DIGITISATION OF WATER TREATMENT SYSTEMS: IMPACT ON COST AND PROCESSES IN A RENAL CARE PROVIDER NETWORK – A VALUE-BASED PROCUREMENT APPROACH

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OBJECTIVES

State-of-the-art water treatment systems (WTS) are cornerstones in the delivery of dialysis treatments, as their proper functioning has direct implications on patient health and safety. Therefore, the WTS and the fluid produced must comply to international (ISO-23500) and local standards and are subject to regular monitoring, documentation and auditing. Here, we report an analysis performed in cooperation with procurement, of a renal care provider network to assess the cost and time impact of switching mandatory WTS monitoring and documentation from manual to digital workflows.

METHODS

For a network of dialysis units operating 80 WTS, procurement analysed the current vs. a new digital WTS set-up regarding cost and time-need, including:

1) working hours related to monitoring and documentation of dialysis fluid quality parameters during operation,

2) installation and annual operation costs of the digital infrastructure data management system.

INFRASTRUCTURE DATA MANAGEMENT SYSTEM



RESULTS

The analysis showed that **~3,000 working hours** annually and significant cost (40% administration, 60% staff) can be saved through digitisation of 80 WTS. Further, annual costs for operation of the digital system will be **~10% of the initial investment for installation** of the digital system. In total, digitisation of 80 WTS within the dialysis network will result in **annual savings of 1.6 times the investment costs.** Thus, the breakeven is achievable within the first year of operation.

INFORMATION TECHNOLOGY

CONCLUSION

For the provider network, innovation by digitisation has beneficial effects in terms of administration, staff cost and process optimisation. Thus, the analysis presented herein is in line with recent trends towards value-based procurement that looks beyond short-term cost savings in purchases, but is rather focused on achieving better value for money by involving quality-based factors such as technical merit, environmental, social and innovative aspects. Moreover, digitisation adds to regulatory safety, e.g. auditing readiness (data not shown here), and is a relevant basis for future improvements.