NHS SCOTLAND

We will work collaboratively with generalist care colleagues to raise further awareness of type 1 diabetes and relaunch an extended DKA prevention campaign

Commitment 1.2 Diabetes Improvement Plan 2021-2025

We will continue to support improvements in care and outcomes for adults living with Type 1 diabetes

Commitment 2.5. Diabetes Improvement Plan 2021-2025

DKA Prevention: Adult Steering Group

Recommendations 2024

STEERING GROUP MEMBERSHIP

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Susan Torrance	Adult Support & Protection, NHS Tayside
Debbie Voigt	Diabetes Specialist Nurse & SDG Inpatient SLWG Chair
Siubhan Ward	Lived Experience of Type 1 diabetes
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Kirsty Wood	Scottish Clinical Leadership Fellow & ST6 Diabetes and Endocrinology, Scottish Government

EXECUTIVE SUMMARY

Diabetic Ketoacidosis (DKA) is a serious complication of diabetes, with recurrent episodes posing significant health risks. Risk factors for recurrent DKA include eating disorders, mental health conditions, substance/alcohol misuse, gastroparesis, and current engagement with mental health or social work services. Recognising these risk factors is crucial in preventing further episodes.

Prevention strategies should involve thorough discussions with individuals diagnosed with Type 1 diabetes (T1D) regarding barriers to managing hyperglycemia and potential triggers for DKA. This includes addressing issues such as sub-optimal HbA1c levels, prior DKA episodes, and co-existing mental health conditions. Sick day rules should be emphasised, and access to ketone monitoring tools ensured.

After a single episode of DKA, continued support is essential. This includes exploring the individual's priorities, considering adjustments to insulin therapy, providing education on self-management, and ensuring follow-up appointments with diabetes specialists. Additionally, engagement with screening programs and crisis services should be facilitated.

In cases of recurrent DKA, a comprehensive approach is necessary. Supportive conversations should address potential barriers to self-management, with a focus on mental health, addictions, and social determinants of health. Collaboration with various services, including those specialized in eating disorders and mental health, is recommended. Fast-tracking education programs and assessing for conditions like gastroparesis are also essential components of managing recurrent DKA.

Overall, preventing and managing recurrent DKA requires a holistic approach that addresses both medical and psychosocial factors. This involves proactive identification of risk factors, tailored interventions, and ongoing support to improve outcomes and quality of life for individuals with T1D.

> *I think this document explores everything and captures that there's more to DKA than just "not taking insulin", and there's more to fixing it than to "start taking insulin". I'm very happy to see the psychological ramifications of diabetes being addressed too, as I know this it's something me and a lot of friends with diabetes have struggled with in the past and present. I've been through DKA episodes over 20 times, and it makes me very happy to see my thoughts and feelings being put into words for others too. I truly believe looking at these other factors, such as stress, depression, anxiety and disordered eating are critical and will make the difference to many young people's lives, as these were things for me that were very easy to hide when no questions were asked. I believe moving forward with this DKA prevention pathway will see a decrease in episodes of on a massive scale.*

Siubhan Ward,
Living with Type 1 Diabetes in Scotland

DKA PREVENTION PATHWAY- FOR SINGLE AND RECURRENT EPISODES

DKA Prevention

Risk Factors for Recurrent DKA : eating disorders and (T1) disordered eating, mental health conditions, gastroparesis, substance/ alcohol misuse, addictions as well as current contact with mental health or social work services.

Could this person meet the '3 point criteria' adult at risk definition? Aged 16 and over, i.e.

they are unable to safeguard their own well-being, property, rights or other interests;

they are at risk of harm; and

because they are affected by disability, mental disorder, illness or physical or mental infirmity they are more vulnerable to being harmed than adults who are not so affected.

If so, urgently seek advice around your duty to make an adult protection referral to your local authority. For further information on what to expect after making referral please see appendix 1.

For further information on criteria please see here.

CONVERSATION THEMES TO INCLUDE WHEN DISCUSSING DKA PREVENTION (ALL PEOPLE WITH T1D AT TIME OF DIAGNOSIS AND OPPORTUNISTICALLY AT REVIEW)

Explore barriers to managing hyperglycaemia i.e. what can lead to a DKA admission, what can get in the way of being able to effectively self-manage at that time

Consider all of the below using your clinical judgement:

Consider risk factors for DKA: HbA1c >75 mmol/mol, prior DKA, eating disorders, disordered eating (including Type 1 disordered eating), mental health conditions, gastroparesis, substance/ alcohol misuse, addictions current contact with mental health or social work services as well as history of loss of engagement

As to whether to have a conversation around reinforcement of hyperglycaemia guidance i.e. sensitivity factor and target BG appropriate

Alert into SCI-Diabetes if no sick day rules discussion in last 12 months and last HbA1c > 75

Sick day rules knowledge provided, explored and signpost to Digibete (<25 years old), MDMW (>25 years) or local website and record in SCI Diabetes

Offer rtCGM as appropriate

Check access to ketone monitoring strips/meter/rapid acting insulin

Check things such as retinal/ foot screening and clinic attendance. If screening outstanding support re-engagement i.e. book them in at time that suits; provide phone numbers etc.

PATHWAY AFTER SINGLE DKA EPISODE- ALL OF ABOVE, PLUS…

Risk Factors for Recurrent DKA : eating disorders and (T1) disordered eating, mental health conditions, gastroparesis, substance/ alcohol misuse, addictions as well as current contact with mental health or social work services

For further information on criteria please see here.

EXPLORE BARRIERS TO MANAGING HYPERGLYCAEMIA IE WHAT HAS LED TO ADMISSION, WHAT GOT IN THE WAY OF BEING ABLE TO EFFECTIVELY SELF-MANAGE THIS TIME

Explore what matters to the person who has been admitted with DKA (see appendix 2)

Consider long-acting insulin if not on a pump (on a person-by-person basis, if not on a pump)

Early diabetes outpatient contact post DKA within a week from the diabetes team/ pump team as appropriate

Offer rtCGM as appropriate

Explore ways to engage/ support them into diabetes services, including outpatient and foot/retinal screening as per above and also consider re-engagement options (example see appendix 3)

Check things such as retinal/ foot screening and clinic attendance. If screening outstanding support re-engagement ie book them in at time that suits; provide phone numbers etc.

Offer other education as appropriate (CHO counting, DAFNE, hypoglycaemia management etc)- could include BERTIE on-line which is free for all, MDMW, DAFNE refresher (if available), STEP UP)

Signpost to local crisis services, as appropriate

Document episode of DKA on SCI-Diabetes (local M and M meetings should consider reviewing DKA incidence annually and review case records of those with recurrent episodes to ensure clinical management has been appropriate.)

PATHWAY AFTER RECURRENT DKA – ALL OF ABOVE PLUS

Risk Factors for Recurrent DKA : eating disorders and (T1) disordered eating, mental health conditions, gastroparesis, substance/ alcohol misuse, addictions as well as current contact with mental health or social work services

For further information on criteria please see here.

It is best practice to have supportive conversations about potential barriers to self-management when the person is admitted to hospital (and well enough to engage in conversation) as some people can struggle to engage with outpatient services for well-documented reasons.

APPENDIX 1: WHAT TO EXPECT FOLLOWING REFERRAL TO ADULT PROTECTION

You have a duty to co-operate with any adult protection inquiry the local authority might then make; your role could include sharing relevant and proportionate information, supporting a medical examination and being part of a multi-agency plan to mitigate risk. There will be advice and guidance available from your NHS Board Adult/Public Protection lead/team and/or your Local Authority.

APPENDIX 2: HELPFUL INFORMATION TO CONSIDER FOR THOSE ADMITTED FOR A SINGLE AND/OR RECURRENT DKA EPISODE

When discussing recurrent diabetic ketoacidosis (DKA) with a person, it's essential to approach the conversation with empathy and curiosity.

Remember that each person's situation is unique, so tailor your discussion to their specific needs.

GENERAL THEMES

- People with diabetes want supportive health professionals with whom they can discuss any aspect of living with and managing the condition.
- An open, empathic communication style is important in enabling people with diabetes to talk about their emotional and mental health.
- The language that health professionals use can affect people's willingness to talk about the challenges of living with diabetes, their motivation, self-confidence, self-management skills, and diabetes outcomes.
- As with any skill, communication skills can be acquired and improved with practice, and confidence increases over time.
- Seek to 'meet the person' where they are in their life – rather than where you would like them to be, where you think they should be, or where you are.
- Active listening and open, empathic communication (verbal and non-verbal) improves the quality of consultations and is essential for best clinical practice.
- Reflect on the proportion of the consultation time that you spend talking rather than listening. Is the balance right? Consultations are typically more effective when the person with diabetes talks more than the health professional.

SCREENING FOR ANXIETY

- It is well known that the prevalence of anxiety is higher in those with recurrent DKA than both those with diabetes and the general population, hence it is prudent to explore this with this population. Elevated anxiety symptoms in people with diabetes are associated with sub-optimal diabetes self-management and metabolic outcomes, diabetes complications, depressive symptoms, and impaired quality of life and can be difficult to recognise, as there can be an overlap of symptoms (e.g. sweating, increased heart rate, shaking and nausea).
- Assess people with diabetes for elevated anxiety symptoms using a brief validated questionnaire (such as Generalised Anxiety Disorder Scale-7 or Hospital Anxiety and Depression Scale- Anxiety Sub-Scale); remember these questionnaires are to provide initial information and not diagnostic. Further exploration is required with the person.
- Treatment of an anxiety disorder will depend on severity, context and the preferences of the individual. Helping people with an anxiety disorder to access suitable treatment will probably require a collaborative care approach typically beginning with the person's GP (please refer to your local pathways).

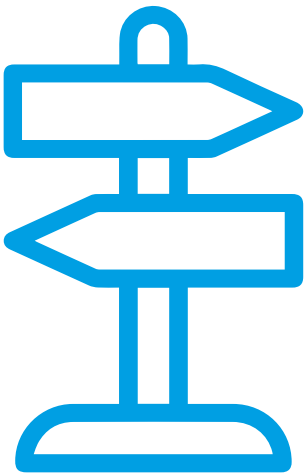
For further information around tools recommended nationally in Scotland please see here: nhsgrampiandiabetes.scot.nhs.uk/wp-content/uploads/2023/11/SDG-SWLG-Mental-Health-Screening-And-Associated-Care-Pathways-1.pdf

EXAMPLES OF PLACES YOU CAN SIGN-POST PEOPLE TO WHO ARE STRUGGLING WITH ANXIETY INCLUDE:

General Practitioner

NHS Inform has a number of self-help resources: https://www.nhsinform.scot/illnesses-and-conditions/mental-health/anxiety/ (has various links to self-help resources for anxiety including Daylight)

Silvercloud has a number of self-directed modeules: https://wellbeing.silvercloudhealth.com/onboard/nhsscotland/programs/?link=header_menu



SCREENING FOR DEPRESSION

- Depressive symptoms in people with diabetes are associated with sub-optimal diabetes self-management and HbA1c, increased diabetes distress, less satisfaction with treatment, and impaired quality of life. Those who have recurrent DKA are at higher risk of elevated depressive symptoms.
- Some depressive symptoms overlap with symptoms of diabetes (e.g. fatigue, sleep disturbance, changes in weight and altered eating habits).
- A brief questionnaire, such as the Patient Health Questionnaire Nine (PHQ-9) and Hospital Anxiety and Depression Scale-Depression Sub-Scale (HADS-D), can be used for assessing the severity of depressive symptoms. These types of questionnaires are to provide initial information and not diagnostic. Further exploration is required with the person.
- For further information around tools recommended nationally in Scotland please see here: nhsgrampiandiabetes.scot.nhs.uk/wp-content/uploads/2023/11/SDG-SWLG-Mental-Health-Screening-And-Associated-Care-Pathways-1.pdf

EXAMPLES OF PLACES YOU CAN SIGN-POST PEOPLE TO WHO ARE STRUGGLING WITH ANXIETY INCLUDE:

General Practitioner

NHS Inform links to some self-help guides:
https://www.nhsinform.scot/illnesses-and-conditions/mental-health/depression/#depression-self-help-guide

Various Silvercloud interventions below:
https://wellbeing.silvercloudhealth.com/onboard/nhsscotland/programs/?link=header_menu

EXPLORING DIABETES RELATED DISTRESS

- People with diabetes want supportive health professionals with whom they can discuss any aspect of living with and managing the condition.
- An open, empathic communication style is important in enabling people with diabetes to talk about their emotional and mental health.
- The language that health professionals use can affect people's willingness to talk about the challenges of living with diabetes, their motivation, self-confidence, self-management skills, and diabetes outcomes.
- As with any skill, communication skills can be acquired and improved with practice, and confidence increases over time.
- Practice points
- Seek to 'meet the person' where they are in their life – rather than where you would like them to be, where you think they should be, or where you are.
- Active listening and open, empathic communication (verbal and non-verbal) improves the quality of consultations and is essential for best clinical practice.
- Reflect on the proportion of the consultation time that you spend talking rather than listening. Is the balance right? Consultations are typically more effective when the person with diabetes talks more than the health professional.

  Here are some examples of open-ended questions you could use to assess diabetes-related distress (these are recommended by Diabetes UK and were also highlighted as best practice in the Scottish Diabetes Group SWLG Mental Health PROMS Recommendations:

  - 'What is the most difficult part of living with diabetes for you?'
  - 'What are your greatest concerns about your diabetes?'
  - 'How is your diabetes getting in the way of other things in your life right now?'

These questions offer the person an opportunity to:

- raise any difficulties (emotional, behavioural or social) that they are facing
- express how particular diabetes-related issues are causing them distress and interfering with their self-care and/or their life in general.

One example of how to follow up the conversation could be: 'It sounds like you're having a difficult time with your diabetes. The problems you describe are quite common. And, as you also said, they often have a big impact on how you feel and how you take care of your diabetes. If you like, we could take some time to talk about what you and I can do to reduce your distress. What do you think?'"

EXPLORING EATING DIFFICULTIES

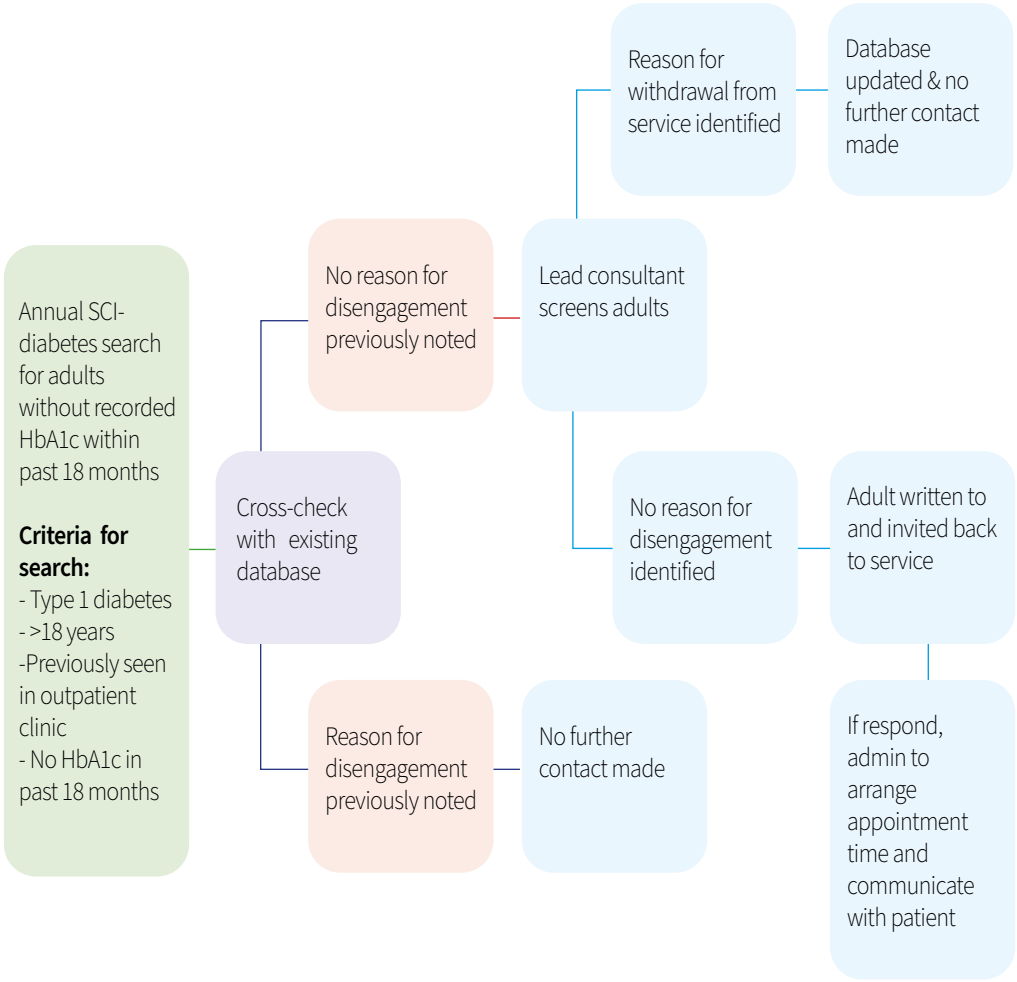
- Among people with diabetes, the most common disordered eating behaviours are binge eating and insulin restriction/omission but prevalence is not well established.
- Eating problems in people with diabetes are associated with sub-optimal diabetes self-management and outcomes, overweight and obesity, and impaired psychological well-being. Eating disorders are associated with early onset of diabetes complications, and higher morbidity and mortality.
- Be aware that acute changes in HbA1c and recurring diabetic ketoacidosis could indicate insulin omission and may be an alert to the presence of an eating disorder.
- A brief questionnaire, such as the DEPS-R can be used as a first step screening questionnaire in clinical practice. If the questionnaire is used in clinical practice this should be discussed with the local eating disorders team. However all HCPs should be aware of the type of questions to ask patients. A clinical interview is needed to confirm a full syndrome eating disorder.
- Effective management of eating problems requires a multidisciplinary team approach, addressing the eating problem and the diabetes management in parallel.
- Ask the person directly, in a sensitive/non-judgemental way, about eating behaviours and attitudes towards food, insulin restriction/omission, and concerns about body weight/shape/size.
- Be aware not to positively reinforce weight loss or low HbA1c when eating problems are (likely) present.

HELPFUL RESOURCES

- Diabetes UK HOW TO guide P5 - FINAL.pdf
- Diabetes and emotional health - a practical guide for healthcare professionals supporting adults with Type 1 and Type 2 diabetes | Diabetes UK

APPENDIX 3: EXAMPLE OF RE-ENGAGEMENT PROJECT

One example of re-engagement project piloted in NHS Grampian which saw >15% people re-engage with outpatient services.



APPENDIX 4: STAFF TRAINING CURRENTLY AVAILABLE

This e-learning module includes interviews with diabetes patients on the impact of a diabetes on their mood and provides a good overview of key issues and some pointers that can be built into person centred consultation. Access via TURAS.

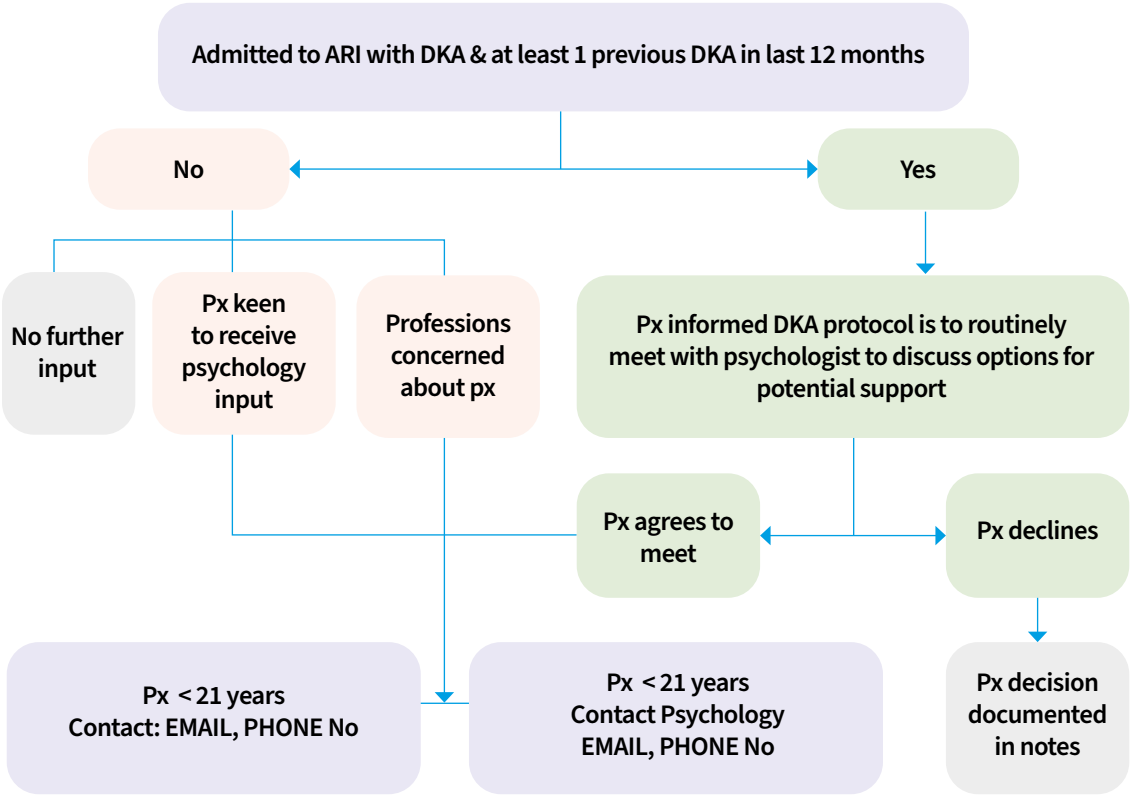
Trauma Informed Training

APPENDIX 5: EXAMPLE PATHWAYS TO SUPPORT PEOPLE WITH RECURRENT DKA

5A: NHS GRAMPIAN PSYCHOLOGY PROTOCOL FOR RECURRENT DKA

One example of re-engagement project piloted in NHS Grampian which saw >15% people re-engage with outpatient services.

DKA Psychology Protocol



APPENDIX 5B: LETTER TO PERSON ADMITTED FOR RECURRENT DKA

Dear XXX

Re: Invitation to meet with the diabetes psychology team following admission for diabetic ketoacidosis
You are receiving this invitation as we are aware that you were recently an inpatient following an episode of diabetic ketoacidosis (DKA).

Typically the diabetes psychology team meet with people who have been admitted for two DKA episodes over a twelve month period or people who are struggling in managing their diabetes. Unfortunately, we didn't manage to meet with you this time.

We understand that being admitted to hospital for this diabetes related condition can be for many reasons. We also know that when people with diabetes are going through a difficult time emotionally they tend to have poorer diabetes control. DKA can be associated with psychological difficulties, including anxiety and/or depression; this is partly because we know that people with diabetes more often experience emotional difficulties than those who do not have diabetes.

As a service, we want to ensure we are meeting the needs of people with diabetes and try to support people both physically and emotionally.

If you think you'd like to speak to someone about any aspect of your diabetes that is potentially getting in the way of you living your life or if you feel that that stress or low mood is impacting your diabetes then all you need to do is to email gram.psychologydiabetes@nhs.scot or call 01224 558705 (Shona) / 01224 558121 (Pamela) to make an appointment to meet with one of the team.

Alternatively you will find some helpful resources on our local Grampian Diabetes Website at: https://www.nhsgrampiandiabetes.scot.nhs.uk/living-with-diabetes/

We look forward to hearing from you soon.

APPENDIX 5C: NHS LOTHIAN DIABETES MENTAL HEALTH PATHWAY – JUNE 2020

1. ACTIVE SCREENING

1.1. Identify patients with sub-optimal diabetic control: HbA1c > 75 mmol/mol or risk of multiple acute admissions / A&E attendances due to diabetes.

1.2. Identify patients with mental disorder, particularly Depression (HADS D > 8) & Anxiety (HADS A > 8) or Eating Disorders.

2. ESTIMATING SEVERITY

2.1. Mental Health Tiered Model:

2.1.1. Level 1 – Subclinical / Mild: General coping difficulties, problems adjusting to diabetes and lifestyle changes, at a level common to many newly diagnosed diabetics.

2.1.2. Level 2 – Moderate: This includes diagnosed mental disorder (e.g. significant anxiety / depression, difficulties coping and resultant impaired self care) amenable to psychological therapies or prescription.

2.1.3. Level 3 – Severe / Complex: Diagnosed mental disorder, complex co-morbidity or high risk that requires specialist psychological therapy or prescription.

2.2. Sub-optimal Diabetes Control:

2.2.1. Risk of multiple A&E presentations or acute admission due to poorly controlled diabetes, DKA or diabetic complications.

2.2.2. HbA1C > 75 mmol/mol.

3. MATCHING CARE

3.1. Level 1 – subclinical / mild mental disorder

3.1.1. Optimal diabetes control:
* Self help (Feeling Good app or edspace.org.uk)
* Voluntary sector support / counselling (self referral)

3.1.2. Sub-optimal diabetes control:
* Enhanced DM care - support, education, motivational interviewing.
* Self help (Feeling Good app or edspace.org.uk)

3.2. Level 2 - moderate mental disorder

3.2.1. Optimal diabetes control:
* GP management, including prescription of psychotropic medication.
* GP referral to primary care mental health services / psychology.
* Referral for computerised CBT for Diabetes (silvercloudcbt@nhslothian.scot.nhs.uk)

3.2.2. Sub-optimal diabetes control or high levels of diabetes distress:
* Enhanced DM care - support, education or Motivational Interviewing.
* Potential referral of T1DM to Diabetes Mental Health Service (DMHS) if mental disorder impacts significantly on control or is treatment resistant.
* Referral for computerised CBT for Diabetes (silvercloudcbt@nhslothian.scot.nhs.uk)

3.3. Level 3 - severe / complex mental disorder

3.3.1. Optimal diabetes control:
* GP referral to CMHT or specialist service (e.g. Substance Misuse, Eating Disorder or Learning Disability).
* Consider joint working with such services when appropriate.
* Consider discussion with DMHS

3.3.2. Sub-optimal diabetes control or high levels of diabetes distress:
* Referral of T1DM & T2DM to Diabetes Mental Health Service.
* Consider joint working with CMHT or specialist services.

4. BRIEF INTERVENTIONS / TREATMENTS

4.1. Pharmacological Treatments:

4.1.1. Anxiety / Depression (in secondary care setting):
* 1st line: Sertraline 50 – 200 mg daily.
* See DMHS Pathway development document re alternatives.

4.1.2. Anxiety / Depression & neuropathic pain:
* 1st line: Duloxetine 60 – 120 mg daily.
* See DMHS Pathway development document re alternatives.

4.1.3. Specialist treatments as required / according to guidelines.

4.2. Psychological Therapies:

4.2.1. Unhelpful health beliefs / illness behaviours:
* Motivational Interviewing.
* Problem Solving.

4.2.2. Anxiety / Depression:
* Cognitive Behavioural Therapy (CBT).
* Interpersonal Therapy (IPT).

4.2.3. Specialist therapies as required / according to guidelines.

4.2.4 Distress intolerance and emotional dysregulation
* Decider Skills

4.3. Social Support:
* Outreach and assessment of social stressors / needs.
* Linking with appropriate agencies (support, social activity, education, employment, finances and housing).
* Accompany, support, advocate (all short term) for patients.

Use in conjunction with Diabetes Mental Health Pathway Development document

DKA Prevention Steering Group

DESIGN: WLS0324