

# The diabetes and dementia (DIADEM) project: improving the assessment and management of patients with diabetes and dementia

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## *Abstract:*

**Background and aims:** Continued advances in medicine have contributed to an ageing population and incidence of type 2 diabetes is also on the rise. As of 2015 there are 46.8 million people with dementia in the world with this rising to over 131.5 million by 2050. The worldwide prevalence of diabetes in 2015 was 387 million and due to rise to 592 million by 2035.

Consequently, the combined co-morbidity of diabetes and dementia is on the increase. Current evidence, especially clinically relevant studies, is poor with no clear understanding of 'real world' management.

The DIADEM project was devised to address the gap in knowledge in managing patients with diabetes and dementia. The aim was to assess all patients admitted with both conditions and provide focussed review. Specific focus was directed towards medication review and 'de-intensification' or simplification.

**Materials and methods:** Patients admitted between 15th March 2017 and 15th March 2018 with both co-morbidities were reviewed by the specialist team via online referral system and outreach service. Each patient had review of Hba1c, hypoglycaemia risk, vascular and foot risk and individualised specific targets for Hba1c and blood sugars.

**Results:** 148 patients were reviewed (75 female, 73 male, mean age 81yrs). Mean Hba1c 59mmol/mol with 46 (34.3%) having Hba1c <48mmol/mol. Results were available in 95 (64.2%) and were requested in 47 (31.8%). 42 (28.4%) had died at time of analysis. 29 vs 44 (21% vs 41.9%) patients were on 0 medications pre vs post review, 64 vs 40 (46.4% vs 38.1%) on 1 medication, 33 vs 18 (23.9% vs 17.1%) on 2 medications and 12 vs 3 (8.7% vs 2.9%) on >2 medications. Patients on insulin were reduced from 43 to 25 (31.2% to 23.8%) and overall hypoglycaemia causing medications reduced 57 to 33 (41.3% to 31.4%). 137 (92.6%) had focused assessment of foot complication risk. 28 patients were readmitted within the following 4 months, all for non-diabetes related conditions.

**Conclusion:** This is the first and only known project focussing on patients with diabetes and dementia. We provide a validated method of inpatient assessment with proven benefit. The project is ongoing resulting in financial benefit, patient safety (via reducing hypoglycaemia risk) and reduction in polypharmacy.