becomes an option for certain patients but cost becomes an important issue. We performed a systematic review of the literature of economic studies of the use of DBS in patients with PD, including costs studies or economic evaluations as cost per improvement in quality life, decrease in dose of pharmacological treat- ments or the decrease of carer burden. METHODS: We reviewed the following data- bases: Medline/Pubmed, Embase, Cochane Database of Systematic Reviews, Lilacs, Cochane Central Register of Controlled Trials, WHO International Clinical Trials Registry Platform ICTR portal and ClinicalTrials.gov from 1980 to 2015. RESULTS: From the original 2120 references retrieved, 9 studies were selected. There were two studies coming from United States, Germany, and Spain, and one each from China, Italy, and United Kingdom. The average cost of DBS for a patient with PD in five years is €5,087 for the ZIRA Test strategy. OBJECTIVES: To investigate the long-term cost-effectiveness of initiating transanal irrigation (TAI) in patients with neurogenic bowel dysfunction (NBD) who have failed standard bowel care (SBC) from a Medicare payer perspective in the United States (US). METHODS: A Markov decision model was used to projects the lifetime health economic outcomes, including quality-adjusted life years (QALY), episodes of fecal incontinence (FI) and urinary tract infections (UTIs), and costs using TAI relative to continuing SBC. Current clinical experience in the US is limited to a dataset of 24 spina bifida patients. Therefore transition probabilities and QALY estimates were based on a larger UK data set including 227 patients with NBD due to spina bifida. Spinal cord injury (SCI), multiple sclerosis and cauda equina syndrome. A Medicare payer perspective was applied for cost collection, and for diagnosis-related group procedures, the median of the averages of what each New Jersey health care provider received in total payments was used. Projected life expectancy was based on published SCI population data. RESULTS: The model predicts that an SCI patient diagnosed at age 30, with a life expectancy of 37 years using TAI, will experience a 36.1% reduction in FI, a 28.7% reduction in UTIs, and a 35.4% reduc- tion in stoma surgery and an improvement of 0.40 QALY, compared with patients continuing SBC. Lifetime cost-savings of $1,293 per patient was estimated for TAI versus SBC in a SCI patient, primarily due to avoided hospitalizations and stoma surgeries. Incremental cost is influenced by life-expectancy (and age of diagno- sis) in the patient cohort. CONCLUSIONS: TAI is a cost-saving treatment strategy from a Medicare perspective and reduces risk of stoma surgery, fecal incontinence and UIs whilst improving QALY for NBD patients who have failed SBC.” Peristeen (Coloplast A/S).

**PM309**

**HEMIDIALYSIS REVERSE OSMOSIS MACHINES DISINFECTION VERSUS NEW PURCHASE: COST-EFFECTIVENESS ANALYSIS**

Yassin MJ, Smith KJ.

University of Pittsburgh, Pittsburgh, PA, USA

OBJECTIVE: Hemodialysis (HD) is the standard of care for end stage renal disease patients. Reverse osmosis (RO) technology was designed to improve HD water safety. Strict guidelines regulate RO machine infection control. If required standards are not met, the machine is pulled Out Of Service (OOS), with repeated disconnection and culture performed before it can return To Use (RTU). With repeated disconnection failures, purchase of a new machine may need to be considered; the cost-effectiveness of decision options is unclear. METHODS: A Markov model estimated the cost effectiveness of continued disinfection for a RO machine repeatedly failing to meet standards vs. purchase of a new machine over a 5 year machine lifespan. The model considered probabilities of remaining OOS after disconnection and of patient infection after RTU post disinfection, as well as costs of disconnection and RO purchase. Costs per patient infection avoided were calculated, taking a hospital perspective and testing infections at various rates. We estimated that a machine had to fail at least $1 million per dialysis-related infection avoided, due to infection costs and the potential costs of liability and diminished reputation. RESULTS: In the base case, new purchase had a lower cost, but a higher number of infections. Purchase after 4 failed disinfections cost $682,000/ infection avoided. Purchasing after 3, 2, or 1 failed disinfection cost $2.1 million, $6.1 million, or $15.9 million per patient infection avoided, respectively. Purchase after 5 failed disinfections was favored if patient infection risk was substantially lower or new machine purchase cost $4,365 (base case $10,000). CONCLUSIONS: RO machine purchase after 4 failed disinfections is a favorable strategy at a $1 million/ patient infection avoided threshold. Purchase after fewer failed disinfections may be favored if willingness-to-pay thresholds are higher.