Type 2 Prevention for high-risk groups: Non- Diabetic Hyperglycaemia (Prediabetes) and Gestational Diabetes Mellitus

Why have we produced this position statement?

We are concerned about the rising numbers of people with Non-Diabetic Hyperglycaemia (NDH) (or prediabetes) and women with Gestational Diabetes Mellitus (GDM) across the UK. Both groups are recognised as high-risk populations requiring targeted intervention to prevent progression to type 2. Evidence shows that around 50% of women with a history of GDM develop type 2 diabetes within five years of giving birth. Similarly, people with NDH face a significantly increased lifetime risk of progressing to type 2 diabetes. These conditions disproportionately affect people living in deprived communities. They also have a significant impact on Black and South Asian people, further exacerbating health inequalities linked to type 2 diabetes.

Non-Diabetic Hyperglycaemia (NDH or Prediabetes)

The prevalence of non-diabetic hyperglycaemia (NDH), or prediabetes, is rising across the UK. Current estimates show that around 6.3 million people are at an increased risk of type 2 diabetes in the UK based on blood sugar levels.[1] Overall, one in five adults, or 12 million people, in the UK now live with diabetes or prediabetes. [2] In England alone, 1n 9 adults in England, around 5.1 million people, have prediabetes.[3] Among those diagnosed before 2018, around 16% progressed to type 2 diabetes within three years.[4] While the causes of type 2 are complex, and involve an individual's genetics, age, bodyweight and where the body stores fat, excess body weight and physical inactivity are the primary drivers of progression from NDH to type 2 in the majority of people.

Gestational Diabetes Mellitus (GDM)

Gestational diabetes is also increasing. It affects approximately 10- 20% of all pregnant

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[1] Diabetes UK. (2025, June 6). Prediabetes symptoms and risk reduction. https://www.diabetes.org.uk/about-diabetes/type-2-diabetes/prediabetes

[2] Diabetes UK. (2024, March 25). *One in five adults now live with diabetes or prediabetes in the UK*. https://www.diabetes.org.uk/about-us/news-and-views/one-five-adults-now-live-diabetes-or-prediabetes-uk

[3] Office for National Statistics. (2023, October 4). Risk factors for prediabetes and undiagnosed type 2 diabetes in England: 2013 to 2019.

[4] NHS England. (2023, December 14). *National Diabetes Audit: Non-Diabetic Hyperglycaemia, 2021–22, Diabetes Prevention Programme – Detailed Analysis Report*. NHS England Digital. https://digital.nhs.uk/data-and-information/publications/statistical/national-diabetes-audit-ndh-dpp/ndh-dpp-2021-22-detailed-analysis

woman in the UK.[5] (Please note: this number is likely to be an under reporting due to known issues with reporting and coding). Rising maternal age and obesity are key drivers of this trend. [6],[7],[8] Women with GDM face a long-term risk of developing type 2 diabetes, and up to 50% will develop type 2 within five years of diagnosis of GDM, emphasising the need for early prevention and follow-up. [9],[10] Furthermore, women who develop GDM are more likely to face long-term health issues, including an increased risk of cardiovascular disease and kidney problems.[11] They are also more likely to experience GDM in subsequent pregnancies.[12] In addition, the children of women with GDM have an increased risk of obesity, type 2 diabetes, and related metabolic complications later in life.[13]

Inequalities

Non-Diabetic Hyperglycaemia (NDH or prediabetes): NDH is disproportionately common in deprived communities, where higher obesity prevalence, food insecurity, and limited access to green space drive metabolic risk.[14], [15] Deprivation is a key risk factor for NDH, alongside

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[5] International Diabetes Federation. (2025). *IDF Diabetes Atlas* (11th ed.). Brussels, Belgium: International Diabetes Federation. Retrieved from https://diabetesatlas.org/data-by-location/country/united-kingdom

[6] Diabetes UK. (n.d.). Causes of gestational diabetes. https://www.diabetes.org.uk/about-diabetes/gestational-diabetes/causes

[7] Marchi J, Berg M, Dencker A, Olander EK, Begley C. Risks associated with obesity in pregnancy, for the mother and baby: a systematic review of reviews. Obes Rev2015;359:621-38. doi:10.1111/obr.12288 pmid:26016557

[8] Roustaei Z, Anttonen S, Räisänen S, Gissler M, Heinonen S. Socioeconomic status, maternal risk factors, and gestational diabetes mellitus across reproductive years: a Finnish register-based study. *BMJ Open Diabetes Research & Care*. 2023;11:e003278. https://doi.org/10.1136/bmjdrc-2022-003278

[9] Vounzoulaki, E., Khunti, K., Abner, S. C., Tan, B. K., Davies, M. J., & Gillies, C. L. (2020). Progression to type 2 diabetes in women with a known history of gestational diabetes: systematic review and meta-analysis. BMJ, 369, m1361. https://doi.org/10.1136/bmj.m1361

[10] Diabetes UK. (2023, March 30). Causes of gestational diabetes. https://www.diabetes.org.uk/about-diabetes/gestational-diabetes/causes

[11] Goldet, G., Dattani, R., Pierce, B., Ul-Haq, Z., Kamalati, T., Shah, M., Frankel, A., & Tam, F. W. K. (2025). Health outcomes of women with gestational diabetes mellitus in North West London: a 10-year longitudinal study. BMJ public health, 3(2), e002279. https://doi.org/10.1136/bmjph-2024-002279

[12] Getahun, D., et al. (2010). Women with a history of gestational diabetes have increased risk of recurrence in subsequent pregnancies. American Journal of Obstetrics and Gynecology.

[13] Morgan, H. D., Hamza, M., Morrison, A. E., Campbell, C., Borg Cassar, C., Thayyil, S., & Meek, C. L. (2024, October 2). Gestational diabetes mellitus: Ensuring healthy futures. British Journal of Midwifery, Clinical Practice.

[14] NHS Digital. (2022, July 14). *National Diabetes Audit: Non-Diabetic Hyperglycaemia, Diabetes Prevention Programme 2020–21 – Demographics*. Retrieved October 6, 2025, from https://digital.nhs.uk/data-and-information/publications/statistical/national-diabetes-audit-ndh-dpp/ndh-2020-21-dpp/demographics

[15] Diabetes UK. (2022, June). Ethnicity, deprivation and diabetes inequality: Position statement. Retrieved October 1, 2025, from https://www.diabetes.org.uk/sites/default/files/2022-06/Inequalities%20position%20statement%20-%20Final%20June.pdf

age, ethnicity and obesity. [16] Yet those in deprived areas are less likely to attend NHS Health Checks (in England) or prevention programmes/ services, reflecting barriers such as work schedules, childcare, language, and stigma.[17],[18] Moreover, people from South Asian and Black ethnic backgrounds are disproportionately affected by NDH and type 2 diabetes compared to White groups.[19] The NDA demographic breakdown shows higher rates of GP-recorded NDH among South Asian and Black populations, reflecting both biological susceptibility and social determinants of health.[20]

Gestational Diabetes Mellitus (GDM): There are inequalities associated with the rising rates of GDM. Women from South Asian, Black African, and Caribbean backgrounds face higher rates of GDM and are more likely to develop poor longer term health outcomes. [21] These groups are also more likely to develop type 2 diabetes at younger ages and lower BMI thresholds compared with White populations.[22],[23], [24] Rates of GDM are also higher in more deprived neighbourhoods, reflecting underlying inequalities in health and access to preventative care.[25]

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[16] Diabetes UK. (2023). *Non-diabetic hyperglycaemia and the Diabetes Prevention Programme: Summary report 2020–21*. https://www.diabetes.org.uk/sites/default/files/2023-12/NDH%20summary_report_v4.pdf

[17] Eberhardt, J., Kane, L., Portman, R., Ling, J., Goddard, T., Johnston, M., Robinson, C., Reay, A., Divers, A., & Newbury-Birch, D. (2025). Barriers and Facilitators of NHS Health Checks in Socioeconomically Deprived Communities in the North East of England: A Qualitative Study With Peer Researchers. *Health expectations : an international journal of public participation in health care and health policy*, *28*(2), e70199. https://doi.org/10.1111/hex.70199

[18] Dryden R, Williams B, McCowan C, Themessl-Huber M. What do we know about who does and does not attend general health checks? Findings from a narrative scoping review. BMC Public Health. 2012;12(1):723.

[19] NHS Digital. (2022). *National Diabetes Audit: Non-Diabetic Hyperglycaemia and Diabetes Prevention Programme, 2020–21 – Demographics*. https://digital.nhs.uk/data-and-information/publications/statistical/national-diabetes-audit-ndh-dpp/ndh-2020-21-dpp/demographics

[20] Ibid.

[21] University of Leicester. (2022, March 28). Research reveals health inequalities for Black and South Asian women following gestational diabetes diagnosis. https://le.ac.uk/news/2022/march/gestational-diabetes.

[22] Diabetes UK. (n.d.). *Ethnicity and type 2 diabetes*. Retrieved September 23rd, 2025, from https://www.diabetes.org.uk/about-diabetes/type-2-diabetes/diabetes-ethnicity

[23] Diabetes UK. (2022, March 28). DUKPC Digest Day 1: Health inequalities, the pandemic and causes of type 2 diabetes. https://www.diabetes.org.uk/about-us/news-and-views/dukpc-digest-health-inequalities-pandemic-cause-type-2

[24] Diabetes UK. (2022, June). *Ethnicity, deprivation and diabetes inequality: Position statement*. Retrieved September 20, 2025, from https://www.diabetes.org.uk/sites/default/files/2022-06/Inequalities%20position%20statement%20-%20Final%20June.pdf

[25] NHS England. (2023). *National Pregnancy in Diabetes Audit 2021 and 2022: Population Demographics*. https://digital.nhs.uk/data-and-information/publications/statistical/national-pregnancy-in-diabetes-audit/2022/population-demographics

Stigma

People with NDH and women with GDM can experience diabetes stigma— negative attitudes and assumptions directed at people because of their diabetes. Stigma can be more prevalent in South Asian, Black African and Black Caribbean communities. A Diabetes UK study revealed 97% of people from these communities experienced stigma compared to 89% of the wider population.[26]

Many women with GDM experience stigma, including negative attitudes from healthcare professionals and family members, as well as internalised shame. They are also more likely to experience depression. Likewise, people with NDH face stigma driven by assumptions about diet, exercise, and personal responsibility, which can contribute to feelings of guilt and anxiety.

Research suggest diabetes stigma is associated with decreased self-care behaviours, higher HbA1c levels, and higher frequency of diabetes complications in adults.[27] These impacts can contribute to delayed intervention, create barriers to implementing behaviour changes, and ultimately lead to higher rates of progression to type 2. This is particularly salient among those who are already vulnerable.

While we may use the terms 'woman' and 'women' throughout this position statement we recognise that not everyone who needs this care identifies as a woman. Diabetes care and prevention should be personalised, inclusive, and respectful of gender identity and individual needs.

Key Recommendations

Improve identification and follow up support for women with GDM: Systematically identify, screen and monitor women with GDM in all UK nations, targeting those at highest risk. Increase awareness and promote early testing in high-risk groups, working with pharmacies and community groups to engage. In addition, embed systematic postpartum follow-up (repeat glucose testing post-partum and annually) and referral to a prevention service/programme. This should be supported by a new Quality and Outcomes Framework (QOF) indicator (in England). We recommend using resources from the National GDM Audit, including a downloadable clinic template letter, and Diabetes UK's new patient-facing 'Traffic Light Tool,' which helps women and health professionals understand their postnatal

[26] Diabetes UK. (2024). *Exploring diabetes-related stigma: A report by Magenta*. https://www.diabetes.org.uk/sites/default/files/2025-06/DUK_Stigma_report_24March23%20AND%2017Dec24.pdf

[27] Kelsey B Eitel, Catherine Pihoker, Catherine E Barrett, Alissa J Roberts, Diabetes Stigma and Clinical Outcomes: An International Review, Journal of the Endocrine Society, Volume 8, Issue 9, September 2024, bvae136, https://doi.org/10.1210/jendso/bvae136

care. These tools, alongside clear messaging and communcation, are essential to ensure adequate follow-up and ongoing support.[28], [29] Linked here: GDM Audit Resource Page

Increase identification of people with NDH: Systematically identify and monitor people with NDH in all UK nations, ensuring that those at highest risk are targeted. Revise NHS Health Check delivery to improve access and equity.

In particular, extend age eligibility to include younger age groups (25-39) in high-risk communities.

This will require major improvements to the NHS Health Check in England and equivalent risk assessment and screening in Scotland, Wales and Northern Ireland. It should also involve closer collaboration with community pharmacies and the wider community sector to increase accessibility and awareness of screening.

Guarantee prevention support and increase referrals for people with NDH and women with GDM: Ensure everyone diagnosed with NDH or GDM has timely access to a diabetes prevention support that meets NICE and SIGN guidance. Referral to diabetes prevention programmes or services should be a standard, automated step across the UK. This should be supported by proactive recall systems, strong referral pathways, and transparent data monitoring to track uptake, completion, and equity. In England, women who have had GDM can access the NHS Diabetes Prevention Programme (NHS DPP) through GP referral or self-referral; action should be taken to proactively support women with a history of GDM to access this opportunity at scale. We recommend using resources from the National GDM Audit, including a downloadable clinic template letter, and Diabetes UK's new patient-facing 'Traffic Light Tool,' which helps women and health professionals understand their postnatal care. Linked here: GDM Audit Resource Page

Advance health equity: Ensure proactive identification, referral, and engagement in areas of greatest deprivation and among groups at highest risk, including people from Black and South Asian communities, women with a history of gestational diabetes and people living with excess weight. Services must go beyond equality to actively remove barriers by providing culturally tailored, linguistically accessible and practically supported care. This includes solutions for childcare, transport, and digital inclusion. Our goal is to create fair and just access to prevention for everyone.

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[28] NHS Digital. (n.d.). *National gestational diabetes mellitus audit: Series*. Retrieved November 28, 2025, from https://digital.nhs.uk/data-and-information/publications/statistical/national-gestational-diabetes-mellitus-audit/series

[29] NHS Digital. (n.d.). *Gestational diabetes mellitus audit: Traffic light tool*. Retrieved November 28, 2025, from https://digital.nhs.uk/data-and-information/clinical-audits-and-registries/gestational-diabetes-mellitus-audit/traffic-light-tool http

Tackle stigma and empower women with GDM and people with NDH: A united effort is essential to transform the language and representation of diabetes, acknowledging the complex and individual factors that shape risk and experience. Healthcare professionals must consistently apply *Language Matters* guidance to promote respect and cultural competence. Furthermore, routine screening for depression and other mental health concerns should be embedded as a standard part of care pathways, with guaranteed referral routes to timely and appropriate psychological support services.

Use data to drive improvement: Improve coding and linkage of NDH and GDM data across primary care, maternity, and prevention systems. Develop real-time dashboards to track identification, referral, uptake, and completion of the NHS DPP (in England) and other relevant interventions, broken down by deprivation, ethnicity, and geography to drive accountability and advance health equity. Use insights from the National GDM Audit to inform and accelerate improvement.[30]

Embed prevention into routine care and system incentives: Type 2 diabetes prevention should be integrated into routine primary and maternity care by using system levers such as QOF indicators (in England) and commissioning frameworks to encourage early identification, follow-up and referral. Clear information, signposting and face-to-face support should be available in settings like women's health hubs and family hubs. Governments across the UK need a coordinated approach that brings together local authorities, the NHS, public health agencies and community organisations. This means identification of those at risk, culturally sensitive communication, systematic follow-up and accessible referral into prevention programmes or services. It is also essential to tackle stigma and embed mental health support within care pathways and ensure prevention is part of a wider framework.

How We Developed This Position

- This position statement is informed by a wide range of evidence and expertise, including insights from people with lived experience, healthcare professionals, researchers, and other key health stakeholders.
- Contributions from across Diabetes UK's insights, including the Healthcare Professionals Advisory Committee and the Community Organisation Advisory Committee, helped ensure the recommendations reflect both professional expertise and lived experience.

[30] NHS Digital. (2025, November 13). *National gestational diabetes mellitus audit: 2024–25*. Retrieved November 28, 2025, from https://digital.nhs.uk/data-and-information/publications/statistical/national-gestational-diabetes-mellitus-audit/gestational-diabetes-mellitus-2024-25

What do we say about this issue

Recommendations

Integrate personalised risk communication and prevention into routine care

- Healthcare providers should ensure that communication and sign-posting follows the guidance outlined in NICE PH38, SIGN 172, NG3, NICE QS109, and SIGN 171.
- Healthcare providers should embed early and personalised risk communication into routine care for women with GDM and people with NDH. Individuals should receive clear, tailored explanations of their risk alongside personalised prevention strategies.
- Healthcare providers should deliver prevention guidance that includes practical support. This should cover prevention programme or service signposting (in England the Healthier You Diabetes Prevention programme), diet, weight management, exercise and follow-up testing alongside appropriate mental health support.
- Local health systems should ensure that education about NDH and GDM is integrated into routine preventative services. This includes cardiovascular risk checks, weight management appointments, and for NDH specifically the NHS Health Checks (in England). Every contact should be used as an opportunity to engage individuals in prevention services and interventions that reduce metabolic risk.

Reduce stigma and empower people with NDH and women with GDM

- Healthcare professionals should follow the *Language Matters* guidance in care.[31]
- Healthcare professionals should follow NICE CG192 by routinely discussing a woman's mental health and wellbeing during pregnancy and the postnatal period.
- Across the UK, health systems and health professionals should ensure services reinforce supportive messaging. Every interaction should emphasise that type 2 diabetes is not inevitable and that with the right support, individuals can improve their health and reduce their risk.
- Across the UK, health systems should ensure staff are well trained and informed on prevention services. All staff should be up to date with prevention pathways, resources, and referral routes so they can direct people to the appropriate service.
- Across the UK, health systems should assist access to peer support for people with NDH and women with GDM through formats suited to local needs and individual preferences. This could include online forums, community groups, or facilitated sessions. Services should also integrate mental health support into care pathways, offering optional one-to-one counselling at diagnosis and, for GDM, again postpartum to provide safe spaces for people to explore anxieties.

[31] NHS England. (2023). *Language matters: Language and diabetes* (Version 2). https://www.england.nhs.uk/publication/language-matters-language-and-diabetes/

Increase awareness of NDH and GDM in communities and clinical settings

- Across the UK, health systems should prioritise personalised, culturally appropriate communication about NDH and GDM. This includes improving awareness among healthcare professionals and reaching communities that may not regularly access health services, through co-developed materials and trusted local networks.
- Healthcare providers should embed awareness into clinical practice. All staff should be trained to recognise NDH and GDM as high-risk conditions, understand prevention pathways, and communicate these clearly and sensitively.

Expand access and equity in NDH screening across the UK, including reform of NHS Health Checks in England

- Across the UK, health systems and service providers must adhere to relevant national guidance, PH38 and SIGN 172, to ensure that screening is reaching high risk populations, this includes relevant guidance on risk assessment and testing.
    - Across the UK ensure screening for NDH is taking place at every relevant opportunity.
    - In England, improve uptake and delivery of the NHS Health Check, and where relevant these recommendations should be applied across the devolved nations:
    - For the Department of Health and Social Care:
        - Review NHS Health Check reports and inquiries to identify gaps and inform the changes needed in uptake and delivery.
        - Revise NHS Health Check delivery to improve access and equity.
            - Extend age eligibility to include younger age groups (25-39) in high-risk communities. This would align with recommendations to support targeted identification from the age of 25 in high-risk groups already set out in NICE PH 38.
                - Consider a blood test for those aged 25 and over of South Asian or Chinese descent whose body mass index (BMI) is greater than 23 kg/m2.
            - Future models should combine age, deprivation, ethnicity, and geography to identify and prioritise those most at risk.
            - Set national standards and expectations for uptake, delivery and reach which includes targets for coverage and reduction in health inequalities.
            - Review and update guidance for NHS Health Checks to improve personalised risk communication, by ensuring it is personalised (e.g., using lifetime risk). Ensure information is delivered in a way that motivates behaviour change.

        - Restore local authorities' public health grant to at least 2015 levels to ensure sufficient funding to LA to commission and delivery NHS Health Checks effectively, with flexibility to tailor to local outreach needs.
    - For Local Authorities
        - Ensure maximum uptake of NHS Health Checks among high-risk populations.
        - Expand outreach efforts to increase testing efforts in community settings such as workplaces, pharmacies, faith centres and pop up/ mobile clinics.
        - Uptake should be improved through digital prompts, personalised messaging, reminders, and opportunistic invitations in routine care.
        - Provide staff training, sufficient time, and robust digital systems to ensure consistent delivery, behaviour-change support, and referral to relevant prevention programme.

Improve screening and diagnosis of GDM

- Healthcare providers and services should adhere to relevant national guidance in NICE NG3, QS109 and SIGN 171. Across the UK, services must ensure protocols are implemented consistently. Any screening intervention should include practical adaptations to fit women's everyday lives and family demands.
- National bodies, commissioners, and research funders must strengthen diagnostic practice. They should address known problems with OGTT reliability and invest in research on improved diagnostics, for instance HbA1c and continuous glucose monitoring (CGM) as tools for, diagnosis and monitoring of GDM.
- National bodies and commissioners should build on emerging evidence for HbA1c. HbA1c testing in early pregnancy could support risk stratification and earlier identification of high-risk women.

Ensure systematic follow-up and linkage to prevention for both GDM and NDH

- Healthcare providers and services should adhere to relevant national guidance in NICE NG3, QS109 (4 and 5), SIGN 171, NICE PH 38, SIGN 172.
- Across the UK, maternity and primary care services should ensure full adherence to national guidance on postpartum follow-up for women with GDM and deliver structured follow-up for NDH. Systematic recall systems, regular check-ins, and shared responsibility across maternity and primary care should be embedded, with clear communication about diagnosis and prevention pathways.
- Maternity and primary care teams should encourage and support breastfeeding as part of routine postpartum care for women with a history of GDM. For women using insulin, healthcare providers should offer guidance on insulin dose adjustments during lactation to reduce the risk of overnight hypoglycaemia.

- Across the UK, health systems should strengthen pathways into prevention and promote prevention as a positive opportunity. Automated prompts and referral systems should ensure consistent referral to the NHS DPP or specialist care. Messaging should emphasise healthy habits and wider wellbeing benefits.
- Health care systems and providers should strengthen coding and data quality across the UK. All NDH and GDM results should be recorded and correctly coded to support systematic follow-up, monitoring, and equitable prevention. It is essential to improve coding for GDM and NDH and to embed automated prompts in GP systems for annual HbA1c tests and postnatal referrals.

Strengthen referral pathways into diabetes prevention programmes and services

- Healthcare providers should systematically refer all people with NDH and women with or a history of GDM to the NHS DPP in England or relevant prevention service across the UK.
- In England, messaging should be strengthened to ensure that women with a history of GDM, as well as those currently pregnant with GDM, are aware that they can self-refer into the NHS DPP post-pregnancy and that it is free. We recommend using resources from the National GDM Audit, including a downloadable clinic template letter, and Diabetes UK's new patient-facing 'Traffic Light Tool,' which helps women understand their care.[32], [33]
- Across the UK, services should embed referral pathways and risk assessment into clinical systems. This includes automated prompts at diagnosis to ensure consistent signposting to weight management, nutrition, and physical activity support.
- Across the UK, health systems should prioritise high-risk groups for referral into prevention programmes and services. Tailored and culturally sensitive communication should be used to address barriers and increase uptake.
- Across the UK, health systems should fund dedicated staff. Roles such as health coaches or practice pharmacists could track referrals, follow up with non-responders, and support attendance.
- Across the UK health systems should expand referral pathways beyond GP practices into high-risk groups and areas.
- Across the UK, health systems and national health bodies should monitor referral, uptake, and completion rates, stratified by age, deprivation, and ethnicity, to ensure equity and continuous improvement.

[32] NHS Digital. (n.d.). *National gestational diabetes mellitus audit: Series*. Retrieved December 1, 2025, from https://digital.nhs.uk/data-and-information/publications/statistical/national-gestational-diabetes-mellitus-audit/series

[33] NHS Digital. (n.d.). *Gestational diabetes mellitus audit: Traffic light tool*. Retrieved December 1, 2025, from https://digital.nhs.uk/data-and-information/clinical-audits-and-registries/gestational-diabetes-mellitus-audit/traffic-light-tool

- Across the UK, health systems should consider integrating diabetes prevention pathways with wider weight management and cardiovascular risk services to maximise impact. This integration should also promote coordination between primary care, maternity services, and prevention providers to ensure referral and follow-up.

Improve delivery and accessibility of diabetes prevention programmes and services.

- Providers must deliver diabetes prevention programmes in line with national guidance NICE PH 38 and SIGN 172. This ensures quality, consistency, and equity across the UK. Everyone with NDH and GDM should have access to preventative service or programmes across the UK.
    - In Wales, signpost the All-Wales Diabetes Prevention Programme.
    - In Scotland, services should align to the Population Health Framework.
    - In Northern Ireland, advocate for structured and geographically equitable NDH and GDM pathways, aligned with NICE and SIGN guidance.
- Commissioners and providers should engage community leaders and patient advocates. Programmes should be tailored in schedule, format, and content to meet cultural and practical needs and must be continually evaluated.
- Providers should provide practical supports. This includes childcare, transport assistance, translation, and multilingual resources to reduce barriers.
- Healthcare providers or providers should prepare individuals for participation. This includes conversations about risk and expectations.
- Local health systems should incentivise providers and practices to improve retention and outcomes. This includes ongoing workforce development in delivery of the services and programmes.
- Health Boards, ICBs, health trusts, and providers should offer flexible delivery options, including digital, in-person, and hybrid formats, to meet individual needs and improve access for working-age adults and underserved groups.
- Providers must prioritise retention strategies, ensuring participants are supported to complete at least 60% of sessions (the threshold associated with greatest benefit). This should also include a mechanism for real time feedback from participants to inform continuous improvement.

Embed multidisciplinary teams and promote healthy weight management

- Across the UK, primary care and maternity services should embed multidisciplinary teams. Teams should include dietitians, obesity specialists, diabetes nurses, and midwives.
- Maternity services and primary care should provide targeted weight management support.

- All people with NDH should have access to dietetic counselling, weight management services, and for women with GDM access to specialist-led antenatal clinics. In line with NICE guideline NG3, this includes referral to a dietitian for nutritional advice.

Introduce incentives to strengthen prevention

- Health systems should use financial incentives and quality measures to drive prevention.
- DHSC should introduce new QOF indicators.
- In England, QOF indicators should include NHS DPP referral, GDM postpartum recall, and NHS Health Checks.

Use all available tools for prevention, Including pharmaceuticals where clinically appropriate.

- Services should embrace both behaviour change and pharmacological approaches to weight loss, recognising individual circumstances and clinical need.

Further research recommendations:

GDM

1. **Improve follow-up care**: Investigate how best to follow up women post-pregnancy in primary care to reduce their future risk of type 2 diabetes and gather long-term data.
2. **Enhance phenotyping**: Improve the classification and understanding of the diverse characteristics of the GDM population in the UK.
3. **Deepen understanding**: Explore the causes, early and late identification, prevention, interventions, and outcomes of GDM.
4. **Develop risk models**: Create models for preconception and pregnancy care that identify women at highest risk of short- and long-term adverse outcomes.
5. **Tailor prevention and treatment**: Design risk-stratified approaches to GDM prevention and treatment that are responsive to individual women's needs.
6. **Strengthen data collection**: Collect and audit data on GDM screening, diagnosis, and outcomes to better understand current care provision and support future research.

T2 Prevention

1. **Design and evaluate prevention strategies** that support healthy weight, diet, physical activity, and long-term weight maintenance across all stages of life to reduce the risk of type 2 diabetes.
2. **Prioritise research in high-risk and underserved communities**, including South Asian and African/Caribbean populations, to better understand and address disparities in prevention outcomes.

3. **Conduct qualitative studies** to explore the barriers that limit engagement with prevention interventions, particularly among groups with historically lower participation.
4. **Undertake implementation research** to adapt and scale up proven prevention approaches, ensuring they are culturally appropriate, accessible, and appealing to diverse communities.
5. **Identify and characterise groups at high risk** of early-onset type 2 diabetes, and develop targeted, evidence-based prevention strategies tailored to their specific needs.

Why we say this

1. **Risk communication, awareness and support for NDH and GDM care**
    - NICE PH 38 recommends using clear, tailored communication during risk assessment, supported by validated tools, to help individuals understand their personal risk of type 2 diabetes and engage with prevention programmes. It also emphasises culturally appropriate support and structured behavioural interventions to reduce risk.[34]
    - SIGN 172 highlights the importance of empathetic, person-centred risk communication using visual tools and personalised feedback. It supports structured education, behavioural support, and multidisciplinary care to empower individuals in managing or reducing their diabetes risk.[35]
    - NICE NG3 highlights the importance of providing clear, individualised information and establishing postnatal support pathways, including mental health resources, for women with diabetes in pregnancy.
    - NICE QS109 and NG3 recommend that healthcare professionals are trained to recognise NDH and GDM as high-risk conditions, with clear expectations for testing, follow-up, and referral. This ensures timely intervention and supports long-term risk reduction for type 2 diabetes.
    - SIGN 171 reinforces the need for comprehensive antenatal and postnatal education for women with GDM, including information about future diabetes risk and the importance of follow-up testing. It advocates for empathetic, culturally sensitive communication and multidisciplinary support to ensure consistent care and improve engagement.

[34] National Institute for Health and Care Excellence (NICE). (2012, updated 2017). *PH38: Type 2 diabetes: Prevention in people at high risk*. NICE. https://www.nice.org.uk/guidance/ph38
[35] Scottish Intercollegiate Guidelines Network (SIGN). (2025). *SIGN 172: Prevention and remission of type 2 diabetes*. SIGN. https://www.sign.ac.uk/our-guidelines/prevention-and-remission-of-type-2-diabetes/

- Risk communication should be clear, tailored and personalised to encourage prevention in people that are high risk.[36] Qualitative and pilot studies, people receiving personalised feedback report increased insight into their risk and describe initiating preventive changes such as dietary adjustments or greater physical activity. [37], [38], [39]
- Evidence shows, that by making information more personally relevant and easier to understand personalised risk can correct subjective risk perceptions,[40] enhance rational decision making[41] and improve adherence to recommended health behaviours and increase the likelihood of positive behaviour change. [42], [43]

[36] National Institute for Health and Care Excellence. (2012). *Type 2 diabetes: Prevention in people at high risk (Public health guideline [PH38])* (Updated 2017). NICE. https://www.nice.org.uk/guidance/ph38

[37] Honey S, Neal RD, Messenger M, Smith SG. Acceptability and experience of a personalised proteomic risk intervention for type 2 diabetes in primary care: qualitative interview study with patients and healthcare providers. *Primary Health Care Research & Development*. 2022;23:e24. doi:10.1017/S1463423621000591

[38] Edwards AGK, Naik G, Ahmed H, Elwyn GJ, Pickles T, Hood K, Playle R. Personalised risk communication for informed decision making about taking screening tests. Cochrane Database of Systematic Reviews 2013, Issue 2. Art. No.: CD001865. DOI: 10.1002/14651858.CD001865.pub3. Accessed 06 October 2025.

[39] McIntyre, E., Francis, L. M., & Chapman, C. M. (2022). The impact of risk communication on risk perception and decision-making: A meta-analytic review. *Australian Psychologist, 57*(1), 3–15. https://doi.org/10.1080/00049530.2021.1997554

[40] Hovick, S. R., Wilkinson, A. V., Ashida, S., De Heer, H. D., & Koehly, L. M. (2014). The impact of personalized risk feedback on Mexican Americans' perceived risk for heart disease and diabetes. *Health Education Research*, 29(2), 222–234. https://doi.org/https://doi.org/10.1093/her/cyt151

[41] Hembroff, L. A., Holmes-Rovner, M., & Wills, C. E. (2004). Treatment decision-making and the form of risk communication: Results of a factorial survey. *BMC Medical Informatics and Decision Making*, 4(1), 20. https://doi.org/https://doi.org/10.1186/1472-6947-4-20

[42] Edwards, A., Hood, K., Matthews, E., Russell, D., Russell, I., Barker, J., Bloor, M., Burnard, P., Covey, J., Pill, R., Wilkinson, C., & Stott, N. (2000). The effectiveness of one-to-one risk-communication interventions in health care: A systematic review. *Medical Decision Making*, 20(3), 290–297. https://doi.org/https://doi.org/10.1177/0272989x0002000305

[43] Edwards, A., Naik, G., Ahmed, H., Elwyn, G. J., Pickles, T., Hood, K., & Playle, R. (2013). Personalised risk communication for informed decision making about taking screening tests. *Cochrane Database of Systematic Reviews*, (2). https://doi.org/https://doi.org/10.1002/14651858.CD001865.pub3

- UK studies show that women with previous GDM who are not clearly informed about their future type 2 diabetes risk are significantly less likely to attend postpartum glucose screening or take preventive action.[44], [45], [46]
- UK qualitative research shows that when T2D risk is not clearly discussed after GDM, women often forget the risk and disengage from screening; clearer, tailored conversations support ongoing preventive behaviours.[47]
- Qualitative studies of people with NDH in the NHS DPP show that mental health factors such as anxiety, stigma, and stress are key barriers to engagement; embedding emotional wellbeing support alongside diet and exercise improves outcomes.[48] Risk communication is an important step in encouraging engagement in prevention services. [49]
- Visual risk tools, such as Diabetes UK's *Know Your Risk* calculator, improve engagement, particularly when messages emphasise reversibility through small, achievable changes.[50], [51]

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[44] Dennison, R. A., Fox, R. A., Ward, R. J., Griffin, S. J., & Usher-Smith, J. A. (2020). Women's views on screening for Type 2 diabetes after gestational diabetes: A systematic review, qualitative synthesis and recommendations for increasing uptake. *Diabetic Medicine, 37*(1), 29–43. https://doi.org/10.1111/dme.14081

[45] Lithgow, G. E., Rossi, J., Griffin, S. J., Usher-Smith, J. A., & Dennison, R. A. (2021). Barriers to postpartum diabetes screening: a qualitative synthesis of clinicians' views. *The British journal of general practice : the journal of the Royal College of General Practitioners*, *71*(707), e473–e482.

[46] Caba M, Northern A, Virdee A, Khunti K, Davies MJ, Hadjiconstantinou M. Type 2 diabetes risk communication following a diagnosis of gestational diabetes mellitus: A qualitative study. Diabet Med. 2025 Oct;42(10):e70105. doi: 10.1111/dme.70105. Epub 2025 Jul 15. PMID: 40665564.

[47] Sharma, M., Purewal, T.S., Fallows, S. and Kennedy, L. (2019), The low-risk perception of developing type 2 diabetes among women with a previous history of gestational diabetes: a qualitative study. Pract Diab, 36: 15-19b. https://doi.org/10.1002/pdi.2204

[48] Ross, J., Cotterill, S., Bower, P., & Murray, E. (2023). Influences on Patient Uptake of and Engagement With the National Health Service Digital Diabetes Prevention Programme: Qualitative Interview Study. *Journal of medical Internet research*, *25*, e40961. https://doi.org/10.2196/40961

[49] Rodrigues, A. M., Haste, A., Penn, L., Bell, R., Summerbell, C., White, M., Adamson, A. J., & Sniehotta, F. F. (2020). Stakeholders' perceptions and experiences of the National Health Service diabetes prevention programme in England: qualitative study with service users, intervention providers and deliverers, commissioners and referrers. *BMC health services research*, *20*(1), 307. https://doi.org/10.1186/s12913-020-05160-2

[50] Diabetes UK. (n.d.). *Know Your Risk – Type 2 diabetes risk score assessment tool*. https://www.diabetes.org.uk/for-professionals/supporting-your-patients/diabetes-risk-score-assessment-tool

[51] National Institute for Health and Care Excellence. (2012). *Type 2 diabetes: Prevention in people at high risk (Public health guideline [PH38])* (Updated 2017). NICE. https://www.nice.org.uk/guidance/ph38

- According to NICE and SIGN guidance risk communication must be culturally adapted and available in multiple languages. Co-producing resources with people with lived experience increases relevance and accessibility.[52], [53]
- Evidence highlights significant variation in how consistently healthcare professionals recognise and respond to NDH and GDM. This inconsistency reveals gaps in awareness and understanding of appropriate referral pathways, which may hinder timely and effective care.[54]

2. Stigma and mental health as a barrier to prevention engagement

- Diabetes-related stigma is common in the UK and harms wellbeing and self-efficacy. Recent Diabetes UK research reports high levels of shame, judgement and internalised blame among people with diabetes, underscoring the need for supportive, non-blaming language and environments.[55], [56]
- Women with GDM can experience stigma from both healthcare professionals and family; this undermines engagement and leads to poor mental health.[57]
- Reviews and UK-relevant qualitative studies describe overt and internalised stigma, with women feeling judged as "bad mothers," reinforcing guilt and disengagement. [58], [59]
- Evidence outlines the need for personalised intervention that support women in managing their GDM. Further, reviews show the multifaceted challenges women

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[52] Scottish Intercollegiate Guidelines Network (SIGN). (2025). *SIGN 172: Prevention and remission of type 2 diabetes*. SIGN. https://www.sign.ac.uk/our-guidelines/prevention-and-remission-of-type-2-diabetes/

[53] National Institute for Health and Care Excellence (NICE). (2012, updated 2017). *PH38: Type 2 diabetes: Prevention in people at high risk*. NICE. https://www.nice.org.uk/guidance/ph38

[54] Diabetes UK Health Care Professional Advisory Committee

[55] Diabetes UK. (2023). *Exploring diabetes-related stigma: A report by Magenta Research*. https://www.diabetes.org.uk/sites/default/files/2025-06/DUK_Stigma_report_24March23%20AND%2017Dec24.pdf

[56] McKechnie, V., Broomhead, A., Scior, K., Roe, D., & Oliver, N. (2023). Findings from a Diabetes UK survey of the stigma experiences of adults living with diabetes. *Diabetes UK*. https://www.diabetes.org.uk/sites/default/files/2025-06/DUK_Stigma_report_24March23%20AND%2017Dec24.pdf

[57] Sun, S., Pellowski, J., Pisani, C. *et al.* Experiences of stigma, psychological distress, and facilitative coping among pregnant people with gestational diabetes mellitus. *BMC Pregnancy Childbirth* **23**, 643 (2023). https://doi.org/10.1186/s12884-023-05949-z

[58] Davidsen, E., Maindal, H. T., Rod, M. H., Olesen, K., Byrne, M., Damm, P., & Nielsen, K. K. (2022). The stigma associated with gestational diabetes mellitus: A scoping review. *eClinicalMedicine, 52*, Article 101614. https://doi.org/10.1016/j.eclinm.2022.101614

[59] Benton, M., Hotung, N., Bird, J., Ismail, K., & Silverio, S. A. (2025). The (un)controlled body: A grounded theory analysis to conceptualise stigma for women with gestational diabetes mellitus. *Journal of health psychology*, *30*(5), 871–886. https://doi.org/10.1177/13591053241241863

face across managing their physical and mental health during pregnancy with GDM.[60]

- Evaluations of workforce development and training programmes in UK maternity shows that trauma-informed and culturally competent training improves staff confidence and communication skills, leading to more sensitive, person-centred diabetes and perinatal care. [61]
- Well established evidence shows that both verbal and non-verbal communication from healthcare professionals leave long-lasting impressions that affect engagement.[62], [63]
- Peer and group support strengthens motivation and engagement. UK evaluations of online and in-person peer support show peer interaction help motivation and practical problem-solving, supporting facilitated peer groups in NDH/GDM pathways.[64], [65],[66]

3. Screening for GDM

- Screening for GDM is inconsistent across the UK. NICE NG3 recommends OGTT testing in high-risk women, and early OGTT or SMBG in women with a previous history of GDM, but practice varies widely. [67], [68], [69]

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[60] He, J., Chen, X., Wang, Y., Liu, Y., & Bai, J. (2021). The experiences of pregnant women with gestational diabetes mellitus: a systematic review of qualitative evidence. Reviews in Endocrine and Metabolic Disorders, 22(4), 777-787. doi: 10.1007/s11154-020-09610-4

[61] Bick, D., Silverio, S. A., & Boyle, S. (2021). *Evaluation of the Maternity Transformation Programme: Improving safety, personalisation and choice in maternity services in England.* NHS England

[62] Little, P., White, P., Kelly, J., Everitt, H., Gashi, S., Bikker, A., & Mercer, S. (2015). Verbal and non-verbal behaviour and patient perception of communication in primary care: An observational study. *British Journal of General Practice, 65*(635), e357–e365. https://doi.org/10.3399/bjgp15X685249

[63] Stewart MA (1995) Effective physician-patient communication and health outcomes: a review. CMAJ 152(9):1423–1433.

[64] Cheung, W. C., Miles, L. M., Hawkes, R. E., & French, D. P. (2024). Experiences of online group support for engaging and supporting participants in the National Health Service Digital Diabetes Prevention Programme: A qualitative interview study. *Journal of health services research & policy*, *29*(2), 100–110. https://doi.org/10.1177/13558196231212846

[65] Diabetes UK lived experience research

[66] Yuexing Liu, Chun Cai, Jiahe Tian, Li Shen, Patrick Y. Tang, Muchieh Maggy Coufal, Hongli Chen, Megan S. Evans, Yiqing Qian, Wenya Yu, Xiaoyu Wu, Xiaobing Wu, Edwin B. Fisher, Weiping Jia; Community-Based Peer Support for Diabetes Management: 24-Month Changes Relative to Comparison Communities. *Diabetes Care* 24 April 2025; 48 (5): 807–815. https://doi.org/10.2337/dc24-2748

[67] NICE NG3

[68] Implementation of national screening guidelines for gestational diabetes: A national survey of maternity units in England; Bell, Ruth et al. Diabetes Research and Clinical Practice, Volume 146, 58 - 66

[69] Fahmy, H., Wu, P., Heald, A., Fryer, A., & others. (2023). Diabetes detection in women with gestational diabetes and polycystic ovarian syndrome. *BMJ*, 382, e071675. https://doi.org/10.1136/bmj-2022-071675

- UK evidence indicates that the oral glucose tolerance test (OGTT) has poor reproducibility and low acceptability among women, contributing to under-diagnosis and disengagement.[70], [71]
- A study found that early pregnancy HbA_{1c} offers a screening test for GDM, allowing those at highest risk to receive early intervention and greatly reduce the need for OGTTs.[72]
    - CGM has been shown to be feasible and acceptable for diagnosis and monitoring of GDM in UK feasibility studies, though thresholds need standardisation (2024 pilot studies).[73]

4. **Postnatal follow up and the "Cliff Edge" in care**
    - Standards mandate information and coordinated follow-up for GDM. NICE QS109/NG3 require postnatal testing and referral (including to NHS DPP where eligible), reinforcing consistent, supportive communication and staff familiarity with pathways.
    - Women and health professionals often describe a "postnatal cliff edge" where maternity care ends abruptly, leaving them unaware of future type 2 diabetes risk and disengaged.[74] Despite national guidance (NICE NG3, QS109), postpartum follow-up is poorly implemented. Research published a year prior to publication of the NICE guidance showed that as few as 18.5% of women received postpartum testing within 6 months, and annual follow-up rates remain around 20%, with variation across group, age and region.[75] Another more recent study

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[70] Bogdanet, D., O'Shea, P., Lyons, C., Shafat, A., & Dunne, F. (2020). The Oral Glucose Tolerance Test-Is It Time for a Change?-A Literature Review with an Emphasis on Pregnancy. *Journal of clinical medicine*, *9*(11), 3451. https://doi.org/10.3390/jcm9113451

[71] Jones, D. L., Kusinski, L. C., Barker, P., Burling, K., Halsall, I., Turner, E., Glenn-Sansum, C., Rand, A., Finch, J., Peters, G., Upson, G., Mullins, E., & Meek, C. L. (2025). Enhanced glucose processing in gestational diabetes diagnosis: Effects on health equity and clinical outcomes. Diabetic Medicine. https://doi.org/10.1111/dme.15476

[72] Saravanan, P., Deepa, M., Ahmed, Z., Ram, U., Surapaneni, T., Kallur, S. D., Desari, P., Suresh, S., Anjana, R. M., Hannah, W., Shivashri, C., Hemavathy, S., Sukumar, N., Kosgei, W. K., Christoffersen-Deb, A., Kibet, V., Hector, J. N., Anusu, G., Stallard, N., Ghebremichael-Weldeselassie, Y., Waugh, N., Pastakia, S. D., & Mohan, V. (2024). Early pregnancy HbA1c as the first screening test for gestational diabetes: Results from three prospective cohorts. The Lancet Diabetes & Endocrinology, 12(8), 535–544. https://doi.org/10.1016/S2213-8587(24)00151-7

[73] Kusinski LC, Brown J, Hughes DJ, Meek CL (2023) Feasibility and acceptability of continuous glucose monitoring in pregnancy for the diagnosis of gestational diabetes: A single-centre prospective mixed methods study. PLOS ONE 18(9): e0292094. https://doi.org/10.1371/journal.pone.0292094

[74] *We are more than diabetes"*: a qualitative study of the maternity and postnatal care experiences of mothers in England with type 1, type 2 and gestational diabetes

[75] McGovern, A., Butler, L., Jones, S., van Vlymen, J., Sadek, K., Munro, N., Carr, H., & de Lusignan, S. (2014). Diabetes screening after gestational diabetes in England: A quantitative retrospective cohort study. British Journal of General Practice, 64(618), e17–e23. https://doi.org/10.3399/bjgp14X676410

showed that even with updated NICE guidelines in 2015, over a third of women were still not followed up.[76]

- Qualitative studies report many women discharged without information about future diabetes risk, leading to confusion, stigma, and disengagement. [77],[78]
- Barriers include lack of coordination between maternity and primary care, stigma around weight and motherhood, and practical challenges such as childcare and competing priorities. [79]
- Many women feel they would benefit from greater support in lowering their risk of developing type 2 diabetes after experiencing gestational diabetes and believe that a range of practical interventions could help them maintain healthier habits in their everyday lives**. [80]**
- Evidence also shows that culturally appropriate information and resources help to increase prevention engagement.

5. Coding and data

- A pilot in Southwest London found that GDM cases were miscoded in GP records, leading to missed recalls for postpartum testing.[81]
- The National GDM Audit highlights significant challenges in accurately capturing diagnoses due to under-reporting in both primary and secondary care settings. GDM is notably under-coded in primary care compared to expected prevalence. The audit identified 586,280 women with a coded diagnosis of GDM in secondary care records, yet only 58% (342,050) of these were also coded in primary care. Conversely, 422,135 women were coded for GDM in primary care, with 19% (80,085) not coded in secondary care. These discrepancies underscore the need for improved coding practices and data consistency across care settings to ensure effective follow-up and risk management.
- NDA data show that one-third of NDH-range HbA1c results are not coded, meaning patients are excluded from follow-up and prevention pathways.[82]

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[76] Ali, S., Dornhorst, A., & Hasan, S. (2019). Postpartum screening after gestational diabetes: A missed opportunity. British Journal of Diabetes, 19(2), 65–69. https://doi.org/10.15277/bjd.2019.20

[77] *We are more than diabetes"*: a qualitative study of the maternity and postnatal care experiences of mothers in England with type 1, type 2 and gestational diabetes

[78] Roberts, S. P., Brown, S. J., & Roberts, S. H. (2021). Women's engagement, views and experiences of postnatal follow-up after gestational diabetes mellitus in pregnancy. *Midwifery*, *101*, 103043. https://doi.org/10.1016/j.midw.2021.103043

[79] Diabetes UK own research

[80] Dennison, R. A., Griffin, S. J., Usher-Smith, J. A., Fox, R. A., Aiken, C. E., & Meek, C. L. (2022). "Post-GDM support would be really good for mothers": A qualitative interview study exploring how to support a healthy diet and physical activity after gestational diabetes. PLOS ONE, 17(1), e0262852. https://doi.org/10.1371/journal.pone.0262852

[81] Emery, A., (2023) "Diabetes Uk Gestational Diabetes SWSC Report"

[82] NHS England. (2023). National Diabetes Audit: Non-Diabetic Hyperglycaemia, Diabetes Prevention Programme, 2021–22 – Detailed Analysis. NHS Digital. https://digital.nhs.uk/data-and-

- Accurate coding underpins systematic recall, automated referral to prevention programmes, and equitable prevention delivery.[83]

6. NHS Health Checks in England

- In England, the NHS Health Check aims to prevent CVD, stroke, diabetes, kidney disease and dementia. It is a disease prevention programme for adults aged 40 to 70. After the assessment, individuals should be informed of their risk level, and where appropriate, evidence-based advice should be provided to help them understand and manage their risk. [84], [85],[86]
- NHS Health Checks identify NDH and undiagnosed T2D, with evidence of earlier diagnosis and reduced long-term risk of disease risk. Evidence shows that those who have attended the NHS Health Check show better health outcomes. [87],[88]
- Between 2015–2020, 15.7m people were eligible; 88% invited but only 47% attended. Uptake varied significantly by region (25–85%). [89], [90]

information/publications/statistical/national-diabetes-audit-ndh-dpp/ndh-dpp-2021-22-detailed-analysis

[83] Emery, A., (2023) "Diabetes Uk Gestational Diabetes SWSC Report"

[84] Usher-Smith J, Mant J, Martin A. NHS health check programme rapid evidence synthesis. University of Cambridge, 2017

[85] National Health Service. NHS health checks, 2021. Available: https:// www.england.nhs.uk/ltphimenu/cvd/nhs-health-checks

[86] Tanner, L., Kenny, R. P. W., Still, M., Ling, J., Pearson, F., Thompson, K., & Bhardwaj-Gosling, R. (2022). NHS Health Check programme: A rapid review update. BMJ Open, 12(2), e052832. https://doi.org/10.1136/bmjopen-2021-052832

[87] Office for Health Improvement and Disparities. (2021). *Annex B: A summary of analyses and evidence on the current NHS Health Check programme*. GOV.UK. https://www.gov.uk/government/publications/nhs-health-check-programme-review/annex-b-a-summary-of-analyses-and-evidence-on-the-current-nhs-health-check-programme

[88] McCracken, C., Raisi-Estabragh, Z., Szabo, L. et al. NHS Health Check attendance is associated with reduced multiorgan disease risk: a matched cohort study in the UK Biobank. BMC Med 22, 1 (2024). https://doi.org/10.1186/s12916-023-03187-w

[89] Office for Health Improvement and Disparities. (2021). *Annex B: A summary of analyses and evidence on the current NHS Health Check programme*. GOV.UK. https://www.gov.uk/government/publications/nhs-health-check-programme-review/annex-b-a-summary-of-analyses-and-evidence-on-the-current-nhs-health-check-programme

[90] Public Health England. (2017). NHS Health Check: Best practice guidance. NHS England. https://www.england.nhs.uk/wp-content/uploads/sites/8/2019/08/2.1.7-NHS-Health-Check-Best-Practice-Guidance-2017.pdf

- Attendance is higher among older adults, women, and the affluent, lower in deprived groups and younger adults. [91], [92] There is more work to be done on engaging more men, all ethnic groups and those in the most deprived quantile. [93], [94]
- Opportunistic invitations achieve higher uptake: 71.9% for face-to-face, 43% for phone, compared to 29.5% for letters. [95]
- Digital NHS Health Checks improve accessibility, but hybrid models may be most effective. [96]
- Various technological tools are increasingly being used to support the delivery of NHS Health Checks, such as text message invitations and customised IT systems that assist practitioners during the process. However, digital platforms that allow individuals to complete the check themselves have only been implemented by one local authority so far. [97]
- Expanding eligibility to high-risk younger adults (25–39) could reduce inequalities.
- OHID's[98] evidence outlines that Health Checks can be improved by
    - Broaden targeting to reach underserved high-risk populations
    - Personalise and strengthen risk communication
    - Increase flexibility and accessibility of delivery

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[91] Ibid.

[92] Tanner, L., Kenny, R. P. W., Still, M., Ling, J., Pearson, F., Thompson, K., & Bhardwaj-Gosling, R. (2022). NHS Health Check programme: A rapid review update. BMJ Open, 12(2), e052832. https://doi.org/10.1136/bmjopen-2021-052832

[93] Office for Health Improvement and Disparities. (2021). *Annex B: A summary of analyses and evidence on the current NHS Health Check programme*. GOV.UK. https://www.gov.uk/government/publications/nhs-health-check-programme-review/annex-b-a-summary-of-analyses-and-evidence-on-the-current-nhs-health-check-programme

[94] Cook, E. J., Sharp, C., Randhawa, G., Guppy, A., Gangotra, R., & Cox, J. (2016). Who uses NHS health checks? Investigating the impact of ethnicity and gender and method of invitation on uptake of NHS health checks. *International journal for equity in health*, *15*, 13. https://doi.org/10.1186/s12939-016-0303-2

[95] Gidlow, C.J., Ellis, N.J., Riley, V. et al. Randomised controlled trial comparing uptake of NHS Health Check in response to standard letters, risk-personalised letters and telephone invitations. BMC Public Health 19, 224 (2019). https://doi.org/10.1186/s12889-019-6540-8

[96] Office for Health Improvement and Disparities. (2021). *Annex B: A summary of analyses and evidence on the current NHS Health Check programme*. GOV.UK. https://www.gov.uk/government/publications/nhs-health-check-programme-review/annex-b-a-summary-of-analyses-and-evidence-on-the-current-nhs-health-check-programme

[97] Public Health England. (2021). NHS Health Check delivery model survey

[98] Office for Health Improvement and Disparities. (2021). *Annex B: A summary of analyses and evidence on the current NHS Health Check programme*. GOV.UK. https://www.gov.uk/government/publications/nhs-health-check-programme-review/annex-b-a-summary-of-analyses-and-evidence-on-the-current-nhs-health-check-programme

7. Diabetes prevention programmes/ services across the UK

England

- NICE PH38, NG3 and SIGN 172, recommends systematic identification of NDH/GDM and referral into structured prevention programmes, delivered in line with evidence-based behaviour change techniques.[99], [100]
- Over 1.6m people have been referred to NHS DPP in England since 2016. The DIPLOMA study showed a 20% reduction in T2D incidence after 3 years, with best outcomes in those completing ≥60% sessions. [101], [102] Yet, despite NICE NG3 guidance, only 4.5% of women with a GDM diagnosis have ever participated in the NHS DPP.
- Results show that there is roughly a 2.3 kg mean weight loss and a mean HbA1c reduction of 1.26mmol/mol.[103]
- Uptake and completion are lower in younger adults, men, deprived groups, and some minority ethnic groups, but digital delivery improves access for men and working-age adults, while community-based recruitment increases engagement in deprived areas.[104], [105] , [106]
- Local evaluations show that embedding automated referral prompts in GP systems increases referral rates compared to clinician discretion. Showing that improving

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[99] National Institute for Health and Care Excellence. (2012). Type 2 diabetes: Prevention in people at high risk (Public health guideline [PH38]). https://www.nice.org.uk/guidance/ph38

[100] Scottish Intercollegiate Guidelines Network. (2022). SIGN 172: Prevention and remission of type 2 diabetes. https://www.sign.ac.uk/our-guidelines/prevention-and-remission-of-type-2-diabetes/

[101] Bower, P., Soiland-Reyes, C., Heller, S., Wilson, P., Cotterill, S., French, D., & Sutton, M. (2025). Diabetes prevention at scale: Narrative review of findings and lessons from the DIPLOMA evaluation of the NHS Diabetes Prevention Programme in England. Health and Social Care Delivery Research. https://doi.org/10.3310/JRTD4705

[102] Valabhji, J., Barron, E., Bradley, D., Bakhai, C., Fagg, J., O'Neill, S., Young, B., Wareham, N., Khunti, K., Jebb, S., & Smith, J. (2020). Early Outcomes From the English National Health Service Diabetes Prevention Programme. *Diabetes care*, *43*(1), 152–160. https://doi.org/10.2337/dc19-1425

[103] Jalal Alam & Ahmed Mohamed Mohamed Metwaly. Evaluating Diabetes Prevention Strategies in the NHS 'Healthier You' Programme and Risk Assessment Tools. SAS J Med, 2025 Feb 11(2): 128-132.

[104] Bower, P., Soiland-Reyes, C., Heller, S., Wilson, P., Cotterill, S., French, D., & Sutton, M. (2025). Diabetes prevention at scale: Narrative review of findings and lessons from the DIPLOMA evaluation of the NHS Diabetes Prevention Programme in England. Health and Social Care Delivery Research. https://doi.org/10.3310/JRTD4705

[105] G Chatzi, W Whittaker, T Chandola, T Mason, C Soiland-Reyes, M Sutton, P Bower, Diabetes Prevention Programme and socioeconomic inequalities in Type 2 Diabetes in England, European Journal of Public Health, Volume 32, Issue Supplement_3, October 2022, ckac129.159, https://doi.org/10.1093/eurpub/ckac129.159

[106] Rodrigues, A.M., Haste, A., Penn, L. *et al.* Stakeholders' perceptions and experiences of the National Health Service diabetes prevention programme in England: qualitative study with service users, intervention providers and deliverers, commissioners and referrers. *BMC Health Serv Res* **20**, 307 (2020). https://doi.org/10.1186/s12913-020-05160-2

GDM coding and embedding automated annual HbA1c and postnatal referral prompts in GP systems is urgently needed in GDM.

- Early research findings point to the efficacy of the NHS DPP in reducing the risk of developing type 2 diabetes in certain groups of women. Data presented at the 2025 Diabetes UK National Pregnancy Conference showed for instance, that while the risk of developing type 2 diabetes amongst women who have had a previous gestational diabetes pregnancy and who are in the normoglycemic range face a five time greater risk of developing type 3 diabetes, compared to the general population. However those who have completed the NHS DPP are at no significant increase in risk.

Wales

- The All-Wales Diabetes Prevention Programme (AWDPP) pilot demonstrated feasibility of structured behavioural support and dietary changes in primary care.[107]
- Early evaluation showed high engagement, clinically meaningful weight loss, and improvements in HbA1. [108]

Scotland

- Health Boards operate individualise prevention programmes.
- A national digital type 2 prevention programme has been confirmed. This will enable up to 15,000 people at risk of type 2 diabetes to access nine months of digital diet and lifestyle change advice over a three-year period. It includes education and virtual, app-based, individual consultations with nutritionists, dietitians and health coaches via the Accelerated National Innovation Adoption (ANIA) initiative to fast-track proven healthcare innovations.

Northern Ireland

- All local Trusts run prevention courses for people with NDH. Access is via GP referral. They are part of the Diabetes Prevention Programme NI, but capacity for each area varies.

8. Accessibility of prevention programmes

[107] Bailey, J., Grey, C., Cheung, I., Carman, H., Gregory, N., Jesurasa, A., Wallace, Z., Mugweni, E., & Davies, A. (2025). Outcome evaluation of the All Wales Diabetes Prevention Programme. Public Health Wales. https://phw.nhs.wales/news/nhs-wales-diabetes-prevention-programme-cuts-risk-of-developing-type-2-diabetes-by-nearly-a-quarter/outcome-evaluation-of-the-all-wales-diabetes-prevention-programme/

[108] Ibid.

- Practical supports (e.g., childcare, transport help, translation services) are repeatedly cited in UK qualitative evaluations as critical to overcoming access barriers for deprived groups and ethnic minorities.[109]
- Digital and hybrid formats expand reach, evaluations of the NHS DPP's digital arm found higher participation among younger adults, working-age populations, and men compared with traditional face-to-face groups.[110], [111]
- DIPLOMA analysis shows that attending ≥60% of sessions reduces progression to T2D by ~31%, underscoring the need for commissioners to incentivise completion.[112], [113]
- Evidence, shows that modifying structural aspects of the NHS- DPP (e.g. reliable session scheduling, reducing group sizes, enough session resources) and increasing interactions could improve outcomes.[114]
- The DIPLOMA study revealed that, GP referral was the most common route, and recommended expanding referral pathways and improve follow up systems to increase uptake and reduce variation. [115] This study also recommended:
    - Improve communication with participants using tailored, behaviourally informed messaging.
    - Strengthen referral pathways from primary care with training and digital prompts.
    - Standardise programme delivery to reduce variation and improve fidelity.
    - Offer flexible delivery formats (digital, in-person, hybrid) and participant choice.
    - Address inequalities by targeting underserved groups with tailored outreach.

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[109] Stokes, J., Gellatly, J., Bower, P. *et al.* Implementing a national diabetes prevention programme in England: lessons learned. *BMC Health Serv Res* **19**, 991 (2019). https://doi.org/10.1186/s12913-019-4809-3

[110] Ross, J. A. D., Barron, E., McGough, B., Valabhji, J., Daff, K., Irwin, J., Henley, W. E., & Murray, E. (2022). Uptake and impact of the English National Health Service digital diabetes prevention programme: Observational study. BMJ Open Diabetes Research & Care, 10(3), e002736. https://doi.org/10.1136/bmjdrc-2021-002736

[111] Bower, P., Soiland-Reyes, C., Heller, S., Wilson, P., Cotterill, S., French, D., & Sutton, M. (2025). Diabetes prevention at scale: Narrative review of findings and lessons from the DIPLOMA evaluation of the NHS Diabetes Prevention Programme in England. Health and Social Care Delivery Research. https://doi.org/10.3310/JRTD4705

[112] Barron, E., Clark, R., Hewings, R., Smith, J., Valabhji, J., & DIPLOMA Study Group. (2023). *Evaluation of the NHS Diabetes Prevention Programme: DIPLOMA study findings*. National Institute for Health and Care Research. https://www.england.nhs.uk/diabetes/diabetes-prevention/

[113] Ibid.

[114] Hawkes, R.E., Cameron, E., Cotterill, S. et al. The NHS Diabetes Prevention Programme: an observational study of service delivery and patient experience. BMC Health Serv Res 20, 1098 (2020). https://doi.org/10.1186/s12913-020-05951-7

[115] Bower, P., Soiland-Reyes, C., Heller, S., Wilson, P., Cotterill, S., French, D., & Sutton, M. (2025). Diabetes prevention at scale: Narrative review of findings and lessons from the DIPLOMA evaluation of the NHS Diabetes Prevention Programme in England. Health and Social Care Delivery Research. https://doi.org/10.3310/JRTD4705

    - Invest in provider relationships and workforce training (e.g. motivational interviewing).
    - Embed real-time evaluation and feedback to support continuous improvement.
- Diabetes UK research emphasises tailoring diabetes prevention programme delivery to meet cultural and practical needs, including flexible scheduling, community engagement, and co-design with underserved groups.[116]

9. Multidisciplinary teams and addressing obesity

- Obesity is the strongest modifiable risk factor for both GDM and progression from NDH to T2D. Evidence supports directly linking obesity services into GDM/NDH pathways.[117]
- Evidence from the DiGest and RECORD trials demonstrates that dietary interventions in pregnant women with overweight or obesity and GDM can significantly reduce the need for insulin therapy and improve glycaemic control without adverse maternal or offspring outcomes. These findings support the integration of structured, evidence-based weight management services into antenatal care pathways for women diagnosed with or at risk of GDM.[118], [119]
- Evidence shows show that structured weight management interventions for people with NDH can significantly reduce HbA1c, support return to normoglycaemia, and prevent progression to type 2 diabetes. Obesity is the strongest modifiable risk factor in this population. [120], [121]

10. Incentivising prevention

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[116] Diabetes UK. (n.d.). *NHS Diabetes Prevention Programme: Shared practice in diabetes support and care*. https://www.diabetes.org.uk/for-professionals/improving-care/good-practice/nhs-diabetes-prevention-programme

[117] Diabetes UK evidence

[118] Kusinski, L., Meek, C., & DiGest Study Group. (2025). *Reduced-calorie diet improves outcomes in women with gestational diabetes and BMI >25 kg/m²*. University of Leicester & Diabetes UK. Published in *Nature Medicine*. https://le.ac.uk/news/2025/february/reduced-calorie-diet-pregnant-women-gestational-diabetes

[119] Meek, C. L., et al. (2023). *RECORD: A feasibility study of a reduced carbohydrate diet for obese pregnant women with gestational diabetes*. *Diabetic Medicine*, 40(2), e15442. https://dom-pubs.onlinelibrary.wiley.com/doi/pdf/10.1111/dom.15442

[120] Piper, C., Marossy, A., Griffiths, Z., & Adegboye, A. (2017). Evaluation of a type 2 diabetes prevention program using a commercial weight management provider for non-diabetic hyperglycemic patients referred by primary care in the UK. BMJ Open Diabetes Research & Care, 5(1), e000418. https://drc.bmj.com/content/5/1/e000418

[121] NHS Digital. (2022). National Diabetes Audit: Diabetes Prevention Programme – Non-Diabetic Hyperglycaemia Report (2020–21). Healthcare Quality Improvement Partnership (HQIP). https://www.hqip.org.uk/wp-content/uploads/2022/07/REF244_NDA-DPP-NDH_FINAL-v20220712.pdf

- NDH and obesity monitoring are included in QOF (NDH002, 2023–25) in England.[122]
- Expanding QOF indicators to include NHS DPP referral, GDM postpartum recall, and NHS Health Checks would embed prevention in routine care.[123]
- Social prescribing link workers and community health coaches increase engagement, especially in underserved groups.[124]

11. Use all available tools for prevention, including pharmaceuticals

- PH38 includes recommendations on pharmaceuticals.[125]
- Weight-loss pharmacotherapy is now NICE-approved. Semaglutide is recommended by NICE for managing overweight/obesity, providing a regulated route to use medicines alongside behaviour support. [126]

[122] NHS England. (2024). Quality and outcomes framework guidance for 2024/25 (Publication reference: PRN01104). https://www.england.nhs.uk/wp-content/uploads/2024/03/PRN01104-Quality-and-outcomes-framework-guidance-for-2024-25.pdf
[123] DUK research
[124] Chikwira, L., Ali Arobi, N., & The King's Fund. (2025). *Shared leadership is crucial to integrating and maximising social prescribing in neighbourhood health*. https://www.kingsfund.org.uk/insight-and-analysis/blogs/shared-leadership-integrating-maximising-social-prescribing-neighbourhood-health
[125] National Institute for Health and Care Excellence. (2017). *Type 2 diabetes: Prevention in people at high risk* (NICE guideline PH38). https://www.nice.org.uk/guidance/ph38
[126] National Institute for Health and Care Excellence. (2023). *Semaglutide for managing overweight and obesity* (NICE technology appraisal TA875). https://www.nice.org.uk/guidance/ta875