INTRODUCTION AND AIMS: Remote patient management (RPM) has been shown to impact outcomes in several chronic disease states including heart failure, hypertension, and COPD. Adoption of and adaptation to RPM in care of home patients on automated peritoneal dialysis (APD) is in its infancy. Optimal use this technology to augment patient care depends upon development by HCPs of competence and proficiency in RPM use grounded in detailed understanding of PD “cycler physiology". Progressive learning about the most clinically helpful settings should be reflected by temporal changes in selection of RPM flag alerts. This study reviews the temporal relationship between exposure to APD-RPM technology and patient monitoring flag selection by HCPs.

METHODS: Extracts of historical treatment data from Jan 2016-December 2017 on 3893 European patients using a cycler with RPM capabilities (Claria APD System with Sharesource) in 169 clinics were queried from a central database. Data on clinics’ selection for patient monitoring of 8 treatment flags alerts were examined at different time intervals following cycler-embedded RPM exposure. Flag rules (triggered when outside of HCP-determined range parameters) are set by each clinic and applied to all patients in that clinic. RPM flags set by clinics with less than or equal to 1 month of RPM exposure, and then at 3 month increments or quarters were determined. The measure of a clinic’s experience with RPM was calculated as the difference between the time-stamps of its earliest and latest data records. Each clinic is represented once in the time category of greatest RPM use. Flag use is examined at a single point in time and represented as a percentage of clinics using that flag at that point in time.

RESULTS: Frequency of flag usage was defined as high, medium or low (greater than/ equal to 70%, 50-69% and <50%, respectively) based upon the percentage of clinics using each of the flag alerts at the designated intervals. Of the 7 commonly used flags in Q4, 3 were used by less than 79% of clinics (adjusted peritoneal volume, events during treatment, and lost dwell time), 3 were used by 56-71% of clinics (drain ending early, high drain occurrence and lost treatment time), and 2 flags of lower usage (only 21-40% of clinics) were seen (initial drain variance and lost therapy volume).

CONCLUSIONS: Temporal exposure to use of RPM is associated with differential selection of flags to monitor patient APD treatment. A snapshot of flag alerts that started and remained high were those that could indicate PD catherer effluent drain problems or affect adequacy of solute and fluid removal. Further research may suggest a HCP learning curve as to what parameters they perceive are most helpful in effectively identifying and addressing patient issues. These data may provide new HCP-RPM users with guidance and expedited learning to accelerate the proactive clinical patient management benefits offered by RPM technology.