Evidence Series: Case Report

Remote Monitoring of APD Patients: Assessing Clinical and Economic Value

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Sharesource

BACKGROUND

For chronic kidney disease patients with end-stage renal disease, survival depends on renal replacement therapy in the form of kidney transplantation or chronic dialysis

Peritoneal dialysis (PD) at home, is both more convenient and less costly than haemodialysis, which requires

3 x 4 HOUR

VISITS PER WEEK

to the dialysis facility and complicated equipment

Remote therapy management (RTM),

technologies collect medical information and transmit it to healthcare providers for patient management. RTM has the potential to improve the outcomes of patients receiving automated peritoneal dialysis (APD) at home

OBJECTIVES

Estimate the potential impact of RTM on APD patients' use of healthcare resources and costs in the United States, Germany and Italy. Determine if RTM allows a reduction in costs of unscheduled visits and complications.

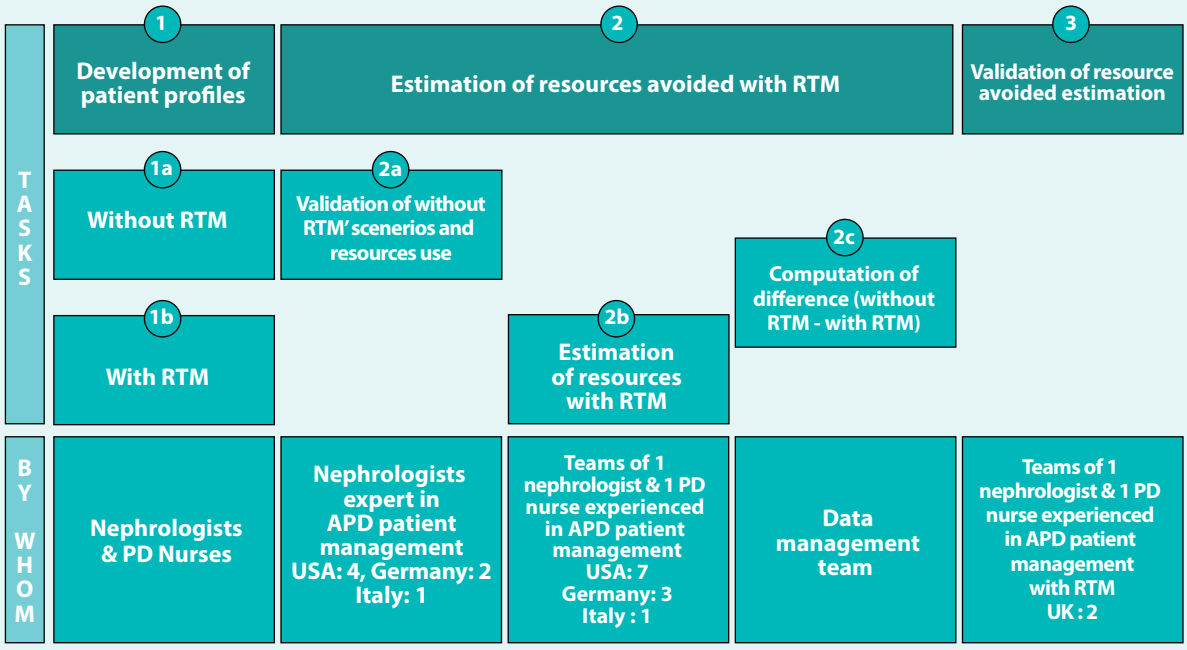
ENDPOINTS

Cost savings of unscheduled visits and complications
Resource utilization and associated costs savings

STUDY DESIGN

Twelve APD patient profiles ("simulations") were developed by a group of nephrologists and nurses based on potential clinical scenarios

- Two versions of each profile were created to simulate Healthcare resource use: one assuming use of RTM and one without (i.e. usual clinical practice)
- The RTM technology tested was a two-way, home based APD device that records clinical and treatment data and electronically transfers it daily through a secure online portal for review by clinicians
- The technology also allows clinicians to make treatment modifications directly on the APD device.
- Eleven APD teams estimated resources that would be used in the "with RTM" scenario using a separate on-line survey



Overview of study

STUDY POPULATION

Table 1 . Participant Practice Characteristics per County

PARTICIPANT PRACTICE CHARACTERISTICS			
COUNTRY	UNITED STATES (N=7)	GERMANY (N=3)	ITALY (N= 1)
Practice setting, *n*			
Hospital	2	1	1
Dialysis center	5	2	0
Average number of APD patients managed per year	82	48	80
Average number of years of experience in managing APD patients	17	21	27

APD, automated peritoneal dialysis

Baxter

RESULTS

Resource Utilisation

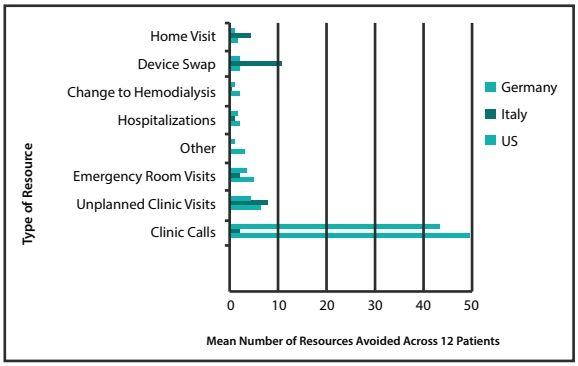
Estimated reduced resource utilisation across the three countries ranged from

1-2 HOSPITALISATIONS

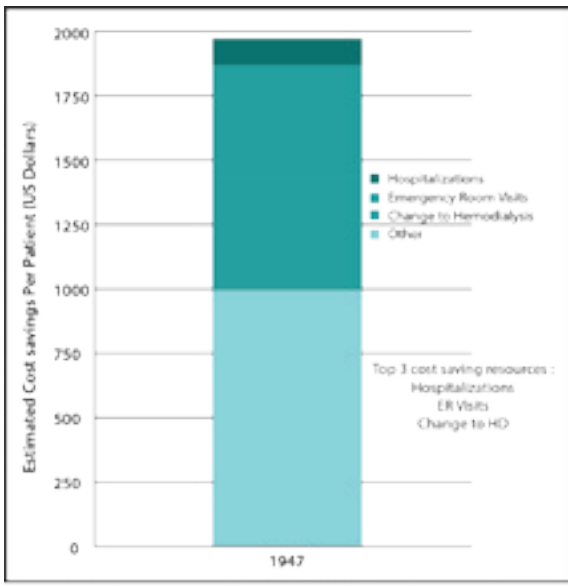
1-4 HOME VISITS

2-5 EMERGENCY ROOM VISITS

4-8 UNPLANNED CLINIC VISITS



Healthcare resource avoidance with RTM

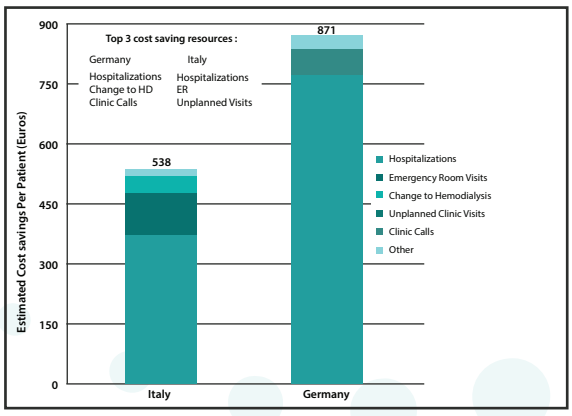


Estimated cost savings per patient using RTM, United States

Resource Costs

Total savings across all scenarios were

$23,364 US
$11,477 DE
$7,088 IT



Estimated cost savings per patient using RTM, Germany and Italy

CONCLUSIONS

In a simulated environment, RTM reduced healthcare system resource utilisation and costs in patients with problems such as treatment adherence, fluid overload, volume depletion, low drain/unidentified alarms, or factitious data

APD with Sharesource can help reduce resource utilization and associated costs.