

An analysis of time taken to review APD patient daily record books and the value associated with this type of monitoring

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Abstract

Patients undertaking dialysis at home are expected to keep records in order for Healthcare Professionals to monitor therapy and modify treatment. Tracking therapy ensures patients are adequately dialysed and clinical outcomes are optimised. Some dialysis programmes also use Pro Cards to collect data direct from the patient's dialysis machine.

In other chronic disease areas the use of telemedicine and remote patient monitoring are being evaluated as an alternative means to monitor patients^{1,2}.

Real time observation of nurses in clinic, structured patient telephone interviews and an online survey for PD Nurses was used to understand the time associated with and the value of reviewing patient records.

1. Nurses spend only 5% of their time proactively managing patients.

2. Patients report that monitoring through review of records gives them confidence to undertake dialysis at home.

3. Despite the value of such monitoring, only 27% of patients had their records reviewed during clinic visits.

Whilst patient monitoring today is considered valuable by both patients and nurses, it may not currently be optimised to improve clinical outcomes at home. The study will be repeated after the introduction of the Sharesource remote patient management system to evaluate if such a system may change the impact of monitoring on patient management and clinical outcomes.

Background

Patients who are being treated with APD at home have responsibility to manage their own therapy.

Record keeping is an integral part of this self-management and when therapy details are shared with Healthcare Professionals (HCP's) they can promote a better understanding of how the treatment is working.

Therapy can be modified, altered and appropriate patient education can be given. Parameters such as which PD solutions are being used, therapy details and machine alarms, patient's weight and blood pressure and fluid balance are important factors to be shared with HCP's and are essential for the proactive management of patients.

Traditionally, records are reviewed at scheduled clinic visits. Patients will bring paper records and/or Pro Cards into the clinic with the previous two or three months' data. Potential issues with this process include;

- Any clinically important or urgent issues may not be identified in between consultations.
- Analysis of the data and taking appropriate actions can be time consuming for nurses.
- Record keeping can be time consuming for patients.
- Pro Cards may become corrupt and unreadable.
- Patients may forget to complete the records.
- Patients may forget to bring the records into clinic.

Remote patient monitoring is being evaluated as a means to improve clinical outcomes for patients with chronic illnesses such as Congestive Heart Failure, Diabetes and Hypertension^{3,4,5}.

Remote patient monitoring is a component of telemedicine, and is defined as use of electronic technologies to remotely collect medical information from the patient and transmit that information to healthcare providers for assessment and feedback to the patient.

This study was commissioned to understand how patients and nurses perceive the value of monitoring with daily record books and/or Pro Cards and provide a bench mark prior to the introduction of remote patient management with a cloud based IT system (Sharesource), Sharesource data is sent directly from the patients APD device and is available for nurses to view on demand. In addition to remote monitoring capabilities Sharesource also allows the healthcare provider to send revised prescriptions directly to the patients APD device.

Objectives

The aim of this study was to quantify the frequency and amount of time it takes for

- PD patients to complete their records
- PD nurses to monitor patients through review of a patient's records

Additionally, this study aimed to compare nurse and patient perceptions of the importance of this type of monitoring.

Methods

Three types of methodology were used to understand the situation and compare attitudes towards APD record keeping.

Real time observation in clinic following time and motion activity of 8 PD Nurses in 6 Renal Units

Structured telephone interviews with 13 patients

Online survey for PD Nurses completed by 16 NHS employed PD Specialist Nurses

During the time and motion assessment PD nurses tasks were observed and classified into 5 types of activities (Table 1). Direct and indirect tasks were further classified as proactive, reactive or routine in nature (see Table 2 for explanation of classification).

Table 1: Explanation of type tasks observed during the time and motion activity assessment

Task Type	Explanation
Miscellaneous	Travel to (inside or outside of unit) or waiting to complete work related task
Personal	Non work related task
Administration	Non-patient related work task
Direct patient care	Services provided personally for the benefit of the patient that involves an interaction between the healthcare provider and patient
Indirect patient care	Services that are related to the care of the patient but do not involve an interaction between the patient and healthcare provider

Table 2: Explanation of further classification of direct and indirect patient care tasks

Nature of task	Explanation of task classification
Proactive task	Acting in advance, anticipates, initiates, change orientated
Reactive task	Responding
Routine	Regular procedure

During the structured telephone interviews patients were asked to rate the impact of nurse interaction with 1 signifying no impact and 10 signifying high impact.

The PD nurse online survey asked nurses to weight which activities have the greatest impact on patients

Results

The time and motion assessment found that Nurses spend 83% of their time direct and indirect patient care, (31% of this time on direct patient care and 52% on indirect patient care) (Figure 1). Of the time spent on direct and indirect patient care 36% of this time is spent on reactive tasks, 5% was on proactive activities with the rest being routine 51% and 8% not specified (Figure 2).

Figure 1: % of observed PD nurse time spent conducting activities that involved direct patient care, indirect patient care, miscellaneous, personal and administration

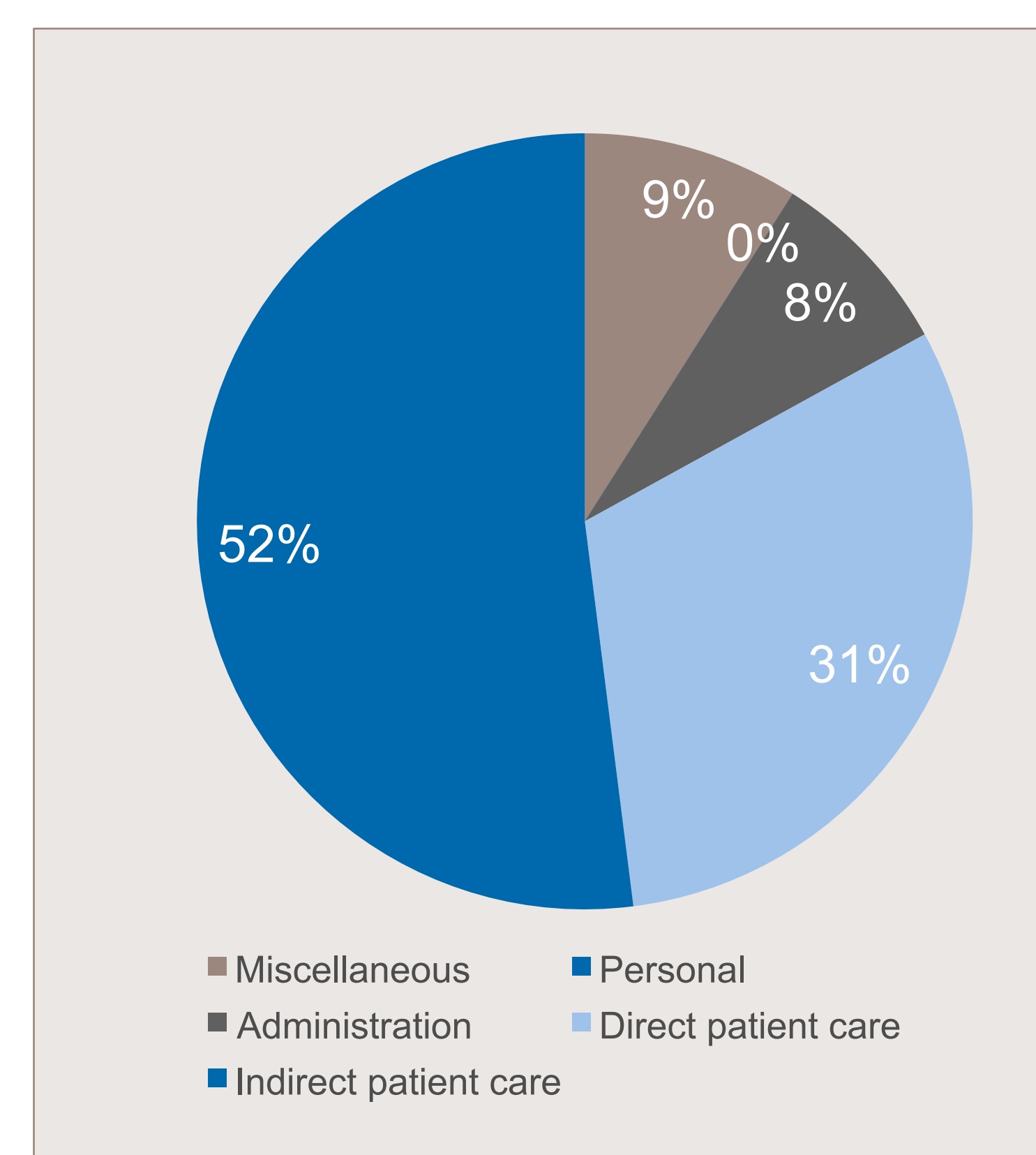
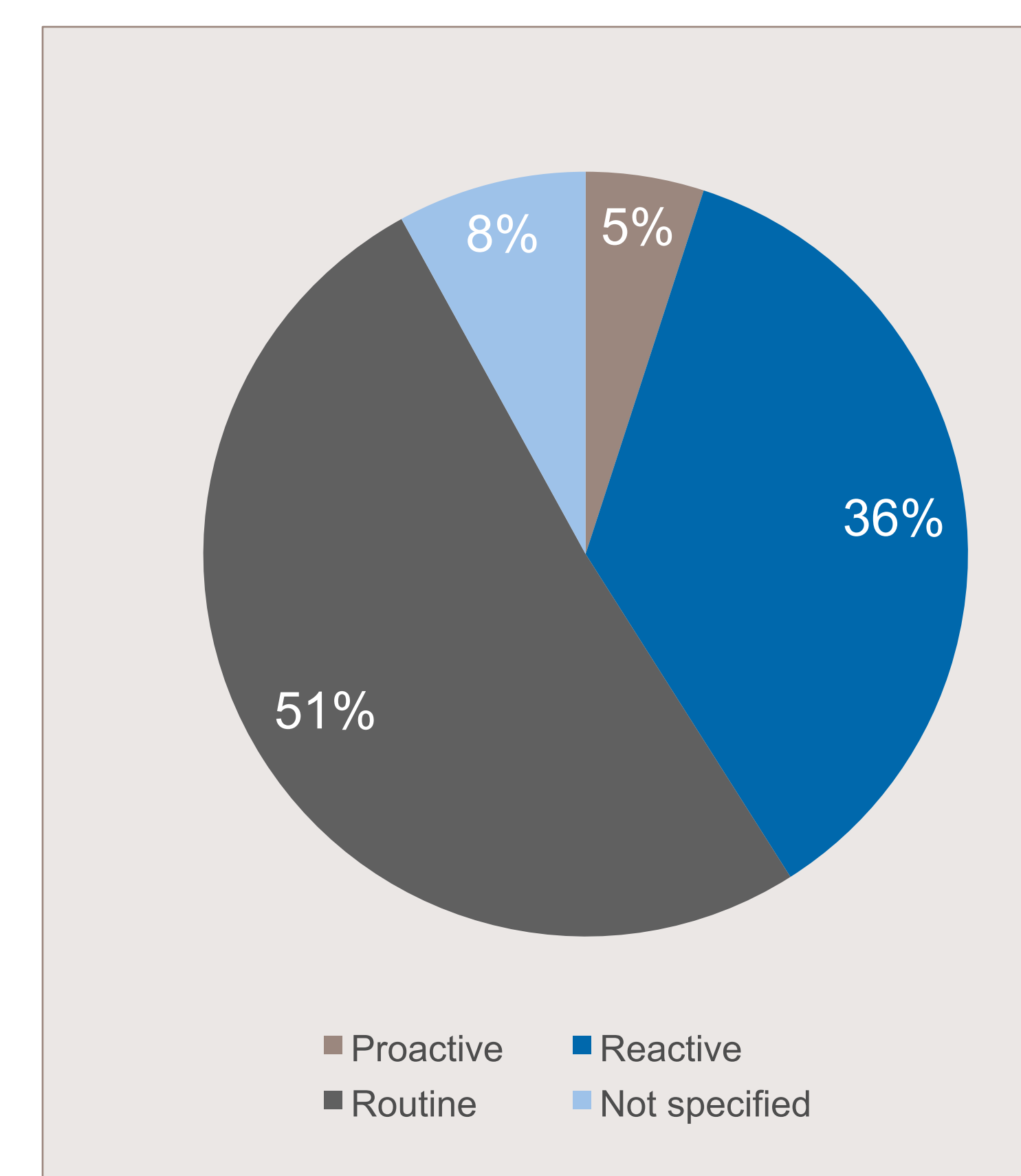


Figure 2: % of Patient activities considered to be proactive, reactive, and routine or not specified



Over 35 hours of nursing activities were recorded during 6 days of real time observations with PD nurses. Within that time 30 patients were assessed in clinic, 8 (27%) of those patients had their daily record books and/or PRO Cards reviewed by the nurses with the average time taken to review 2.6 minutes per patient.

During the structured telephone interviews, patients cited review of daily record books (rated 8.9 out of 10) as a core nurse activity that helped them feel confident and safe with undertaking dialysis at home. The only nurse activity rated higher by patients (9.4 out of 10) was receiving training on how to use their device and manage their dialysis at home. Patients felt that their daily record books were reviewed 77% of the time during routine clinics/home visits and were 85% confident that the daily record book was used to monitor their dialysis. Patients estimated on average it took them 2.3 minutes per day to complete their daily record book and every patient responded that in all honesty they were 100% accurate at completing their daily record book.

The PD nurses who participated in the on-line survey estimated it took on average 13.8 minutes to review a patient's record book and that they thought the patients were 77% accurate at recording their data daily. The PD nurses weighted the review of daily record books 4th (behind training to use and manage dialysis at home, phone support and providing patient education) out of 8 core nurse activities in helping patients feel confident and safe with performing their dialysis at home. Majority of nurses (56%) responded that they asked their patients to attend routine monitoring appointments once every 3 months

Conclusions

Whilst nurses spend the majority of their time on direct and indirect patient care very little of this time is spent on proactive tasks.

The average visit schedule for patients during the study was every 3 months, meaning data captured by patients in their record books may not be reviewed for some weeks between clinic visits. This time lag may not facilitate timely intervention by the nurses in response to changing treatment dynamics and could result in delays in adaptation of therapy and delivery of appropriate patient education.

Of interest is the difference between perceived time by nurses to review a record book (14 minutes per patient) and the observed time (3 minutes per patient), suggesting that this monitoring is considered valuable by nurses yet the actual time available to perform this task is more limited.

Patients cited review of records as the second most important core nurse activity that helped them feel confident and safe with undertaking dialysis at home. During the nurse observations only (27%) of patients has their records reviewed during interactions with nurses.

From a patient perspective it is clear that monitoring is a valuable element of patient care yet review of records are not routine during all clinic visits. Whilst patient monitoring today is considered valuable by both patients and nurses, it may not currently be optimised to improve clinical outcomes at home.

The future availability of access to patient data via remote patient monitoring will be evaluated in the second phase of this study, firstly to understand if from a nurse perspective it has the potential to shift the volume of nursing activity away from reactive tasks to more proactive tasks, thus supporting more timely intervention to improve patient outcomes. Secondly, it will assess if access to on demand data may alleviate the need for data review during clinic visits and give nurses more time for proactive patient management. Finally, it will seek to understand if the availability of patient data on demand may further improve the confidence of patients to undertake their dialysis at home.

References

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