An enhanced diabetes clinic in general practice: A review of results

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Article points

1. Providing joint practice nurse and diabetes specialist nurse support can improve glycaemic control and clinical inertia.
2. Making individualised changes to medication and engaging people with diabetes in their own self-care can also improve glycaemic management.
3. This small review provides food for thought, demonstrating that people at different stages of the type 2 diabetes journey may benefit from combined community clinics with input from diabetes specialist nurses.

Key words

- Clinical inertia
- Glycaemia
- Mentoring

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In order to provide more targeted and individualised support for people with an HbA_{1c} ≥64 mmol/mol (8.0%), an enhanced diabetes clinic was established within a general practice in Leicestershire. The clinic was designed to be patient-centred and improve glycaemic control, and provided joint support from a practice nurse and a community diabetes specialist nurse (DSN). The practice nurse was also mentored by the DSN. This article considers the barriers to improving glycaemic control – mainly clinical inertia – and describes the clinical outcomes of those who attended the clinic over an 8-month period.

There are approximately 4.5 million people in the UK with diabetes (90% of whom have type 2 diabetes), and it is estimated that there are an additional 1.1 million people with undiagnosed type 2 diabetes (Diabetes UK, 2016). The annual direct and indirect costs associated with type 1 and type 2 diabetes in the UK have been estimated at over £23.7 billion (Hex et al, 2012), and a significant amount is spent on managing complications that are largely preventable with good glycaemic control (Stratton et al, 2000; Adler, 2010). The benefits of improving glycaemic control and reducing the risk of micro- and macrovascular complications are well documented (UK Prospective Diabetes Study Group, 1998a; 1998b; Genuth et al, 2003), and despite the evidence in favour of early tight glycaemic control (Holman et al, 2008), in reality, initiation of intensive therapy is often delayed.

Clinical inertia

Clinical inertia is the failure to intensify treatment in a timely manner (Khunti et al, 2015). Clinical inertia is considered to be a cause of suboptimal management for many chronic conditions, not just diabetes. Delaying initiation or intensification of treatment impacts on quality of life and long-term health outcomes, and contributes to increasing healthcare expenditure. In terms of diabetes, clinical inertia is a significant factor for inadequate glycaemic control and may be influenced by the clinician's own judgement, experience and knowledge of guidelines (Aujoulat et al, 2014; Khunti et al, 2015).

Concerns relating to hypoglycaemia risk, fear of initiating insulin, weight gain, age, the existence of complex comorbidities and the level of patient understanding have been cited as causes of clinical inertia in type 2 diabetes (Aujoulat et al, 2014). Patient inertia – failure to attend appointments and poor concordance with medication and lifestyle advice – is an additional barrier to good glycaemic control.

Local practice

Treatment options for diabetes management are wide-ranging (NICE, 2015), and keeping pace with newer therapies and evidence can be challenging, particularly as diabetes is not the only focus for clinicians working within general practice. As care for diabetes becomes based more in the community, with more people with comorbidities and complex management requirements being seen in general practice, there are known benefits from drawing on the knowledge of specialist services and upskilling primary care staff (Kar, 2012).

In Leicestershire, general practices can opt to receive reimbursement for providing enhanced diabetes services, including initiation and management of glucagon-like peptide-1 (GLP-1)

analogues and insulin. To support this process, healthcare professionals within practices are invited to attend professional development sessions (Effective Diabetes Education Now [EDEN]; available at: www.edendiabetes.com).

Additionally, practices are offered support from a community-based diabetes specialist nurse (DSN). How practices use this support and time is at their own discretion. At The Limes Medical Centre, Narborough, in order to provide more targeted and individualised support for people with suboptimal glycaemic control, an enhanced-service diabetes clinic was established. It was agreed that the DSN would provide specialist support at appointments to improve diabetes management for patients with more complex requirements and would mentor the practice staff to build on the existing knowledge and skills of those involved in the management of diabetes, in accordance with Royal College of Nursing (2009) policy.

The clinic

The enhanced diabetes clinic was held monthly and facilitated by a practice nurse and a community DSN. Appointments were 45 minutes in length, and care was taken to ensure that HbA_{1c} reduction goals were realistic, appropriate for the individual and agreed upon collaboratively. Previously, all patients would have been seen in a single annual review appointment of 25 minutes, followed by a 15-minute review appointment every 3–6 months, depending on their glycaemic control.

More complex cases were also allocated additional time, particularly if GLP-1 analogue or insulin initiation was required. As these clinics were only being held monthly and for people with an HbA_{1c} ≥64 mmol/mol (8.0%), it was felt that this would not significantly impact overall appointment availability, even if further follow-up was required for these patients.

Lifestyle management and education

Longer appointments allowed for lengthier and in-depth discussion about lifestyle management. Attendees were signposted to additional support, advice and information, with the view that individuals should take ownership of their diabetes management and potential health outcomes (De Silva, 2011).

All attendees were given a "Diabetes Handbook" (Leicestershire Diabetes, 2013), specific advice on management of hypo- and hyperglycaemia, and guidance on the complications associated with poor glycaemic control. Attendees were encouraged to participate in an accredited education programme, such as DESMOND or DAFNE, and continued lifestyle modification was an integral part of the management plan, particularly in light of previously documented benefits of attending diabetes education (Davies et al, 2008).

Intervention and pharmaceutical management

Intervention and pharmaceutical management was individualised to ensure that HbA_{1c} reduction goals were realistic and appropriate, with less tight control and upward adjustment of targets considered in the case of frail older people, as is recommended (Stone et al, 2013; NICE, 2015). Options included titration of biguanides, sulfonylureas and insulin, and initiation of additional medications, dipeptidyl peptidase-4 (DPP-4) inhibitors, sodium–glucose cotransporter 2 (SGLT2) inhibitors and GLP-1 analogues. If insulin was required, time was taken to clarify patients' understanding of insulin time–action profiles, with the view to encourage self-management in the longer-term.

Additional focus was placed on ensuring that patients' cholesterol and blood pressure were controlled to target (NICE, 2015), with appropriate action if medication was required. The benefits of smoking cessation were also addressed, when necessary.

Results

This article reviews the impact of these clinics on patients who attended. People with an HbA_{1c} ≥64 mmol/mol (8.0%) were invited to attend. Baseline HbA_{1c} and weight were compared with follow-up, which was intended to occur 3 months later.

Over an 8-month period, 45 people were seen in the enhanced specialist diabetes clinic. Of these, 42 were invited as they had an HbA_{1c} ≥64 mmol/mol and three with an HbA_{1c} under 64 mmol/mol were referred.

Three people had type 1 diabetes and 42 had type 2 diabetes. The diabetes duration since diagnosis ranged from 1 year to ≥10 years, and the

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1. An enhanced diabetes clinic, facilitated by a practice nurse and a community diabetes specialist nurse, has been established for people with diabetes who are achieving suboptimal glycaemic control.
2. The clinics are held every month, with appointments lasting 45 minutes, with additional time allocated for more complex cases.
3. The longer appointments allow for more in-depth discussion about lifestyle management and for tailoring of medication to the individual.
4. Patients are also signposted to additional support, advice and information, with the view that they should take ownership of their diabetes management and potential health outcomes.

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1. The effects of these clinics have been evaluated in 45 people with diabetes over a follow-up of 8 months.
2. The majority of clinic attendees received tailored alterations to their medication regimens, typically treatment intensification.
3. All participants with data available had reductions in HbA_{1c}. However, weight change was more variable, with 20 attendees losing and 14 gaining weight.

mean age was 63 years. The initial presenting HbA_{1c} ranged from 60 to 130 mmol/mol (7.6–14.0%; mean, 84 mmol/mol [9.8%]). The mean weight and BMI were 93.6 kg and 33 kg/m^2, respectively.

In the type 2 diabetes group, 35 people were taking metformin, 16 were on gliclazide, two were on a GLP-1 analogue, two were on a DPP-4 inhibitor and one was on pioglitazone. No one was receiving an SGLT2 inhibitor at baseline.

In the total group, 24 people were receiving insulin therapy: 11 on basal–bolus insulin (including those with type 1 diabetes), 10 on mixed insulin and three on basal insulin. The time from baseline to repeat HbA_{1c} and weight checks varied from 3 to 11 months. Four patients failed to attend any form of follow-up.

Changes to medication

Six people had their gliclazide stopped and one was initiated on the drug. Of the six who stopped gliclazide, five started an insulin regimen and one changed to mixed insulin. Two of these patients were aged >80 years.

The 24 people on insulin either had their insulin intensified (*n*=11) or had an SGLT2 inhibitor added (*n*=7)*. One person declined to change their basal insulin to another regimen, but their dose was increased. This individual failed to arrange a follow-up appointment.

Of the 21 people who were not on insulin at baseline, seven were initiated onto insulin, four were initiated onto a GLP-1 analogue and two were initiated onto an SGLT2 inhibitor. At review, all had a decrease in HbA_{1c} and two lost weight, although the weight loss was insufficient to qualify for continuing GLP-1 analogue therapy according to the NICE (2015) guideline.

Ten people who were not already on insulin therapy adamantly declined insulin initiation or changes to their oral medication, despite the risks associated with poor glycaemic control and the benefits of insulin being explained. For these people there appeared to be a degree of patient inertia, with anxiety related to possible weight gain being the foremost concern, followed by worries about a perceived increased risk of hypoglycaemia. However, there also seemed to be a failure to accept the progressive nature of diabetes, and these individuals remained hopeful in their ability to implement lifestyle changes that would impact on their glycaemic control without further pharmaceutical intervention. Nevertheless, among those who declined insulin or changes to oral medication, and for whom follow-up data were available (*n*=16), all demonstrated improvements in HbA_{1c}. For example, of the three people who declined oral therapy intensification, preferring to focus on lifestyle changes only, all experienced an improvement in HbA_{1c} (of 3, 11 and 24 mmol/mol [0.3%, 1.0% and 2.2%], respectively) at a mean follow-up of 3.3 months.

In one instance, GLP-1 analogue therapy was stopped as the patient failed to meet the criteria to continue (NICE, 2015). Two of those who were initiated on insulin were not on a GLP-1 analogue even though they qualified to receive them based on their BMI.

*Initiation of an SGLT2 inhibitor in people who are insulin-dependent is recommended to be undertaken by a specialist only.

HbA_{1c}

Among patients who had HbA_{1c} follow-up data available (*n*=41), all had a reduction in HbA_{1c}, ranging from 2.2 mmol/mol to 75.4 mmol/mol (0.2–6.9%). As would be expected, the largest HbA_{1c} reductions were seen in those with the highest initial HbA_{1c}. As a trend, greater improvements in HbA_{1c} were seen in those who started an SGLT2 inhibitor or a mixed insulin regimen, and those who increased their basal–bolus insulin dose. For example, the largest reduction was from 130 mmol/mol (14.0%) to 54 mmol/mol (7.1%). This individual's drug regimen was changed from gliclazide and metformin to mixed insulin only. The individual also lost nearly 5 kg.

Weight

There were follow-up data on weight for 36 people. Interestingly, despite every patient benefitting from an HbA_{1c} reduction, changes in body weight varied widely, from a loss of 9.3 kg to a gain of 12 kg. In total, 20 attendees lost weight, 14 gained weight and two stayed the same.

As expected, in some cases weight gain was observed when there were increases to gliclazide

and insulin doses, and with insulin initiation. However, in other cases, individuals lost weight. While there could have been an element of weight loss through osmotic diuresis in those with the highest HbA_{1c} levels, weight loss could also have been a result of the advised lifestyle modifications being implemented.

Ten people were commenced on either an SGLT2 inhibitor or a GLP-1 analogue. SGLT2 inhibitor and GLP-1 analogue therapies are usually associated with weight loss and, as such, it is not surprising that seven of these individuals lost weight and two remained at the same weight. One person gained 12 kg, despite a reduction in HbA_{1c} from 77 mmol/mol (9.2%) to 64 mmol/mol (8.0%). See *Appendix 1* (available with the online version of this article) for individual data.

A number of people who attended the clinic and follow-up have attended further review appointments at the surgery. Of these, several have agreed to further adjustment of their medication and others have commenced on insulin.

Discussion

A patient-centred approach

The observed improvements in glycaemic control were a result of a more patient-centred approach. The holistic approach to care gave more time for discussion, explanation and reflection, which helped to ensure that management and treatment choices were tailored to the individual. Additionally, giving patients the opportunity to attend diabetes education and highlighting sources of information and support may have contributed to behaviour modification and improvements to self-care. Respectful, two-way communication, individualised education, personal factors (including previous experiences and health beliefs), ongoing support and appropriate appointment durations are all known to contribute to an individual's ability to self-care (Wilkinson et al, 2014).

It is important to note that, whilst improvements in HbA_{1c} were seen in everyone who attended follow-up, these were not always statistically significant. Greater improvements in HbA_{1c} may have been observed if specific advice relating to the initiation of new therapies, particularly insulin, had been more widely accepted by individuals. However, it was considered essential to allow individuals to make informed choices regarding their management, with the hope that they might engage with treatment intensification having tried alternative methods first.

Weight changes may have been influenced by the extent to which individuals were motivated to implement lifestyle changes, as both increases and decreases in weight were observed with all medications. However, it is important to note that the weight changes could also have been purely a result of different medication choices and their associated side effects.

Whilst this article has placed a strong focus on attaining adequate glycaemic control to reduce complications associated with diabetes, it is recognised that other factors, such as monitoring and attaining adequate blood pressure control, lipid profiles and preserving renal function, are of equal importance (NICE, 2015).

Diabetes education provision

Since completing this review, the local diabetes education provider has changed. Initially, the provider only accepted referrals of people diagnosed with type 2 diabetes within the previous 12 months; however, almost a year later, this has been amended to include anyone with type 2 diabetes of any duration, provided they have not attended diabetes education previously. While the amendment is an improvement, it is disappointing that there is no opportunity for individuals to re-attend, especially as people who attended the enhanced clinic achieved HbA_{1c} improvements regardless of their diabetes duration, and were supported in many cases by re-attending diabetes education.

Providing ongoing diabetes education in house could help to provide continuing support for these individuals, particularly as the maintenance of lifestyle modifications needs to be revisited. Local support groups for people with diabetes may also be beneficial in providing peer support.

Benefits of mentorship

Healthcare professionals involved in supporting people with diabetes, particularly those with more

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1. A holistic approach to care gives more time for discussion, explanation and reflection, which helps to ensure that management and treatment choices are tailored to the individual.
2. It is essential to allow individuals to make informed choices regarding their diabetes management.
3. Providing ongoing diabetes education in house can help to provide continuing support for people with diabetes, particularly as advice on lifestyle modification needs to be reinforced.

Read more online

South Bedfordshire ICDS: Improving attendance at a GP surgery outreach clinic

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Available at:
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CPD module

Supporting successful self-management in diabetes

Gwen Hall outlines how to support people with diabetes to effectively self-manage their condition.

Diabetes & Primary Care **17**: 94–101

Available at:
https://is.gd/selfmanagement

CPD+

Food for thought from the Editor-in-Chief.

This article describes a small, real-world review (41 people with type 2 diabetes and 35 people for whom data on HbA_{1c} and weight post-intervention were available). Patients with an HbA_{1c} ≥64 mmol/mol (8.0%) were targeted for a combined practice nurse and diabetes specialist nurse (DSN) community clinic.

Eight people were >70 years of age. Individualising the threshold for combined clinic review in older people may ensure that restricted and intensive approaches are targeted at those who really do have too high an HbA_{1c} and are likely to benefit.

Half of the participants seen were already on insulin at baseline, and in many areas would be receiving specialist follow-up. However, those requiring insulin initiation or intensification may be useful groups to include in a combined community clinic. One quarter of participants refused insulin initiation, and it was not clear whether they would have considered glucagon-like peptide-1 (GLP-1) analogue initiation. Most were still motivated to achieve improved glycaemia and weight. Interestingly, weight gain when initiating or intensifying insulin or gliclazide was not inevitable, with several people reducing weight and all reducing HbA_{1c} at first review.

This small review provides food for thought, demonstrating that people at different stages of their type 2 diabetes journey may benefit from combined community clinics with input from diabetes specialist nurses. This paper should stimulate us to think about which people with diabetes in our practice may benefit from such clinics, and for which aspects of care additional support may be useful. If we don't have access to such a service, we can collect data to campaign for one – numbers of referrals to secondary care and unmet need, such as people with poor control needing initiation of GLP-1 analogues, insulin or combined GLP-1 analogue/insulin initiation.

complex needs, should have adequate knowledge and skills. Whilst it is beneficial for clinicians to attend education programmes related to new and advanced oral and injectable therapies, such as EDEN, it can be challenging to implement this knowledge into practice if such situations are infrequent or the clinician lacks confidence.

Following mentoring from the community DSN, the practice nurses at The Limes have been regularly involved in decisions related to the efficacy and suitability of a wide variety of antidiabetes medications, which has increased familiarity, knowledge, skills and confidence with more advanced therapies. It is believed that holding the clinic every month in the presence of the community DSN has brought expertise closer to the patient, probably facilitating a more decisive approach and increasing patients' confidence in the advice being provided.

Future plans

The clinics continue to run monthly and more complex cases are being referred. Another practice nurse is currently being mentored, and it is hoped that others will have the opportunity in the future. To ensure that the clinic is tailored to individual needs, a survey of the opinions and experiences of patients is planned.

All individuals who are initiated on a GLP-1 analogue or insulin receive telephone follow-up (although they can attend an appointment if they prefer) until their treatment regimen has been established, after which they are seen again in the surgery for a repeat HbA_{1c} assessment. It is possible that telephone follow-up could be extended to other patients in the future and, indeed, this has occurred on numerous occasions thus far.

Conclusion

It is essential that people with diabetes are engaged in such a way as to improve their health outcomes, through self-management with appropriate support. Investing in staff education and longer appointments, which allowed for more individualised care in this case, may improve glycaemic control. However, current and continued pressures within general practice and the NHS could make this an unrealistic proposal, even when this could be a more cost-effective approach to care provision in the long term. ■

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Appendix 1. Details of patients who attended the 8-month enhanced diabetes service clinic.

Patient*	Age (years)	Baseline medication	Initial HbA_{1c} (%)	Initial weight (kg)	Initial BMI (kg/m^2)	Medication changes	Time between initial and repeat (months)	Repeat HbA_{1c} (%)	Repeat weight (kg)	Repeat BMI (kg/m^2)
1	84	• Gliclazide • Linagliptin • Basal insulin regimen	9.9%	80.9	33.2	• Change to mixed insulin regimen • Stop gliclazide	4	8.3%	83.9	33.6
2 (type 1)	74	• Basal–bolus insulin regimen	7.6%	69	24	• Reduce basal–bolus insulin regimen doses due to recurrent hypoglycaemic episodes	6	7.4%	74	25.6
3	66	• Metformin	12.2%	76.2	26.3	• Adamantly declined insulin initiation or additional oral medication	4	11.9%	73	24.1
4	76	• Mixed insulin regimen	9.1%	54	26	• Increase to mixed insulin doses	4	8.3%	No data	No data
5	75	• Metformin • Basal insulin regimen	8.6%	67	28.9	• Increase to basal insulin doses	5	7.5%	69	29.9
6	63	• Metformin • Gliclazide • Liraglutide	8%	83.3	34.2	• Increase to gliclazide dose	6	7.7%	81.9	33.6
7	70	• Gliclazide	12%	66.5	26.8	• Start mixed insulin • Stop gliclazide	6	8.1%	61	24.5
8	60	• Basal–bolus insulin regimen	8.4%	89.7	28.9	• Increase to basal–bolus doses	11	8.0%	88	28.4
9	48	• Metformin • Gliclazide	9%	114.4	35.3	• Start SGLT2i • Reduce gliclazide	Failed to attend follow-up	No data	No data	No data
10	56	• Metformin • Basal–bolus insulin regimen	9.7%	90.2	27.8	• Change to mixed insulin regimen	7	8.2%	92.6	28.5
11	79	• Metformin • Basal–bolus insulin regimen	9.2%	97	33.5	• Change to mixed insulin regimen	9	8.0%	96	33.2
12	64	• Metformin	10%	135	38	• Start GLP-1 daily regimen • Dietitian referral • Adamantly declined insulin initiation	4	6.7%	135	38
13	62	• Metformin • Gliclazide	8.9%	112.6	41.8	• Start GLP-1 daily regimen	5	8.5%	108.1	40.1
14	53	• Metformin • Mixed insulin regimen	8%	140.2	40.5	• Start SGLT2i • Reduce mixed insulin doses by 10% overall	10	7.0%	135	39
15	57	• Metformin • Gliclazide	8.4%	131.7	43	• Increase metformin dose • Adamantly declined insulin initiation	7	8.1%	132.7	43.3
16	49	• Metformin	12.5%	82	34.1	• Start gliclazide • Adamantly declined insulin initiation	4	7.3%	No data	No data
17	67	• Metformin • Sitagliptin • Mixed insulin regimen	8.2%	56	21.8	• Increase to mixed insulin doses	4	7.9%	60	23.4
18	75	• Metformin • Mixed insulin regimen	10.5%	57.5	21.1	• Increase to mixed insulin doses	3	8.3%	57.8	21.2

*Patient diagnosed with type 2 diabetes unless stated.

GLP-1=glucagon-like peptide-1 analogue; eGFR=estimated glomerular filtration rate; SGLT2i=sodium–glucose cotransporter-2 inhibitor.

Appendix 1 (continued). Details of patients who attended the 8-month enhanced diabetes service clinic.

Patient*	Age (years)	Baseline medication	Initial HbA_{1c} (%)	Initial weight (kg)	Initial BMI (kg/m^2)	Suggested medication changes	Time between initial and repeat (months)	Repeat HbA_{1c} (%)	Repeat weight (kg)	Repeat BMI (kg/m^2)
19	51	• Metformin • Gliclazide	9%	103	42.3	• Start GLP-1 daily regimen • Adamantly declined insulin initiation	3	7.9%	103.5	42.5
20	69	• Metformin • Mixed insulin regimen	9.2%	87	30.1	• Start SGLT2i • Reduce mixed insulin doses by 10% overall	4	8.0%	99	34.2
21 (type 1)	28	• Basal–bolus insulin regimen	12.5%	62	21.4	• Increase to basal–bolus insulin doses	3	11.1%	57	19.7
22	61	• Metformin • Gliclazide	10.6%	77.8	29.6	• Increase to gliclazide dose • Adamantly declined insulin initiation	3	8.9%	80.2	30.5
23	55	• Metformin • Basal insulin regimen	10.8%	94.7	33.9	• Increase to basal doses • Adamantly declined change of insulin regimen	Failed to attend follow-up	No data	No data	No data
24	55	• Metformin • Mixed insulin regimen	8.8%	94.7	36.9	• Start SGLT2i • Reduce mixed insulin doses by 10% overall	5	7.7%	90.1	35.2
25	72	• Mixed insulin regimen	10.4%	101	28.5	• Start SGLT2i • Reduce mixed insulin doses by 10% overall	6	7.8%	100	28.2
26	41	• Metformin • Basal–bolus insulin regimen	9.3%	110	32.1	• Increase metformin dose • Increase basal–bolus doses	4	7.8%	108	31.1
27	80	• Pioglitazone • Basal–bolus insulin regimen	8.1%	110.2	40.4	• Restart metformin (was previously stopped due to eGFR 45 mL/min/1.73 m^2. eGFR now stable). Patient wanted to try this rather than increase insulin as concerned about further weight gain	3	7.7%	109.2	40.1
28	82	• Gliclazide	9.5%	106	41.4	• Stop gliclazide • Start basal insulin regimen	3	8.9%	104	40.6
29	69	• Metformin • Basal–bolus insulin regimen	11.6%	107	34.9	• Increase basal–bolus insulin doses	4	8.1%	114.9	37.5
30	63	• Metformin • Gliclazide • GLP-1 daily regimen	10.6%	132.5	47.5	• Stop GLP-1 • Stop gliclazide • Start basal–bolus insulin regimen	6	7.6%	133	47.6
31	63	• Metformin • Gliclazide	8.2%	97.9	38.2	• Stop gliclazide • Start mixed insulin	3	7.1%	98	38.2
32	60	• Metformin • Gliclazide	11.8%	103	36.9	• Start GLP-1 daily regimen • Adamantly declined insulin initiation	5	10.8%	102	36.5
33	58	• Metformin • Gliclazide	12.4%	81	28	• Increase gliclazide dose • Adamantly declined insulin initiation	7	11.6%	81	28
34	72	• Metformin • Gliclazide	7.8%	85	29.4	• Increase gliclazide dose	3	7.2%	81.5	28.2

*Patient diagnosed with type 2 diabetes unless stated.

GLP-1=glucagon-like peptide-1 analogue; eGFR=estimated glomerular filtration rate; SGLT2i=sodium–glucose cotransporter-2 inhibitor.

Table 1 (continued). Details of patients who attended the 8-month enhanced diabetes service clinic.

Patient*	Age (years)	Baseline medication	Initial HbA_{1c} (%)	Initial weight (kg)	Initial BMI (kg/m^2)	Suggested medication changes	Time between initial and repeat (months)	Repeat HbA_{1c} (%)	Repeat weight (kg)	Repeat BMI (kg/m^2)
35	60	• Metformin • Mixed insulin regimen	7.7%	80.9	29.9	• Start SGLT2i • Reduce mixed insulin doses by 10% overall	4	7.3%	78.6	29.7
36	67	• Metformin • Basal–bolus insulin regimen	9.8%	81.5	30.8	• Increase to basal–bolus doses	Failed to attend follow-up	No data	No data	No data
37	62	• Metformin • Gliclazide	10.5%	114	43.1	• Increase metformin dose • Increase gliclazide dose	7	6.4%	No data	No data
38	72	• Metformin • Mixed insulin regimen	8.2%	135	52.9	• Start SGLT2i • Reduce mixed insulin doses by 10% overall	4	7.6%	132.5	51.1
39	56	• Metformin	8.4%	102	36	• Adamantly declined insulin initiation or additional oral medication	4	7.4%	No data	No data
40	60	• Metformin • Basal–bolus insulin regimen	10.5%	111.7	34.4	• Start SGLT2i • Increase to basal–bolus insulin doses	6	6.8%	No data	No data
41	51	• Metformin	10.4%	68.5	25	• Start SGLT2i • Increase metformin dose	Failed to attend follow-up	No data	No data	No data
42	72	• Metformin • Mixed insulin regimen	9.9%	112.2	34.6	• Increase metformin dose • Increase mixed insulin doses	3	9.8%	111.1	34.2
43	76	• Metformin • Gliclazide	14%	87	25.4	• Start mixed insulin • Stop gliclazide	3	7.1%	82.3	24
44 (type 1)	43	• Basal–bolus insulin regimen	11.7%	84	30.9	• Increase to basal–bolus insulin doses	4	11.1%	79.3	29.7
45	64	• Metformin	10.9%	79	28	• Adamantly declined insulin initiation or additional oral medication	3	8.7%	69.7	26

*Patient diagnosed with type 2 diabetes unless stated.
GLP-1=glucagon-like peptide-1 analogue; eGFR=estimated glomerular filtration rate; SGLT2i=sodium–glucose cotransporter-2 inhibitor.