Evaluation of a Quality Assured Brief Intervention Pre-Diabetes Pilot Project

November 2019 – August 2020

Swansea Bay University Health Board

on behalf of the All Wales Diabetes Implementation Group

Prepared by Carol Brock and Rachel Long
14th December 2020

1. Background

In Wales, more than 198,883 people, 7.6% of the population aged 17 and over are living with diabetes. This is the highest prevalence in the UK, and the numbers are rising every year. Around 90% of these people have Type 2 diabetes. Estimates suggest a further 61,501 people in Wales have Type 2 diabetes but have not yet been diagnosed and another 580,000 people could be at risk of developing Type 2 diabetes in the future (1).

Non-diabetic hyperglycaemia, also known as pre-diabetes, is a metabolic condition, which if undiagnosed or untreated, can develop into Type 2 Diabetes. It is characterised by the presence of blood glucose levels that are higher than normal but not high enough to be diagnosed with diabetes. The NICE criteria for pre-diabetes is defined as a HbA1c level between 42-47 mmol/mol or a fasting plasma glucose 5.5-6.9 mmol/L (2).

By 2030 it is estimated that 311,000 people in Wales will have diabetes. Diabetes costs the NHS in Wales approximately £500m a year, which is 10% of its annual budget. 80% of this is spent on managing complications, most of which could be prevented (1).

In 2016, to help tackle this problem in England, Public Health England, NHS England and Diabetes UK implemented the NHS Diabetes Prevention Programme (DPP). The NHS DPP is an intensive lifestyle management programme focusing on dietary advice, physical activity and weight loss. Over a minimum of nine months, patients are offered 13 education and exercise sessions, consisting of one to two hours; at least 16 hours face-to-face or one-to-one in total. At the beginning of 2020, it was reported that 89,604 people have completed the programme (3)

In Wales, there is no equivalent programme, although several pilot studies have been carried out (4). Dr Mark Goodwin from the Afan Valley GP cluster has implemented a short educational lifestyle intervention, offered to people identified with a HbA1c between 42-47mmol/l. The data from this pilot highlighted that provision of a short educational lifestyle intervention resulted in a significant reduction in HbA1c, with a large proportion of patients achieving a HbA1c <42mmol/mol (4)

A sub group of The All Wales Diabetes Implementation Group (AWDIG) of key stakeholders, was established in 2019 to develop a draft pathway and to work with Swansea University to undertake an economic impact assessment of the proposed intervention. The Nutrition and Dietetic Department in Swansea Bay University Health Board (SBUHB), was supported to pilot the proposed pathway and a brief pre-diabetes lifestyle intervention (Appendix 1), in four GP clusters, for the period November 2019- March 2020.

2. Aims and Objectives

2.1 Aim

To provide a brief lifestyle intervention for patients with elevated HbA1c between 42-47mmol/l to help reduce the risk of diabetes.

2.2 Objectives

1. Increase the awareness of the risk factors which can lead to diabetes and understand the long term health consequences.
2. Increase the understanding that the diabetes risk can be reduced by modifying lifestyle factors such as losing weight, increasing activity levels and eating a healthy balanced diet.
3. To support the evaluation of the programme via repeat Hba1c level undertaken 6 months after the intervention.

3. Methods

3.1 Design

This was a real world cohort intervention, with participants acting as their own control. The intervention was not a formal clinical trial and no study protocol was written.

3.2 Setting and Population

The intervention was carried out in four GP clusters in SBUHB.

- **Cwmtawe Cluster –** Practices that participated in the project included- Clydach Primary Care, Strawberry Place and New Cross Surgery. Practice populations range from 6,759 to 25,264, amounting to a cluster total of 42,865 (5)

- **Llwchwr Cluster -** Practices that participated in the project included:- Pen-Y-Bryn, Princess Street, Ty'r felin and Talybont. There are 47,500 listed patients across five general practices, with practice populations ranging from between 4,914 to 14,089 (5).
- **City Cluster -** Practices that participated in the project included:- Abertawe Medical Partnership, Kingsway Surgery, SA1 Beacons, Harbourside Health Centre, Greenhill, Brunswick Surgery, Nicholls Street and Mountain View. Practice populations range from 4,331 to 10,535, and a cluster total of 50,654 (5).
- **Bay Cluster:-** Practices that participated in the project were:- Killay Surgery, Swansea University Surgery, Gower Surgery, Murton Surgery and Kings Surgery. Practice populations ranging from 3,704 to 21,575, amounting to a cluster network total of 75,313. One tenth of patients registered in the Bay cluster are aged 75 + years (11.1%) (5).

3.3 Project Criteria

3.3.1 Inclusion Criteria

The initial project inclusion criteria was established by a sub group of the All Wales Diabetes Implementation Group (AWDIG).

- HbA1c of 42-47mmol/mol in the last 12 months
- Aged between 40-75 years
- BMI>30kg/m^2

Patients who met the above criteria were identified via a database search. This database search was a bespoke VISION/EMIS audit module and was kindly shared from the work previously undertaken by Dr Mark Goodwin and the Afan Valley Cluster (4). The initial database search was carried out during November 2019 – December 2019 and again during January 2020 -February 2020.

3.3.2 Exclusion Criteria

Initial assessment of the potential participants' medical records by the Project Lead Dietitian, showed that the proposed intervention was not suitable for all patients. An exclusion criteria was therefore developed:-

- HbA1c above 47mmol/mol or known diabetes diagnosis
- Pregnant
- Housebound
- Frail – at risk of malnutrition/on oral nutrition support
- Renal comorbidities on dialysis treatment
- Enterally fed
- Following a specialist diet for therapeutic needs
- End of life or palliative care
- Receiving treatment for cancer
- Received lifestyle intervention for diabetes in the last 3 months from doctor/nurse
- Requires interpreter (this will require a longer consultation period and is likely to be more complex)

3.4 Procedures

Five health care support workers (HCSW) delivered the intervention across the identified surgeries. Each surgery was allocated HCSW hours, however the frequency of intervention offered at each surgery depended upon:-

- HCSW working days
- Identified patient numbers in each surgery
- Surgery room availability

Once HCSW's were established at each surgery the following procedures were undertaken:-

1. Identify those with HbA1c 42-47mmol/l in the last 12months aged between 40-75years old and BMI>30kg/m^2

2. Cross check their medical records that the patient does not meet any of the exclusion criteria
3. Record last HbA1c result (Baseline)
4. Patient contacted via telephone and offered a clinic appointment. If after three telephone attempts, a reply was not obtained, a pre-booked appointment letter was sent to the patient.
5. Patient to attend clinic.
6. Following intervention, the patient will have a repeat HbA1c level within three months, followed by a telephone review with the HCSW to assess lifestyle changes. (Outcomes)

3.5 Lifestyle Intervention

Prior to the project, all HCSW's received training via the Nutrition Skills for Life Programme. Nutrition Skills for Life is a quality assured nutrition training programme, developed and coordinated by Registered Dietitians working in NHS Wales. The HCSW's were also provided with additional training, ongoing support and supervision throughout the project, facilitated by the Project Lead Dietitian within SBUHB. The HCSW's also received an induction from each practice by the practice manager. This induction covered the use of the practice's IT system and discussed confidentiality, data protection and information governance procedures.

The lifestyle intervention comprised of a 30 minute consultation. Each HCSW was provided with a pre-written script and resources (Appendix 2). The content of the consultation was scripted so each HCSW would deliver the same intervention taking into account the needs of each patient. The pre-written script was designed by the Department of Nutrition and Dietetics in SBUHB. The content of the intervention covered recommendations from the NICE (PH38) Type 2 Diabetes: Prevention in People at High Risk, 2017 guidance and the key messages from the Diabetes Delivery Plan for Wales 2016-2020 (6):-

- Be aware – know how to reduce risk of type 2 diabetes
- Be active – achieve a good level of physical activity
- Be healthy – watch what you eat and what you weigh
- Be in control – make choices and take action to reduce risk
- Be directed towards "Help me Quit" if still smoking

Following the consultation, the HCSW would signpost the patient onto appropriate services e.g. National Exercise Referral Scheme (NERS) and document the outcome of the consultation on the patient's electronic GP record. In total, allowing for documentation and signposting, consultations were based around 30 minutes, with an aim to complete 8 appointments in a 4 hour clinic. It was anticipated that some patients would require a second appointment to complete the brief intervention. This may be required for example if patients expressed communication difficulties or if significant changes were identified and were unable to be fully discussed in the allocated timeframe.

3.6 Evaluation of Intervention

Prior to the intervention in each surgery, both the number of patients who met the project's criteria and the number of patients who were excluded were recorded. The reasons for exclusion were categorised and recorded. To evaluate the attendance at each clinic, the HCSW recorded the number of patients who had accepted an invite to the clinic, the number of patients who attended clinic and the number of patients who had either cancelled or did not attend the appointment. To evaluate the intervention, both quantitative and qualitative data was collected. At the initial appointment, the following quantitative data was collected and was recorded on the electronic GP record:-

- Weight
- Height
- BMI
- Waist circumference
- The last HbA1c level (within last 12months)

At the end of the clinic appointment, patients were asked to anonymously complete a questionnaire and encouraged to hand the questionnaire back into reception before they left the surgery (Appendix 3). This questionnaire asked the patient, on a scale of 0-10, to rate their knowledge and confidence on how to reduce their risk of developing diabetes. Patients were also asked their views regarding the length of the clinic appointment. Throughout the project an issue and idea log was kept by the Project Lead Dietitian, which recorded all feedback from HCSW's, practice managers and patients (Appendix 4).

As part of the project, a follow up review was planned to take place three months post intervention. Due to the short time frame of the project, HCSW working hours and room availability in surgeries, it was decided that the

follow up would be conducted via a 15 minute telephone review, once HbA1c level had been repeated. The aim of the telephone review was to evaluate if the patient had made any changes in diet, exercise and overall lifestyle choices since attending the initial intervention. As the review was via telephone, weight, waist circumference and BMI were not able to be re-measured. The evaluation telephone script is shown in Appendix 5.

Due to the COVID-19 pandemic and discontinuation of services, the evaluation of the intervention had to be completed at two different timeframes. One cohort of patients were reviewed as initially planned, at three months post intervention, whereas the second cohort were reviewed six months post intervention.

4. Results

4.1 Number of patients who qualified for the intervention

Within the four GP clusters that participated in the project, 606 patients met the project's criteria. Due to COVID-19, the project end date was earlier than expected (16th March 2020) and therefore 81 patients did not receive the invitation for the intervention. Overall 525 patients were invited for the intervention.

	Cluster 1	Cluster 2	Cluster 3	Cluster 4
Number of pre-diabetic patients on GP list	**503**	**655**	**667**	**668**
Number of patients suitable for intervention/met project criteria	**122**	**173**	**237**	**74***
Unable to offer intervention due to COVID-19	**0**	**2**	**75**	**4***
Invited for intervention	**122**	**171**	**162**	**70**

*Lists in Cluster 4 were not completed due to COVID-19, therefore more patients in this cluster were likely to be suitable for the intervention

4.2 Breakdown of Exclusion Criteria

4.2.1 Age

	Cluster 1	Cluster 2	Cluster 3	Cluster 4	TOTAL
<40 years	17	21	35	11	84
>75 years	139	217	155	321	832

4.2.2 BMI

	Cluster 1	Cluster 2	Cluster 3	Cluster 4	TOTAL
BMI<18.5Kg/m^2	1	3	4	0	8
BMI 18.5-25.5Kg/m^2	26	35	62	23	146
BMI 26-29Kg/m^2	58	64	78	41	241

4.2.3 Other Reasons for Exclusion

	Cluster 1	Cluster 2	Cluster 3	Cluster 4	TOTAL
Had lifestyle advice in last 3 months	73	55	17	14	159
No weight/ height details	6	14	13	12	45
Pregnant	0	0	0	0	0
Housebound	1	1	3	0	5
Frail - at risk of malnutrition	0	2	0	0	2
Renal comorbidities - on dialysis	1	1	2	0	4
NBM/enterally fed	0	0	0	0	0
Palliative/End of life	0	0	0	0	0
Complex Learning Disability	1	2	2	0	5
Cancer - receiving treatment	2	2	3	0	7
Requires Interpreter	0	0	5	0	5
HbA1bc <42mmol/l	23	21	26	6	76

HbA1c >47mmol/l	4	5	2	1	12
Too unwell to attend for appointment	18	28	6	1	53
Can't access notes/records removed	11	11	6	2	30

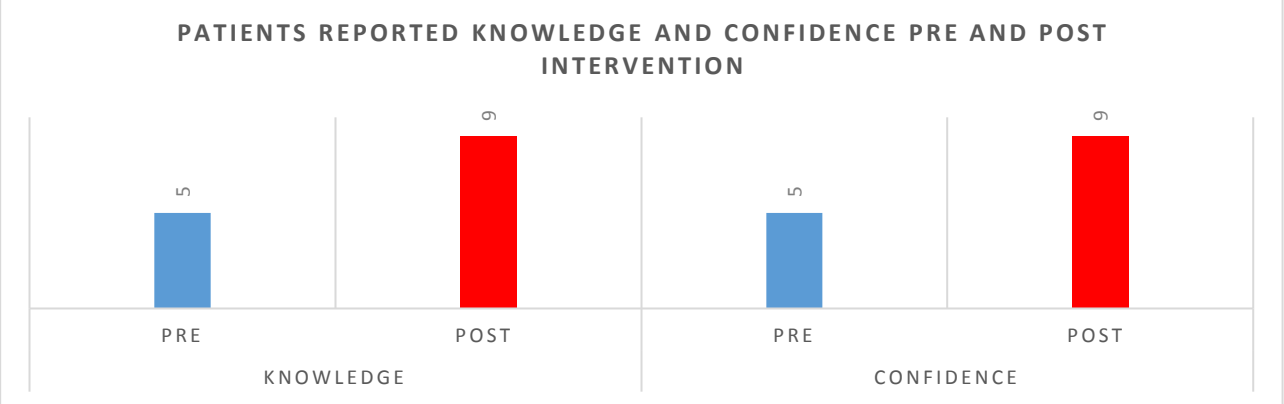
4.3 Uptake of Intervention November 2019- March 2020

Between November 2019 – beginning of March 2020, 525 patients were invited for lifestyle intervention across the 4 GP clusters in SBUHB. On initial contact, 86% (450) of patients accepted the invitation to the lifestyle intervention and were booked appointments. 79% (354) of these patients attended the intervention. 8% (34) of patients cancelled the appointment and 13% (62) of patients did not attend (DNA) the appointment

	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Total
Invited for intervention	**122**	**171**	**162**	**70**	**525**
Declined when phoned	**17**	**21**	**21**	**16**	**75**
Booked Appointment	**105**	**150**	**141**	**54**	**450**
Attended intervention	**80**	**121**	**108**	**45**	**354**
Patient Cancelled appointment	8	13	8	5	34
DNA appointment	17	16	25	4	62

4.4 Knowledge and Confidence Pre and Post Appointment

Patients were asked to rate their level of knowledge and confidence on managing their risk of pre-diabetes before attending clinic and after clinic via an anonymous questionnaire, which they completed in the reception area. Knowledge and confidence scales were used – 0 indicated no knowledge/no confidence, 10 indicated lots of knowledge/confidence. On average, both knowledge and confidence increased from 5 to 9 following attending the clinic appointment.



4.5 Length of the Appointment

Every patient was allocated a 30minute appointment. 20-25minutes of which included face to face contact with the HCSW, with 5-10 minutes for the HCSW to update the patient electronic GP record and complete all admin.

Patients were asked their opinion on the length of the appointment, and had three options to choose from:- "Too Short", "Too Long" or "Just Right". 100% of patients reported they felt that the appointment length was "Just right".

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4.6 Three Month Review after Initial Intervention

4.6.1 HbA1c Results

Out of 61 patients who received lifestyle intervention in November 2019 across the 4 clusters, 4 surgeries (2 surgeries in Cwmtawe Cluster and 2 Surgeries in Llwchwr Cluster) were selected to evaluate the outcomes of the intervention by measuring HbA1c. These were selected on the basis of the surgery's availability to host the project on the HCSW's working days.

59% (36) of patients re-attended for repeat HbA1c in March 2020 (3 months following initial intervention). 5% (3) of patients declined repeat HbA1c - they wanted to make further changes to their diet/lifestyle before having repeat bloods. 36% (22) of patients were unable to have a repeat HbA1c results due to end of service due to COVID-19.

			Reduction in HbA1c			No Change in HbA1c	Increase in HbA1c		
Surgery	Number of patients seen in nov 2019	patients accepted repeat HbA1c in March/Feb	Number of HbA1c Levels reduced	Number of patients no longer pre-diabetic	Number of patients still pre-diabetic	Number of patients with no change in HbA1c - still diabetic	Number of HbA1c Levels increased	Number of patients now diabetic	Number of patients still pre-diabetic
1	14	11	5	5	0	4	2	2	0
2	9	8	4	0	4	0	4	0	4
3	19	5	1	1	0	1	3	1	2
4	19	12	8	6	2	1	3	1	2
Total	**61**	**36**	**18**	**12**	**6**	**6**	**12**	**4**	**8**

Out of the 36 patients who had repeat HbA1c levels:-

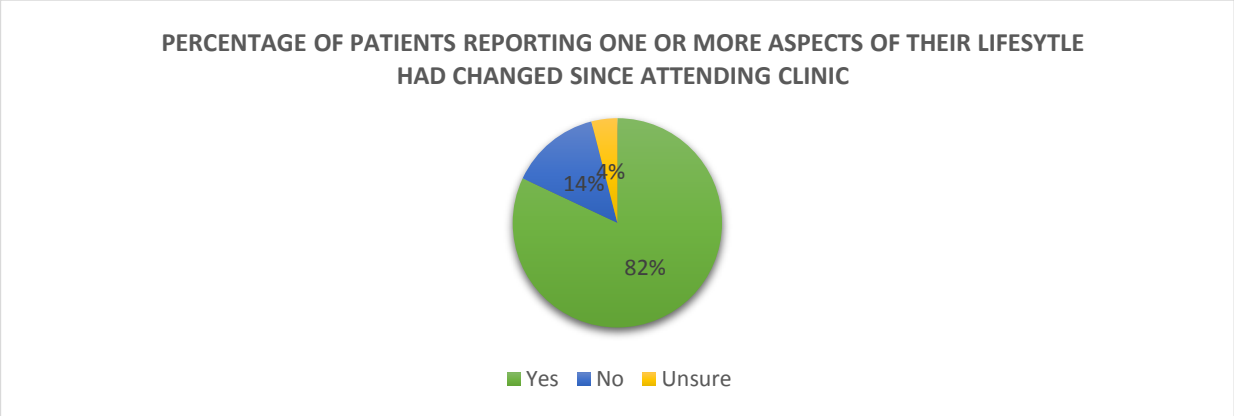
- 50% of patients had a reduced HbA1c level. Of those that had reduced HbA1c, 67% of patients were no longer pre-diabetic and 33% of patients were still within the pre-diabetic range.
- 33% of patients had a reduction in HbA1c but were still classified as pre-diabetic.
- 17% of patients had no change in HbA1c level.
- 33% of patients had an increase in HbA1c level, of these, 33% of patients had an increase in HbA1c levels and were now classified as having type 2 diabetes. The remaining 67% of patients were still within the pre-diabetic range.

4.6.2 Patient Feedback

The HCSW was able to contact 28/36, (77%) of patients who had a repeat HbA1c. Patients who now had type 2 diabetes were not contacted by the HCSW, as the patient would have required additional support which would have been outside the HCSW's remit. To gain qualitative feedback, the HCSW contacted the patients by telephone and undertook a 15 minute consultation. The HCSW asked the patients a number of set questions based around lifestyle choices.

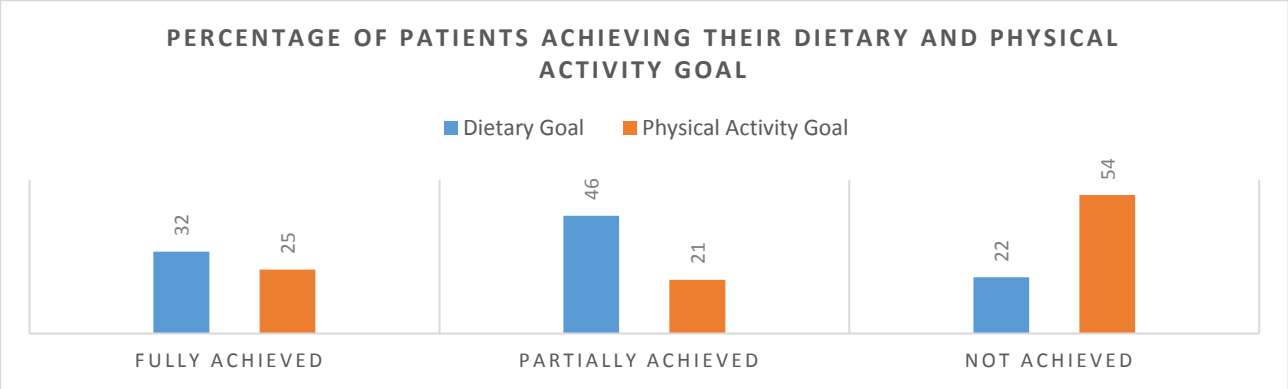
I) Reported Lifestyle Changes

82% of patients reported one or more aspect of their lifestyle had changed since attending clinic



II) Dietary and Physical Activity Goals Achieved

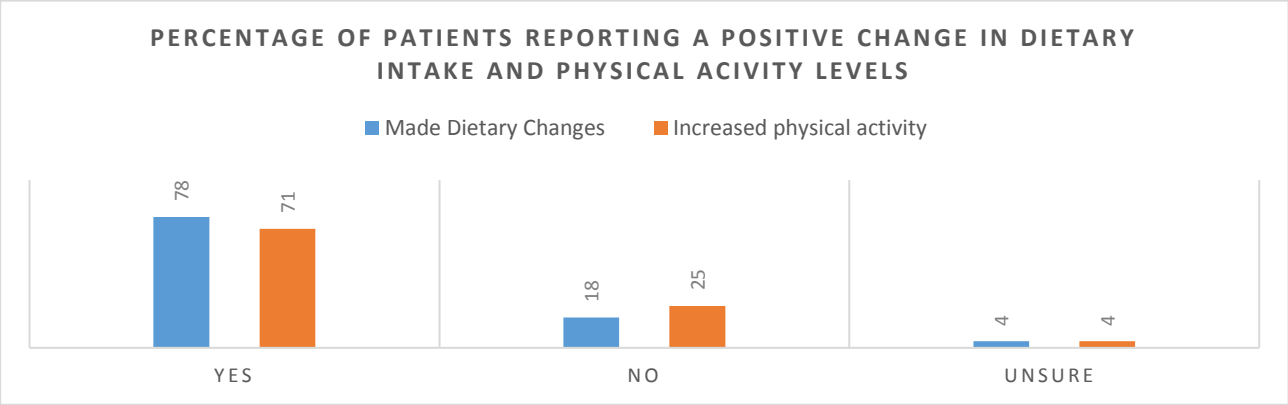
During the initial intervention, the HCSW supported the patient in forming dietary and physical activity goal(s). These goal(s) were recorded for the patient in an information booklet that they took home. 78% of patients reported that they had fully achieved or partially achieved their dietary goal and 46% of patients had fully achieved or partially achieved their physical activity goal.



*Partially achieved would indicate that the patient had started to make a change, but was not consistent or they may have wanted to achieve a number of goals and only successfully managed to achieve one.

III) Reported Positive Changes in Diet and Physical Activity Levels

Even though not all patients fully achieved the goal they had set in clinic, 78% of patients reported they had started to make changes to their dietary intake and 71% had started to increase their physical activity levels since attending clinic.



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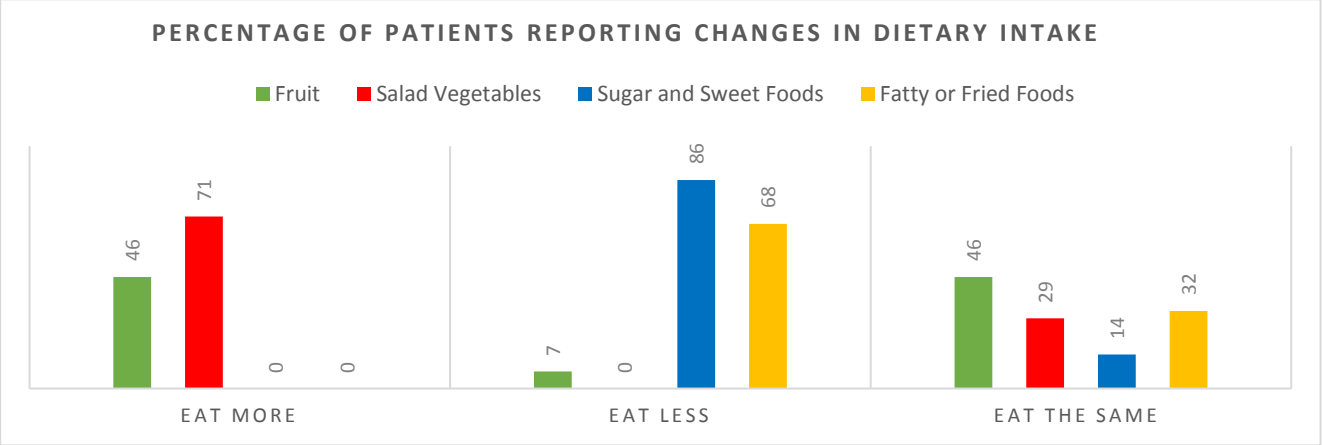
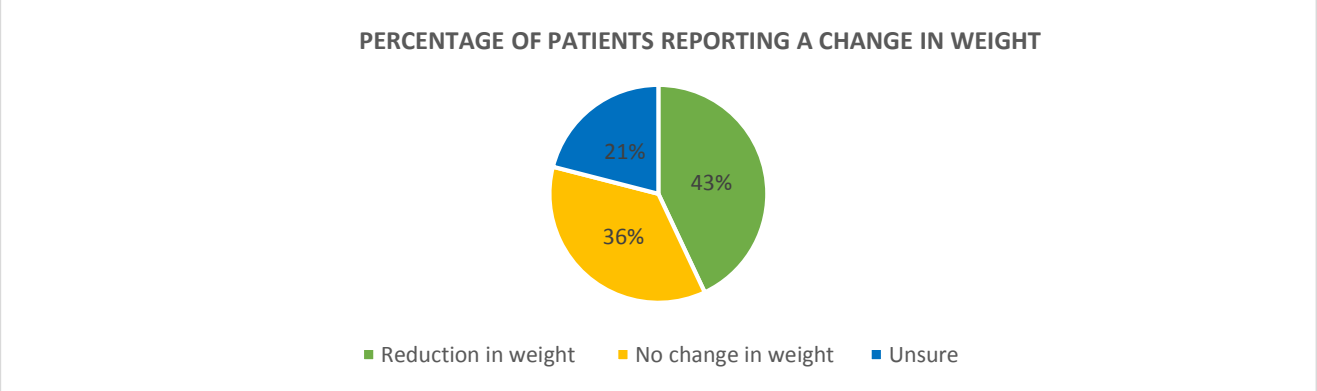
IV) Reported changes in Dietary Intake

To assess any changes to dietary intake since attending clinic, patients were asked about their typical consumption of certain foods groups. 78% of patients reported to be eating more salad and vegetables, with 86% of patients now eating less sugary foods and 68% of patients eating less fatty foods.



V) Reported Changes in Weight.

As the follow up review was completed over the telephone, the HCSW was not able to reassess the patients' weight or waist circumference. To review these measures, the patient was asked if they had noticed any change in their weight over the last three months. If they reported a change, the HCSW would clarify with the patient if they felt this was a gain in weight or a reduction in weight. 43% of patients reported a reduction in weight, however this is subjective.



VI) Confidence to continue with lifestyle changes in the long term

At the end of the review, the HCSW asked the patient how confident (on a scale of 0 – 5, 0 – being not at all, 5, being a lot), did they feel, to continue with these lifestyle changes. Overall, 84% of patients reported to be confident (scale 4-5) that they could continue with these lifestyle changes, with 14% feeling somewhat (scale 3) confident.

VII) Patient Quotes 3 months post initial Intervention

"Grateful for the help and will continue with the changes"

"Feeling better and not taking medication for anxiety anymore, also my sleep has improved"

"Wish my surgery had informed me earlier. I could have made changes to my lifestyle sooner"

"Rather than just being told to improve my diet, I appreciated the time taken and the information I was provided with. This helped me to make the changes"

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4.7 Six Month Review after Initial Intervention

At the end of March 2020, due to the COVID-19 pandemic, all routine clinic appointments and routine blood tests were suspended across the Health Board. Further data collection was therefore delayed until June 2020. From June 2020 – August 2020, feedback was collected from two surgeries in the City Cluster.

4.7.1 HbA1c Results

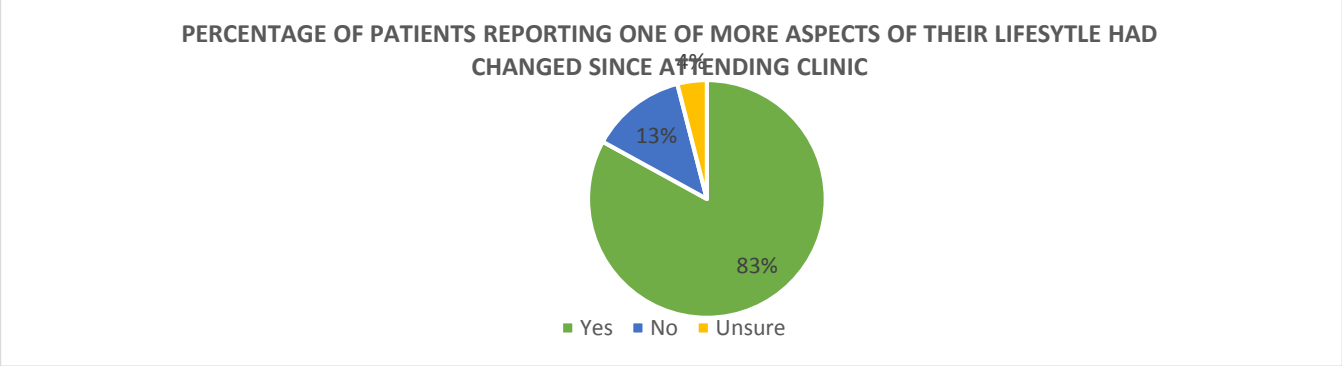
Out of 50 patients who received lifestyle intervention between December 2019- January 2020, in two surgeries within the City Cluster, only 4 of these patients had a repeat HbA1c recorded since attending the intervention. These repeat HbA1c levels had been requested by GP staff for medical reasons. All 4 patients had reduced their HbA1c level, with one patient now achieving a HbA1c level under 42mmol/l. The remaining of patients were unable to have a repeat HbA1c due to COVID-19.

4.7.2. Patient Feedback

The HCSW was able to contact 29/50 (58%) of patients who had attended the lifestyle intervention. To gain qualitative feedback, the HCSW contacted the patients by telephone and undertook a 15 minute consultation. The HCSW asked the patients a number of set questions based around lifestyle choices. The HCSW asked the patients the same set of questions as used previously in Cohort 1.

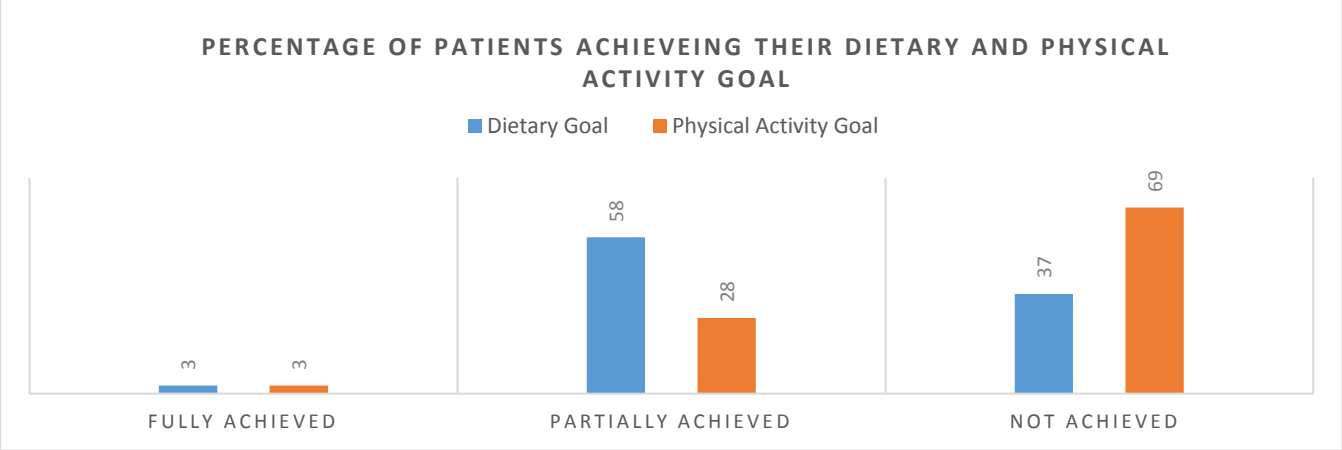
I) Reported Lifestyle Changes

83% of patients reported one or more aspects of their lifestyle had changed since attending clinic.



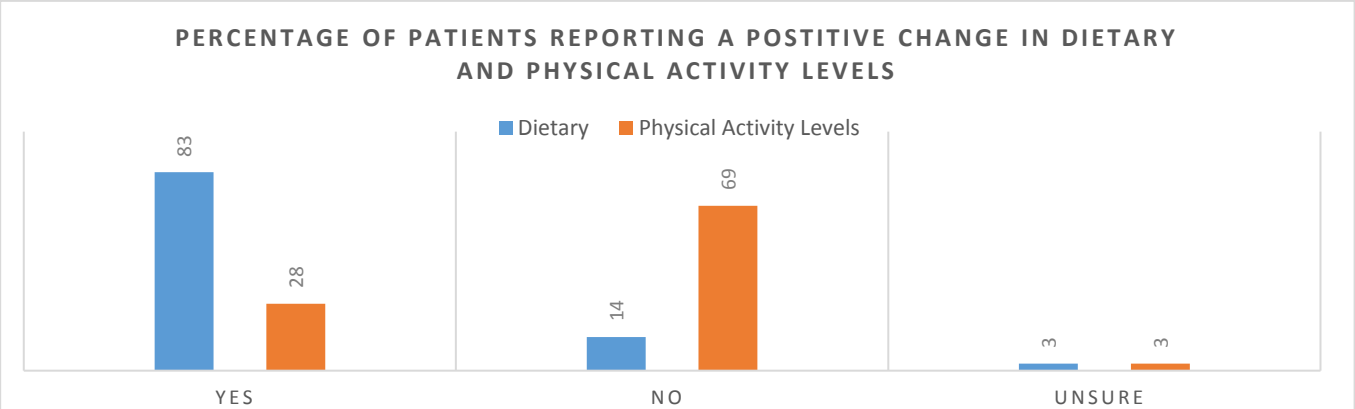
II) Dietary and Physical Activity Goals Achieved

During the initial intervention, the HCSW supported the patient in forming dietary and physical activity goal(s).These goal(s) were recorded for the patient in an information booklet that they took home. 61% of patients reported that they had fully achieved or partially achieved their dietary goal and 31% of patients reported that they had fully achieved or partially achieved their physical activity goal.



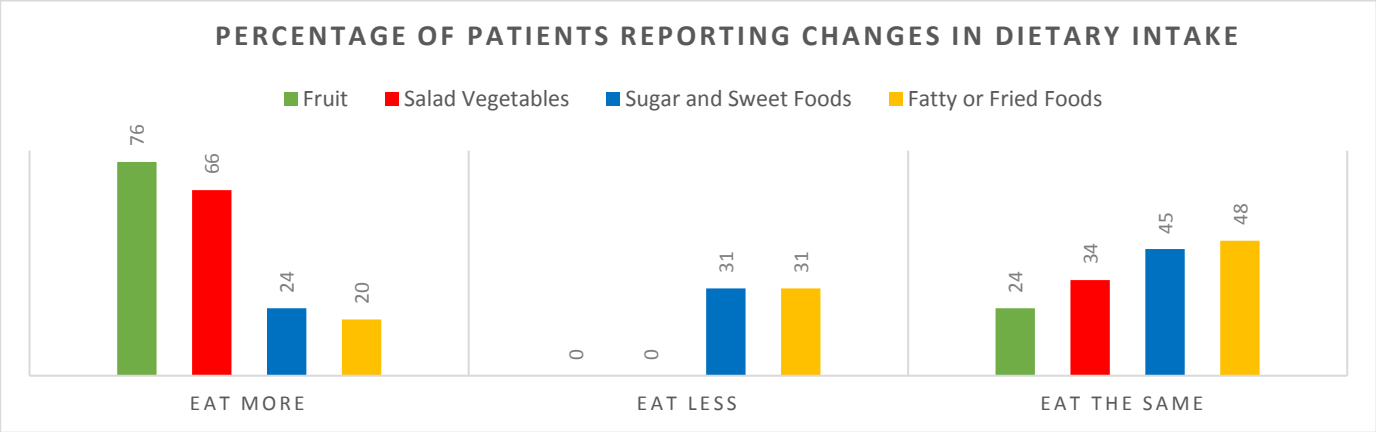
III) Reported Positive Changes in Diet and Physical Activity Levels

83% of patients reported after attending clinic they had started to make changes to their dietary intake. 69% of patients felt they had not been able to make any positive changes to their physical activity levels since attending clinic.



IV) Reported Changes in Dietary Intake

To assess any changes to dietary intake since attending clinic, patients were asked about their typical consumption of certain food groups. 76% of patients reported to be eating more fruit and 66% reported to be eating more salad and vegetables. Only 31% of patients reported to be eating less sugary and fatty foods, with 45% of patients eating the same amount of sugary foods and 48% of patients still eating the same amounts of fatty foods.



V) Reported Changes in Weight.

As the review was completed over the telephone, the HCSW was not able to reassess the patients' weight or waist circumference. To review these measures, the patient was asked if they had noticed any change in their weight over the last six months. If they reported a change, the HCSW would clarify with the patient if they felt this was a gain in weight or a reduction in weight. Only 21% of patients reported a noted reduction in their weight.

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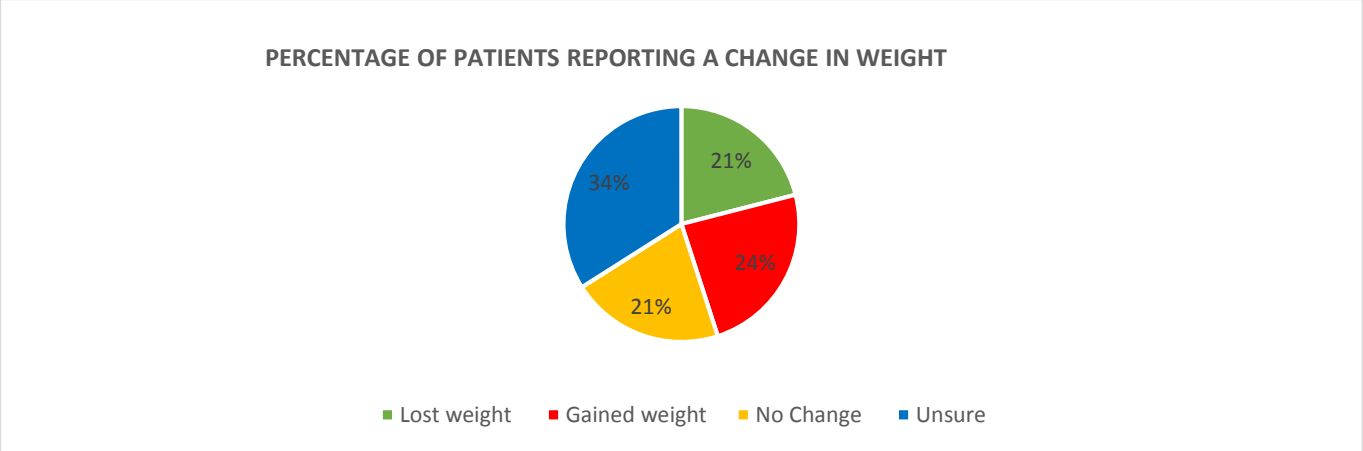

VI) Confidence to continue with lifestyle changes in the long term

At the end of the review, the HCSW asked the patient how confident (on a scale of 0 – 5, 0 – being not at all, 5, being a lot), did they feel to continue with these lifestyle changes. Overall 55% of patients reported to be confident (scale 4-5) that they could continue with these lifestyle changes, with 27% feeling somewhat (scale 3) confident and 10% of patients with very little or no confidence at all to continue with these changes in the long term.

VII) Patient Quotes

"Since clinic, I have completely changed how I eat – thank you"

"Appreciate the follow up phone call…. I had lost all motivation …. I need to look back at my goals and the resources again"

"Hard to think about making changes given the current situation with COVID-19 but I do have the booklet from clinic which I can read in the future"

4.8 Feedback from HCSW

As part of the project, feedback was also obtained from the HCSW's via a workshop session held by the Project Lead Dietitian. Each HCSW was asked to complete a questionnaire during the workshop.

Resources	***Clinics***	***Training***
Script for consultation was useful as it outlined what to cover Patients really liked the "Eat well Guide" Need a variety of resources – not everyone has access to internet	A lot of admin time is spent organising the clinics which can impact on the number of patients seen in one clinic session Need at least 30 minutes for one consultation and write up Patients request a follow up review	Enjoyed Nutrition skills for life training Would like a separate "pre-diabetes training module" Found regular supervision from Dietitian useful

5. Discussion

The data presented in this report shows that a short educational lifestyle intervention programme, offered to people identified with an elevated HbA1c, can result in positive lifestyle changes. The report also demonstrates on a small scale that by providing a brief lifestyle intervention, this can result in a reduction in HbA1c levels. It is acknowledged that the COVID-19 pandemic has interrupted this project and this needs to be taken into consideration when reviewing the outcome data.

5.1 Uptake of Intervention

On initial contact, 86% of patients accepted the invitation to the lifestyle intervention and were booked appointments. 79% of patients attended the appointment, with only 8% of patients cancelling the appointment and only 13% of patients failing to attend their appointment. This highlights a good patient uptake to the intervention. The intervention period ran mainly over the winter months, and uptake to the scheme was reduced during December 2019 due to the Christmas period. It is acknowledged that implementing lifestyle changes during this time period can be particularly challenging.

5.2 HbA1c Level

Even though the sample size of patients that had a repeat HbA1c level was small, the project did highlight that three months after attending lifestyle intervention, 50% of patients did reduce their HbA1c level, with 67% of these patients achieving HbA1c under 42mmol/l.

A small percentage of patients, (17%), had no change in HbA1c level. It is difficult to draw any conclusions, whether, without the intervention, this would have led to an increase in HbA1c.

33% of patients had an increase in HbA1c level, and were now diagnosed with type 2 diabetes. It is difficult to draw any conclusions that this increase in HbA1c was due to poor compliance or failure to incorporate lifestyle changes after attending clinic. This is because the baseline HbA1c level, was not taken at point of intervention i.e. at clinic, but had been taken at a separate point within the last 12 months. Therefore, within this 12 month time frame, HbA1c levels could have increased or decreased before the patient attended their appointment.

5.3 Patient Feedback

Feedback was initially collected at clinic using a knowledge and confidence scale questionnaire. Further feedback was then collected over the telephone by the HCSW using a set questionnaire template. Due to the COVID-19 pandemic, this feedback had to be collected at two different time periods. The first cohort of patient feedback (Cohort 1) was collected three months after the initial intervention. HbA1c level was repeated prior to the phone review. The second cohort of patients (Cohort 2) were contacted 6 months post initial intervention. Due to COVID-19, it was difficult to obtain a repeat HbA1c level for these patients due to suspension of routine blood tests.

Initial feedback post appointment indicated that on average, patients rated their knowledge and confidence of managing their diabetic risk as 5/10. Following intervention, on average, patients reported their knowledge and confidence score had increased to 9/10. This highlights that following the intervention patients felt more knowledgeable about their condition and more confident in how to reduce their risk.

Over 80% of patients in both cohorts, felt that one or more aspects of their lifestyle had changed since attending the lifestyle intervention. This was further highlighted by over 70% of patients in both cohorts reporting a positive change in dietary intake. In Cohort 1, 71% of patients reported to be consuming more salad and vegetables, with 86% of patients reporting to be eating less sugary foods and 68% of patients reporting a reduced intake of fatty foods. This positive change in dietary intake was reflected in 78% of patients either fully achieving or partially achieving their dietary goal, three months after intervention.

Even though 70% of patients in Cohort 2 reported a positive change in dietary intake, dietary adequacy did not replicate the positive trends seen in Cohort 1. Only 31% of patients in Cohort 2 reported they had been able to reduce their sugary and fatty food intake, with the majority of patients, (45%), reporting their overall intake of sugary and fatty foods largely remained unchanged, with 20% reporting an increase in these foods. However 76% of patients in Cohort 2 did report they had increased their intake of fruit and 66% of patients reported to be eating more salad and vegetables. Feedback from patients in this cohort highlighted that due to COVID-19, they had not been able to maintain their dietary changes, due to stress, loss of motivation and eating foods for comfort. It is also known that as length of time increases after a period of intervention, relapse is common and therefore this could also explain why this trend is seen in Cohort 2. Patient feedback from Cohort 2 also indicated an increased intake of alcohol since the intervention, and reported this was due to the COVID-19 pandemic. Alcohol

intake was not recorded initially at baseline, nor was it a question that was routinely asked in the review process and so no official data was collected to review this change in intake. In future projects and interventions, alcohol intake should be discussed and recorded, as a large intake of alcohol can impact on nutritional intake and contribute to weight gain(5).

In both cohorts, less than 30% of patients achieved their physical activity goal, even though in Cohort 1, 78% of patients reported that they had made a positive change by increasing their physical activity levels. Only 28% of patients in Cohort 2 reported a positive change in physical activity levels. Cohort 2 may have struggled to make any changes to their physical activity levels due to the lockdown measures of the COIVD-19 pandemic, and discontinuation of services such as access to local leisure centres, the National Exercise Referral Scheme (NERS) and the "Healthy Living Hub" fitness centre in the City Cluster.

When comparing dietary change versus changes to physical activity levels, it appears in both cohorts that patients were more likely to implement a dietary change compared to a physical activity change. One explanation for this trend is that the intervention was scripted to consist of seven minutes discussing dietary intake and only two minutes discussing physical activity levels. Therefore due to this difference in time allocation for the two topics, patients may have felt more supported to make dietary changes compared to physical activity changes. The intervention outline therefore should be addressed to review if further time should be allocated to support patients to increase their physical activity levels.

Changes in weight and waist circumference were unable to be reviewed as part of the review process for this project, due to the nature of the review process being carried out over the telephone. However feedback from Cohort 1 found that 43% of patients did report a reduction in their weight. This is consistent with two other pre-diabetes intervention projects carried out in Wales in 2016 in North and West Wrexham (4). Fewer patients reported a noticed weight loss in Cohort 2, which corresponds with fewer patients meeting their physical activity and dietary goals, again partially due to COIVD-19 but also due to possible relapse.

Confidence to continue with lifestyle changes was measured at the follow up review using scale of 0-5, where 0 represented no confidence and 5 represented lots of confidence. 84% of patients in Cohort 1 rated their confidence to be between 4-5, compared to Cohort 2, where only 55% of patients rated their confidence between 4-5. The remaining 27% patients in Cohort 2 rated their confidence at 3 on the scale and felt somewhat confident, with 10% of patients reporting very little confidence. This change in confidence between cohorts could be due to uncertainty following the COVID-19 pandemic, however it is also known that as length of time increases after a period of intervention, relapse is common. To provide patients with support to continue with lifestyle changes, this project demonstrates that a follow up review is essential and should be completed within 6 months post intervention, with aim to provide support and encouragement to reduce risk of relapse.

5.4 Development of additional Exclusion Criteria

During the initial stages of the current project, additional exclusion criteria were introduced to be used alongside the database search. The exclusion criteria were developed to reduce the risk of unintended harm from a blanket delivery of healthy lifestyle advice based on HbA1c only. This included people at increased risk of malnutrition or where the intervention would impact adversely on other acute or chronic disease. 71 people were excluded based on this criteria. Implementation of these criteria was important to maintain confidence in the delivery of the intervention for both patients and the HCSW. However the need for an additional records search in addition to the database search added extra time to the intervention

5.5 Cost Effectiveness

An economic evaluation was undertaken by Swansea University in November 2019 (7). The resources and costs associated with the All Wales pre-diabetes pathway are split into four main stages:

1. Staff training to deliver the intervention
2. Delivery support, co-ordination and quality assurance (QA)
3. Identifying recipients and other preparation
4. Delivering the intervention.

The total cost of implementing the brief pre-diabetes pathway across Wales and the cost per participant were both calculated prior to the roll out in SBUHB. Costs associated with the brief pre-diabetes pathway, were based on published NHS reference costs and information provided by AWDIG.

An average cost per person receiving the intervention was estimated to be **£43.31.** The initial evaluation gave considerable reassurance that implementation of the AWDIG pre-diabetes pathway will be more effective and cost the NHS less over a ten year period, as it is likely to be effective in reducing the rate of development from pre-diabetes to Type 2 Diabetes. In the long term the pathway will 'pay back' the upfront costs compared with usual care due to the avoidance of the health problems associated with having type 2 diabetes.

5.5.1 Cost effectiveness in SBUHB

The introduction of additional exclusion criteria into the pathway increased the time spent by HCSW in the administration of the programme and reduced the number of patients that can be seen per session. The impact of this additional cost will need to be assessed during a further cost effectiveness analysis. Travel costs for the HCSW would also need to be factored into further cost effectiveness evaluation.

Some costing issues were raised by cluster staff during the implementation of the programme. These included payments to cover costing of posting appointment letters, use of paper/printer ink and use of telephone lines. These costs are built into the economic evaluation but the practicalities of refunding the costs was difficult during the pilot stage and these would need to be overcome in further roll out in SBUHB or other areas .

5.5.2 Financial reimbursement for practices participating

The model used originally used by Afan Valley cluster incorporates an element of financial payment for practices based on achieving a target number of patients offered a brief intervention. This was not part of the All Wales pathway used for the wider roll out, as a cluster model is being proposed rather than a form of enhanced practice service. This needs to be clear when engaging practices for a wider roll out.

5.6 Sustainability

The prevention pathway has received approval from AWDIG and has been shared with Welsh Government for consideration in future clinical planning. It has been identified as a priority in Healthy Weight Healthy Wales (Welsh Government 2019). It has also received the QiC Diabetes care award for prevention and wellbeing. The model is sustainable and scalable as it utilises trained support workers within primary care clusters, rather than over reliance on healthcare professionals. By supporting self-management and reducing levels of diabetes and pre diabetes it will reduce demands on the NHS in the longer term.

Welsh Government is committed to prudent and value based health care. The implementation of the All Wales pre-diabetes pathway is an ideal opportunity to undertake a programme of targeted data collection as each cluster implements the programme. The majority of the data is routinely collected on the GP's software hosting the electronic patient record, and would not be onerous to formalise the capture of the important outcomes variables.

5.7 Standardised Training and Resource Pack

The Lead Project Dietitian in SBUHB developed a standard educational training package, a structured consultation script and a range of resources for use by HCSW during the brief intervention (Appendix 2**).** A partnership with Diabetes UK (Cymru) resulted in agreement that an educational resource booklet could be used on an All Wales basis. Evaluation by patients and HCSW showed that additional resources will be required for people without internet access. Additionally the change to virtual delivery as a result of the COVID 19 pandemic will mean that different resources will be required. Development of these resources has taken place during the final stages of this project (Appendix 5).

5.8 Dietetic Role and Quality Assurance

The inclusion of a Dietitian and a process of regular quality assurance for the HCSW is an essential part of the All Wales pathway. The All Wales pathway utilises a prudent healthcare approach with unqualified staff who are trained and supervised, enabling scalability across Wales without reliance on limited registered health care professional resource. A robust quality assurance (QA) framework and clinical supervision was put in place to ensure that all consultations delivered by HCSWs are of the highest quality and delivered in a logical sequence. This ensures that the nutritional messages disseminated are evidence based and are reflective of the planned content of the consultation and that learning outcomes are met.

Throughout the project, the Dietitian arranged weekly meetings with all HCSW's on a 1:1 basis, either via an arranged telephone call or by attending the surgery to meet the HCSW in person. Monthly group meetings between all HCSW's and the Dietitian were also arranged, to share good practice, troubleshoot and provide workshop sessions. The project has shown that the Dietetic role and this level of involvement was essential for providing the HCSW with support to:-

- Access initial accredited training
- Access computer systems
- Evaluate patient suitability and implement exclusion criteria
- Review the usage of the telephone script.
- Feedback on areas that worked well and aspects to consider for future delivery.
- Verbal and written feedback provided prior to the next booked consultations.
- Regular Quality Assurance
- Clarify and answer additional patient queries
- Signpost patients onto the most appropriate follow on services
- Continuous professional development by facilitating regular workshops and supervision sessions
- Additional training on pre-diabetes and dietary links

The project has also shown that the Dietetic role was essential to:-

- Promote the overall service at Cluster level
- Work closely with surgery staff to embed and coordinate the programme in each surgery
- Ensure each surgery had the relevant resources required, to regularly deliver the programme
- Evaluate and report uptake of the intervention in each surgery

The need to maintain a quality assured model is essential in any further developments of the pathway.

5.9 Limitations and Recommendations

5.9.1. Timescale of Project and Staffing

The Project was piloted during the months of November 2019–March 2020. Patient uptake to the scheme did reduce at the end of December 2019-beginning of January 2020 due to the Christmas period. Due to the short timeframe, the follow up review was undertaken in March 2020. To ensure that the data collected provided a true reflection of any lifestyle changes, the review only selected the patients who had received intervention between November 2019 and December 2019.

In the middle of March 2020, the project had approval to be extended until October 2020, however due to the COVID-19 pandemic, in April 2020, all routine clinics were suspended across the Health Board. Further follow up could not recommence until June 2020, when services within the Health Board started to resume. Due to staffing issues and change in workload priorities as a result of COVID-19, the project was only able to review a small sample of patients (Cohort 2) and unfortunately, not all patients who received the intervention earlier in the year were offered the follow-up review.

Due to annual leave, sickness and unforeseen circumstances, staffing levels were also an issue during the project and at times, some clinics had to be cancelled or rearranged. At times throughout the project, some of the HCSW's had to travel between surgeries to deliver the intervention. This travel time also impacted on the clinic schedule and at times reduced the availability of appointments. A wider rollout at health board level would provide economies of scale to allow for management of these unforeseen circumstances.

Due to the short term nature of the project, recruitment and retention of staff was difficult but the feedback from all HCSW's indicated that felt that they felt engaged within the cluster and confident and supported by the Lead Dietitian to deliver the intervention. As this programme relies on training support workers it does not lend itself to short term funding but rather should be embedded as a long term or permanent delivery mechanism.

5.9.2 Surgery Room Availability

Due to limited clinical space in surgeries across Swansea Bay UHB, the ability to deliver the lifestyle intervention varied between clusters and some surgeries were unable to participate in the project.

Delivery of interventions via video and telephone consultation and the use of educational resources such as videos and webinars has developed rapidly during the COVID 19 pandemic This brief intervention model lends

itself well to virtual delivery which may also help mitigate the issues around accommodation in primary care. Further evaluation of this method of delivery should be considered as part of ongoing project development.

Recommendation: Evaluation of the effectiveness of delivering brief interventions by virtual methods

5.9.3 Impact of COVID-19 Pandemic

Due to the COVID-19 pandemic, face to face consultations were stopped as part of the lockdown. Additionally staff were deployed to other areas to support the out-break response and all planed consultations were stopped. Routine repeat HbA1c results could not be requested after March 2020, and there continues to be limited access to phlebotomy services for routine bloods at the time of reporting. These factors have impacted the evaluation of the project, with limited data collection available. Telephone review of outcomes was recommenced in May 2020 but on a limited basis because of staff numbers. The outcome data and feedback from Cohort 2, should be reviewed acknowledging the impact of the pandemic.

The impact of COVID 19 and the subsequent lockdown on the behaviours of participants is also difficult to quantify and needs to be factored into the data available on weight and HbA1c changes. Participants have indicated that concordance with behaviour change messages was more difficult during the lockdown period, and any positive changes made could not always be sustained.

5.9.4 Database Search

Patients who met the project criteria were identified via a database search. This database search was a bespoke VISION/EMIS audit module. The audit module did not exclude patients who met the exclusion criteria, and so a large amount of HCSW time was spent triaging the patients' electronic GP records.

Another limitation using this audit module, was that the audit module selected patients based on the oldest HbA1c level recorded within the last 12months. On some records, it was identified that a repeat HbA1c had been undertaken within the last month and the result was under 42mmol/l. This highlighted the patient no longer met the project's criteria.

Recommendation: Develop the database search to incorporate additional exclusion criteria

5.9.5 Timescale between blood test and lifestyle intervention

The current project used only an audit search as the method of patient identification which sometimes resulted in an extended duration between the time of the HbA1c result and the offer of the lifestyle intervention. Feedback from participants indicated an earlier intervention and notification of the need for lifestyle would have been helpful. In practice the clinical pathway would incorporate both database search and offer of intervention following blood test which would improve the timeliness of the intervention offer.

5.9.6 Age and BMI Exclusion Criteria

The initial pathway excluded a number of patients based on age and body mass index to optimise resource availability.

Patients were excluded if they were aged over 75 years. NICE PH37, Guidance (2017) (2) recommend that this age group should not be excluded from receiving lifestyle intervention.

However, if these patients were included in the intervention, they would need to be screened to ensure they did not meet any of the other exclusion criteria such as at risk of malnutrition or any other co-morbidities. Further analysis is required to identify the number of patients in this group who were excluded to assess the implications on widening the inclusion criteria.

Secondly, patients with a BMI between 26-29kg/m^2 and patients under the age of 40 years old were also not part of the initial pathway. The project was due to commence a "second phase" to review how many of these patients would otherwise meet the project criteria and would accept intervention. This was hoped to capture the number of patients in high risk groups stated by NICE PH37 Guidance (2017) (2) (25–39years old of South Asian, African-Caribbean, and Black African with BMI> 23kg/m^2) who may have benefited from the intervention.

However due to COVID-19, this second phase of the project was unable to be completed and no data can be reported. For future projects, the criteria should be extended to these patient groups alongside reviewing how to provide intervention for patients requiring interpreters and patients who are housebound and not able to attend a clinical setting.

Recommendation: Further analysis of numbers excluded from current pathway and implications of widening inclusion criteria

5.9.7 Repeat HbA1c Process

Currently, there is no standardised recall system to gain repeat HbA1c's in GP surgeries. For the purpose of this project, the HCSW had to provide the practice manager with a list of patients who required a repeat HbA1c, who then arranged the test. This process was time consuming for both the HCSW and practice manager.

Recommendation: A standardised recall for HbA1C should be developed.

5.9.8 Post Intervention Referral onto Further Services

A part of the initial consultation, the patient was offered further support to implement lifestyle changes, and the HCSW would discuss referral onto additional services. These services included, the National Exercise on Referral Scheme (NERS), Foodwise for Life, and for patients in the City cluster, access to the "Healthy Living Hub".

Access to these additional support services was not available uniformly across the area. At the time of the project, support for weight loss via Foodwise for Life was only being delivered in one area. The increase in referrals had a direct impact on the National Exercise on Referral Scheme creating increased waiting times and generating a need for increased staff resource.

The development of the All Wales pathway creates an opportunity to develop direct links with social prescribing models, utilising wellbeing coaches and third sector as the delivery workforce. Implementation of the pathway would also require both local and national discussion with partner organisations such as NERS to acknowledge and support their additional resource and capacity needs.

Recommendation: Engagement with partners to support local and national developments to support increased physical activity and weight loss interventions.

5.9.9 Follow up Review Appointment

Due to the project's short timeframe, staffing issues and change in workload priorities due to COVID-19, not all patients who received the intervention were offered a follow up review.

Feedback obtained from patients during their first clinic appointment highlighted that they felt they would benefit from a review in the future (Appendix 4). Two cohorts of patients were provided with a follow up review, and this showed that the patients appreciated the contact and for some, this contact allowed the HCSW the opportunity to advise on relapse and reinforce the importance of incorporating lifestyle changes to help reduce diabetic risk. This project highlights that a follow up review may be of value and should be completed within 6 months post intervention, to minimise risk of relapse.

The introduction of a review appointment into the pathway would impact on the capacity of the HCSW to offer new consultations and increase the need for repeat blood tests and generate additional costs.

6. Future Service Developments and Recommendations

The current project has shown that a cluster based intervention can be effective in supporting patients with elevated HbA1c, however, there remains some areas in the management of pre diabetes which are not captured in the current pathway.

6.1 Introduction of a process of risk identification

To meet the standards in NICE PH37 Guidance (2017) (2), GP practices are required to introduce an identification system to contact and invite people for regular review and offer an assessment based on the level of risk. The current pathway only supports the management of patients who have an elevated HbA1c and does not describe the process of identifying high risk individuals for blood test screening.

Risk identification tools currently used on GP patient databases to provide a summary score to indicate someone's level of risk, include the Cambridge Diabetes Risk Score and the Leicester Practice Score (2). Other

risk identification tools which are validated self-assessment questionnaires or validated web-based tools can be found on the Diabetes UK website. These tools can be accessed by patients and should be promoted.

6.2 Development of standard read codes

Patients who are identified at risk should be reviewed and offered lifestyle intervention. If they meet any of the exclusion criteria i.e. have a medical condition which is impacting on HbA1c/ frailty/at risk of malnutrition, they should be reviewed by a registered health care professional first. Patients who meet the criteria should be offered lifestyle intervention which should consist of a consultation consisting of at least 30 minutes which could be delivered in the surgery face to face, via the telephone or virtually. The initial consultation should be documented on the patients' electronic GP record. To collect data and review outcome measures, the need for a standardised GP I.T interface is required, where read-codes can be attached. A list of read-codes should be agreed between the local Health Boards, so outcome measures can be reviewed within and across each Health Board in Wales.

6.3 Development of a standard recall and review system

The current pathway recommends an annual HbA1c check and this will require implementation of a standard recall system within GP practices. The pathway does not offer a review consultation. During the project a review consultation was used to gather outcome data and this has shown that there may be benefits to offering a second appointment or follow up review. A follow up review could be offered to all patient's to review HbA1c levels, reinforce dietary and physical activity goals, as well as checking risk factors. The review could also provide an opportunity to help people who have relapsed and are struggling to maintain lifestyle changes (2). The review assessment will be an opportunity for goals to be assessed and outcome measures to be collected. A standardised review template would be required for inclusion onto the GP I.T interface, with read-codes attached, which will allow for data collection and measurement of outcomes.

The introduction of a review appointment into the pathway would impact on the capacity of the HCSW to offer new consultations and increase the need for repeat blood tests and generate additional costs. The evaluation and cost effectiveness of a review appointment should be considered in further pathway development work.

6.4 Agree Process for further Management of patients with HbA1c in pre diabetes range on retesting

The current pathway does not provide advice on the management of individuals who have an HbA1c in the pre diabetes range on review testing. For some patients a further lifestyle intervention may be appropriate but in some cases referral for more specific advice on weight loss or referral to a Type 2 Diabetes Education programme may also be helpful.

An additional step in the pathway based on the outcomes of the current project and in guidance with the recommendations of NICE, Type 2 Diabetes: Prevention in People at High Risk, Public Health Guideline [PH38] 2017 (2) should be developed by the All Wales Diabetes Implementation group

6.5 Development of an accredited Pre Diabetes HCSW Training Module

To enhance the service delivery of the intervention, HCSW's delivering the intervention require additional training and ongoing support from a Registered Dietitian. The Nutrition and Dietetic Department in Swansea Bay UHB, have designed and developed a standardised "Type 2 Diabetes Prevention Programme, Training Module" for all HCSW's to attend prior to delivering the lifestyle intervention at GP cluster level, in addition to level 2 Food and Nutrition Skills Training

This training is specific to the delivery of the lifestyle intervention. The training consists of two half days and can be either attended in the classroom or virtually. The training will cover an introduction into non-diabetic hyperglycaemia, dietary and physical activity recommendations, cover common questions asked by patients and allow HCSW's to develop a range of behavioural change skills. All HCSW's will have the opportunity to practice delivering the lifestyle intervention, in a clinical setting, to their peers with supervision from a Registered Dietitian. This training would need to be undertaken in addition to the three day accredited Community Food and Nutrition Skills training. Once delivering the intervention, all HCSW's will be provided with ongoing support and receive regular quality assurance sessions with a Registered Dietitian

6.6 Online and virtual consultation Resources

Due to the current COVID-19 pandemic and social distancing guidelines, delivery of the lifestyle intervention requires to be flexible and available virtually where possible. The Nutrition and Dietetic Department in Swansea

Bay UHB have developed a range of online resources and have a portfolio of paper resources from external links (Appendix 6). All resources require to be available in accessible formats and translated to meet the needs of populations where English/ Welsh are not the first language.

6.7 Developments Across Other Areas In Wales

Across Wales, neighbouring health boards are also piloting Pre Diabetes initiatives. Cwm Taff UHB, are currently piloting a similar initiative, based around the principles and criteria of the SBHUB Project, where patients are offered a 1:1 appointment facilitated by a HCSW. These clinics are managed and arranged by individual GP practices. In the SBUHB pilot, the lead project Dietitian coordinated clinics and HCSW's timetables, which allowed the service to be managed effectively and efficiently. Within Cardiff and Vale UHB, initiatives have included Dietitians facilitating a 1.5hr patient group education sessions, which are run within the local community. The current evaluation has shown that the quality assured brief intervention pathway is cost effective and should be used as the basis for implementation across Wales. The sharing of resources and pooling of outcomes will further strengthen the programme.

6.8 Engagement within Health Boards and Clusters

For the initiative to be implemented, engagement is required within each GP cluster and within the Health Board. To engage services, the project data requires to be presented at Cluster level. Meetings and discussions with each cluster lead will help gain an understanding of any pre-existing services that are currently being offered, versus the logistics of implementing the proposed new initiative. Once established, and if feasible, funding of resources and staffing requires to be considered. Improving working and communication links between the SBUHB Nutrition and Dietetic Department with cluster leads, will encourage collaborative working to implementation the new initiative.

From the project evaluation and patient feedback, this indicates the need to work with neighbouring Health Boards in Wales to develop a standardised "Type 2 Diabetes Prevention Programme". The standardised programme should be based on principles outlined in the below recommendation summary:-

6.9 Recommendation Summary

- **Recommendation 1:-** Introduce a process of risk identification and a standardised recall for HbA1C
- **Recommendation 2:-** Develop the database search to incorporate additional exclusion criteria
- **Recommendation 3:** Further analysis of numbers excluded from current pathway and implications of widening inclusion criteria
- **Recommendation 4:-** Development of standard read codes
- **Recommendation 5:-** Development of a standard recall and review system
- **Recommendation 6:-** Development of an accredited Pre Diabetes HCSW Training Module
- **Recommendation 7:-** Development of online and virtual consultation resources and evaluate the effectiveness of delivering brief interventions by virtual methods
- **Recommendation 8:-** Agree process for further management of patients with HbA1c in pre diabetes range
- **Recommendation 9:** Engagement with partners to support local and national developments to support increased physical activity and weight loss interventions.

7. Conclusion

In conclusion, the data presented in this report shows that a short educational lifestyle intervention programme offered to people identified with an elevated HbA1c, can result in positive lifestyle changes. The intervention is positively received by the participants and is easy to introduce into primary care clusters using trained healthcare support workers. The report also demonstrates on a small scale, that by providing a brief lifestyle intervention can result in a reduction in HbA1c levels. In Wales a standardised prevention programme, based on the intervention used in this project, requires some further refinement but should be implemented in all Health Boards.

8. References

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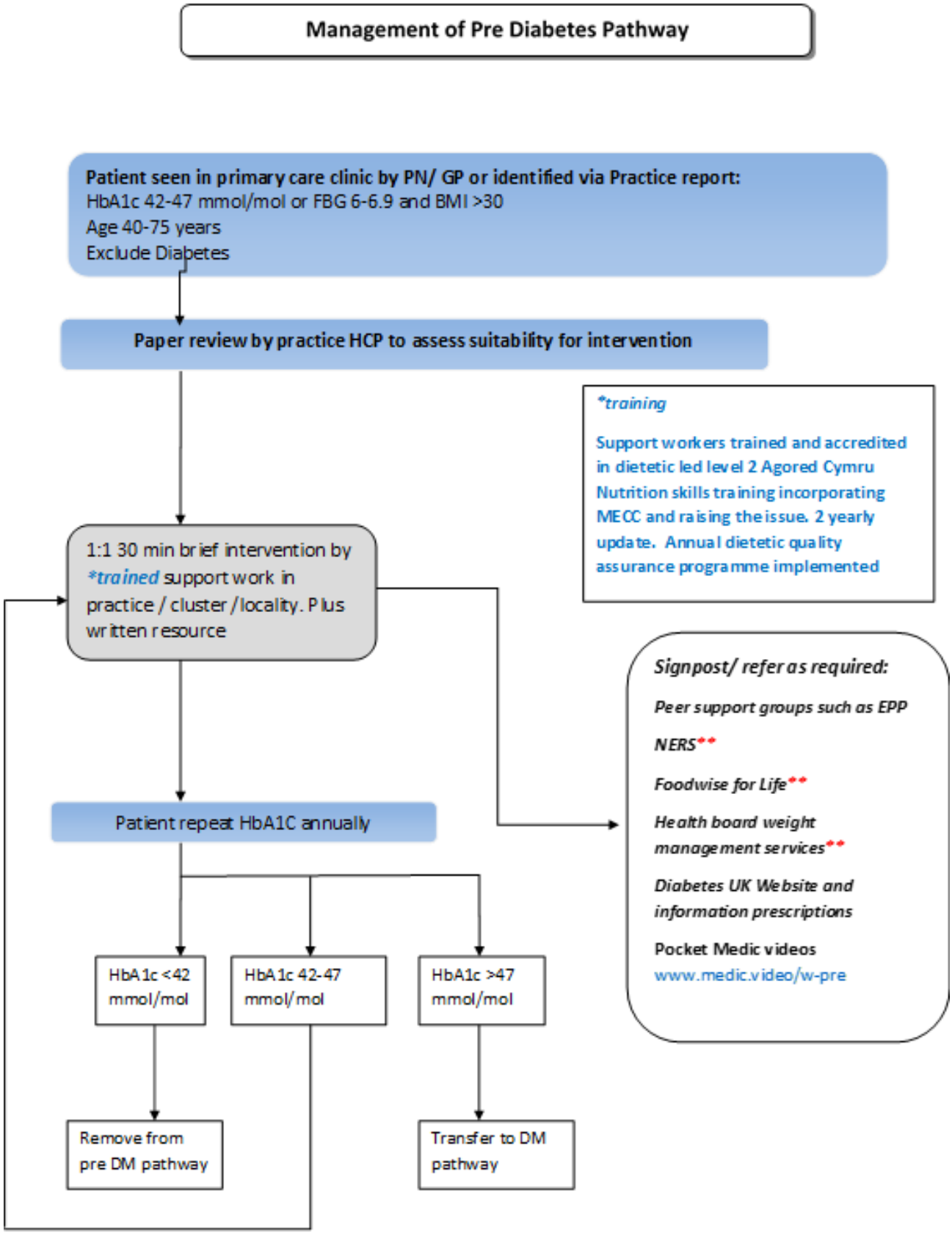
- Prof Steve Luzio and Dr Sharon Parsons, Diabetes Research Unit Cymru, Swansea University

10. Appendix Content

- **Appendix 1:-** Pre Diabetes Pathway
- **Appendix 2:-** Resource Pack, Work Plan and Consultation Script
- **Appendix 3:-** Post Clinic Evaluation Form
- **Appendix 4:-** Issue and Idea Log
- **Appendix 5:-** Follow up Telephone Review Questionnaire
- **Appendix 6:-** Catalogue of available Clinic and HCSW Training Resources developed by the Nutrition and Dietetic Department in SBUHB

Prepared by Carol Brock and Rachel Long
14th December 2020

APPENDIX 1: Pre Diabetes Pathway

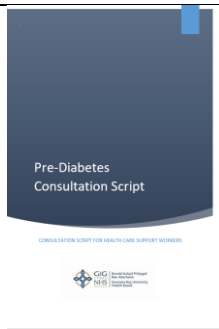


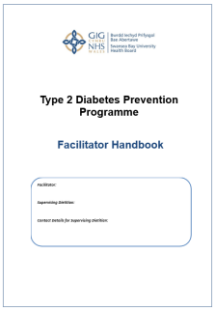
Prepared by Carol Brock and Rachel Long
14th December 2020

APPENDIX 2 : Resource Pack, Work Plan and Final Edition of Consultation Script

Resource Pack

Each HCSW was provided with the following resources:-

<table>
<tr><td>Consultation script</td><td> 



First Draft Final Draft (developed during Project)</td></tr>
<tr><td>Telephone Script</td><td>Good morning/good afternoon

Please may I speak with (confirm patient's details)……

My name is …….. I am a health care support worker working within your GP Surgery …….. (state surgery)

You may remember you had a blood test …….. (state when).

From your blood test, your GP has identified your blood glucose levels are higher than normal but not high enough to be called diabetes.

This is called pre-diabetes. It means you have raised blood glucose levels and are at a higher risk of developing type 2 diabetes in the future.

More than half of all cases of Type 2 diabetes can be prevented or delayed by undertaking positive lifestyle changes.

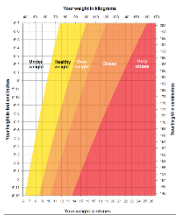
We are currently working within your GP surgery to offer all patients identified with high blood glucose levels support and advice.

Appointments are available on selected days during your surgeries opening times and will consist of a 20minute consultation.

During the consultation, the following will be discussed:-

- Why your blood sugar levels are high/ what is pre-diabetes?
- How you can make lifestyle changes to reduce your risk of developing diabetes
- How increasing activity levels can help
- Why it is important to eat a healthy balanced diet

I am therefore phoning to enquire whether you would like to make an appointment to come into the surgery</td></tr>
<tr><td>Laminated copy of Eat well Guide/BMI chart/5% weight loss chart</td><td> 

 </td></tr>
<tr><td>Power point slides</td><td> 


</td></tr>
</table>

Prepared by Carol Brock and Rachel Long
14th December 2020

Diabetes UK Resources	 ”What to do if you are at risk”  ”Know your risk”

Work Plan

Sample work plan/clinic schedule:-

Morning Session

9.00am -9.30am	Patient appointment 20mins. Write up 10mins
9.30am- 10.00am	Patient appointment 20mins, Write up 10mins
10.00am-10.30am	Patient appointment 20mins, Write up 10mins
10.30am-11.00am	Patient appointment 20mins, Write up 10mins
11.00am-11.30am	Patient appointment 20mins, Write up 10mins
11.30am – 12.00pm	Patient appointment 20mins, Write up 10mins

Afternoon Session

1.00pm- 5.00pm	Administration time to phone patients and book into appointments for next 2-4 weeks

Prepared by Carol Brock and Rachel Long
14th December 2020

Final Edition of Consultation Script

Type 2 Diabetes Prevention Programme

Facilitator Handbook

Facilitator:

Supervising Dietitian:

Contact Details for Supervising Dietitian:

Prepared by Carol Brock and Rachel Long
14th December 2020

Reducing your Risk of Type 2 Diabetes

Clinic Checklist

		Completed	Documentation
Introduction **(1 mins)**	• Introduce yourself and your role • Check patients details (Name, Address, DOB, Contact telephone number) • Explain the purpose of the consultation • Gain consent • Check they have watched "Invitation video" prior to consultation and answer any questions	☐ ☐ ☐ ☐ ☐	
Identification of Risk **(3 mins)**	• Provide HbA1c result • ***Ask and Record:-- Do you have a family history of diabetes?*** • If not watched video, play "Invitation video" or discuss "Pre-diabetes section" in handbook	☐ ☐ ☐	
How to reduce risk **(1 min)**	• Explain the risk factors you can change to reduce risk (Healthy Eating. Moving more and achieving a healthy weight)	☐	
Weight Check **(3 mins)**	Explain importance of maintaining a healthy weight **If in clinic *Ask, Measure and Record:-*** ✓ Weight ✓ Height ✓ Waist Circumference **If virtually/telephone:-** ✓ **Ask and Record:** - ***Have you weighed recently?*** ✓ Work out BMI from weight provided or use BMI on record • If BMI overweight/obese/very obese **Ask and Record:-*Is reducing your weight something you'd like to consider?*** • If yes, work out 5% target weight loss	☐ ☐ ☐ ☐ ☐ ☐	
Eating a Balanced Diet and Alcohol **(6 mins)**	• Give a general overview of the Eat Well Guide and benefits of healthy eating • Explain what foods and fluids affect blood glucose levels • Sugary foods • Starchy foods • Natural sugars • Fatty foods • Portion Sizes	☐ ☐ ☐ ☐ ☐ ☐ ☐	

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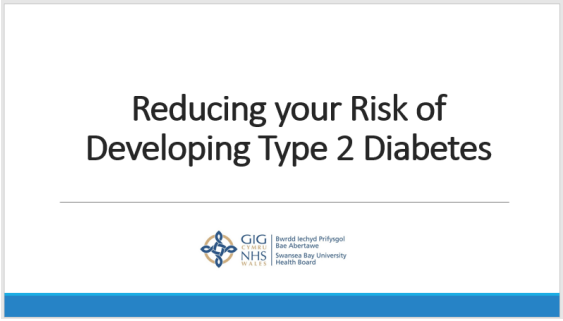
	• ***Ask and record:- "Do you drink alcohol? If so, how much on average, do you drink in a week?"*** • If does drink alcohol, discuss alcohol units • ***Ask and Record:- "Have you identified any foods that you eat regularly that maybe are affecting your blood glucose levels?"*** • ***Ask and Record:- "Do you feel able to make any changes to your eating patterns?"***	☐ ☐ ☐ ☐	
Keeping Active **(3 mins)**	• Inform of the current physical activity recommendations and benefits of exercise • ***Ask and Record: - "Do you take part in any physical activity at the moment?"*** • ***Ask and Record:- "Do you feel able to make any changes to your physical activity levels?"*** • If appropriate, offer referral to NERS	☐ ☐ ☐ ☐	
Making Lifestyle changes **(6 mins)**	• ***Ask:- "As we have discussed, there are a range of possibilities that would help reduce your risk. How does this compare with what you are doing at the moment?"*** • ***Ask and Record:- "Is there anything that we could write down together today that will help you to work towards your goal?"*** • If the patient does want to consider making a change, Encourage at least one dietary and one physical activity goal, as a starting point.	☐ ☐ ☐	
Signposting and Close **(2 mins)**	• Provide with "Type 2 Diabetes: what to do if you're at risk" leaflet • Provide additional links leaflet/video link • Provide patient feedback form and encourage to complete on site anonymously	☐ ☐ ☐	
End of Clinic **(5mins)**	• Complete Patient Record	☐	
Total Consultation Time and write up = 30minutes			

INTRODUCTION AND WELCOME

Use PowerPoint Slide 1



Introduce yourself and your role

- Hi (***insert name***) how are you today? My name is (***insert name***) and I work as a Health Care Support Worker in your surgery.

- Can I check we have the most up to date details for you?

Check patients details

- ✓ Name:
- ✓ Address:
- ✓ DOB:
- ✓ Contact telephone number:

Explain the purpose of the consultation

- You have been asked to attend this appointment today, as from a recent blood test, your GP has identified, that your blood sugar levels are higher than normal.

- Today I was hoping to speak to you about:

- ✓ What this blood test means.
- ✓ Why it is important to take action when we identify high blood sugar levels.
- ✓ The lifestyle changes you can make, that can help to reduce your blood sugar levels.

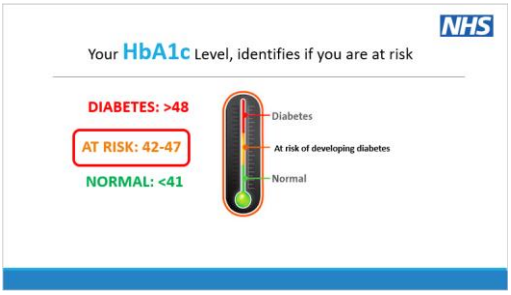
Gain consent to carry on with the consultation.

- Are you ok spending 20-30 minutes today, discussing this together?
- Before we start, can I check, if you have watched the invitation video we sent you when we arranged the appointment?

HOW HAVE YOU BEEN IDENFITIED AT RISK?

Explain blood glucose results in relation to normal levels.

Use PowerPoint Slide 2



- From a recent blood test, called HbA1c, it was found that your blood sugar level also known as blood glucose levels, are higher than normal.
- HbA1c gives an average blood glucose reading for the last 3 months.
- Your HbA1c level is ……..(Currently between 42-47mmols).
- This <u>does not</u> mean you are diabetic, but it is a warning sign that you are at high risk of developing Type 2 diabetes in the future. You may have heard your doctor or health care professional referring to this as “pre-diabetic” or “borderline diabetic”.

Note for HCSW: There are many different terms used to explain a higher than normal blood glucose level. These include Non-Diabetic Hyperglycaemia, Impaired Fasting Glucose (IFG), Impaired Glucose Tolerance (IGT), and Impaired Glucose Regulations (IGR). They all mean the same thing.

ASK AND RECORD

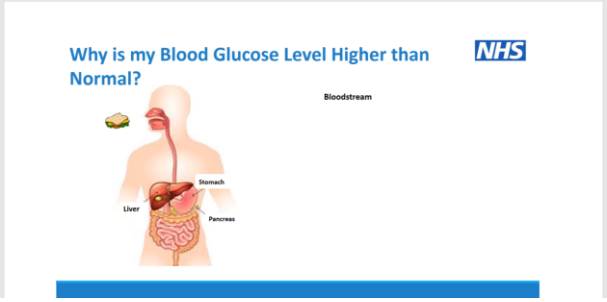
Do you have a family history of diabetes?

Why is your blood glucose level higher than normal, Health Implications and Risk Factors.

Note for HCSW: If the patient has not watched the “Invitation Video” then play animation on PowerPoint slide 3.

Play Animation – PowerPoint Slide 3

(If unable to access animation, provide explanation in Appendix **1)**



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REDUCING YOUR RISK

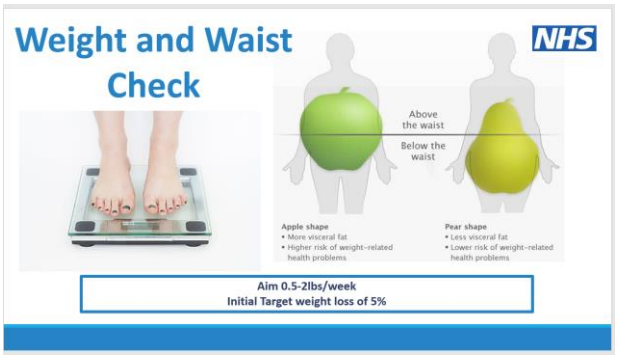
Use PowerPoint Slide 5

- To reduce your risk, it is important to focus on the factors that you can change.
- Making changes to certain parts of your lifestyle can have a huge impact.
- The foods you eat, your activity levels and your weight, are all factors that you can change.
- You can reduce your weight and waist measure, by making changes to your diet and increasing your activity levels.

WEIGHT CHECK

Explain the importance of maintaining a healthy weight

Use PowerPoint Slide 4



- Additional weight around your waist
  means fat can build up around your organs, like your liver and pancreas.
- This means the insulin your body produces does not work properly, and that increases your chance of having high blood glucose levels. This is called insulin resistance.

ASK AND RECORD

Would you like me to check your weight, height and waist measure today?

Notes for HCSW:

If telephone review/virtual review: -**ASK AND RECORD:- Have you weighed recently?**

Work out BMI from information provided or alternatively use BMI on GP record

See **Appendix 2B** to calculate BMI

If BMI classification is "Overweight/ Obese/Very Obese" discuss advantages of weight loss.

ASK AND RECORD:- Is reducing your weight something you would like to consider?

A weight loss of between 0.5-2lb a week is a safe and realistic target. Losing as little as 5% of your weight has been shown to have positive health outcomes:-

Physically	Emotionally
✓ Reduced risk of heart disease and stroke ✓ Reduced cholesterol levels ✓ Reduced blood pressure ✓ Reduced risk of some cancers ✓ Improved mobility and muscle	✓ Improves mood ✓ Improves sleep ✓ You feel better

See **Appendix 2D**– to calculate 5% target weight loss

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14th December 2020

EATING A HEALTHY BALANCED DIET

Use PowerPoint Slide 6

- There is no specialised diet for someone who is at risk of developing Type 2 diabetes. The advice is to follow a healthy balanced diet. A balanced diet is all about variety.

- The "Eatwell Guide" is a model used in the UK, to show us visually what a "healthy balanced diet" looks like.

- The "Eatwell Guide" consists of 5 sections, known as food groups. Foods containing similar nutrients are grouped together. The 5 food groups include:-

Fruit and vegetables	Provides us with vitamins and minerals for immune health
Potatoes, bread, rice, pasta and other starchy carbohydrates	Provides us with our main source of energy
Beans, pulses, fish, eggs, meat and other proteins	Provides us with protein for muscle repair and growth
Dairy and alternatives	Provides calcium and protein for strong bones and teeth
Oil and spreads	Provides us with essential fats

- If we choose a variety of foods from each of these food groups and try to eat more of the foods in the bigger groups, and less of those in the smaller groups, it can really help us to achieve a balance.

- Something else, which is important, is to try to eat regular meals throughout the day, so breakfast, lunch and evening meal. This will help to control your blood glucose levels and help to control your appetite, which in turn can reduce the risk of snacking on unhealthier foods throughout the day.

Notes for HCSW: See **Appendix 3** for Eatwell Guide and **Appendix 4** for Frequently Asked Questions

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FOODS AFFECTING YOUR BLOOD GLUCOSE LEVELS

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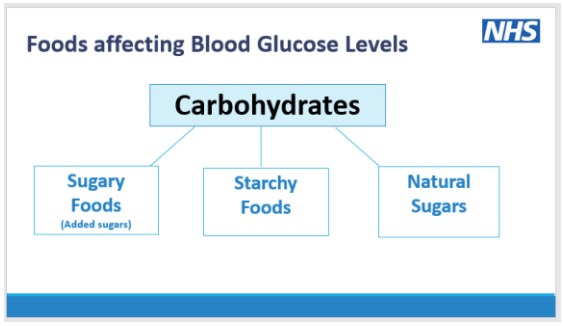

- **Carbohydrates** affect our blood glucose levels.
- Carbohydrates are “sugary foods”, “starchy foods” and natural sugars”. They all breakdown into glucose when digested and will raise your blood glucose levels

Sugary Foods

Use PowerPoint Slide 8

- Everybody should be aiming to eat less sugar.
- The current guidance for adults is to have less than 30g/day, which is under 7 cubes.
- This can add up in our diets very quickly e.g. 1 chocolate biscuit contains 1 cube of sugar and 1 standard chocolate bar can contain up to 6 cubes of sugar.
- Other foods that contain a lot of sugar include cakes, puddings, sweets, ice cream and ice-lollies, syrups and jams. Not only do these foods contain sugar, but they also contain lots of calories, which can lead you to gain weight.
- These foods should therefore only be consumed occasionally and not every day.
- Sugar in hot beverages should be used sparingly or replaced with sweeteners.
- Fizzy drinks and energy drinks also contain lots of sugar. For example, a 330ml can of a fizzy drink can contain up to 9 cubes of sugar. Therefore, try to limit these or opt for diet drinks. No added sugar squash or water are good alternatives to keep you hydrated.

Starchy Foods

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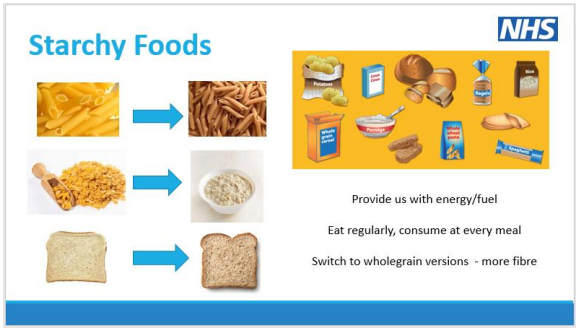


- Starchy foods such as breads, potatoes, rice, cereal, pastas, naan and chapatti's are your body's main source of fuel. These foods should make up just over a third of the food we eat.

- When these foods are digested, they are broken down into glucose, which will affect your blood glucose levels.

- Higher fibre wholegrain varieties (wholemeal pasta, porridge and wholemeal bread) are digested slower, compared to the white versions.

- As they are digested slower, they will have less of an impact on the rise of your blood glucose levels. They will also make you feel fuller for longer. Therefore, it is best to try to include wholegrain varieties where possible.

Use PowerPoint Slide 10

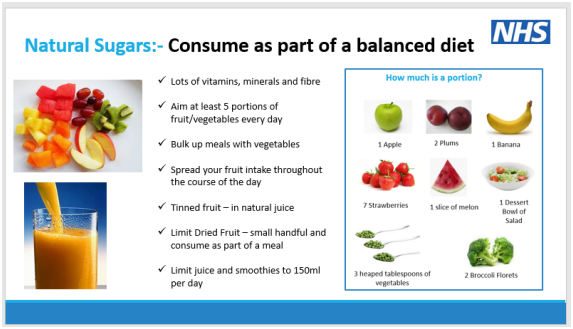
- It is also important to be mindful of the amount of starchy foods you are eating. You may find that your portion sizes are larger than what is recommended, and this can make managing your weight and blood glucose levels more difficult.

- Starchy carbohydrates should be consumed at every meal, but only fill a 1/4 of your plate. Depending upon your physical activity levels, you should aim between 6-9 portions daily. This is around 2 portions at each meal. The slide shows what equals 1 portion of starchy carbohydrate.

Notes for HCSW: See **Appendix 5** for Portion Sizes Guide

Natural Sugars

Use PowerPoint Slide 11



- Natural sugars occur naturally in foods; however, they should be consumed as part of a healthy balanced diet.

- Fruit contains natural sugar, but both fruit and vegetables are naturally low in calories and packed full of vitamins, minerals and fibre, which are important for health.

- You should aim to consume 5 portions of a mixture of fruit and vegetables daily – fresh and frozen all count. Try to include a source of fruit or vegetables at each meal and bulk up on vegetables where you can.

- A portion of fruit or veg is about 80g, which is shown here on the slide.

Notes for HCSW: See **Appendix 5** for Portion Sizes Guide.

- As fruit is higher in natural sugar, you should aim to spread your fruit intake throughout the course of the day.

- You should also be mindful, to choose tinned fruit in natural juice rather than syrup, limit dried fruit to 1 tablespoon/day and limit juices and smoothies to only 150ml/day.

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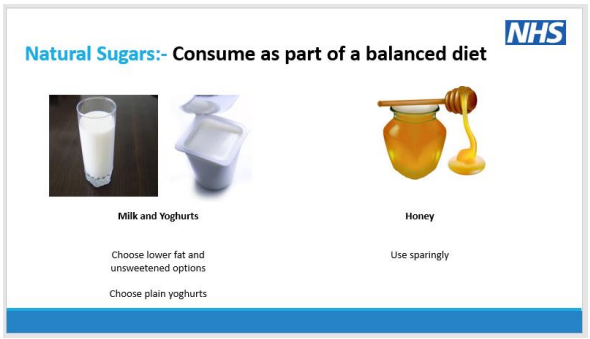

- Milk and yoghurts also contain natural sugars. Where able, try to purchase unsweetened, low fat options.
- Even though, honey is marketed as a healthy option, it contains a lot of natural sugar, so therefore it should be used sparingly.

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14th December 2020

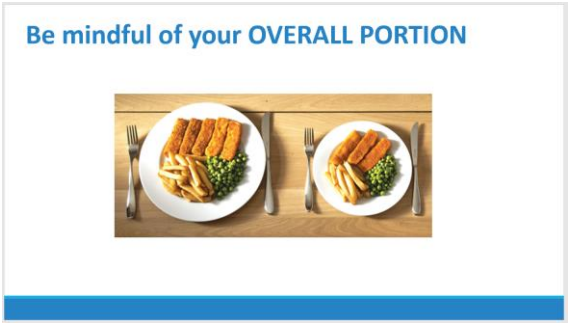
Foods high in Fat

Use PowerPoint Slide 13

- Fat and fatty foods do not increase our blood glucose levels; however, fat is high in calories and if consumed in large amounts frequently, can result in us gaining weight.
- Foods, which are high in fat, include all processed foods, takeaways, fried foods, butter, and cheese.
- Where you can, try to limit takeaways, processed foods and fried foods.
- Remove all visible fat off meat and consider using leaner types of protein such as chicken, oily fish and plant-based sources such as beans or lentils.
- Use low fat cheese and low fat dairy products where possible and instead of butter opt for olive based spreads and oils, but use sparingly.

Overall Portion Sizes

Use PowerPoint Slide 14



- Being mindful of the portions you consume at a meal will also help reduce your weight. The larger the meal, the more calories. So try reducing your portion at your next meal or consider using a smaller plate.

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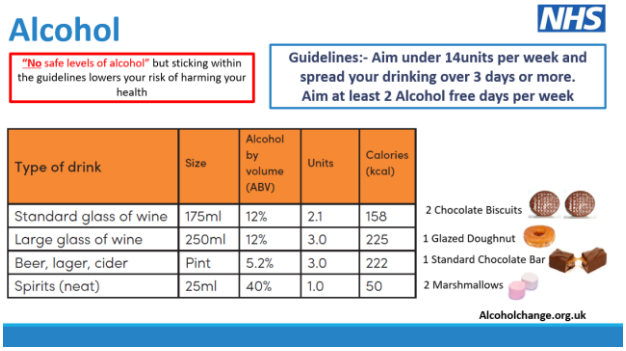
Alcohol

ASK AND RECORD

Do you drink alcohol? If so, how much on average, do you drink in a week?

Use PowerPoint Slide 15



Notes for HCSW: If the patient does not drink alcohol, you can skip this slide.

- Alcohol does interfere with your blood glucose levels and contains lots of calories so can lead to weight gain. Heavy drinking can also lead to lots of other health problems with blood pressure, heart disease and cancer.

- Men and women should not exceed more than 14units a week and should not regularly drink more than 2-3 units per day, with 2 free alcohol days/week.

- Even though alcohol is a drink, some alcoholic drinks contain a similar calorie content to some of our foods.

Dietary Changes

ASK AND RECORD

Have you identified any foods/fluids that you eat /drink regularly that maybe are increasing your blood glucose levels?

ASK AND RECORD

"Do you feel able to make any changes to your dietary patterns?"

Notes for HCSW: Allow some time for the patient to think about their dietary intake. Make a note of any foods that the patient identifies.

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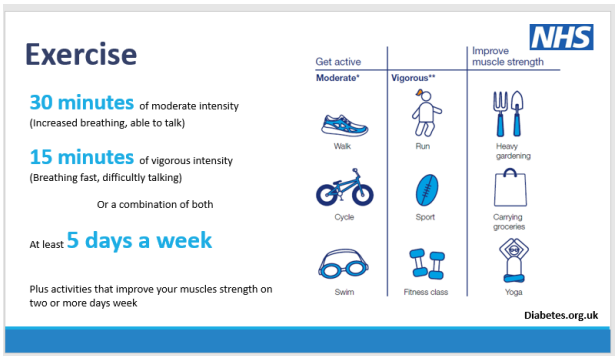
KEEPING ACTIVE

Use PowerPoint Slide 16



- Keeping active is very important to reduce your risk of Type 2 diabetes. Keeping active can also

✓ Increase your energy levels ✓ Lower your risk of heart disease and stroke ✓ Helps to control your weight ✓ Helps to reduce your blood pressure ✓ Helps with your emotional health

- Guidelines recommend, that you are active for 30minutes daily where you undertake moderate intensity exercise, or for 15minutes daily of vigorous intensity exercise, or a combination of both, for 5 days a week.

- Housework, walking up and down stairs, shopping, gardening, swimming and cycling are all classed as activity.

ASK AND RECORD

Do you take part in any physical activity at the moment?

ASK AND RECORD

"Do you feel able to make any changes to your physical activity levels?"

Note for HCSW: If the patient reports any medical problems, which is preventing them from increasing their activity levels, then it is important to inform them they should speak to their GP before they consider increasing their exercise levels.

Note for HCSW: If the patient is already engaging in physical activity, use positive re-enforcement and encourage them to continue e.g. *"That's good that you are already physical active, it will really help manage your blood glucose levels"*

- If apprporitate, discuss a referral onto the National Exerise on Referral Scheme (NERS) - see Appendix 6.

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MAKING LIFESTYLE CHANGES

Use PowerPoint Slide 17

- We understand that everyone is different.
- Before attempting to make a lifestyle change, think about, what is important to you and what lifestyle goals you would like to set. These goals should be specific to you and your needs.

ASK

"As we have discussed, there are a range of possibilities that would help reduce your risk. How does this compare with what you are doing at the moment?"

ASK AND RECORD

"Is there anything that we could write down together today that will help you to work towards your goal?"

Note for HCSW:

If the patient identifies areas of their lifestyle they would like to change, discuss and reinforce the following:-

- It is impossible to change everything all at once.
- Start with setting 1-2 goals. Maybe changing one aspect of diet and including one physical activity goal.
- Encourage patients to focus on achieving these goals first, before setting themselves any new or additional goals.
- Try to encourage the patient to set themselves small goals. The goals should be specific to them and should be goals they feel they can achieve in a realistic timeframe.

Note for HCSW:

If patient cannot think of any changes:-

- ***ASK*** *"Would you like me to tell you about some of the things that have worked well for some people?"*

If patient does not want to think of any changes

- **REASSURE:-** *"That's ok if you aren't ready to make any changes at this moment in time"*
- Encourage them to use the resources provided and explain they can make their own action plans in

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SIGNPOSTING AND CLOSE

Provide patient with "Type 2 Diabetes: what to do if you're at risk" booklet and highlight "My Action Plan" section.

If undertaking the review virtually/via telephone, an electronic copy can be sent to the patient or a copy can be posted out.

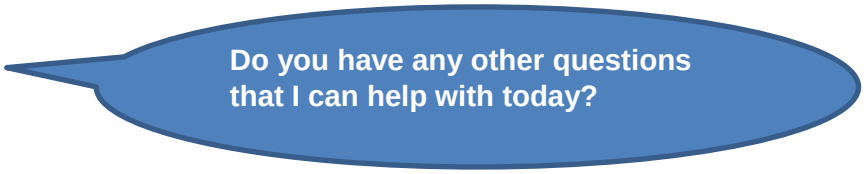
Signpost to "Useful links" in booklet and offer access to: - Swansea Bay UHB "Patient Information Video".

- Thank you for your time today, I hope you have found this helpful. You will be invited back to the surgery in 6-12 months for a repeat blood test to monitor your HbA1c.
- If you are able to make any changes in this time, we hope we will see a reduction in your HbA1c result.

Provide patient with feedback form

- We would be very grateful if you can complete this feedback form before you leave today. Is it possible for you to fill this in outside and hand it back into reception staff?

ASK AND RECORD



Note for HCSW: **If the patient is still smoking** and is thinking about stopping smoking, signpost them to HELP ME QUIT WALES – Appendix 7

Note for HCSW: Signpost the patient to any additional follow on links/services you feel they may benefit from – see appendix 8.

Note for HCSW: Anything you are unable to answer, inform patient that you will find out this information for them. Contact the Dietitian you are working with, who will be able to support you with finding evidence based answers. They will also share this information with the rest of the HCSW group.

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Appendix

Appendix 1	**Explanation of Diabetic Risk**
Appendix 2	**Anthropometric Guidance** • **Weight and Height conversion** • **BMI Conversion** • **Waist Circumference** • **5% weight loss**
Appendix 3	**Eatwell Guide**
Appendix 4	**Frequently Asked Questions**
Appendix 5	**Portion Size Guide**
Appendix 6	**National Exercise On Referral Scheme (NERS) Information**
Appendix 7	**Stop Smoking Services – Help Me Quit**
Appendix 8	**Additional follow on link/services**

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14th December 2020

Appendix 1: -Explanation of Diabetic Risk

1) Why is your blood glucose level higher than normal?

- When we eat, food is broken down in the stomach by a process called digestion.
- Food is made up of three main nutrients: carbohydrates, protein and fat.
- All carbohydrate foods break down into sugar, also known as glucose and is absorbed into the bloodstream.
- We all need glucose for energy to help our body function.
- Our pancreas, releases a hormone called insulin. Insulin controls the levels of glucose in the blood. Insulin acts like a key and opens up our cells, so the glucose can move from our blood into our cells, to fuel our body.
- When you are pre-diabetic, the insulin does not work properly or your pancreas is not producing enough. This means your body is not removing the glucose from your blood as efficiently, as it normally would. As a result, your blood glucose levels rise.

2) Symptoms

- When you are prediabetic you are unlikely to have any symptoms.
- Some people can go many years, without knowing that they are pre-diabetic and it is only picked up after having a routine blood test.
- Over time, if your blood glucose levels become very high, you may develop symptoms such as feeling very tired, feeling extremely thirsty, needing to pass urine a lot, cut and grazes taking a long time to heal and getting infections such a thrush.

3) Health implications and Risk Factors

- Over time, if your blood glucose levels remain high, this could lead to further health complications, which can affect your

✓ Heart ✓ Kidneys ✓ Eyesight ✓ Cause Nerve Pain or Nerve Damage ✓ Cause problems with your feet

- Diabetes also becomes harder to control as time goes on, that is why it is important to consider making changes now.
- You are at higher risk of developing type 2 diabetes if you are:-

✓ White and over the age of 40 years old ✓ African-Caribbean, Black African, or South Asian and over 25 years old ✓ Have a parent, brother, sister or child with diabetes ✓ Have high blood pressure. ✓ Overweight, especially if you carry weight around your middle

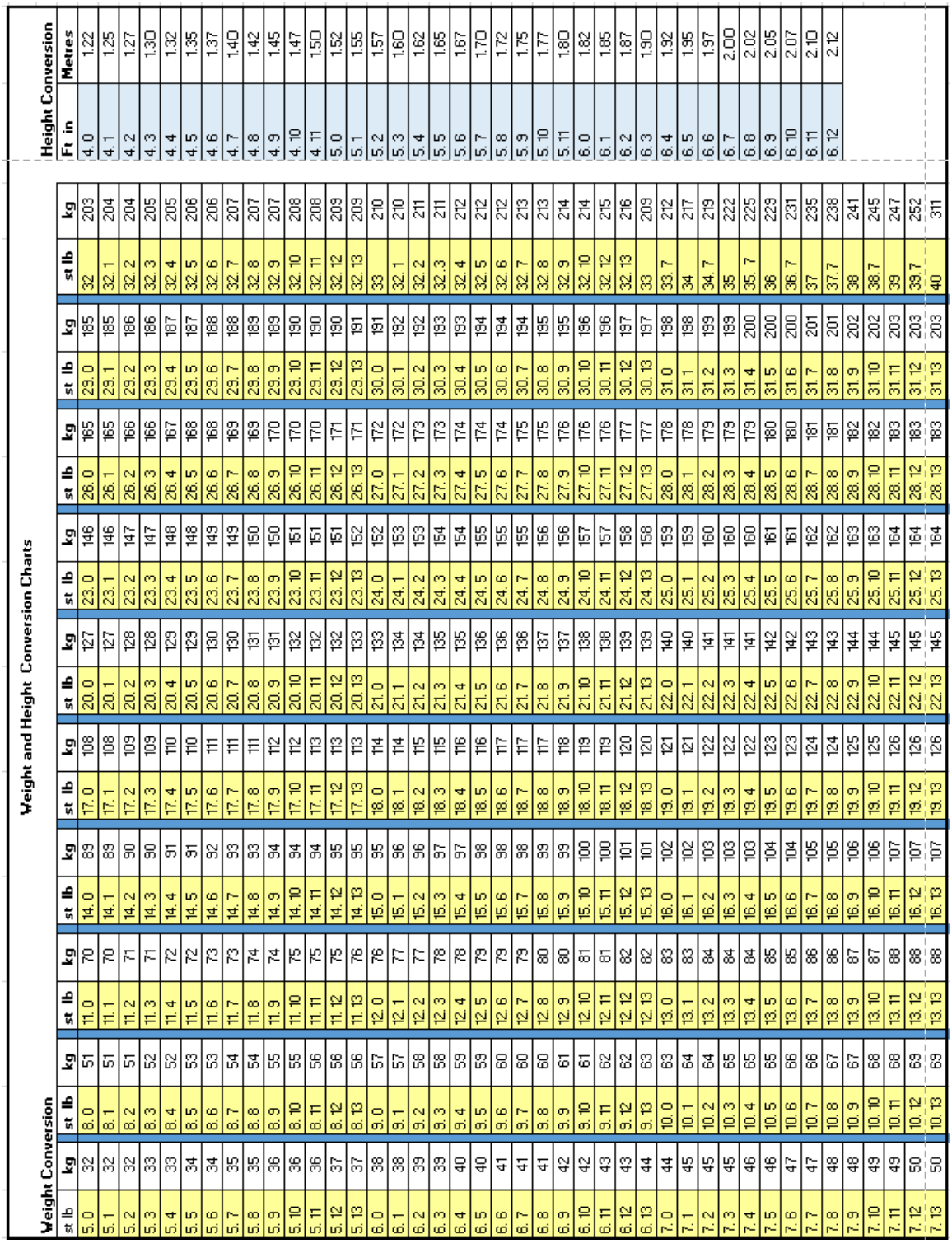
Appendix 2:- Anthropometric Guidance

A) Weight and Height Conversion

Note for HCSW:

Measuring Weight:- Take off shoes and coat.

Measuring Height:- Take off shoes, stand with your back against the stadiometer and feet together. Stand as straight as possible. The stadiometer head board should be lowered onto the head ensuring



Weight and Height Conversion Charts

Weight Conversion st lb	kg	st lb	kg	st lb	kg	st lb	kg	st lb	kg	st lb	kg	st lb	kg	st lb	kg	st lb	kg	st lb	kg	st lb	kg
5.0	32	8.0	51	11.0	70	14.0	89	17.0	108	20.0	127	23.0	146	26.0	165	29.0	185	32	203
5.1	32	8.1	51	11.1	70	14.1	89	17.1	108	20.1	127	23.1	146	26.1	165	29.1	185	32.1	204
5.2	32	8.2	51	11.2	71	14.2	90	17.2	109	20.2	128	23.2	147	26.2	166	29.2	186	32.2	204
5.3	33	8.3	52	11.3	71	14.3	90	17.3	109	20.3	128	23.3	147	26.3	166	29.3	186	32.3	205
5.4	33	8.4	52	11.4	72	14.4	91	17.4	110	20.4	129	23.4	148	26.4	167	29.4	187	32.4	205
5.5	34	8.5	53	11.5	72	14.5	91	17.5	110	20.5	129	23.5	148	26.5	168	29.5	187	32.5	206
5.6	34	8.6	53	11.6	73	14.6	92	17.6	111	20.6	130	23.6	149	26.6	168	29.6	188	32.6	206
5.7	35	8.7	54	11.7	73	14.7	93	17.7	111	20.7	130	23.7	149	26.7	169	29.7	188	32.7	207
5.8	35	8.8	54	11.8	74	14.8	93	17.8	111	20.8	131	23.8	150	26.8	169	29.8	189	32.8	207
5.9	36	8.9	55	11.9	74	14.9	94	17.9	112	20.9	131	23.9	150	26.9	170	29.9	189	32.9	207
5.10	36	8.10	55	11.10	75	14.10	94	17.10	112	20.10	132	23.10	151	26.10	170	29.10	190	32.10	208
5.11	36	8.11	56	11.11	75	14.11	94	17.11	113	20.11	132	23.11	151	26.11	170	29.11	190	32.11	208
5.12	37	8.12	56	11.12	75	14.12	95	17.12	113	20.12	132	23.12	151	26.12	171	29.12	190	32.12	209
5.13	37	8.13	56	11.13	76	14.13	95	17.13	113	20.13	133	23.13	152	26.13	171	29.13	191	32.13	209
6.0	38	9.0	57	12.0	76	15.0	95	18.0	114	21.0	133	24.0	152	27.0	172	30.0	191	33	210
6.1	38	9.1	57	12.1	77	15.1	96	18.1	114	21.1	134	24.1	153	27.1	172	30.1	192	32.1	210
6.2	39	9.2	58	12.2	77	15.2	96	18.2	115	21.2	134	24.2	153	27.2	173	30.2	192	32.2	211
6.3	39	9.3	58	12.3	78	15.3	97	18.3	115	21.3	135	24.3	154	27.3	173	30.3	193	32.3	211
6.4	40	9.4	59	12.4	78	15.4	97	18.4	116	21.4	135	24.4	154	27.4	174	30.4	193	32.4	212
6.5	40	9.5	59	12.5	79	15.5	98	18.5	116	21.5	136	24.5	155	27.5	174	30.5	194	32.5	212
6.6	41	9.6	60	12.6	79	15.6	98	18.6	117	21.6	136	24.6	155	27.6	174	30.6	194	32.6	212
6.7	41	9.7	60	12.7	79	15.7	98	18.7	117	21.7	136	24.7	155	27.7	175	30.7	194	32.7	213
6.8	41	9.8	60	12.8	80	15.8	99	18.8	117	21.8	137	24.8	156	27.8	175	30.8	195	32.8	213
6.9	42	9.9	61	12.9	80	15.9	99	18.9	118	21.9	137	24.9	156	27.9	176	30.9	195	32.9	214
6.10	42	9.10	61	12.10	81	15.10	100	18.10	119	21.10	138	24.10	157	27.10	176	30.10	196	32.10	214
6.11	43	9.11	62	12.11	81	15.11	100	18.11	119	21.11	138	24.11	157	27.11	176	30.11	196	32.12	215
6.12	43	9.12	62	12.12	82	15.12	101	18.12	120	21.12	139	24.12	158	27.12	177	30.12	197	32.13	216
6.13	44	9.13	63	12.13	82	15.13	101	18.13	120	21.13	139	24.13	158	27.13	177	30.13	197	33	209
7.0	44	10.0	63	13.0	83	16.0	102	19.0	121	22.0	140	25.0	159	28.0	178	31.0	198	33.7	212
7.1	45	10.1	64	13.1	83	16.1	102	19.1	121	22.1	140	25.1	159	28.1	178	31.1	198	34	217
7.2	45	10.2	64	13.2	84	16.2	103	19.2	122	22.2	141	25.2	160	28.2	179	31.2	199	34.7	219
7.3	45	10.3	65	13.3	84	16.3	103	19.3	122	22.3	141	25.3	160	28.3	179	31.3	199	35	222
7.4	46	10.4	65	13.4	84	16.4	103	19.4	122	22.4	141	25.4	160	28.4	179	31.4	200	35.7	225
7.5	46	10.5	65	13.5	85	16.5	104	19.5	123	22.5	142	25.5	161	28.5	180	31.5	200	36	229
7.6	47	10.6	66	13.6	85	16.6	104	19.6	123	22.6	142	25.6	161	28.6	180	31.6	200	36.7	231
7.7	47	10.7	66	13.7	86	16.7	105	19.7	124	22.7	143	25.7	162	28.7	181	31.7	201	37	235
7.8	48	10.8	67	13.8	86	16.8	105	19.8	124	22.8	143	25.8	162	28.8	181	31.8	201	37.7	238
7.9	48	10.9	67	13.9	87	16.9	106	19.9	125	22.9	144	25.9	163	28.9	182	31.9	202	38	241
7.10	49	10.10	68	13.10	87	16.10	106	19.10	125	22.10	144	25.10	163	28.10	182	31.10	202	38.7	245
7.11	49	10.11	68	13.11	88	16.11	107	19.11	126	22.11	145	25.11	164	28.11	183	31.11	203	39	247
7.12	50	10.12	69	13.12	88	16.12	107	19.12	126	22.12	145	25.12	164	28.12	183	31.12	203	39.7	252
7.13	50	10.13	69	13.13	88	16.13	107	19.13	126	22.13	145	25.13	164	28.13	183	31.13	203	40	311

Height Conversion Ft in	Metres
4.0	1.22
4.1	1.25
4.2	1.27
4.3	1.30
4.4	1.32
4.5	1.35
4.6	1.37
4.7	1.40
4.8	1.42
4.9	1.45
4.10	1.47
4.11	1.50
5.0	1.52
5.1	1.55
5.2	1.57
5.3	1.60
5.4	1.62
5.5	1.65
5.6	1.67
5.7	1.70
5.8	1.72
5.9	1.75
5.10	1.77
5.11	1.80
6.0	1.82
6.1	1.85
6.2	1.87
6.3	1.90
6.4	1.92
6.5	1.95
6.6	1.97
6.7	2.00
6.8	2.02
6.9	2.05
6.10	2.07
6.11	2.10
6.12	2.12

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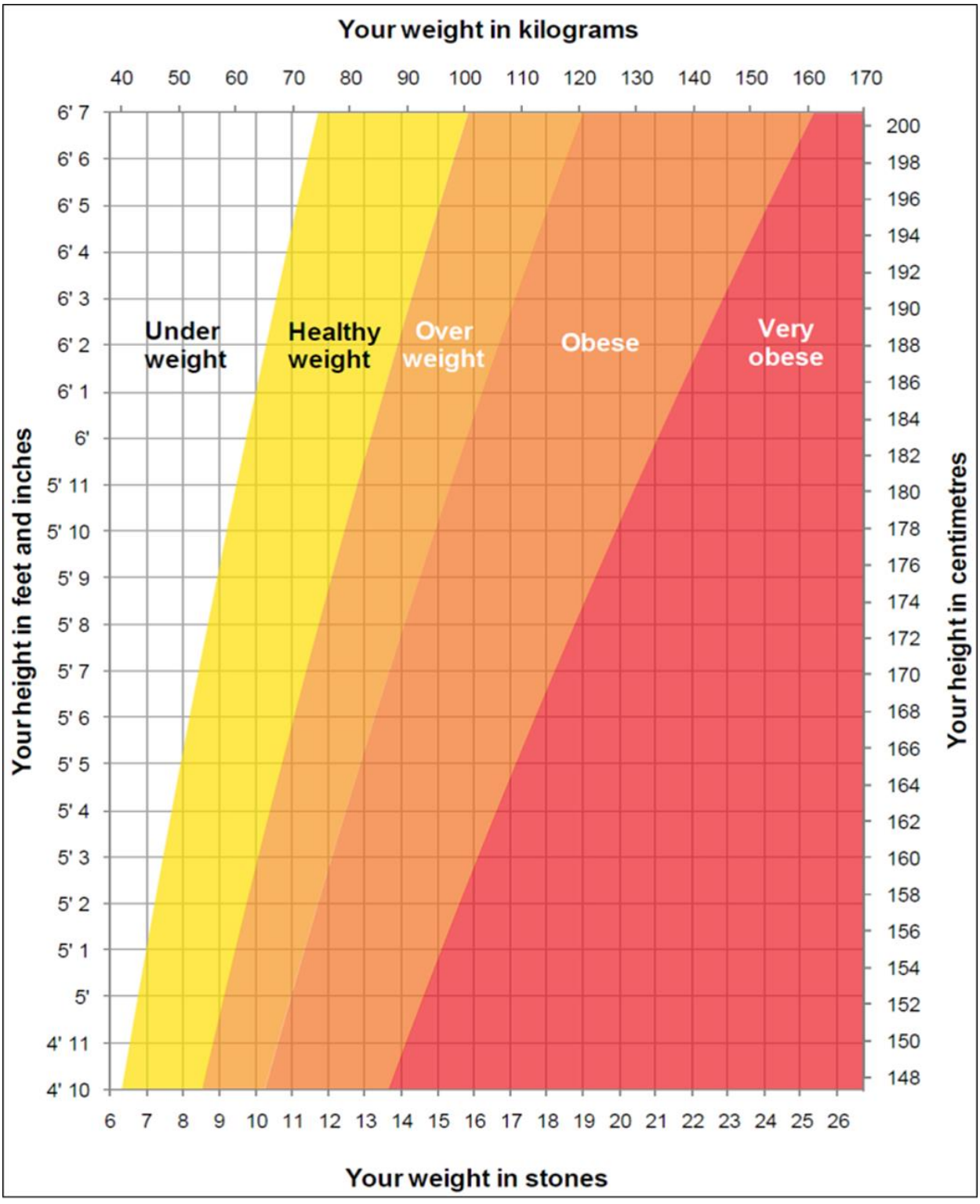
14th December 2020

B) Body Mass Index (BMI) conversion



Classification	BMI(kg/m^2)	BMI(kg/m^2) **for Asian Origin**
Underweight	<18.5	<18.5
Healthy Weight	18.5-24.9	18.5-22.9
Overweight	25-29.9	23-27.4
Obese	30-34.9	27.5-32.4
Very Obese	>35	>32.5

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C) Waist Circumference

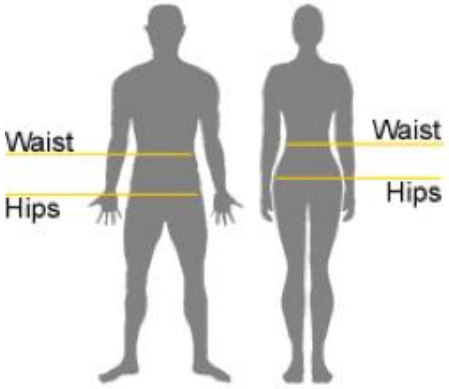
- Waist circumference is thought to be a more accurate measure of future health risk than body weight.
- The location of body fat makes a difference to a person's risk of diabetes and heart disease.
- People with excess fat around their waist (apple shape) are at greater risk of dying from heart disease than people carrying weight on their hips (pear shaped).
- For people with diabetes, carrying excess weight around their middle can make it more difficult to control.

Note for HCSW:.

Tips on how to measure waist circumference

To measure waist circumference, find the top of the hipbone and the bottom of the ribcage.

- In the middle of these two points is where you need to measure.
- For many people, the belly button is a good guide, but this might not be the case, so it is best to find that midpoint between the ribcage and hip.



Note for HCSW:.

Further points:

- Write down the measurement to the nearest centimetre (cm)
- Remove coat and cardigans for a more accurate measurement.
- Try not to 'suck in the stomach', try to be relaxed and breathe out gently.
- Can always take a measurement twice to check the reading

	Healthy Waist
Male	Less than 94cm ---- (Under 37inches) Less than 90cm – Asian Men ------ (Under 35 inches)
Female	Less than 80cm------(Under 31.5inches)

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14th December 2020

Healthy Weight Grampian

5% Weight Loss Calculator

NHS Grampian

D) 5% Weight Loss Chart

Start weight (kg)	5% loss = (kg)	Goal weight (kg)	Start weight (kg)	5% loss = (kg)	Goal weight (kg)	Start weight (kg)	5% loss = (kg)	Goal weight (kg)	Start weight (kg)	5% loss = (kg)	Goal weight (kg)	Start weight (kg)	5% loss = (kg)	Goal weight (kg)	Start weight (kg)	5% loss = (kg)	Goal weight (kg)
65	3.2	61.8	90	4.5	85.5	115	5.7	109.3	140	7.0	133.0	165	8.2	156.8	190	9.5	180.5
65	3.3	62.7	91	4.5	86.5	116	5.8	110.2	141	7.1	133.9	166	8.3	157.7	191	9.5	181.5
67	3.3	63.7	92	4.6	87.4	117	5.8	111.2	142	7.1	134.9	167	8.3	158.7	192	9.6	182.4
68	3.4	64.6	93	4.6	88.4	118	5.9	112.1	143	7.2	135.8	168	8.4	159.6	193	9.6	183.4
69	3.5	65.5	94	4.7	89.3	119	5.9	113.1	144	7.2	136.8	169	8.5	160.5	194	9.7	184.3
70	3.5	66.5	95	4.7	90.3	120	6.0	114.0	145	7.3	137.7	170	8.5	161.5	195	9.7	185.3
71	3.6	67.4	96	4.8	91.2	121	6.0	115.0	146	7.3	138.7	171	8.6	162.4	196	9.8	186.2
72	3.6	68.4	97	4.8	92.2	122	6.1	115.9	147	7.4	139.6	172	8.6	163.4	197	9.8	187.2
73	3.6	69.4	98	4.9	93.1	123	6.1	116.9	148	7.4	140.6	173	8.7	164.3	198	9.9	188.1
74	3.7	70.3	99	4.9	94.1	124	6.2	117.8	149	7.5	141.5	174	8.7	165.3	199	9.9	189.1
75	3.7	71.3	100	5.0	95.0	125	6.2	118.8	150	7.5	142.5	175	8.8	166.2	200	10.0	190.0
76	3.8	72.2	101	5.0	96.0	126	6.3	119.7	151	7.5	143.5	176	8.8	167.2	201	10.1	190.9
77	3.9	73.1	102	5.1	96.9	127	6.3	120.7	152	7.6	144.4	177	8.9	168.1	202	10.1	191.9
78	3.9	74.1	103	5.1	97.9	128	6.4	121.6	153	7.6	145.4	178	8.9	169.1	203	10.2	192.8
79	3.9	75.1	104	5.2	98.8	129	6.4	122.6	154	7.7	146.3	179	9.0	170.0	204	10.2	193.8
80	4.0	76.0	105	5.2	99.8	130	6.5	123.5	155	7.7	147.3	180	9.0	171.0	205	10.2	194.8
81	4.0	77.0	106	5.3	100.7	131	6.5	124.5	156	7.8	148.2	181	9.1	171.9	206	10.3	195.7
82	4.1	77.9	107	5.3	101.7	132	6.6	125.4	157	7.8	149.2	182	9.1	172.9	207	10.3	196.7
83	4.1	78.9	108	5.4	102.6	133	6.6	126.4	158	7.9	150.1	183	9.2	173.8	208	10.4	197.6
84	4.2	79.8	109	5.4	103.6	134	6.7	127.3	159	7.9	151.1	184	9.2	174.8	209	10.4	198.6
85	4.2	80.8	110	5.5	104.5	135	6.7	128.3	160	8.0	152.0	185	9.3	175.7	210	10.5	199.5
86	4.3	81.7	111	5.5	105.5	136	6.8	129.2	161	8.1	152.9	186	9.3	176.7	211	10.5	200.5
87	4.3	82.7	112	5.6	106.4	137	6.8	130.2	162	8.1	153.9	187	9.4	177.6	212	10.6	201.4
88	4.4	83.6	113	5.6	107.4	138	6.9	131.1	163	8.2	154.8	188	9.4	178.6	213	10.6	202.4
89	4.4	84.6	114	5.7	108.3	139	6.9	132.1	164	8.2	155.8	189	9.5	179.5	214	10.7	203.3

1 kg = 2.2 pounds

Appendix 3:- Eatwell Guide

Prepared by Carol Brock and Rachel Long
14th December 2020

Appendix 4:- Frequently Asked Questions

Note for HCSW: If you require further information on any topic, please contact your supervising Dietitian

Chocolate	• Contains fat and sugar – high in calories per portion • Can choose dark chocolate, which has a stronger taste, which may result in you consuming less. • Diabetic chocolate is not recommended – still high in fat and sugar (just substituted for a different type) which still affects your blood sugar levels. It is often expensive and can have a laxative effect.
Cooking oils	• Choose unsaturated fats when cooking such as olive/sunflower/rapeseed based oils and spreads. These are much healthier than saturated fats including butter, lard and ghee • Coconut Oil -this is classed as a saturated fat. There is not good quality evidence to back up any of the health claims. Try to use unsaturated oils instead
Dietary Approaches to Stop Hypertension (DASH)	• A diet which is high in wholegrains, fruits, vegetables, poultry, fish, low fat dairy products, low in saturated fat and low in sugar. This dietary approach is used to reduce risk of high blood pressure (hypertension)
Diabetic Foods	• Products labelled “diabetic” such as chocolate, biscuits, jams or ice creams are not recommended. They are expensive and contain large amounts of sorbitol, which has a laxative effect when eaten in excess. Some products have the same amount of calories and fat as the non-diabetic equivalent.
Diet drinks and energy drinks	• Fizzy drinks contain a lot of sugar; if you are going to drink these, it is best to choose sugar free alternatives. • Energy drinks are very high in sugar and contain stimulants, usually caffeine. These should be avoided.
Food labelling	• “Fat Free”: means the product has to contain no fat, however products often add more sugar to replace the fat so check the ingredients list for any added sugars. • “Sugar Free”: means it has to be sugar free, again some products may add fat to replace the sugar. • “Low Fat” the product has 3g of fat or less per 100g • “Low Sugar”: the product has less than 5g of sugar per 100g • “No Added Sugar”: This means there is no additional sugar added to the product but there could still be naturally occurring sugar in the food (i.e. from fruit, milk) • “Reduced fat or sugar” contains 30% less fat or sugar than the standard version of the product. This does not necessarily mean it is a healthier option and in some cases the ‘light’ version can contain the same amount of fat and calories as the standard version of another brand.
Hydration	• The recommendations is to aim for 6-8 glasses of fluid per day. • Water, tea, coffee, milk, fruit juice (150ml only) and smoothies (150ml only) count towards sources of hydration • Choose no added sugar/sugar free drinks where possible
Low Carbohydrate Diets	• Following a very low carbohydrate diet, means cutting down on the amount of carbohydrate you eat in a day. • A low carbohydrate diet is usually based around consuming less than 130g carbohydrate/day • Carbohydrate foods contain essential vitamins, minerals and fibre, which form an important part of a healthy balanced diet. Following a “low carb” diet, will help

	you to lose weight, however there is no evidence that it is any more beneficial in managing diabetes than other approaches in the long term, including a healthy, and balanced diet.
Mediterranean Diet	• This diet is characterised by foods high in monounsaturated fats, vegetables, fruit, wholegrains, fish and legumes. Moderate alcohol intake – intake with meals. Lower intake of processed red meats, low in sugary foods and low in refine carbohydrates.
Nordic Diet	• Diet based around foods, higher in fibre, fruit, vegetables, berries, wholegrains, rapeseed oils, fish, low fat dairy, low in salt, low in sugar and low in saturated fat.
Oily fish	• Oily fish e.g. salmon, mackerel, kippers, are rich in omega-3 oils, which helps to protect our heart • Try to aim to eat two portions of fish per week, one of which to be oily • White fish such as cod and haddock, do not contain omega-3 oils, however they are low in saturated fat and are a good source of protein
Red Meat	• Red meat is any meat that is a dark red colour before its cooked – such as beef or lamb. Pork is also classed as a red meat • Processed meat is meat that's been cured, salted, smoked, or otherwise preserved in some way (such as bacon, sausages, hot dogs, ham, salami, pepperoni) • Processed meats are high in saturated fat and have been linked to an increased cancer risk • The recommendation is that anyone who eats 90g or more (cooked weight) of red meat per day, should consider cutting down to 70g or less • Choosing chicken or fish instead, can reduce our overall saturated fat intake or use less red meat in recipes and bulk it out by adding vegetables/pulses
Refined Carbohydrates	• Refined carbohydrates are foods which have been highly processed e.g. when the germ (which contains the fibre and micronutrients) in wholegrains, has been removed.
Salt	• Eating lots of salt can increase your risk of developing high blood pressure, which in turn increases your risk of heart diseases and stroke • When you have diabetes, you're already at a higher risk for all of those conditions (known as metabolic syndrome) • Try to limit salt to no more than 6g per day (one teaspoon). • Lots of pre-packaged foods contain salt so remember to check the food label and choose options with less salt where possible • Avoid adding salt to recipes. Use herbs/spices instead
Sweeteners	• Sweeteners are a low-calorie/calorie-free ingredient that are added to food to enhance the sweetness • Sweeteners are completely safe to consume in food and can be a useful substitute for sugar (only individuals with a rare disorder called phenylketonuria are advised to avoid sweeteners containing Aspartame) • Try swapping sugar in tea/coffee for sweetener
Vegan Diets	• A vegan diet is a plant-based diet, which avoids all animal foods such as meat, fish, dairy, eggs and honey. • Need to ensure consuming adequate protein from nuts, seeds and most of their nut butters (e.g. cashew, tahini, peanut, almond and Brazil), beans and pulses (e.g. butterbeans, chickpeas and lentils), vegetable milks (e.g. soya, almond and hempseed) Quinoa, soya products (e.g. tofu, soya cheese and soya milk) vegan Quorn.
Vegetarian Diets	• A vegetarian diet consists of grains, pulses, nuts, seeds, vegetables and fruits, with or without consuming dairy products and eggs. A vegetarian does not eat any meat, poultry, fish or shellfish. There are different types of vegetarian:- • Lacto –ovo- vegetarians – eat both dairy products and eggs but not meat or poultry or seafood • Lacto-vegetarians eat dairy products but avoids eggs, meat, poultry and seafood • Ovo-vegetarians – include eggs but avoids all other animal foods, including dairy • Pescetarians – eat fish and or shellfish • Semi-vegetarians (or flexitarians) – occasionally eat meat or poultry

Appendix 5:- Portion Sizes Guide

Being more aware of our portion sizes helps us to check we are:

- ✓ Eating enough of the foods that give us all the nutrients our body needs
- ✓ Not eating too many calories and taking in too much energy

Our bodies will store any extra energy that we don't use up, this can lead to weight gain.

The bigger the portion sizes of a food, the more energy or calories it will provide.

Over the years, food manufacturers, supermarkets and food outlets have increased the portion sizes of packaged foods. This can make it harder for us to recognise what a sensible portion to eat is, at a meal or snack time.

Portion Guide

Potatoes, bread, rice, pasta and other starchy carbohydrates

Aim for approximately 6-9 portions daily (depending on your physical activity level)

- 1 slice of bread (medium)
- 1/2 bread roll (medium) ½ pitta bread
- 3 tablespoons of breakfast cereal
- 3 crackers or crispbreads
- 2 egg-sized potatoes or ½ a jacket potato
- 2-3 heaped tablespoons of cooked rice, pasta, noodles or couscous

Fruit and vegetables

Aim for a minimum of 5 portions daily, a portion is:

- 3 heaped tablespoons of vegetables
- 1 small bowl of salad
- 1 apple, banana, pear, orange
- 1 handful of berries e.g. grapes, cherries
- 2 small fruits e.g. plums
- A small glass (150ml) of unsweetened pure fruit juice (counts as maximum of one portion a day)
- 1 tablespoon of raisins/2-3 dried apricots
- 1 large slice of melon or pineapple

Dairy and alternatives

Aim for 3 portions daily, a portion is:

- 1/3 pint (200ml) semi or skimmed milk
- 1 small pot of yoghurt/cottage cheese/fromage frais
- 30g (1oz) cheese (small matchbox-sized)
- 60g (2oz) light cream/soft cheese

Beans, pulses, fish, eggs, meat and other proteins

Aim for approximately 2-3 portions daily, a portion:-

- 60-90g (2-3oz) cooked lean meat, poultry (cooked)
- 140g (5oz) of cooked white fish (not fried or battered)
- 140g (5½ oz) oily fish
- Quorn (the size of a cheque book)
- 2 eggs
- 3-4 heaped tablespoons of pulses (red kidney beans, butter beans, lentils or chick peas)
- 2 tablespoons of plain nuts/nut products
- 3 tablespoons baked beans/1 small can

Try to include 2 portions of fish each week, one of which should be an oily fish

Oils and spreads

Choose unsaturated oils and their spreads and <u>use sparingly.</u>

- 1 teaspoon margarine/spread
- 2 teaspoons low fat spread

Fluids

Aim for 8-10 cups or glasses a day. You may need to drink more fluid if:-

- Exercising
- Unwell with vomiting or diarrhoea
- In warm weather
- Alcohol does not count in your fluid intake

Try to eat just a small amount of these.

Appendix 6:- National Exercise on Referral Scheme (NERS)

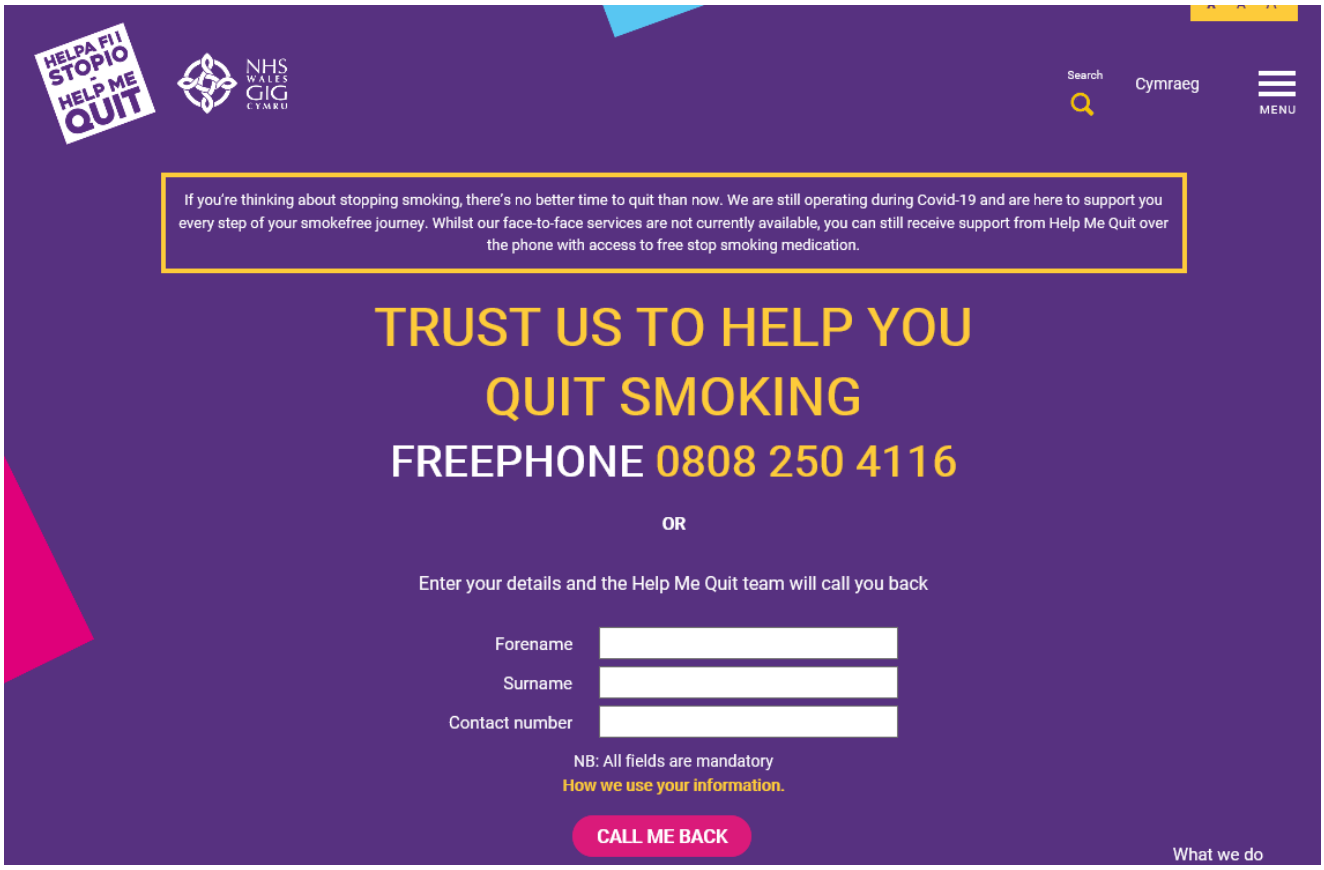
Note for HCSW: If you require further information on NERS please contact your supervising Dietitian

Prepared by Carol Brock and Rachel Long
14th December 2020

Appendix 7:- Stop Smoking Services –Help Me Quit

Note for HCSW: If you require further information, please visit the website https://www.helpmequit.wales/

Patients can either phone the Freephone number or go the website:- https://www.helpmequit.wales/ where patients can enter their details and a member of the Help me Quit team will call them back



Prepared by Carol Brock and Rachel Long
14th December 2020

Appendix 8:- Additional Follow on Links/Services

Note for HCSW: If the patient requires any additional support, please signpost to the below relevant links. You can print out a copy of this list for the patient to take home. Any further queries that you are not able to answer, then please contact your supervising Dietitian.

What would you like further help and support with?	
Understanding pre-diabetes	• **Pocket Medic:-** Free online health information videos, produced by NHS healthcare professionals and patients. Topics include:- "at risk of diabetes", "Eat well guide", "healthy eating", "Diabetes and weight" "Do you want to quit smoking". www.medic.video/a14-pre • **Diabetes UK:** Website, providing evidence based up to date information about diabetes/risk factors/diet/treatments/support groups/information leaflets, **https://www.diabetes.org.uk/preventing-type-2-diabetes**
Eating a healthy diet	• Change4life:- website providing lots of practical tips and ideas of making healthy food choices. https://www.nhs.uk/change4life/recipes • NHS "Eat well" – website link providing all up to date dietary information on eating well for health. https://www.nhs.uk/live-well/eat-well/ • Food co-ops provide cheap fruit, veg and salad for around £3-£4. Anyone can buy from a variety of locations. www.foodcoopswales.org.uk **Smart phone Apps:-** • Be food smart:- Find a food or drink barcode to quickly see what's inside. Find lots of simple hints and tips to help you make healthier food choices • Easy meals:- Easy meal ideas with great tips and the app creates handy shopping lists • **My diet coach**:- Diet diary and calorie counter with notifications in line with your goals, motivational reminders and tips.
Increasing your physical activity levels	• National Exercise on Referral Scheme (NERS):- Delivered in leisure centres across Swansea Bay – provides 16 weeks of supervised activity sessions at reduced rate. GP or practice nurse can refer onto programme https://www.wlga.wales/SharedFiles/Download.aspx?pageid=62&mid=665&fileid=2330 • Couch to 5k NHS:-9 week online plan to increase your exercise week by week to achieve 5k https://www.nhs.uk/live-well/exercise/couch-to-5k-week-by-week/

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	• Walking groups:- Website providing links to walking clubs in your local area and tips on increasing activity levels. https://walk4life.info/ • NHS Strength and Flex exercise online plan:- 5-week plan consisting of a series of equipment-free exercises designed to improve your strength and flexibility https://www.nhs.uk/live-well/exercise/strength-and-flex-exercise-plan/ **Smart phone Apps:-** • One you Active 10 walker tracker:- Tracks your walking patterns and distance
Losing weight	• NHS weight loss online plan. 12 week plan with dietary tips and exercise suggestions:- https://www.nhs.uk/live-well/healthy-weight/start-the-nhs-weight-loss-plan/
Stopping smoking	• Help me quit Wales:- Freephone **0808 250 6885** or visit https://www.helpmequit.wales/
Reducing alcohol intake	• Drink aware:- Drinkaware is an independent charity working to reduce alcohol misuse and harm in the UK. https://www.drinkaware.co.uk/ • Alcohol change:- Alcohol change is a charity working to reduce alcohol misuse and harm in the UK. https://alcoholchange.org.uk/ • WGCADA (Welsh Centre for Action on Dependency and Addiction) are a local voluntary organisation that offers advice and support to people with alcohol and drug problems. www.wcada.org Swansea:- 01792 472519 Neath:- 01656 667717 Port Talbot:- 01639 890863
Mental Health	• Mind. Mental health charity with lots of information and support guides https://www.mind.org.uk/ • NHS Every mind matters Campaign:- https://www.nhs.uk/oneyou/every-mind-matters/ • Samaritans 24hour listening support:- call 116 123 https://www.samaritans.org/?nation=wales • SHOUT offers confidential 24/7 crisis text support for times when you need immediate assistance. Text “SHOUT” to 85258 or visit https://www.giveusashout.org/

APPENDIX 3:- Post Clinic Evaluation Form

Pre-Diabetes Appointment - Evaluation Form

We would like to measure how effective the Pre-diabetes appointment has been for you. To do this we would like to collect certain information and would be very grateful if you would take the time to complete the following questions. Please hand the form into reception before you leave.

On a scale of 0-10 how would you rate your **KNOWLEDGE** of risk of diabetes **BEFORE** attending this appointment?

No knowledge	0	1	2	3	4	5	6	7	8	9	**10**	Lots of knowledge

On a scale of 0--10 how do you rate your **KNOWLEDGE** of risk of diabetes **AFTER** attending the appointment?

No knowledge	0	1	2	3	4	5	6	7	8	9	**10**	Lots of knowledge

On a scale of 0-10 how **CONFIDENT** did you feel about managing your risk of Diabetes **BEFORE** attending the appointment?

No confidence	0	1	2	3	4	5	6	7	8	9	**10**	Lots of confidence

On a scale of 0--10 how **CONFIDENT** do you feel about managing your risk of Diabetes **AFTER** attending the appointment?

No confidence	0	1	2	3	4	5	6	7	8	9	**10**	Lots of confidence

Was the length of the Pre-diabetes appointment

☐ Too Short ☐ Too Long ☐ Just right

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APPENDIX 4 :- Issues and Idea Log

Pre-Diabetes Project –Swansea Bay UHB

Issue and Idea Log- anonymised

Patient Feedback

- When contacting patients initially to make an appointment over the telephone, patients raised concerns why the GP had failed to contact them before this time, especially as their last HbA1c may have been taken over 10months ago. However once the HCSW explained the role of the new initiative, patients are generally very keen to attend an appointment.

- Few patients have queried if the appointments are 1:1 or a group, as if it was a group they would not attend.

- Some patients aged 40-50 struggle to get time off work and said they would attend an appointment outside HCSW working hours i.e. prior to half 8am or after 5pm.

- DNA rate is relatively low. Feel this is due to HCSW making appointments over the telephone. For the patients that the HCSW is unable to reach over the telephone, they are assigned an appointment and a letter is sent in the post. To fill January clinics, the project did send out letters. One surgery had a large DNA rate from these appointments that were booked by letters. However, not all surgeries reflect this, but what is evident is that patients who are contacted by phone have already started to make some changes when they come into clinic and are very motivated.

- Generally positive feedback from consultations. Evaluation forms highlight that all patients feel they have more knowledge and are more confident to make lifestyle changes following attending the consultation than they did prior to the consultation.

- Would like a review/follow up appointment to check progress and review HbA1c level.

Surgery Feedback

- Difficulties at times installing the AFAN HCA guidance and hot keys on VISION. EMIS seemed to work ok and not as many problems, but no Hot keys so more free text for HCSW to enter which does impact on time spent after the consultation.

- Surgeries are very busy and therefore room availability for the project has been limited. Difficult to also coordinate room availability around HCSW working days/hours

- Some surgeries have previously offered patient's lifestyle intervention via the practice nurse and so are concerned that we are duplicating workload, therefore if on the patients' record it is documented that the patient has received lifestyle intervention with the last three months, they have been excluded from the project. Unsure if the practices are coding this lifestyle intervention correctly as the patients are still appearing on our searches.

- Some surgeries have queried that we should be linking in with the practice nurses more so that the practice nurses can refer patients to the scheme. I have encouraged that if the patient is on our list and meets the criteria then the practice nurse can arrange the appointment for us.

- Some surgeries have queried the project's cost to the surgery, e.g. project is using telephone connections and resources such as paper and stamps for letters.

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- If the surgery has nominated a HCSW within their practice to help with the project, they are very supportive and are very keen to continue this initiative after March 2020

Resources

- Free colour resources have been obtained from Diabetes UK to replace the "Exeter Booklets". Additional "follow on links" information sheets have also been designed for the project. With all above resources, we would need to consider how these can be adapted if this project was implemented across Wales.

- Patients really like the "eat well guide" hand out given at clinic. It is one of the first things they ask for. No Eat Well Guide is displayed in the Type 2 diabetes, risk pack that is used, so an additional handout has been inserted.

AFAN HCA Programme

- If patients have had x2 HbA1c levels in the last 12 months and now their HbA1c is normal, the guideline still highlights the elevated level. The HCSW therefore needs to double check the last HbA1c and if it is normal, they do not need to contact patient to include in project

- Some patients may have received lifestyle advice from practice nurses/GP – this is written in the main text but the patient is still identified by the guideline.

- Hot keys – "Diet discussed" section – this is pre-written information which pops up if this button is clicked. Some of the information, which pops up, is NOT included in the script. So HCSW needs to delete some of this text. Hot Keys are not available on EMIS.

- Guidelines are not sensitive enough to rule out patients with normal BMI/ Co-morbidities that would exclude them from the criteria, therefore need to re-adjust the search criteria in the long term to reduce admin time.

- NERS referral form link on guideline selects xxx as preferred leisure centre for all Swansea patients – this would need to be changed

HCSW Feedback

- Script and follow on link guide are valuable resources

- One HCSW has developed interactive power point slides to help explain HbA1c ranges, what is diabetes, digestion, complications and pictures of follow on links such as "what is NERS", "what is pocket med". This is now used by all HCSW's as they feel more equipped with additional visual aids to show the patient.

- All HCSW'S need guidance to explain pre-diabetes/risk factors and how diet is linked to pre-diabetes so required a lot of initial supervision and support from Dietitian in the first 2 months of clinics. Some HCSW's feel that an additional training module on pre-diabetes and diet should be offered after they attend nutrition skills for life training.

APPENDIX 5:- Follow up Review Questionnaire

Pre-Diabetes Project –Follow up Telephone Call Review

Process

- Highlight all patients who have received lifestyle intervention from the Project in (Insert month)
- Record HbA1c prior to intervention on database
- Record any HbA1c taken after the intervention
- If recent HbA1c, phone the patient and conduct the follow up review
- If no recent HbA1c we need to request the surgery completes this
- If HbA1c >47 – they ARE DIABETIC SO NOT TO CONTACT

INTRODUCTION

Good morning/Good afternoon

My name is ……., I'm a health care support worker, phoning from …… (insert surgery)

May I speak with ……(confirm patient's details)

You may remember you came into the surgery on …….(insert date) for pre-diabetes lifestyle intervention

At your last appointment, we identified that you had pre-diabetes. We discussed how you could prevent your risk of developing diabetes in the future, by reducing your weight, making small changes to your diet and increasing your activity levels.

Today, I am phoning to follow up on your progress since you attended this appointment. I have a few questions to ask, which should take about 15 minutes.

Are you able to spare this time to talk to me today?

If patient is not able to spare this time, ask if you can contact at another time again and give them a set date/time and book them into your appointment list.

IF THEY HAVE HAD A NEW HBA1C you can discuss this with them.

Pre-Diabetes Project –Follow up Telephone Call Review

1) **Did you feel that one or more aspects of your diet/lifestyle changed as a result of attending the pre-diabetes clinic?**

YES NO UNSURE

DIET

1) **From attending the clinic, did you gain practical information to help you make changes to your diet?**

0= not at all 1 =very little 2 = a little 3= some 4=quite a lot 5= a lot

2) **Have you made any dietary changes?**

YES NO UNSURE

Look at the diet goals you set with the patient in the clinic. Have they:-

Fully achieved Partially achieved Not achieved/Remains the same

3) **Since attending the appointment have you:-**

	Eat more	Eat the same	Eat less
Fruit including fresh / frozen / tinned	☐	☐	☐
Salad & Vegetables including fresh / frozen / tinned	☐	☐	☐
Sugar and sweet foods Cakes/Biscuits/Sweets/Soft drinks	☐	☐	☐
Fatty or fried foods Crisps / Chips / Pies / Takeaways	☐	☐	☐

ACTVITY LEVELS

1) **From attending the clinic, did you gain practical information on why activity levels are important?**

0= not at all 1 =very little 2 = a little 3= some 4=quite a lot 5= a lot

2) **Have you increased your activity levels?**

YES NO UNSURE

Look at the activity goals you set with the patient in the clinic. Have they:-

Fully achieved Partially achieved Not achieved/Remains the same

3) **If they agreed referral to NERS or the HUB, have they started/been contacted?**

YES NO UNSURE

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WEIGHT

1) **Have you noticed any change in your weight?**

YES NO UNSURE

(If yes, record new weight, if unsure, they can pop into the clinic and be weighed by you)

RESOURCES

1) **Did you find the booklet useful?**

YES NO UNSURE

2) **Did you find the follow on link information sheet useful?**

YES NO UNSURE

3) **If YES to the follow on link sheet, are there any links in particular they looked at? (list)**

……

……

FUTURE AND COMMENTS

1) **How confident are you to continue to implement positive lifestyle changes to reduce your risk of diabetes?**

0= not at all 1= very little 2 =a little 3= some 4= quite a lot 5= a lot

2) **Any other comments**

……

……

……

Thank you for your time today. Your surgery will contact you when you are next due for you HbA1c test.

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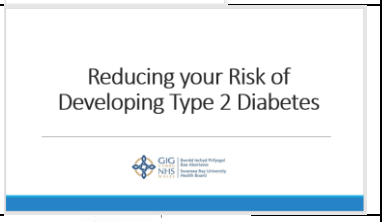
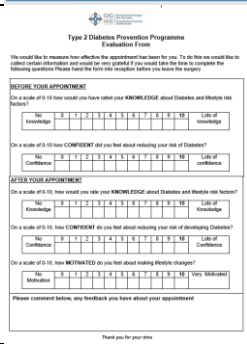
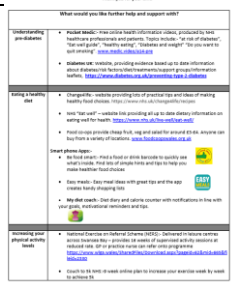
Appendix 6:- Catalogue of Developed Clinic and HCSW Training Resources developed by Nutrition and Dietetics in SBUHB

Clinic Resources	Overview	
Facilitator Handbook – consultation script and checklist	The facilitator handbook consists of three sections:- Checklist:- outlines the content of the consultation and the main points/sections to cover Consultation Script - Provides in-depth information on each section/topic to be discussed Appendix: -Provides further information/follow on links	
Clinic PowerPoint slides	PowerPoint slides with visual graphics to support the delivery of the consultation	
Patient Evaluation Form	An evaluation form to gain patient views/feedback after attending the initial consultation. This will contribute to service evaluation	
"Follow on link" Information sheet	An information sheet, with a range of evidence based information links to provide patients with additional information on diet/exercise/reducing alcohol intake/stopping smoking/ mental health services	
Invitation Video and Video of clinic Content	Two short videos, based on visual graphics, with a voice over commentary, providing information on:- Invitation Video • How patients have been identified at risk • Risk factors • Symptoms • How to reduce risk • Outline of what to expect/topics that will be covered at their clinic appointment Video of clinic content • Summary of invitation video • How to reduce risk • Overview of how changing dietary factors can reduce diabetic risk with emphasis on eat well guide/carbohydrates/fat/alcohol/portion sizes • Overview of how increasing activity levels can reduce diabetic risk	

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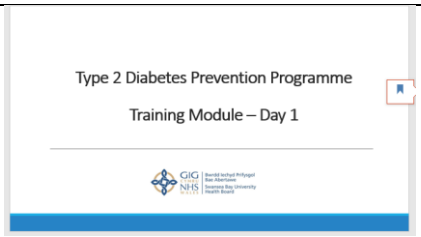
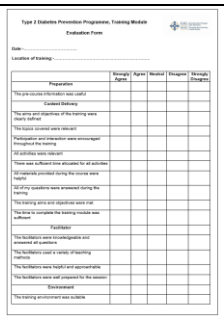
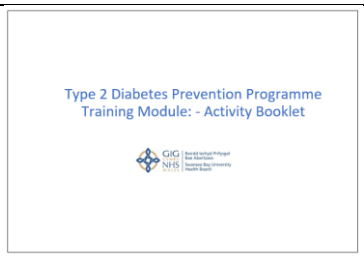
	• How to make SMART Lifestyle changes • Follow on links and further support	

HCSW Training Resources	Overview	
Training Module	Type 2 Diabetes Prevention Facilitators Training Module:- • Option 1:- Classroom based – ½ day Theory, plus ½ day facilitation session. • Option 2:- Virtual based – ½ day Theory, plus ½ day facilitation session. PowerPoint slides/lesson plans and activities developed	
Evaluation Form	An evaluation form to gain HCSW views/feedback after attending the Training. This will contribute to service evaluation	
Activity Handbook	A booklet with set activities to cover:- • ACTIVITY 1:- Introduction into Preventing Type 2 Diabetes • ACTIVITY 2:- Interpreting BMI and Setting Achievable Weight Loss Goals • ACTIVITY 3:- Common Patient Dietary Statements - TRUE OR FALSE? • ACTIVITY 4:- Making Dietary Changes • ACTIVITY 5:- Role Plays	
Quality Assurance (QA) Documents	Documents covers:- • What is QA • Process of QA • How to prepare for QA • QA paperwork	

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