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COST EFFECTIVENESS OF BODY COMPOSITION MONITOR (FMC), FLUID MONITORING SYSTEM IN DIALYSIS PATIENTS FROM THE HEALTH CARE PAYER PERSPECTIVE

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INTRODUCTION: Recent evidence has demonstrated the strong link between fluid overload (determined by the BCM-Body Composition Monitor) and morbidity / mortality. Even though the use of BCM has become well established, an in-depth analysis of its economic benefit considering latest evidence is not yet available.

METHODS: A Markov model (TreeAge Pro Healthcare™ Software, Williamstown, MA, USA) was developed to assess the cost-effectiveness of BCM-based fluid status monitoring in dialysis patients from a health care payer perspective.

The model is based on the economic model presented by Scotland et al in Jan 2018. It was extended and parameterized using published sources and cost data. Costs are expressed in monetary terms (UK pounds) and are based on the UK-costs. The model horizon was 30 years, with 5% annual discounting.

The model allows for the incorporation of effects and benefits of BCM-guided fluid management on mortality, CV-related and all-cause hospitalization rates and

background medication [blood pressure & erythropoiesis-stimulating agents (ESAs)] and it captures downstream cost-savings and quality-of-life benefits associated with prolonged survival, reduced hospitalization rates and reduced medication.

RESULTS: The ICERs for all modelled scenarios reflecting the effects of the BCM-guided fluid monitoring remain below the £20,000 which is below the UK cost-effectiveness threshold. Our base scenario, including the direct effect on mortality, the effect on hospitalization and the effect on costs of antihypertensive drugs results in an ICER of £11.747.

CONCLUSIONS: The Body Composition Monitor (BCM) is a cost-effective system for fluid monitoring in dialysis patients in the UK-cost perspective.