20th National Conference of the Primary Care Diabetes Society

Screening for mental health problems in diabetes

Managing diabetes in people with serious mental illness

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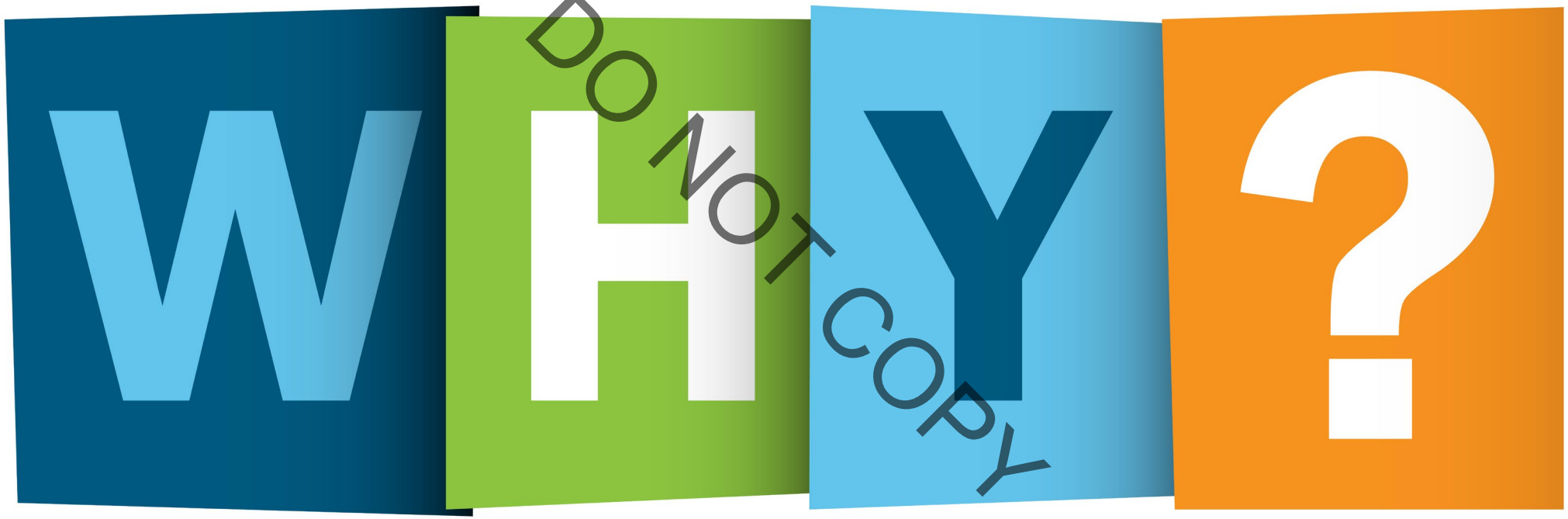
Co-author “Older persons mental health: a practice primer
Author “Daggers of the Mind”
National clinical coordinator DEMON (AI in dementia) network

Declarations of interest: none

1. Screening for mental health problems in diabetes



“There is evidence that the prevalence of depression is moderately increased in prediabetic patients and in undiagnosed diabetic patients.

The prevalence rates of depression could be up to **three-times** higher in patients with type 1 diabetes and **twice** as high in people with type 2 diabetes compared with the general population worldwide. Anxiety appears in **40%** of the patients with type 1 or 2 diabetes.

The presence of depression and anxiety in diabetic patients **worsens** the prognosis of diabetes, increases the non-compliance to the medical treatment, decreases the quality of life and increases mortality.

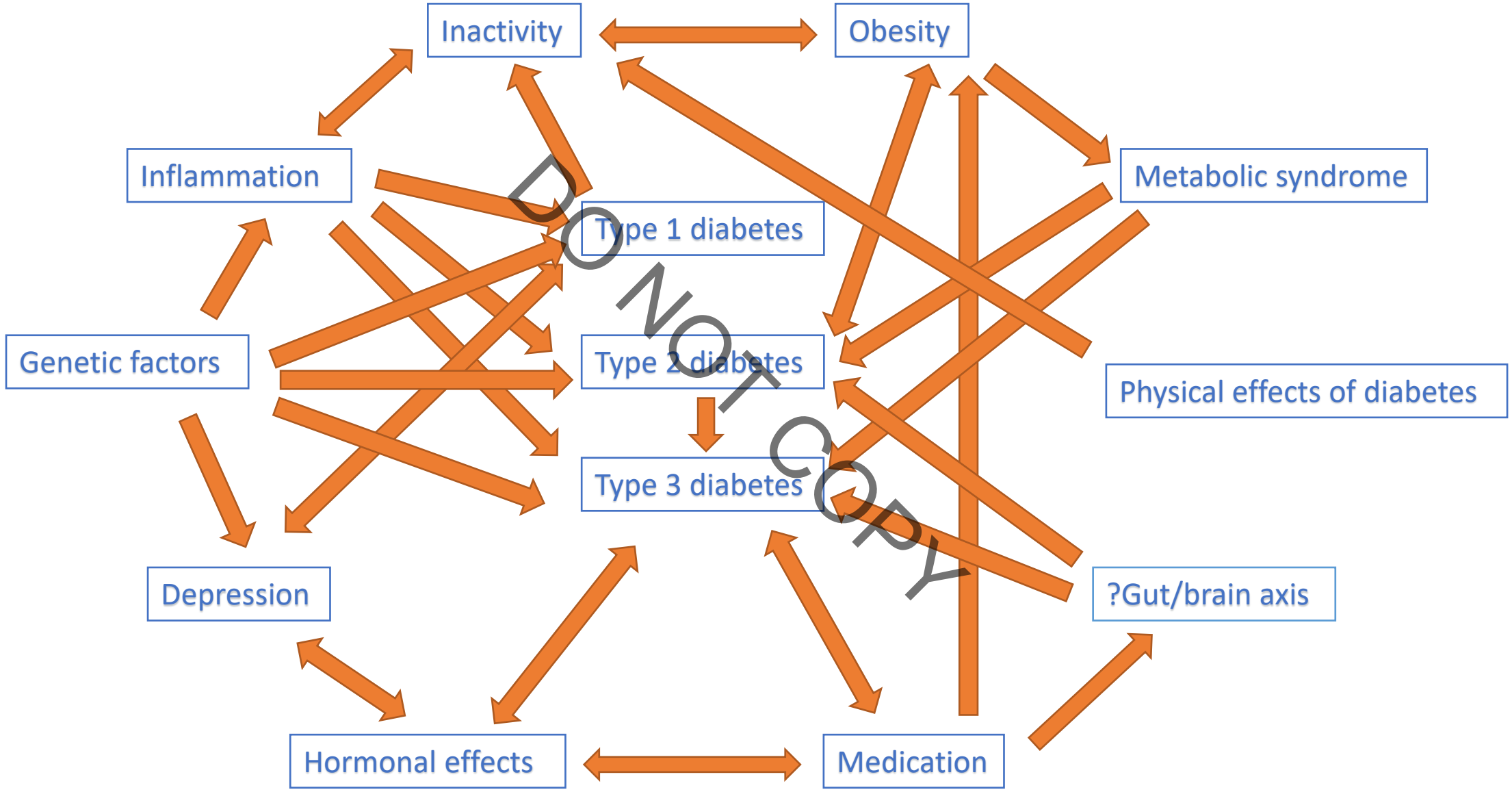
On the other hand, depression may increase the risk of developing type 2 diabetes by **60%**

It seems that there is a **bidirectional association** between diabetes and depression, a complex relation that might share biological mechanisms”

Bădescu SV, Tătaru C, Kobylinska L, Georgescu EL, Zahiu DM, Zăgrean AM, Zăgrean L. The association between Diabetes mellitus and Depression. J Med Life. 2016 Apr-Jun;9(2):120-5. PMID: 27453739; PMCID: PMC4863499.

- The daily routines associated with managing diabetes can be stressful and lead to symptoms of depression.
- Diabetes can cause complications and worsening health problems that may lead to or worsen symptoms of depression.
- Depression can lead to unhealthy lifestyle decisions, such as poor eating, lack of exercise, smoking, and weight gain; all of these are known factors for diabetes.
- Depression can affect your ability to complete daily tasks, think clearly, and communicate with others effectively, all of which can interfere with your ability to manage your diabetes.
- Depression is directly linked to non-adherence to diabetic management (blood sugar testing, medication, lifestyle modifications), potentially leading to long-term diabetes complications.
- Depression is linked to **poor metabolic control**, a risk factor for type 2 diabetes.
- Depression causes an increased risk in cortisol, the body's stress hormone. Excess cortisol leads to increased glucose and **insulin resistance** resulting in metabolic syndrome, increasing the likelihood of diabetes.
- Daily stress from either type 2 diabetes or depression can increase **cortisol and inflammatory markers**, worsening depressive symptoms.

https://www.psychologytoday.com/us/blog/happiness-is-state-mind/202112/the-relationship-between-diabetes-and-depression


Inactivity
Obesity
Inflammation
Metabolic syndrome
Type 1 diabetes
Genetic factors
Type 2 diabetes
Physical effects of diabetes
Type 3 diabetes
Depression
?Gut/brain axis
Hormonal effects
Medication

Issue:
Vol:23 | No:01

AT A GLANCE FACTSHEET, AT-RISK GROUPS, COMORBIDITIES, DIABETES & PRIMARY CARE, DIAGNOSIS AND SCREENING, MENTAL HEALTH

At a glance factsheet: Mental health and diabetes

12 Nov 2020

Peter Bagshaw

Vol:23 | No:01 Page: 17

This *At a glance* factsheet reviews mental health problems, including diabetes-specific issues, in people with diabetes, and outlines how to recognise them and how they are correlated with diabetes and physical health.

Mental health and diabetes

This brief guide reviews mental health problems, including diabetes-specific issues, in people with diabetes, and outlines how to recognise them and how they are correlated with diabetes and physical health.

- **Mental health problems include anxiety, depression, eating disorders and obsessive–compulsive disorder.**
- **Serious mental illness generally refers to bipolar disorder (formerly known as manic depression) and schizophrenia.**
- **Diabetes-specific mental health problems include diabetes distress and diabetes burnout.**

Increased mental health problems in diabetes[1,2]

- **Depression** rates are increased by around **40%**.
- **Anxiety** rates are increased by around **20%**.
- **One in 4** people with diabetes will have **diabetes distress** (specific anxiety or depression arising from their diabetes).
- Around **1 in 5** people with type 1 diabetes have **eating disorders**.
- Poor diabetes control **doubles** the risk of psychiatric conditions.

Increased risk of type 2 diabetes with mental health problems[2,3]

- **Depression** increases the risk of developing type 2 diabetes by **60%**.
- **Post-traumatic stress disorder** is postulated to increase the risk of type 2 diabetes significantly.
- In **serious mental illness**, the increased rate of type 2 diabetes contributes to the 10–20-year premature mortality.
- Poor **sleep**, poor **diet**, lower **socioeconomic status** and less **exercise** are all postulated as possible causes.
- This leads to **metabolic syndrome** and activation of the **hypothalamic–pituitary–adrenal axis** from chronic stress.
- The link between mental health problems and type 2 diabetes is also thought to be due to increased **oxidative stress** (an inability to detoxify reactive oxygen species, leading to dysregulated inflammatory and metabolic response).

https://diabetesonthenet.com/wp-content/uploads/pdf/dotn52f08c3144ab22f963275faec11e823a.pdf

Effect of mental health problems on type 1 diabetes control[4]

- Pre-existing mental health problems at diagnosis **double** the risk of poor glycaemic control in adolescents.
- Diabetes distress can lead to **diabetes burnout** (a state of frustration and hopelessness about the condition), where the person will often participate in self-destructive behaviours.
- Eating disorders in young women with type 1 diabetes increase the risk of complications by around **300%**.

Effect of mental health problems on type 2 diabetes control[4]

- **Minor depression** (at least two depressive symptoms) increases the risk of death in type 2 diabetes by **50%**.
- **Major depression** (anhedonia, low self-esteem and suicidal thoughts, particularly in bipolar depression) more than **doubles** the risk.
- **Diabetes burnout** often worsens self-management.

Screening for mental health problems in diabetes[4]

Screening for mental health problems in diabetes is important.

Some commonly used tools are as follows:

Depression: Patient Health Questionnaire (PHQ-9)

- Scores each of the nine DSM-IV depression criteria from 0 (not at all) to 3 (nearly every day).
- A total score of ≥10 (out of a possible 27) indicates possible **depression**. Diagnosis must be confirmed with a clinical interview.

Diabetes distress: Problem Areas In Diabetes (PAID)

- 20 items, scored from 0 (not a problem) to 4 (a serious problem).
- Scores for each item are summed, then multiplied by 1.25 to generate a total score out of 100.
- Total scores of ≥40 indicate severe diabetes distress.
- Any individual item score of ≥3 indicates a "problem area" or concern, and should be further explored in conversation.

Diabetes burnout: No validated test; however, signs include:

- Disengagement from self-care tasks (e.g. skipping insulin doses/tablets, or not monitoring blood glucose).
- Unhealthy or uncontrolled eating.
- Risk-taking behaviours.
- Non-attendance at clinic consultations.

https://diabetesonthenet.com/wp-content/uploads/pdf/dotn52f08c3144ab22f963275faec11e823a.pdf

“Screening for depression should be performed routinely for adults with diabetes because untreated depression can have serious clinical implications for patients with diabetes.”

(American Association of Clinical Endocrinologists and American College of Endocrinology, 2015)

“Patients with diabetes can be assessed for mental health issues, social isolation/networks and family or work stress.”

(Royal Australian College of General Practitioners, 2014)

“Individuals with diabetes should be regularly screened for subclinical psychological distress and psychiatric disorders by interview or with a standardized questionnaire.”

(Canadian Diabetes Association, 2013)

“In the late 1600s, the English physician Thomas Willis observed that diabetes sometimes occurred after significant life stress or sorrow.”

https://www.diabetes.org.uk/for-professionals/improving-care/good-practice/psychological-care/emotional-health-professionals-guide

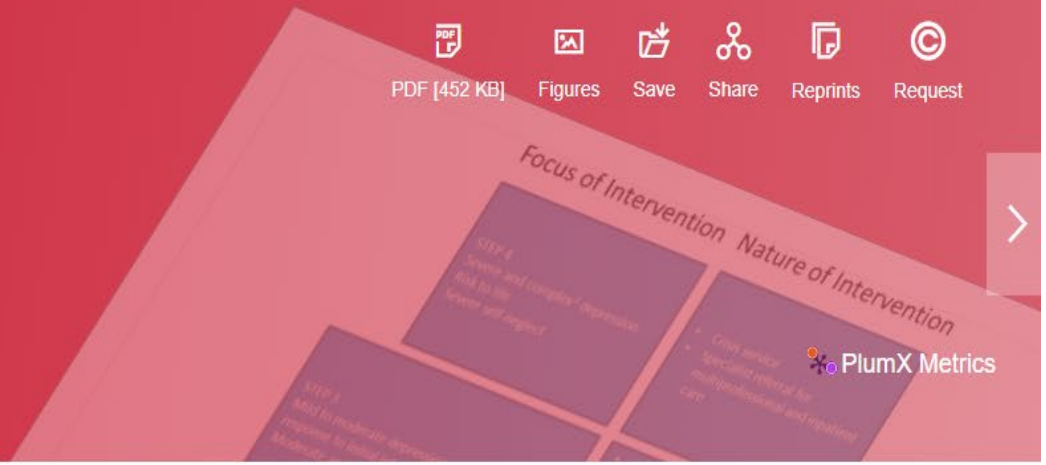
primary care diabetes PCDE

REVIEW | VOLUME 7, ISSUE 1, P1-10, APRIL 2013 Download Full Issue

Screening, evaluation and management of depression in people with diabetes in primary care

Norbert Hermanns • Salvatore Caputo • Grzegorz Dzida • Kamlesh Khunti • Luigi F. Meneghini • Frank Snoek

Open Access • DOI: https://doi.org/10.1016/j.pcd.2012.11.002



Abstract

Family physicians are responsible for diagnosing and treating the majority of people with type 2 diabetes mellitus and co-morbid depression. As a result of the impact of co-morbid depression on patient self-care and treatment outcomes, screening for depression in the context of a structured approach to case management and patient follow up is recommended in people with diabetes and cardiovascular disease. This review summarizes the need for improved recognition and treatment of depression in diabetes; and makes expert recommendations with regard to integrating screening tools and therapies into a busy family or general medical practice setting.

https://www.primary-care-diabetes.com/article/S1751-9918(12)00222-7/fulltext

On initial diagnosis:

“Assess for associated anxiety and depression, and manage appropriately”

“Children and young people with type 1 or type 2 diabetes are offered access to mental health professionals with an understanding of diabetes.”

https://cks.nice.org.uk/topics/diabetes-type-2/management/management-adults/

https://www.nice.org.uk/guidance/QS125/chapter/Quality-statement-6-Access-to-mental-health-professionals-with-an-understanding-of-type-1-or-type-2-diabetes

https://www.nice.org.uk/guidance/ng28/ 58 pages

https://www.nice.org.uk/guidance/conditions-and-diseases/diabetes-and-other-endocrinal--nutritional-and-metabolic-conditions/diabetes/products

66 topics eg:

“Ertugliflozin with metformin and a dipeptidyl peptidase-4 inhibitor for treating type 2 diabetes”

QOF: 19 indicators

Patient Health Questionnaire (PHQ-9)

Over the last two weeks, how often have you been bothered by any of the following problems?

- Feeling down, depressed, or hopeless
- Trouble falling or staying asleep, or sleeping too
- Feeling tired or having little energy?
- Poor appetite or overeating?
- Feeling bad about yourself - or that you are a failure or have let yourself or your family down?
- Trouble concentrating on things, such as reading the newspaper or watching television?
- Moving or speaking so slowly that other people could have noticed? Or the opposite - being so fidgety or restless that you have been moving around a lot more than usual?
- Thoughts that you would be better off dead, or of hurting yourself in some way?

- Not at all *score 0*
- Several days *score 1*
- More than half the days *score 2*
- Nearly every day *score 3*

Depression severity scale:

- 0-4: No depression
- 5-9: Mild depression 10-14: Moderate depression
- 15-19: Moderately severe depression
- 20-27: Severe depression

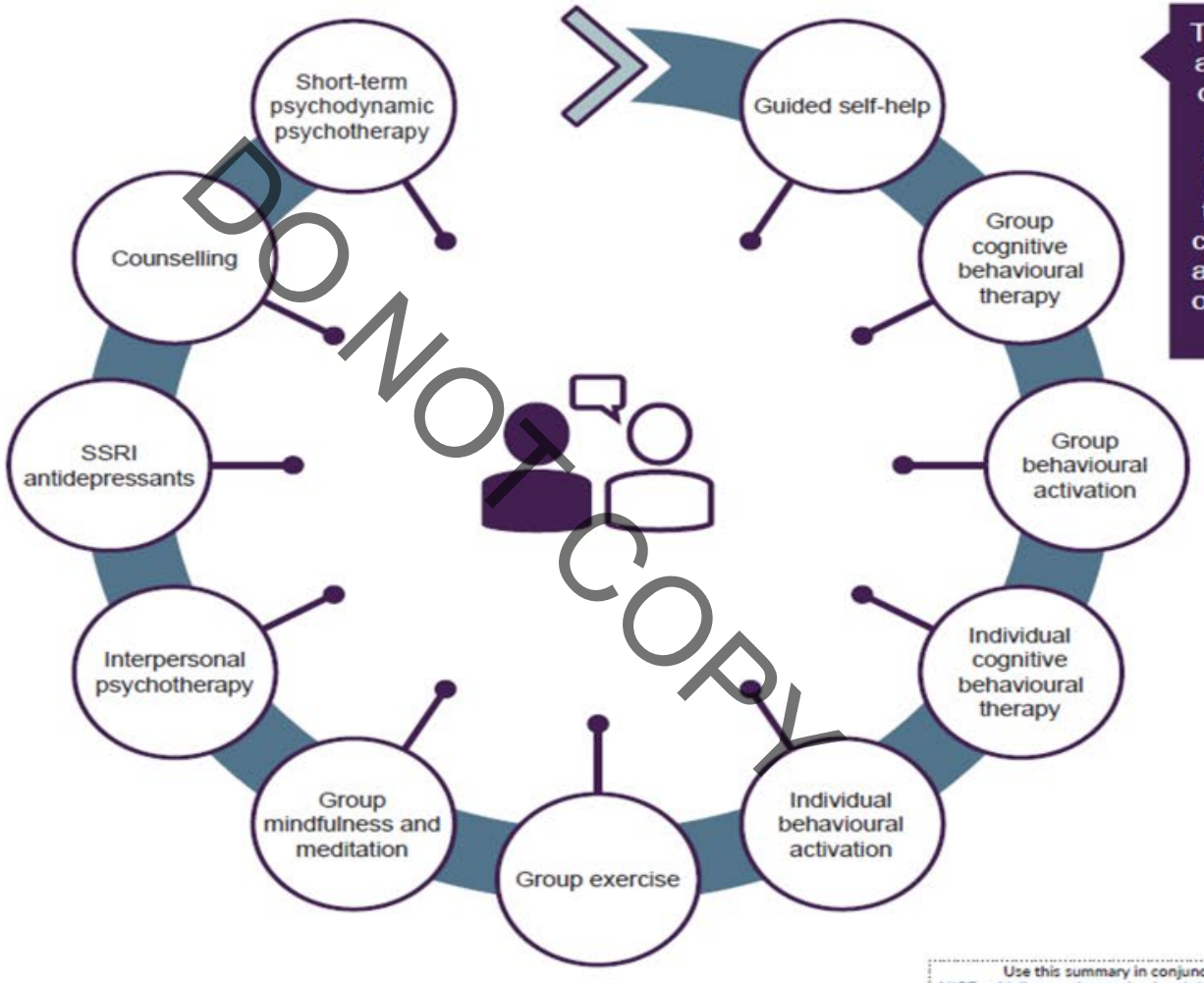
Validity has been assessed against an independent structured mental health professional (MHP) interview. PHQ-9 score ≥10 had a sensitivity of 88% and a specificity of 88% for major depression. It can even be used over the telephone.

Depression in adults: discussing first-line treatments for less severe depression

Discuss treatment options and match the choice of treatment to clinical needs and preferences, taking into account that any option can be used as first line, but consider the least intrusive and least resource intensive treatment first (guided self-help).

If the person has a clear preference, or experience from previous treatment to use as a guide: support the person's choice, unless there are concerns about suitability for this episode of depression.

Do not routinely offer antidepressants as a first-line treatment, unless that is the person's preference.



Treatment options are listed in order of recommended use, based on the committee's interpretation of their clinical and cost effectiveness and consideration of implementation factors.

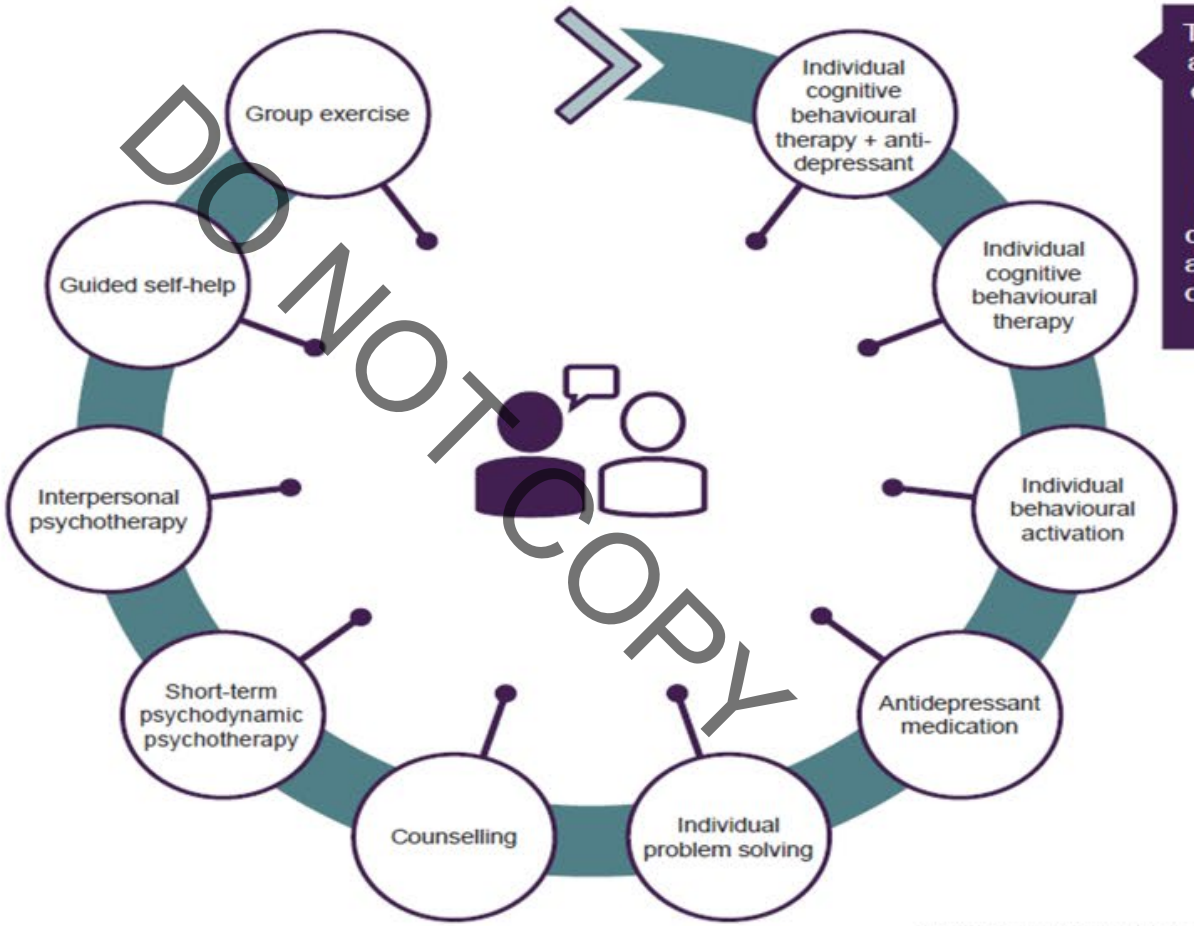
NICE National Institute for Health and Care Excellence

Use this summary in conjunction with table 1 in the NICE guideline on depression in adults: recognition and management.

Depression in adults: discussing first-line treatments for more severe depression

Discuss treatment options with people who have a new episode of more severe depression. Match their choice of treatment to their clinical needs and preferences.

If the person has a clear preference, or experience from previous treatment to use as a guide: support the person's choice, unless there are concerns about suitability for this episode of depression.

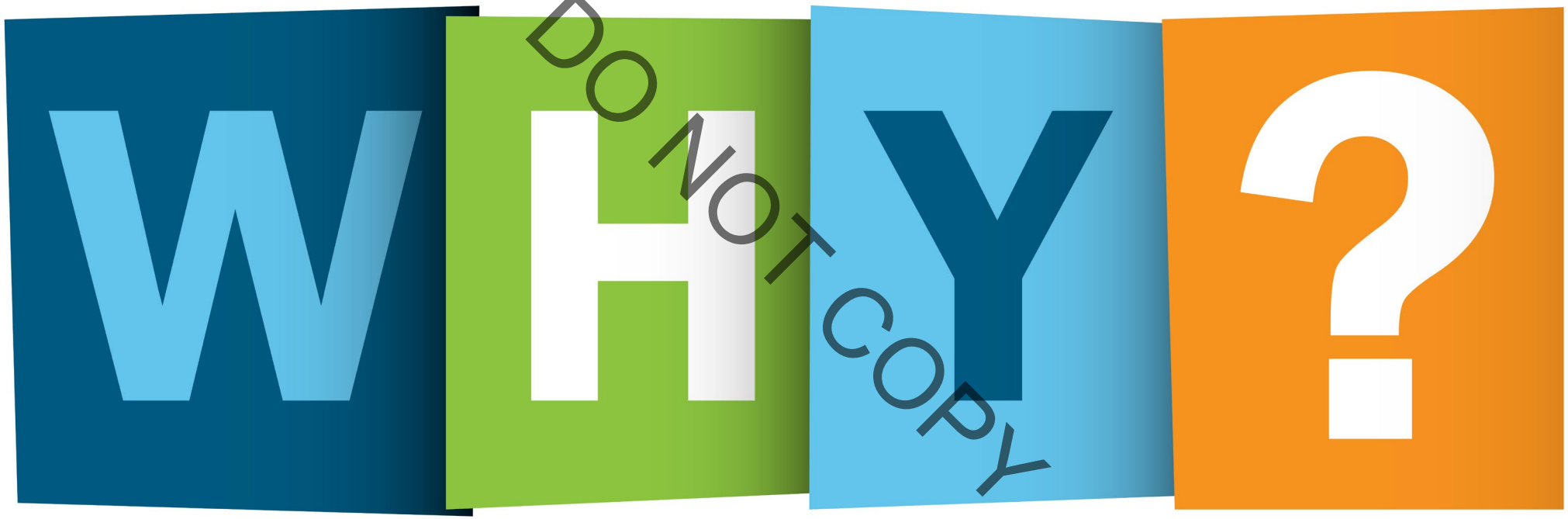


Treatment options are listed in order of recommended use, based on the committee's interpretation of their clinical and cost effectiveness and consideration of implementation factors.

NICE National Institute for Health and Care Excellence

Use this summary in conjunction with table 2 in the NICE guideline on depression in adults: recognition and management.

2 Managing diabetes in people with serious mental illness



T2DM is much commoner in SMI

- Approximately 30% of people with schizophrenia have impaired glucose tolerance.
- Someone with schizophrenia has a risk of developing type 2 diabetes that is 2-5 times that of the general population.
- Diabetes is found in people with bipolar disorder nearly three times more often than in the general population
- This is a major contributing factor to the elevated risk of cardiovascular mortality, the leading cause of death in SMI

Suvisaari J, Keinänen J, Eskelinen S, Mantere O. Diabetes and Schizophrenia. Curr Diab Rep. 2016 Feb;16(2):16. doi: 10.1007/s11892-015-0704-4. PMID: 26803652.

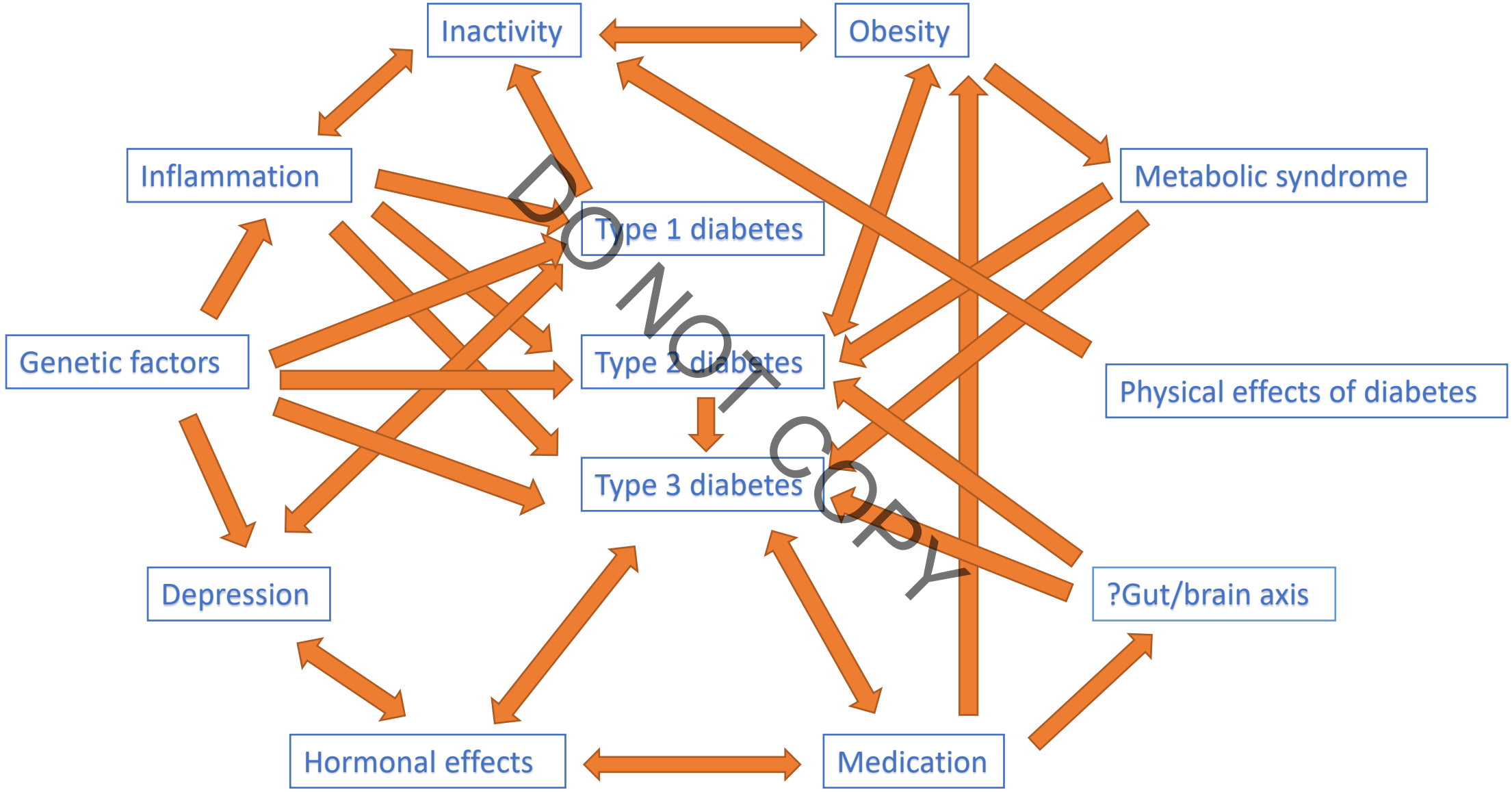
Calkin CV, Gardner DM, Ransom T, Alda M. The relationship between bipolar disorder and type 2 diabetes: more than just co-morbid disorders. Ann Med. 2013 Mar;45(2):171-81. doi: 10.3109/07853890.2012.687835.

And not just diabetes. People living with SMI (Schizophrenia and bipolar disorder) have:

A doubled risk of obesity
6.6 times increased risk of respiratory disease
6.5 times increased risk of liver disease
4.1 times increased risk of cardiovascular disease
2.3 times increased risk of cancer
are 3 times more likely to lose their natural teeth

Overall, a **15-20 year** premature mortality, with a third being from cardiovascular disease

https://www.england.nhs.uk/long-read/improving-the-physical-health-of-people-living-with-severe-mental-illness/


Inactivity
Obesity
Inflammation
Metabolic syndrome
Type 1 diabetes
Genetic factors
Type 2 diabetes
Physical effects of diabetes
Type 3 diabetes
Depression
?Gut/brain axis
Hormonal effects
Medication

“Multiple complex mechanisms underlie the association between diabetes mellitus and SMI”

May include:

- Antipsychotics and sedatives
- Physical inactivity
- Shared genetic factors
- Poor self care
- Increased smoking and alcohol rates
- Social deprivation

Leading to

- Inflammation
- Insulin resistance
- Metabolic dysfunction
- Obesity

Holt RI, Mitchell AJ. Diabetes mellitus and severe mental illness: mechanisms and clinical implications. Nat Rev Endocrinol. 2015 Feb;11(2):79-89

Genetic links

"Researchers at King's College London looking at genetic links between depression and type 2 diabetes have found that the two illnesses occur at the same time in 87 per cent of men due to genetic factors.

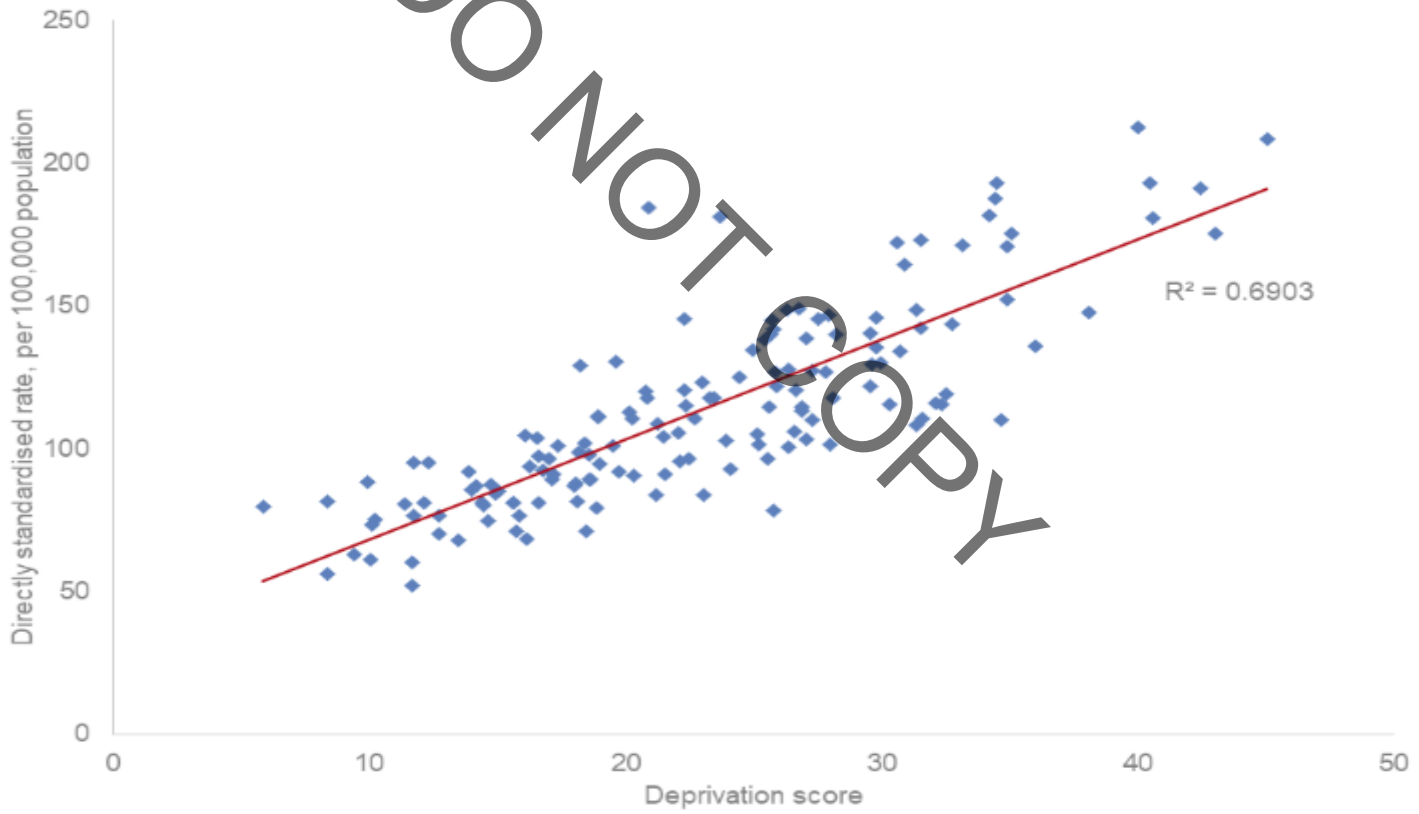
Previous research showed that people with depression may be up to **60 per cent more at risk of getting type 2 diabetes**, while those with type 2 diabetes are in the region of 15 per cent more at risk of developing depression.

Now leading psychiatrists and scientists have discovered a "**significant genetic overlap**" as part of a study which aimed to discover how the two conditions may be linked."

Kan, C et al (2016) Genetic overlap between type 2 diabetes and depression in Swedish and Danish twin registries Molecular Psychiatry

Socioeconomic links

Figure 4: relationship between premature mortality in adults with severe mental illness (directly standardised rate per 100,000 population, 2018 to 2020) and deprivation score (IMD 2019) for upper tier local authorities (April 2020 to March 2021) in England



https://www.gov.uk/government/publications/premature-mortality-in-adults-with-severe-mental-illness/premature-mortality-in-adults-with-severe-mental-illness-smi

Medication interactions

"Research has linked the use of **lithium** and **antiepileptic medications** in particular with weight gain. One review of 24 medication trials found that these drugs caused significant weight gain in pediatric bipolar patients 75 percent of the time.

Antipsychotic medications also are used to treat bipolar patients, and they too have been linked with weight gain, particularly second-generation drugs like clozapine and olanzapine. The same review of medication trials found that bipolar patients **gained more weight when taking second-generation antipsychotics** and gained an extreme amount of weight when taking antipsychotics along with mood-stabilizing medications."

Peterson, T. (2019, January 8). What's the Link Between Diabetes and Mental Illness?, HealthyPlace

Control of diabetes is more difficult in those with SMI

"Several aspects of diabetes healthcare and self-management are **suboptimal** in people with SMI. There is a need to improve diabetes self-management support for this population by integrating diabetes action plans into care planning and providing adequate psychological support to help people with SMI manage their diabetes."

Mulligan, K., McBain, H., Lamontagne-Godwin, F. et al. Barriers to effective diabetes management – a survey of people with severe mental illness. BMC Psychiatry 18, 165 (2018)

Diabetes burnout

Diabetes burnout is much commoner in those with underlying MH problems

“Participants saw burnout as separate but closely related to distress and depressive symptoms, with some suggesting correlations among burnout, distress, and depressive symptoms, while others expressed that distress caused their burnout and depressive symptoms.”

Abdoli S et al Diabetes Research and Clinical Practice Volume 169, November 2020, New insights into diabetes burnout and its distinction from diabetes distress and depressive symptoms: A qualitative study

…and outcomes are poorer

British Journal of General Practice
bringing research to clinical practice

Research

Impact of severe mental illness on healthcare use and health outcomes for people with type 2 diabetes: a longitudinal observational study in England

Lu Han, Tim Doran, Richard Ian Gregory Holt, Catherine Hewitt, Rowena Jacobs, Stephanie Louise Prady, Sarah Louise Alderson, David Shiers, Han-I Wang, Sue Bellass, Simon Gilbody, Charlotte Emma Wray Kitchen, Jennie Lister, Johanna Taylor and Najma Siddiqi

British Journal of General Practice 2021; 71 (709): e565-e573. **DOI:** https://doi.org/10.3399/BJGP.2020.0884

"People with severe mental illnesses (SMIs) have reduced life expectancy compared with the general population. Diabetes is a contributor to this disparity, with higher prevalence and poorer outcomes in people with SMI.

Conclusion Monitoring of metabolic measurements was **comparable** for people with T2DM who did, and did not, have SMI. Increased mortality rates observed in people with SMI may be attributable to **underdiagnosis of CVD** and delays in treatment."

So even if control of diabetes is good, the additional risk factors arising as a result of SMI make outcomes worse

We need to be:

- More diligent in reducing smoking
- More diligent in reducing obesity
- More diligent in reducing cardiovascular risks
- More diligent in encouraging exercise

Should we consider automatic dietetic referral or a lower threshold for antiobesity drugs?

FORBES > INNOVATION > HEALTHCARE

What's Behind The Mental Health Concerns With Ozempic Use

Omer Awan Senior Contributor

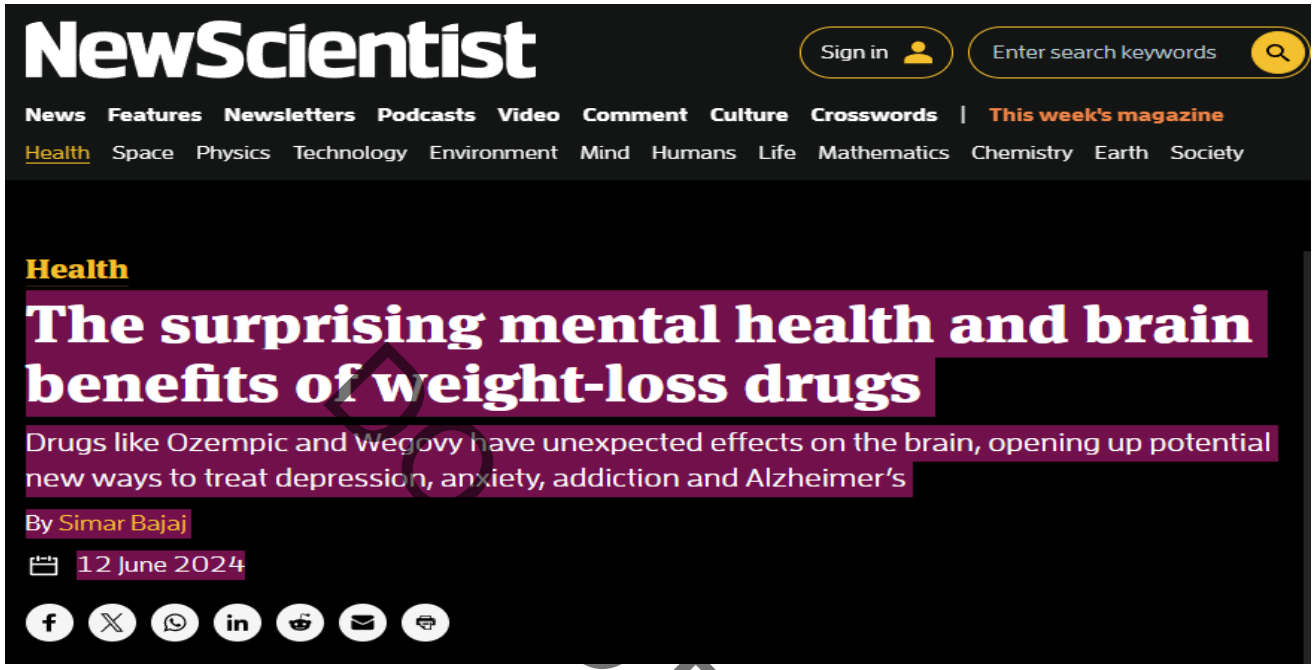
Dr. Omer Awan is a practicing physician who covers public health.

Follow

0

Sep 29, 2023, 06:30am EDT

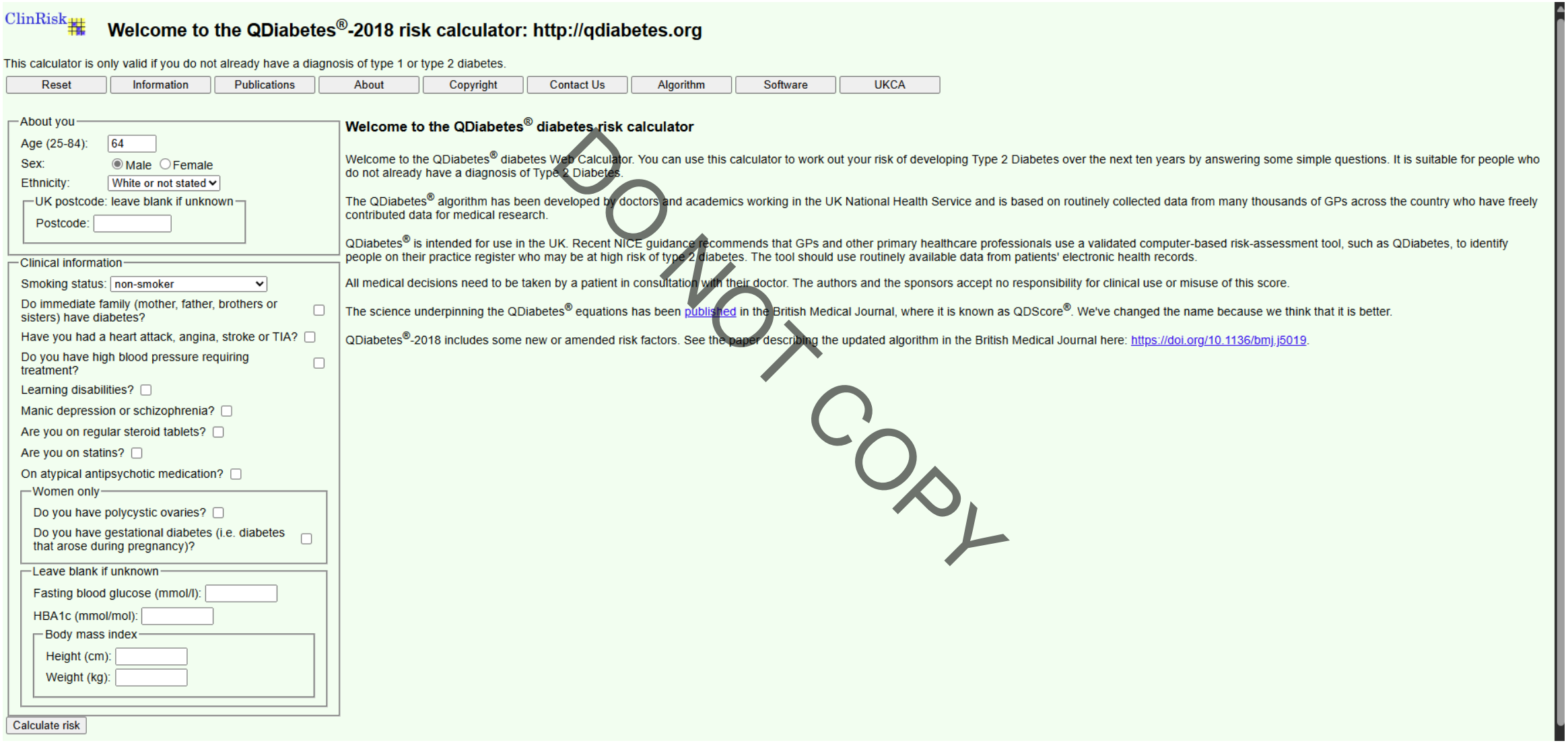
Common side effects of Ozempic include nausea, vomiting, constipation and diarrhea. More serious side effects can include inflammation of the pancreas, gallbladder issues, kidney failure, worsening of vision and the development of some thyroid tumors. Anxiety, depression or suicidal ideation are not mentioned in Ozempic's instructions for use. These mental health side effects are mentioned in Wegovy's instructions for use, the FDA drug approved for weight loss with the same active ingredient of Semaglutide but in a higher dose than Ozempic.



"New research is revealing the surprising brain and mental health benefits of semaglutide drugs such as Ozempic and Wegovy, and other related diabetes and weight-loss drugs that mimic a gut hormone released after eating.

It is early days, but there are hints that these drugs could be repurposed to treat depression, anxiety, addiction and even certain eating disorders – as well as neurological conditions such as Parkinson's disease and Alzheimer's. What's more, it seems that these effects aren't just mediated via weight loss, but through direct action on the brain."

We all know about Qrisk but what about Qdiabetes?



ClinRisk

Welcome to the QDiabetes®-2018 risk calculator: http://qdiabetes.org

This calculator is only valid if you do not already have a diagnosis of type 1 or type 2 diabetes.

Reset | Information | Publications | About | Copyright | Contact Us | Algorithm | Software | UKCA

About you

Age (25-84): 64

Sex: Male Female

Ethnicity: White or not stated

UK postcode: leave blank if unknown

Postcode:

Clinical information

Smoking status: non-smoker

Do immediate family (mother, father, brothers or sisters) have diabetes?

Have you had a heart attack, angina, stroke or TIA?

Do you have high blood pressure requiring treatment?

Learning disabilities?

Manic depression or schizophrenia?

Are you on regular steroid tablets?

Are you on statins?

On atypical antipsychotic medication?

Women only

Do you have polycystic ovaries?

Do you have gestational diabetes (i.e. diabetes that arose during pregnancy)?

Leave blank if unknown

Fasting blood glucose (mmol/l):

HBA1c (mmol/mol):

Body mass index

Height (cm):

Weight (kg):

Calculate risk

Welcome to the QDiabetes® diabetes risk calculator

Welcome to the QDiabetes® diabetes Web Calculator. You can use this calculator to work out your risk of developing Type 2 Diabetes over the next ten years by answering some simple questions. It is suitable for people who do not already have a diagnosis of Type 2 Diabetes.

The QDiabetes® algorithm has been developed by doctors and academics working in the UK National Health Service and is based on routinely collected data from many thousands of GPs across the country who have freely contributed data for medical research.

QDiabetes® is intended for use in the UK. Recent NICE guidance recommends that GPs and other primary healthcare professionals use a validated computer-based risk-assessment tool, such as QDiabetes, to identify people on their practice register who may be at high risk of type 2 diabetes. The tool should use routinely available data from patients' electronic health records.

All medical decisions need to be taken by a patient in consultation with their doctor. The authors and the sponsors accept no responsibility for clinical use or misuse of this score.

The science underpinning the QDiabetes® equations has been published in the British Medical Journal, where it is known as QDScore®. We've changed the name because we think that it is better.

QDiabetes®-2018 includes some new or amended risk factors. See the paper describing the updated algorithm in the British Medical Journal here: https://doi.org/10.1136/bmj.j5019.

https://qdiabetes.org/

NICE quality indicator: SMI annual health check

A comprehensive health check focused on physical health problems such as cardiovascular disease, diabetes, obesity and respiratory disease. The annual check should include:

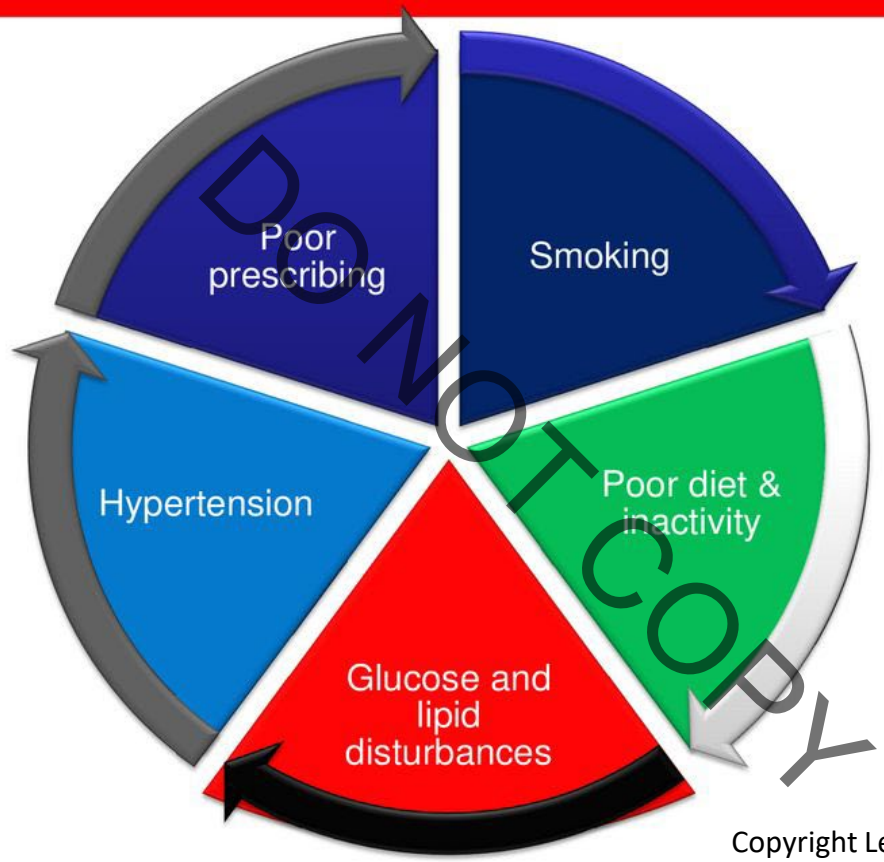
- Weight or BMI, diet, nutritional status and level of physical activity
- Cardiovascular status, including pulse and blood pressure
- Metabolic status, including fasting blood glucose, glycosylated haemoglobin (HbA1c) and blood lipid profile
- Liver function. Renal and thyroid function, and calcium levels, for people taking long-term lithium.

https://www.nice.org.uk/sharedlearning/improving-physical-health-for-people-with-serious-mental-illness-smi

BMA QOF guidance: SMI annual health check

1. Enquire about smoking, alcohol and drug use
2. Blood pressure check
3. Cholesterol check where clinically indicated
4. Measurement of body mass index (BMI)
5 Enquire about diet and levels of physical activity
6. Check for the development of diabetes
7. Cervical screening where appropriate and Prostate and testicular examination
8. Enquire about cough, sputum, and wheeze
9. Check the accuracy of the record of medication prescribed by the GP and the Psychiatrist.

DON'T JUST SCREEN…



INTERVENE!

In Summary:

- Diabetes is much commoner in SMI and *vice-versa*
- Screen for MH problems in diabetes and *vice-versa*
- Even with good diabetes care, outcomes in those who also have SMI is poorer. Be proactive in seeking and treating cardiovascular disease
- Be proactive in tackling metabolic disease: watch this space for the place of the new anti-obesity drugs
- Don’t just screen, intervene!

Thank you!

Feel free to contact me at:

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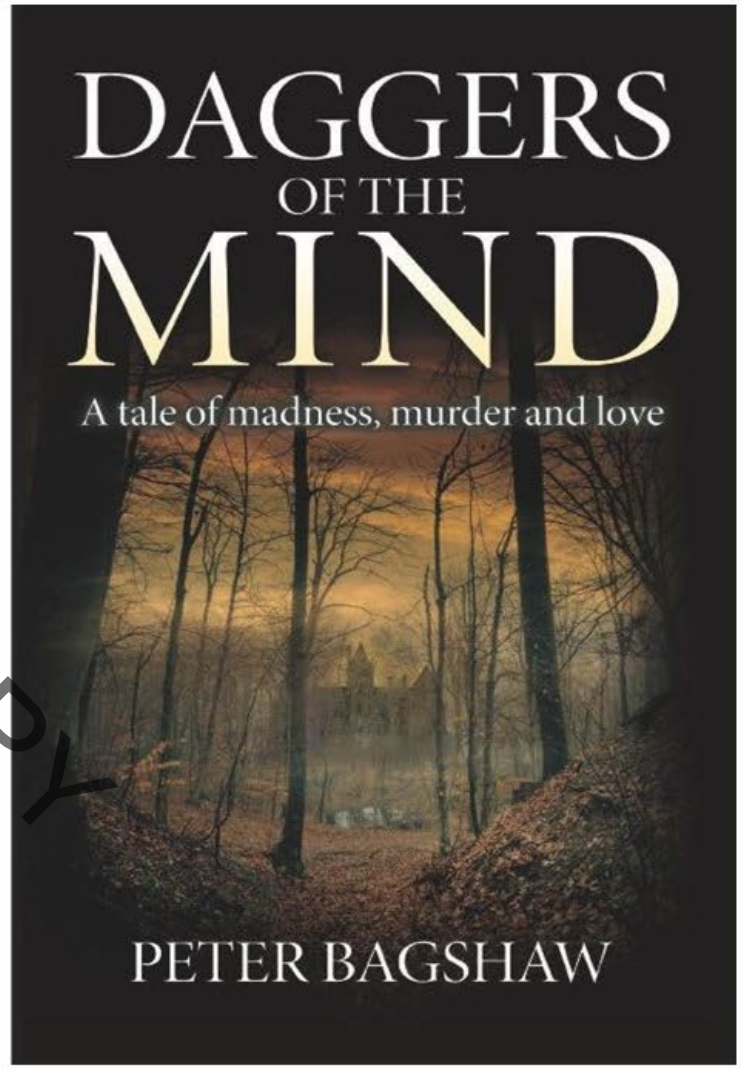
Twitter @DrPeterBagshaw

pjbagshaw.wordpress.com



Questions?