Examining the economic impact of Type 2 Diabetes and the risk of catastrophic expenditure among a defined patient population attending a tertiary healthcare facility in Nigeria: Implications for Universal Health Coverage

\*Charles Ezenduka, \*\*Chisom C. Nwankwo

\*Enugu University of Nigeria, Enugu Campus, \*\*Nnamdi Azikiwe University Awka, Nigeria

Background/Objective: Little is known about the economic burden of diabetes and the catastrophic health implications among patients with T2DM in Nigeria. The study evaluated the economic burden of T2DM including complications and co-morbidities and the risk of catastrophic health expenditures in a defined patient population.

Methods: A prevalence-based cost-of-illness study design was adopted to evaluate the direct and indirect costs of managing T2DM patients in a university teaching hospital setting. Data collection was based on non-interventional retrospective analysis of patient level data from medical records of diabetic patients as well as face-to-face interviews using semi-structured questionnaires. Bottom-up costing approach informed the identification and estimation of the total and average direct and indirect costs of treatment. Indirect costs estimate was on the basis of human capital approach. Catastrophic cost was measured from the non-food consumption expenditure of the respondents (income) while socioeconomic status group was measured by number of household items owned by respondents. Data were collected over a period of one year between September 2016 and August 2017.

 Results: Up to 359 diabetic outpatients were included in the study. The mean total cost (economic burden) of the disease per patient was N384,948.83 (US$1,099.85) per annum, comprising 86% (US$948.60) direct and 14% (US$ 151.30) indirect costs, at a monthly average of US$91.61 per diabetic outpatient (at the 2017 prices approx. N350 = US$1). Greatest proportion of the cost, 17% was spent on medications, followed by laboratory investigations (13%). The costs/burden increased with co-morbidities, complications, length of disease. Majority of patients (93%) relied on OOP expenditures to finance treatment with only 6% who are federal employee enrollees paid through insurance. Of the OOP patients, 9% paid through sales of properties, while on the whole up to 65% of the patients subjected to the risk of catastrophic health expenditure at 40% threshold, with the poorest quartile mostly affected at over 51%.

Conclusion: Findings suggest that diabetes imposes substantial economic burden on the Nigerian population subjecting a significant proportion of the low income individuals and families to catastrophic health expenditures and financial impoverishments. Projected increasing incidences of diabetes, rising costs of care and absence of financial risk protection portends decreasing access to care with implications to achieving the goals of the UHC. There is need for financial protection mechanism for diabetes patients for enhanced access to care and reduced economic burden