life. Anemia is a common complication of CKD that may occur with, and increases with, disease progression. Mathematical models based on robust epidemiological and clinical data are a useful way to predict the future burden of disease; this is important for the planning of health services. This study reports a microsimulation model, Inside ANEMIA of CKD, that projects the epidemiological burden of anemia of CKD up to 2025 in Canada.

Methods: A virtual cohort representing the Canadian population was created, using national demographic statistics, within the Inside ANEMIA of CKD microsimulation model framework. Virtual individuals were ascribed an age-sex stratified CKD status (defined by estimated glomerular filtration rate and albuminuria levels, in accordance with international guidelines) and anemia status (defined by hemoglobin level as mild, moderate or severe, in accordance with WHO criteria). Key co-morbidities were also assigned, reflecting country-specific population statistics. Canadian demographics and epidemiological data were drawn from Statistics Canada and a provincial renal database. Incidence rates for cardiovascular complications were drawn from the literature.

Results: Preliminary results indicate that the overall prevalence of CKD in Canada is projected to increase by an absolute rate of 1% from 2020 to 2025, irrespective of population growth. The number of individuals with anemia of CKD is estimated to increase from 1.8 to 2.7 million cases by 2025. A 16% increase is projected for patients with moderate to severe anemia of CKD by 2025. The incidence of cardiovascular complications in patients with all levels of anemia of CKD is expected to increase by 2025 as follows: 28% increase in heart failure and a 20% increase in myocardial infarction events.

Conclusions: Inside ANEMIA of CKD is the first microsimulation model to project the epidemiological burden of anemia attributable to CKD in Canada. As more individuals are affected by anemia of CKD over the next five years, co-morbidities such as cardiovascular disease will increase in parallel. Implementing healthcare policies that are aimed at identifying and proactively managing patients with anemia of CKD may reduce this substantial healthcare burden.

Conflict of Interest: This research was funded by AstraZeneca and conducted by HealthLumen. GSJJ, CC, GS, RN, BP, PA, WD are employed by AstraZeneca Limited and hold stock options. RL, WL are employed by HealthLumen. TN and WJ received consulting fees to provide advice on this work. In addition, TN reports personal fees from Roche Inc, other from ClinPredict Inc., grants and personal fees from AstraZeneca Inc, personal fees from Otsuka Inc, grants and personal fees from Janssen, personal fees from Boehringer Ingelheim/Eli Lilly, grants, personal fees from and other from Tricida Inc, other from PulseData, other from Mesentech, outside the submitted work. WJ is a consultant or member of advisory boards for: AstraZeneca, Akebia, Vifor, Rockwell Medical, he is a member of the Speakers Bureau for: AstraZeneca, Akebia.

POS-322 INSIDE CKD: PROJECTING THE FUTURE BURDEN OF CHRONIC KIDNEY DISEASE IN THE AMERICAS AND THE ASIA-PACIFIC REGION USING MICROSIMULATION MODELLING

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Introduction: Chronic kidney disease (CKD) is a debilitating and costly condition, affecting about 10% of people globally. In the past decade, the increasing prevalence of CKD has been linked to rising rates of cardiovascular disease events, adverse renal outcomes and mortality. The future trajectories of CKD prevalence, progression and outcomes, as

POS-321 TRANSLATING THE FINDINGS OF THE ROxadustat NDD GLOBAL PHASE 3 PROGRAM INTO COST OFFSETS FROM A CANADIAN HEALTHCARE PERSPECTIVE

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Introduction: Kidney disease (CKD) is a costly public health issue, with an estimated prevalence of 13.4% globally. Anemia is a common complication associated with CKD resulting in reduced health-related quality of life and high healthcare costs. The objective of this analysis was to estimate the direct medical care cost offsets of investigational agent roxadustat for the treatment of anemia in patients with non-dialysis dependent (NDD) CKD from a Canadian healthcare perspective.

Methods: Data from the roxadustat global Phase 3 program were used to estimate the projected incidence of rescue therapy use (intravenous iron, erythropoiesis stimulating agents or red blood cell transfusions) and major adverse cardiovascular events plus (MACE+) for roxadustat compared to standard of care (placebo) in NDD patients with anemia of CKD. MACE+ events included myocardial infarction, stroke, hospitalized unstable angina, hospitalized congestive heart failure, cardiovascular death, and other death. Published Canadian cost data were used to estimate the cost of each medical event. A hypothetical cohort of 10,000 NDD Canadian patients with anemia of CKD aged 18 years and older was modeled with net medical care cost offsets calculated in Canadian dollars for each of the five years and cumulatively. Patients who transitioned to dialysis during the time horizon of the analysis were also evaluated in this cost offsets analysis.

Results: Compared to standard of care, preliminary results of the model for patients with NDD CKD and patients who transitioned to dialysis during the five year horizon of the analysis showed that roxadustat could produce net medical care cost offsets resulting from the reductions in rescue therapy usage and reduction in MACE+ events (specifically hospitalizations due to HF). Cumulative medical care cost offsets for patients with NDD CKD and patients who transitioned to dialysis during the five year horizon of the analysis compared with standard of care were estimated for rescue therapy use ($1,428,501) and MACE+ ($1,496,865).

Conclusions: This cost offsets analysis provides evidence that treatment with roxadustat could produce net medical care cost offsets resulting from the reductions in rescue therapy usage and reduction in MACE+ events (specifically hospitalizations due to HF). Cumulative medical care cost offsets for patients with NDD CKD and patients who transitioned to dialysis during the five year horizon of the analysis compared with standard of care were estimated for rescue therapy use ($1,428,501) and MACE+ ($1,496,865).

Conflict of Interest: This research was funded by AstraZeneca and conducted by Avalon Health Economics. GSJJ, RN, GS, BP, PA, WD are employed by AstraZeneca Limited and hold stock options. SJ, DS, HA and BA are employed by Avalon Health Economics.