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# Identifying the need, metrics, and themes for future development of a fluid balance assessment tool in end stage kidney disease (ESKD): a dietitian's perspective

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#400WORDS: CHIEF NURSING OFFICER'S RESEARCH FELLOWS EVIDENCE IMPLEMENTATION PROJECTS

## Identifying the need, metrics, and themes for future development of a fluid balance assessment tool in end stage kidney disease (ESKD): a dietitian's perspective

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### Background

The 25<sup>th</sup> Annual Report from the UK Renal Registry's key findings state 69,497 adult patients were receiving kidney replacement therapy (KRT) for end stage kidney disease (ESKD) on 31/12/2021, of which 8,175 were new starters (UK Renal Registry, 2023). Individuals with ESKD can provide challenges to the renal dietitian, one of which involves accurate body composition measuring and the impact of fluid overload. To assess and calculate appropriate nutritional requirements Todorovic and Micklewright (2011) and NICE guidelines (2006) provide universal equations based on kilogram (kg) per body weight. The Renal Nutrition Specialist Group of the British Dietetic Association (2018) highlighted a lack of guidance around fluid management in ESKD, resulting in development of a professional consensus statement 'Dietary management of fluid in people undergoing haemodialysis'. Despite this there are no current fluid balance assessment tools in practice to better assess true body weight in this patient population, resulting in a substantial element of clinical judgement in establishing nutritional requirements.

### Review of the evidence

A literature review was performed in NHS Knowledge and Library Hub and CINAHL databases over the past 10 years (English, Full Text) using search terms 'Fluid Overload AND 'End Stage Kidney Disease' AND/OR 'Body Composition'. Titles and abstracts were screened for relevance.

The following themes were identified:

- Minimising chronic fluid overload is a clear priority in the management of ESKD due to its association with increased mortality (Horton, 2018)

- Physical examination alone has been deemed an unreliable clinical assessment of fluid status in ESKD (La Porta *et al.*, 2021).
- Blood pressure, physical examination and intra-dialytic weight gains currently remain the main stay of fluid assessment, however objective measures including Bioimpedance Analysis (BIA) are emerging as enhanced clinical assessment tools (La Porta *et al.*, 2021).
- To date studies around nutritional interventions based on BIA remain lacking in ESKD and the feasibility in an ever-growing patient population may be hard to implement within the clinical setting (Broers *et al.*, 2020)

## Project plan

The aim of this project is to identify need, metrics and themes for future development of a fluid balance (FB) assessment tool in dietetic clinical practice. The foundation of this change project is based on the JBI Evidence implementation Model (Porritt *et al.*, 2020). Project stages will include 1) a comprehensive literature review of FB methodologies 2) development of an evidence informed questionnaire to identify current tools used in practice, distributed to renal dietitians across the UK 3) creation of a renal dietetic focus group to provide insight into the development of such tool and research proposal development.

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