matched sample of patients with HbA1c greater than or equal to 7%, for a difference of $2,712 ($2,665--$5,140). In contrast, when we examined the change in cost from 2006 to 2008 for patients who had sustained control at >7% for all 3 years, we found that total cost care for patients with sustained control decreased by $2,207 compared to $3,066 increase for patients without sustained control, for a difference of $-5,226 (95% CI $10,163--$-264). CONCLUSIONS: Our study suggests that while reducing HbA1c levels to target goals may not immediately result in cost reductions, sustained HbA1c control is likely to reduce costs in a three-year time frame.

PDB42 HEALTH CARE RESOURCES UTILIZATION AND COST FOR HYPOGLYCEMIA AND METABOLIC ACIDOSIS IN TYPE II DIABETES: AN ANALYSIS OF THE RAMQ DATABASE

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OBJECTIVES: Diabetic patients with chronic renal failure are at risk of developing hypoglycemia and metabolic acidosis. The purpose of this study was to estimate the health care resource utilization and costs associated with these complications.

METHODS: Patients covered by the Quebec provincial drug reimbursement program (RAMQ) who had a diagnosis of diabetes, had used a hypoglycemic agent, and who had experienced hypoglycemia or metabolic acidosis in the period from January 2005 to December 2010 were selected. Health care resources in terms of physician visits, hospitalization, intensive care unit stay, hospital outpatient clinic visits, and hospitalizations were recorded over the 10-day period before and the 30-day period after a complication event. The resources consumed during a 40-day period one year before the event, corresponding to a period without any complication event, was deducted to estimate the incremental costs associated with complications.

RESULTS: A total of 4890 patients had a diagnosis of diabetes with chronic renal failure (average age 69.2 years (SD = 10.1)). Of these, 530 (10.8%) experienced a hypoglycemic event and 95 (1.9%) an episode of metabolic acidosis. The average cost per severe episode of hypoglycemia and metabolic acidosis was $2560 and $3065 for hypoglycemia and metabolic acidosis, respectively. CONCLUSIONS: A significant proportion of diabetic patients with chronic renal failure experienced hypoglycemia or metabolic acidosis, with substantial associated costs. Treatment options that minimize the risk of these complications should be considered.

PDB43 THE COST OF HYPOGLYCEMIA IN DIABETES: DEFINING THE SEVERITY OF THE HYPOGLYCEMIC EVENT IS KEY TO UNDERSTANDING THE ECONOMIC BURDEN

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Hypoglycemia is one of the limiting factors for achieving adequate metabolic control in diabetic patients. Although it is well accepted that the economic burden of diabetes is substantial, the direct impact of hypoglycaemia to patients, the health system and society is unclear.

OBJECTIVES: To assess the economic impact associated with hypoglycemic events through a search of the published literature in type 1 and type 2 diabetic patients using oral antidiabetes drugs and/or insulin therapy.

METHODS: An in-depth literature review was conducted, EMBASE and PubMed databases were searched from 2005 to November 2011. A total of 24 US and European articles were retrieved. Costs were calculated according to severity of hypoglycemia: symptomatic non-severe and severe hypoglycemia.

RESULTS: Direct non-medical costs and indirect costs were studied for symptomatic non-severe hypoglycaemia, as the economic impact is limited to lost work productivity, increased out-of-pocket costs mainly due to patient education, and absence from work and school. Indirect costs are studied for symptomatic non-severe hypoglycaemia, as the economic impact is limited to reduced work productivity and cost of a laser eye procedure was US$928, while the cost of a cataract operation was US$2736.

CONCLUSIONS: The economic burden of hypoglycemia is substantial, a key predictor being the severity of hypoglycemia.

PDB44 DIRECT MEDICAL COSTS OF DIABETES-RELATED COMPLICATIONS IN SAUDI ARABIA

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OBJECTIVES: Diabetes mellitus (DM) poses a serious public health problem worldwide and a substantial financial burden on each national health care budget. In Saudi Arabia, the treatment of DM cost US$14 billion in 2011 in the treatment of DM-related complications. This was 21% of the national health care expenditure, it is expected to rise to US$3 billion by 2030. This study aimed to collect up-to-date direct medical costs of managing and treating DM-related complications to the Saudi public healthcare sector.

METHODS: A literature review was conducted using EMBASE, Medline and the Cochrane Library databases. Data were then gathered using computer literature and interviewing local expert physicians. Costs were categorised into six groups: management costs, cardiovascular complications, renal complications, acute events, eye-disease and neuropathy/foot ulcers which were presented as the first-year costs and in subsequent years following an event in 2011 US-dollars (US$1=SAR 7.5).

RESULTS: The highest first-year costs were observed in the renal complications group: renal transplantation (US$62,571) and haemodialysis (US$40,000). High annual costs were also associated with the treatment of cardiovascular complications, ranging from US$860 to the first-year costs and in subsequent years following an event in 2011 US-dollars (US$1=SAR 7.5).

CONCLUSIONS: The costs of managing DM-related complications per patient could pose a significant financial burden on health care expenditure in Saudi Arabia. This study provides an up-to-date and up-to-date costs to conduct further economic evaluations of DM-related treatments in Saudi Arabia.
follow-up in subsequent years following a cardiovascular event. First-year costs of the cardiovascular events considered were myocardial infarction ($US5,106), angina ($US2,377), congestive heart failure ($US6,006) and peripheral vascular disease ($US2508). The cost of laser intervention was $US4248, while the cost of a cataract operation was $US533, excluding the cost of prosthesis ($US618), with a follow-up cost of $US22. The cost of a laser eye procedure was $US48, while the cost of a cataract operation was $US533, excluding the cost of prosthesis ($US618), with a follow-up cost of $US22.

**RESULTS:** The highest first-year costs were observed in the renal complications group; renal transplantation ($US28,422), continuous ambulatory peritoneal dialysis ($US3,901) and hemodialysis ($US7,443). Annual costs were also associated with the treatment of cardiovascular complications, ranging from $US865 for first-year treatment of myocardial infarction to $US132 for first-year treatment of peripheral vascular disease. Other first-year costs of treating cardiovascular events were: stroke ($US892), congestive heart failure ($US244), and angina ($US395). The cost of an amputation procedure was $US533, excluding the cost of prosthesis ($US618), with a follow-up cost of $US22. The cost of a laser eye procedure was $US48, while the cost of a cataract operation was $US533, excluding the cost of prosthesis ($US618), with a follow-up cost of $US22. The cost of a laser eye procedure was $US48, while the cost of a cataract operation was $US533, excluding the cost of prosthesis ($US618), with a follow-up cost of $US22.

**OBJECTIVES:** Health care systems in many countries are facing a significant financial burden due to the costs incurred by treating diabetes mellitus (DM). In Brazil, expenditure on DM care in 2010 was estimated at $US4.3 billion and is expected to rise to nearly $US7.2 billion by 2050. This study aims to collect up-to-date direct medical costs of managing and treating DM-related complications from the Brazilian health care system perspective. **METHODS:** Most costs were obtained from the Brazilian Ministry of Health and published studies identified through a structured literature search. Pre-2011 costs were inflated using the Consumer Price Index. Costs were categorized in six groups: management costs, cardiovascular complications, renal complications, acute events, eye-disease and neuropathy/foot ulcers. Costs were expressed in 2011 US-dollars according to the average annual exchange rate ($US1 = $1.6993 BRL), and were reported per event costs in the first-year of the event and in subsequent years following the event. **RESULTS:** First-year haemodialysis and renal transplantation costs were the highest costs observed overall at $US4,185 and $US4,051, respectively. The highest first-year cost of treating cardiovascular complications was that for myocardial infarction ($US4,752). Other first-year costs of treating cardiovascular complications were: congestive heart failure ($US2,852), stroke ($US1812) and angina ($US532). The cost of an amputation procedure was $US371 with the cost of prosthesis ($US154). The cost of a cataract operation was $US2064 and the cataract surgery cost was $US25552. **CONCLUSIONS:** DM-related complications impose significant costs on the health care systems globally as it requires a high level of expenditure. In Algeria, nearly $US264 million was spent on DM in 2010; this is expected to rise to $US461 million by 2030. The aim of this study was to collect 2011 direct medical costs of the management and treatment of DM-related complications from the Algerian Social Insurance perspective. **METHODS:** A structured literature search was conducted to search for the published costs of interest but no relevant publications were identified. Consequently, IMS collected the required costs from official sources identified using its local resources. Six groups of costs were created based mainly on type of complications: management costs, cardiovascular complications, renal complications, acute events, eye-disease and neuropathy/foot ulcers which were presented as first-year costs and costs in subsequent years following an event in 2011. Costs presented in this study are useful inputs for further economic evaluations to assess the impact of DM-related treatments on treatment costs presented in this study can be used to conduct such economic evaluations to assess the impact of DM-related treatments on the Brazilian health care budget which highlights the importance of conducting economic evaluations to assess the impact of DM-related treatments on treatment costs presented in this study.