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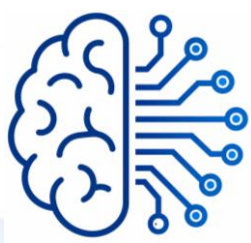
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GLUCOMIND

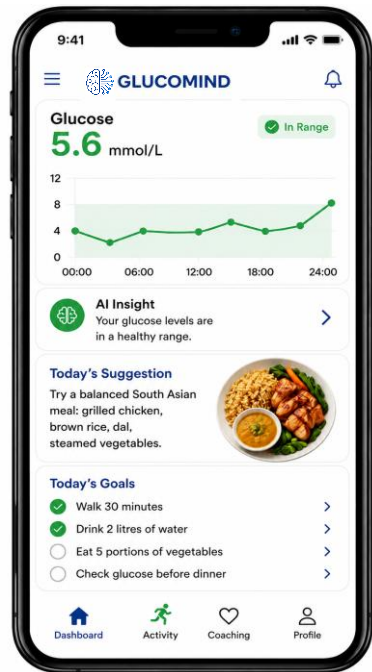
Culturally Adapted AI-Powered Diabetes
Prevention Programme for South Asian Communities

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Detect Early . Prevent Diabetes . Empower Communities



1 INNOVATION OVERVIEW



GlucMind is an AI-powered mobile application paired with a continuous glucose monitoring (CGM) wearable patch, designed for South Asian adults with prediabetes in Birmingham. The innovation operationalises Boden's (1994, cited in Carlile and Jordan, 2012) definition of creativity as "the conceptual ability to generate new ideas that are valuable" through combinatorial creativity, the novel integration of:

- AI dietary coaching
- Real-time glucose monitoring
- Culturally adapted South Asian recipes

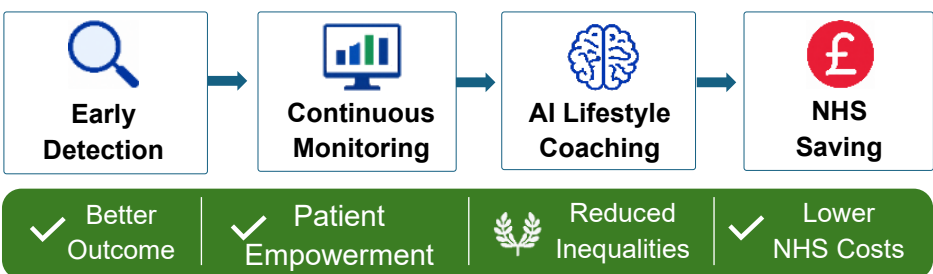
Unlike standard NHS Diabetes Prevention Programme referrals, which lack culturally tailored guidance (Akombi-Inyanga et al., 2026), GlucMind addresses a documented structural barrier: ethnic minorities constitute 17.5% of populations in ICBs with below-average CGM prescribing rates (Seidu et al., 2025).



The innovation creates value across Porter's (2010) three dimensions:

- Clinical: Reduced T2DM progression
- Economic: NHS cost savings
- Social: Reduced health inequalities

4 HEALTH AND WELLBEING IMPACT



Diabetes costs the NHS £10.7 billion annually (NHS England, 2025).
Creates clinical, social and economic value (Porter, 2010).

6 IMPLEMENTATION



Bilingual community health navigators (Urdu, Punjabi, Sylheti, English) (Kayser & Phanareth, 2023). Based on NHS Digital (2025) programme model. Applies Pink's (2011) intrinsic motivation theory.

8 REGULATIONS

- UKCA Marking (MDR 2002)
- GDPR 2018
- Equality Act 2010
- Data Protection Act 2018
- NHS Digital Toolkit
- NICE Guidance
- CQC (2024)
- Privacy
- Cybersecurity
- Consent
- Ai Transparency

9 DISSEMINATION

- Social Media: Facebook, Instagram, WhatsApp, LinkedIn
- Healthcare: GP Referrals, Health Fairs, Leaflets, QR Code
- Community: Faith Organisations, BBC Asian Network, Posters, Radio
- Hashtags: #KnowYourRisk #GlucoMind #PreventDiabetes

2 WHY IS THIS INNOVATION NEEDED?

3 – 5 x

South Asian adults are 3-5 times more likely to develop Type 2 Diabetes than the White British population (Shamsutdinova, Stahl and Das-Munshi, 2026).



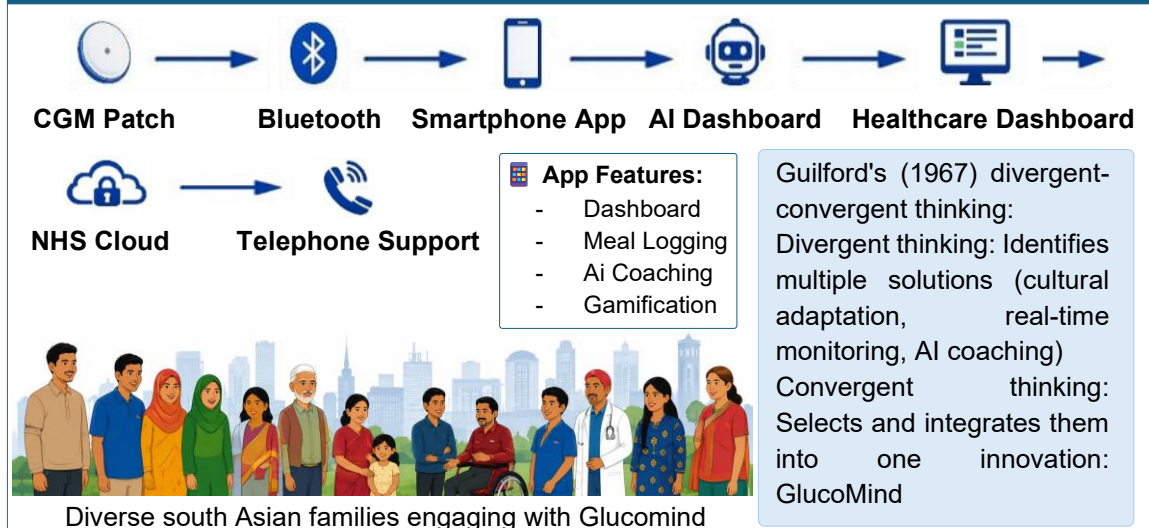
- Language barriers - English-only NHS programmes exclude many South Asian communities
- Limited culturally adapted interventions - No dietary guidance for South Asian staple foods
- Delayed diagnosis - Prevention programmes lack cultural relevance and community engagement

"NHS prevention programmes have lower engagement among ethnic minority populations. Cultural adaptation is a key feature of intervention effectiveness" (Akombi-Inyanga et al., 2026).

3 TARGET AUDIENCE



5 TECHNOLOGY INTEGRATION



7 TIMELINE AND BUDGET

Months:	1-3	4-6	7-12	13	14-15	16-24
Phase:	Co-design	App/AI Development	Pilot	Evaluation	Refinement	Scale-up
Budget:	£10k	£40k	£50k	£10k	£15k	£25k

Based on NHS Digital (2025) pilot scale.
Aligned with Akombi-Inyanga et al. (2026) systematic review outcome measures.

10 CONCLUSION

GlucMind: AI monitoring + culturally adapted coaching reduces T2DM, NHS costs, and inequity.
Moderate effect sizes (d=0.41-0.58) justify bilingual navigators (Akombi-Inyanga et al., 2026).

Pilot Investment Sought: £50,000
"Preventing even 1% of prediabetes cases could save £7m annually."



Pitch: GlucoMind – Culturally Adapted AI-Powered Diabetes Prevention for South Asian Communities

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Introduction

GlucoMind is an AI-powered mobile app paired with a CGM wearable patch, designed to prevent Type 2 diabetes in South Asian adults with prediabetes in Birmingham. This pitch explains why it is needed, how it works and the value it creates.

The Problem: Evidence of Structural Exclusion

Shamsutdinova, Stahl and Das-Munshi (2026) found South Asian groups have two to three-fold higher T2DM risk, with migration status increasing risk by 29% suggesting structural factors matter. Seidu et al. (2025) found ethnic minorities constitute 17.5% of populations in ICBs with below-average CGM prescribing, - versus 5.3% in higher prescribing areas. NICE (2026) has recognised this underprescribing with diabetes costing the NHS £10.7 billion annually (NHS England, 2025), prevention is an economic necessity. GlucoMind aligns with the NHS Long Term Plan and Core20PLUS5 and the NHS Diabetes Prevention Programme.

Why Existing Solutions Are Insufficient

The NHS Diabetes Prevention Programme reduces T2DM risk by 37% for completers (NHS Digital, 2025). Bower et al. (2025) found significant variation in referral rates between practices and ethnic minorities were more likely to join but less likely to complete the programme. The programme lacks cultural adaptation: dietary advice does not accommodate staple South Asian foods, delivery is exclusively in English and community engagement is minimal. Akombi-Inyanga et al. (2026) found culturally adapted interventions show moderate effectiveness ($d=0.41-0.58$), justifying GlucoMind's bilingual community health navigators. This compares with Bower et al.'s (2025) finding that NHS DPP's 37% risk reduction applies primarily to completers, suggesting culturally adapted approaches may address completion gaps. This addresses Kayser and Phanareth's (2023) finding that digital literacy moderates engagement among older and migrant populations.

Creativity Theory: GlucoMind as Combinatorial Creativity

Boden (1994, cited in Carlile and Jordan, 2012) defines creativity as **"the conceptual ability to generate new ideas that are valuable."** GlucoMind exemplifies combinatorial creativity - the novel integration of CGM, AI and cultural adaptation. Although CGM and AI already exist, combining them with culturally tailored coaching for South Asian communities creates a new way of addressing an existing healthcare problem. GlucoMind demonstrates Little-C creativity by applying existing technologies in a novel healthcare context while creating value for an underserved community (Kaufman and Beghetto, 2009). Guilford (1967) distinguished divergent thinking (generating multiple solutions) and convergent thinking (selecting the optimal solution). While Boden (1994) focuses on generating valuable new ideas through combination, Guilford (1967) emphasises cognitive processes. GlucoMind demonstrates both combinatorial creativity (Boden) and divergent-convergent thinking (Guilford). GlucoMind applies divergent thinking to identify cultural adaptation, real-time monitoring, AI coaching and community navigation, then convergent thinking to integrate them into one innovation.

Value Creation: Clinical, Economic and Social Dimensions

Porter (2010) defines healthcare value across allocative (fair resource distribution), technical (best outcomes per resources) and personalised (care aligned with individual preferences) dimensions.

Clinical value: Preventing progression averts diabetes complications, NICE (2026) estimates earlier protective medicines could prevent 17,000 deaths over three years.

Economic value: Preventing progression saves £1,800-£3,000 per person annually (NHS England, 2025). For 500 pilot users, preventing 100 T2DM diagnoses generates £180,000-£300,000 annual savings, exceeding the £50,000 pilot investment.

Social value: GlucoMind addresses health inequalities through culturally competent care (Seidu et al., 2025), supporting the Equality Act 2010.

Limitations: Moderate effect sizes ($d=0.41-0.58$) suggest GlucoMind should be part of a multi-strategy approach. Digital exclusion (Ofcom, 2024) is mitigated through bilingual navigators and telephone support. AI-driven recommendations risk algorithmic bias if

training data underrepresent South Asian populations; regular auditing and clinical oversight are essential (Stanley et al., 2024).

Motivation Theory: Intrinsic vs Extrinsic Drivers

Pink (2011) distinguishes intrinsic motivation (internal satisfaction) from extrinsic motivation (external rewards). The NHS DPP relies primarily on extrinsic motivation fear of diagnosis. GlucoMind cultivates intrinsic motivation through gamification, real-time feedback and community features. This aligns with Ryan and Connell's (1989) self-regulation continuum, which posits motivation moves from external to intrinsic regulation over time.

Resourcefulness: Making More with Less

GlucoMind demonstrates resourcefulness **"the ability to find quick and clever ways to overcome difficulties"** (Li et al., 2018), by leveraging existing NHS infrastructure. Using established GP referral systems, NHS Digital platforms and ICB pathways avoids duplication while delivering innovation (Williams et al., 2021). Bilingual navigators creatively repurpose community health worker models for digital onboarding. This system-level resourcefulness maximises value from constrained healthcare resources.

Implementation

Months 1-3 involve co-design with community stakeholders. Months 4-6 focus on app development, AI training and regulatory approval. Months 7-12 pilot with 500 users across 10 Birmingham GP practices with bilingual navigators (Urdu, Punjabi, Sylheti, English) providing onboarding. The £50,000 pilot covers CGM patches, app deployment, navigator salaries and evaluation (NHS Digital, 2025). Month 13 evaluates HbA1c, engagement, retention and satisfaction. Months 14-15 involve refinement, and Months 16-24 scale-up across Birmingham ICB. South Asian Health Foundation provides community access (NHS Digital, 2025), faith organisations serve as trusted venues (Mental Health Foundation, 2020), NHS Birmingham ICB provides clinical governance.

Creative Leadership

Guided by Fullan's (2016) creative leadership principles, GlucoMind's development engaged diverse stakeholders through transparent communication, fostering innovation

culture. Ethical leadership ensures patient data protection and community consent, applying Franczukowska et al.'s (2021) finding that ethical leadership reduces burnout and increases job satisfaction. Fullan's (2016) creative leadership fosters innovation culture, while Franczukowska et al. (2021) prioritises integrity. GlucoMind applies both creative leadership for innovation and ethical leadership for compliance.

Dissemination

GlucoMind will be promoted through CPD training, ICB/PCN pathway integration, multilingual social media (WhatsApp, Facebook), posters in Urdu/Punjabi/Sylheti, BBC Asian Radio, peer-reviewed publication, gamification and community workshops (Mental Health Foundation, 2020; Pink, 2011). Community members can attend awareness sessions, encourage family participation, share resources, and act as ambassadors ensuring co-ownership with communities and fulfilling creativity's contribution to the common good.

Conclusion

GlucoMind addresses health inequality through combinatorial creativity (Boden, 1994), divergent-convergent thinking (Guilford, 1967), intrinsic motivation (Pink, 2011), and Porter's (2010) value framework. Following successful evaluation across Birmingham, GlucoMind could be commissioned across other ICBs with large South Asian populations such as Leicester, Bradford and East London. I seek £50,000 pilot investment to test GlucoMind with 500 users across 10 GP practices. Based on NHS Digital (2025) data, preventing even 1% of South Asian prediabetes cases could save £7 million annually across Birmingham. Join the GlucoMind pilot as a clinical partner, community ambassador or investor, demonstrating that culturally adapted, AI-powered prevention is a moral and economic imperative. The time to act is now. Thank you.

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