LETTER TO EDITOR

Revolutionizing Hemodialysis Care: How Customer Relationship Management Innovation Enhances Patient-Centered Care and Quality of Life

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DEAR EDITOR

By improving health outcomes for patients and reducing the risk of physician-induced demand, patient-centered care can benefit both patients and health insurance systems. Patient-centered care is a model that prioritizes the individual needs and values of patients, benefiting both patients and the healthcare system by guiding clinical decisions, improving health outcomes, and reducing unnecessary treatments. A key strategy to enable this approach is the implementation of customer relationship management systems designed to foster proactive and long-term patient relationships, enhance service quality, and build loyalty.[1]

Healthcare settings are constantly evolving due to technological advancements, with a focus on patient-centered care and personalized treatment approaches.[1] Addressing these issues requires a comprehensive, empathetic, and proactive approach from healthcare professionals, facilitated through the strategic implementation of customer relationship management systems. The system can be defined in the healthcare environment as an administrative approach as well as a healthcare information technology application that promotes the concept of patient-centered care. This allows hospitals to focus more on meeting patients' needs and expectations, improving loyalty, delivering service quality, and building long-term relationships.[2]

The implementation of a customer relationship management system is considered a crucial advancement in hemodialysis care. Patients in this field often encounter significant physical and psychological challenges, including pain, discomfort, anxiety, and depression, which greatly diminish their quality of life. By offering a comprehensive profile of patients, this approach revolutionizes care delivery. It allows the healthcare team to effectively identify and monitor their condition, track medication adherence, and ultimately enhance patient-centered care to improve their overall well-being.[2, 3]

This approach also supports health education and self-management for patients undergoing

hemodialysis, while they often need to follow intricate dietary restrictions, fluid management protocols, and medication regimens. By monitoring the patients' self-management behavior using patient-reported data, real-time feedback and encouragement can be provided, thereby enhancing patient autonomy and health outcomes. Ongoing engagement and personalized support improve the patients' quality of life. Furthermore, the systems facilitate continuous quality enhancement within hemodialysis centers by collecting and analyzing patient feedback, clinical outcomes, and service metrics. This iterative process ensures that services remain patient-centered and responsive to patient needs, ultimately leading to improved health outcomes and overall well-being.[2, 3]

In the context of hemodialysis, customer relationship management systems serve as powerful tools that allow healthcare facilities to shift from a standard care model to a more patient-centered, preventative care approach. This data-driven method enables healthcare teams to obtain in-depth insights into each patient, leading to the development of personalized treatment plans. It also enhances the communication between patients and healthcare providers, helps anticipate patient needs, proactively tackles logistic challenges, such as transportation, and optimizes scheduling based on individual preferences and health conditions. This supportive setting ultimately results in improved health outcomes and enhanced quality of life by encouraging long-term patient adherence to a rigorous hemodialysis routine.[3, 4]

However, integrating customer relationship management systems into healthcare presents challenges, including the need for healthcare professionals to be trained in interpreting data, communicating effectively through digital channels, and maintaining a compassionate, patient-centered approach in a technologically driven environment. Institutional commitment, adequate resources, and ongoing education are essential to realize the full benefits of these systems. Ultimately, the transformation enabled by these systems will make hemodialysis as well as peritoneal dialysis care more efficient, personalized, and compassionate, by diminishing patients' depression and anxiety, thereby improving the patients' quality of life.[5, 6]

In conclusion, the strategic integration of customer relationship management systems into hemodialysis care offers promising benefits for improvement of patient experiences and outcomes. By enabling personalized communication, optimizing logistic arrangements, supporting self-management, and guiding continuous quality improvement, the systems empower healthcare professionals to provide patient-centered services. While challenges related to data privacy, security, and staff acceptance of customer relationship management must be addressed, the potential benefits of using this novel system to increase patient satisfaction, improve treatment adherence and health outcomes and enhance the quality of life for people undergoing hemodialysis make this technological advancement a vital component of modern care.

Conflict of Interest

None declared.

Declaration on the use of AI

The authors of this manuscript declare that no artificial intelligence (AI) or AI-assisted technologies were used in the writing process of this work.

REFERENCES

1 Edgman-Levitan S, Schoenbaum SC. Patient-centered care: achieving higher quality by designing care through the patient's eyes. Isr J Health Policy Res. 2021;10:21.
2 Baashar Y, Alhussian H, Patel A, et al. Customer relationship management systems (CRMS) in the healthcare environment: a systematic literature review. Comput Stand Interfaces. 2020;71:103442
3 Zhang Z, Liang XT, He XW, et al. Enhancing treatment adherence in dialysis patients through digital health interventions: a systematic review and meta-analysis of randomized controlled trials. Ren Fail. 2025;47:2482885.
4 Yasin F, Khraim F, Santos M, et al. Factors influencing self-care management in adult hemodialysis patients: an integrative review. Qatar Med J. 2024;2024:12.
5 Bation J, Jaro MA, Nery LJ, et al. Customer relationship management systems in clinical laboratories: a systematic review. Informatics in Medicine Unlocked. 2025;53:101628.
6 Cheng XBJ, Chan CT. Systems innovations to increase home dialysis utilization. Clin J Am Soc Nephrol. 2024;19:108-14.