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Canadian Longitudinal Study on Aging
Étude longitudinale canadienne sur le vieillissement

# CLSA Approved Project

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**Project Title**
Diabetic ketoacidosis from new use of an SGLT2i: can Genomics Accurately Estimate Risk (DANGER)

**Project Summary**
Sodium glucose co-transporter 2 inhibitors (SGLT2i) are medications that have revolutionized care for people living with Type 2 diabetes (T2DM): they reduce the risk of heart failure, kidney failure, heart attack, and are potentially lifesaving. However, in some cases, use of an SGLT2i can lead to a life-threatening condition called diabetic ketoacidosis (DKA). This rare side effect, known as SGLT2i-DKA, occurs in small number of individuals shortly after they start on the medication which suggests the answer to why it occurs may be found in an individual's genetics. The proposed project seeks to compare individuals with T2DM hospitalized with SGLT2i-DKA to individuals with T2DM who have not experienced SGLT2i-DKA, to identify whether genetic factors predict an individual's risk of this adverse outcome. The results could lead to creation of genetic test which will enable healthcare providers to optimize these beneficial medications while protecting those at highest risk.

**Keywords**
diabetes mellitus, diabetic ketoacidosis, SGLT2 inhibitors, pharmacogenomics