This is a peer-reviewed, author's accepted manuscript of the following conference abstract: Alsaffar, N. A. J., Bennie, M., Alowayesh, M., & Kurdi, A. (Accepted/In press). *Utilisation trends and expenditures of lipid-lowering therapies in Kuwait between 2012 And 2022*. Abstract from European Drug Utilization Research Group conference 2023, Bologna, Italy.

Background: Elevated low-density lipoprotein cholesterol (LDL-C) is one of the major risk factors associated with atherosclerotic cardiovascular disease in Kuwait. In addition to using oral lipid-lowering therapies (LLTs) to achieve the desired goal of LDL-C, Kuwait approved proprotein convertase subtilisin/kexin type-9 inhibitors (PSCK9Is) in 2016. These costly medicines have shown to positively impact cardiovascular outcomes. Therefore, it is important to examine utilisation trends of LLTs and how PCSK9Is have affected Kuwaiti healthcare spending when there is lack of data in this regard.

Methods: This retrospective study used an electronic system of the Central Medical Store to extract aggregated data for the consumption and costs of LLTs between 2012 and 2022. Oral LLTs of interest include statins (atorvastatin, rosuvastatin, simvastatin, and pitavastatin), cholesterol absorption inhibitor (ezetimibe), fibrates (fenofibrate, gemfibrozil, bezafibrate), and bile acid sequestrant (cholestyramine). Injectable LLTs include PCSK9Is (evolocumab and alirocumab). Data were analysed using Microsoft Excel.

Results: Among oral LLTs, statins were highly utilised in 2012 (93%) and in 2022 (86%). The overall utilisation of oral LLTs increased by 75% and the total costs increased by 92% over the study period. For PCSK9Is, evolocumab was highly utilised in 2022 (79%) compared to alirocumab. The overall utilisation of PCSK9Is increased by 105 times in 2022, and the total costs increased from £229,635 in 2016 to £11,730,339 in 2022 (+5008%).

Conclusion: The increasing use of LLTs is expected but will eventually lead to more costs. It is imperative to control the pharmaceutical expenditure through assessing rational prescribing.