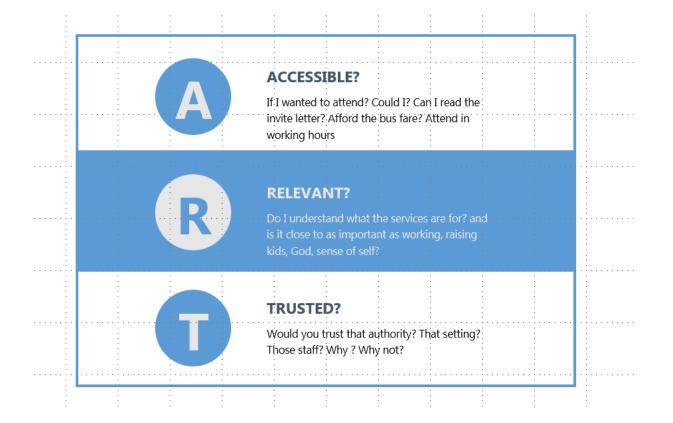
How We as Healthcare pros can support residents to do well

Newham London

How we land the diagnosis How we support around the follow up Think Social and Commercial determinants How we connect and partner with community

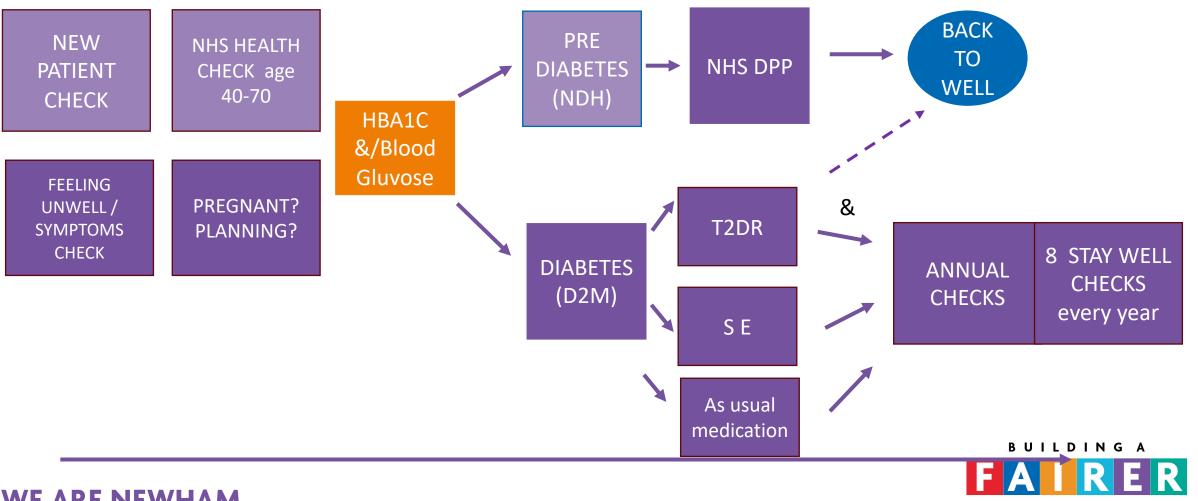
Our expectations and communication







THE CONVERSATIONS & CHECKS TO INFLUENCE

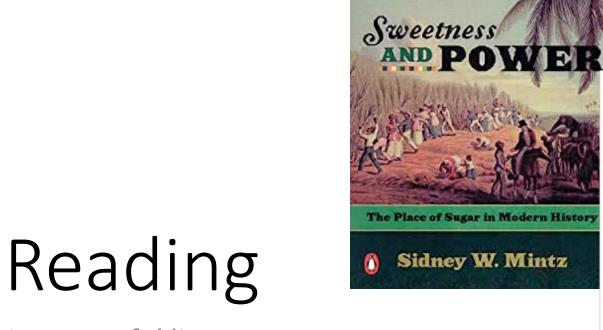


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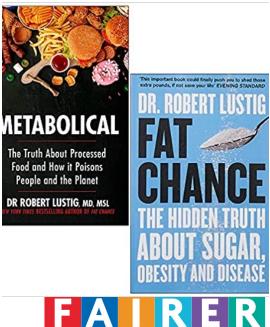
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Some useful literature -





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NEWHAM

REFERENCES



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Mozaffarian D, Appel LJ, Van Horn L (2011) Components of a cardioprotective diet: new insights. Circulation 123: 2870–2891.

Role of the gut microbiota in nutrition and health

- AM Valdes, J Walter, E Segal, TD Spector Bmj, 2018
- Osteoarthritis: new insights. Part 1: the disease and its risk factors
 - DT Felson, RC Lawrence, PA Dieppe, R Hirsch... Annals of internal medicine, 2000
- <u>Attributes and predictors of long COVID</u>
 - CH Sudre, B Murray, T Varsavsky, MS Graham... Nature medicine, 2021
- Karani S. Vimaleswaran, Diane J. Berry, Elina Hyppönen Causal Relationship between Obesity and Vitamin D Status: Bi-Directional Mendelian Randomization Analysis of Multiple Cohorts http://dx.doi.org/10.1371/journal.pmed.1001383.



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