GBI Research
Global Business Intelligence

London – 1 December 2016 - Recent findings have shown that type 2 diabetes mellitus (T2DM) drugs could be used to alleviate symptoms among Alzheimer's disease patients, or even exert potential disease-modifying effects, according to business intelligence firm GBI Research.

The company's latest Analyst View states that the linked underlying role of dysregulated insulin signalling in T2DM and Alzheimer's disease pathophysiology is becoming increasingly apparent, suggesting that therapeutic approaches established within T2DM could also prove to be beneficial for the treatment of Alzheimer's.

Fiona Chisholm, Analyst for GBI Research, explains: "The part insulin resistance plays in T2DM is clear, but it may also impact the brain. Processes affecting learning and memory, such as dendritic sprouting, neuronal stem cell activation, cell growth and repair, synaptic maintenance, and neuroprotection, are all regulated in the brain by insulin, insulin-like growth factors, and their receptors.

"For this reason, an insulin-resistant brain state has been proposed as a key contributor towards cognitive impairment and Alzheimer's disease. Although the role of insulin in the condition has historically been marginalized, the past decade has seen this area of research gain momentum, with many important discoveries being made."

One area of research that has received a large amount of attention in recent years is the use of insulin therapy for Alzheimer's disease. The therapy is administered to many T2DM patients in order to supplement physiological levels of insulin in the body and overcome the insulin resistance found in the disease, leading to potent reductions in blood glucose concentration.

Chisholm continues: "In addition to insulin therapies, T2DM agents that enhance patients' sensitivity to insulin could also prove to be beneficial in Alzheimer's patients. These include

metformin, a generic orally administered drug that is used as a first-line therapy in T2DM, which reduces peripheral insulin resistance and has very well-characterized safety and efficacy profiles. It has attracted interest as a means to improve insulin sensitivity in the brain, as it can cross the blood-brain barrier.

"T2DM therapies are capable of modifying the activity of insulin in the brain, and therefore address what is now considered to be one of the underlying features of Alzheimer's disease pathophysiology. In particular, drugs with established efficacy in Alzheimer's treatment may prove to be especially beneficial for the treatment of patients with co-morbid T2DM and Alzheimer's, or for T2DM patients with a high risk of developing Alzheimer's disease."