

A Change Package To Increase Home Dialysis Use

Key Change Ideas for Dialysis
Facilities to Drive Local Action

Updated 2024





Table of Contents

I. Introduction	1
How to Get Started	1
Contacting ESRD Networks	2
II. Change Package Methodology	2
III. Home Dialysis Drivers	3
IV. Key Change Ideas.....	4
Primary Driver #1: Foster Physician Support of Home Dialysis	4
Secondary Driver #1a: Strengthen nephrologists' comfort level with dialysis at home	4
Secondary Driver #1b: Improve primary care and specialty physician awareness and education...	6
Primary Driver #2: Adopt a Mindset That Home Dialysis Is Possible.....	8
Secondary Driver #2a: Promote the practical benefits among staff members and patients.....	8
Secondary Driver #2b: Consider all patients, widely refer patients, and explore options before declining patients for home modalities.....	10
Primary Driver #3: Elevate Home Program Collaboration and Refine Operations.....	12
Secondary Driver #3a: Promote a culture of teamwork and build strong relationships	12
Secondary Driver #3b: Measure, monitor, and assess program metrics to drive success and continued improvement.....	14
Secondary Driver #3c: Incorporate telehealth methods to support home programs	16
Primary Driver #4: Educate and Support Patients and Caregivers Throughout the Continuum of Care	17
Secondary Driver #4a: Provide consistent patient and caregiver education and training while honoring individual needs	17
Secondary Driver #4b: Identify and proactively address barriers	20
Secondary Driver #4c: Recognize and support patient and family psychosocial needs	22
V. Conclusion and Next Steps	24
VI. References	24



I. Introduction

This change package is intended to support dialysis facilities and End State Renal Disease (ESRD) Networks in increasing the number of patients using home dialysis modalities, which include peritoneal dialysis (PD) and home hemodialysis (HHD). The change package includes actionable change ideas, collected from top-performing dialysis facilities that have increased the use of home dialysis. The change ideas presented are intended as a menu of interventions from which program leaders can choose to implement within their facilities.

The original change package was released by the Centers for Medicare & Medicaid Services (CMS) in 2020. The change package was updated in 2022, 2023, and 2024 after additional interviews were conducted with high-performing facilities.

How to Get Started

Change happens at the local level. Dialysis facility Quality Assessment & Performance Improvement (QAPI) meetings are the perfect place to start. Giving interdisciplinary team (IDT) members this change package for review will allow them to identify and prioritize change ideas that could be implemented to increase the number of patients educated about and utilizing home dialysis modalities.

The change ideas presented in this change package represent the practices used by high-performing home dialysis programs. They are not meant to serve as the entire universe of approaches to increase the number of patients using home dialysis modalities. They can, however, serve as “tests of change” that drive performance improvement and quality improvement programs.

About QAPI: QAPI merges quality assessment (QA) and performance improvement (PI) into a comprehensive approach to quality management. QA is the process of meeting standards and ensuring care reaches an acceptable level. PI is the proactive, continuous study of processes with the intent to identify opportunities and test new approaches to fix the underlying causes of persistent, systemic problems. Data-driven QAPI programs may be customized to facility needs. Key steps include:

- Identifying the problem and defining the goal
- Deciding on a measurement to monitor improvement
- Brainstorming solutions based on barriers and root causes
- Planning an intervention
- Using plan-do-study-act (PDSA) to implement the improvement project

Learn more about QAPI: <https://esrdnetworks.org/toolkits/professional-toolkits/qapi-toolkit/>



Contacting ESRD Networks

Dialysis facilities can contact their local ESRD Networks for assistance with PDSA principles and practices, questions about change strategies, and home dialysis resources. A complete listing of ESRD Networks can be found at <https://esrdncc.org/en/ESRD-network-map/>.

II. Change Package Methodology

The ideas presented in this change package were identified through extensive interviews with high-performing dialysis facilities. The facilities were selected using home dialysis quality improvement activity data submitted to CROWNWeb (now called ESRD Quality Reporting System [EQRS]) as well as Dialysis Facility Compare data. During the interviews, systemic themes emerged, which were organized into driver diagrams, visual displays of what drives and contributes to achieving an overall aim.¹ The diagrams include drivers and associated change ideas, which were reviewed by four nationally recognized nephrologists to ensure relevance to a broad range of dialysis facilities. The input of these experts was incorporated into the document.

2022 Update: The 2022 change package revisions were based on 10 additional interviews conducted in early 2022 with high-performing facilities, as identified utilizing EQRS data, which resulted in the addition of a secondary driver and numerous change ideas to drive an increase in the use of home dialysis modalities.

2023 Update: The change package was updated after 10 additional interviews were conducted with high-performing facilities, based on EQRS data, in late 2022. Change ideas were modified or added from information gathered from dialysis facility staff during the interviews.

2024 Update: Information was added after 10 additional interviews were conducted with high-performing facilities, based on EQRS data. Change ideas were modified or added (indicated by asterisks) from information gathered from dialysis facility staff during the interviews.



III. Home Dialysis Drivers

Interviews with high-performing home dialysis programs revealed primary and secondary drivers being utilized to increase the use of home dialysis for eligible patients (Table 1). “Primary drivers are the most important influencers” that “contribute directly to achieving the aim.” Secondary drivers are the actions and interventions that impact the primary drivers.²

The primary and secondary drivers (Tables 1–11), as well as the associated change ideas in the driver diagrams (Tables 2–11), are not in ranked order. They are numbered for easy reference.

Table 1. Primary and Secondary Drivers to Increase Home Dialysis Use

AIM: INCREASE HOME DIALYSIS USE	
PRIMARY DRIVERS	SECONDARY DRIVERS
1. Foster physician support of home dialysis	1a: Strengthen nephrologists’ comfort level with dialysis at home 1b: Improve primary care and specialty physician awareness and education
2. Adopt a mindset that home dialysis is possible	2a: Promote the practical benefits among staff members and patients 2b: Consider all patients, widely refer patients, and explore options before declining patients for home modalities
3. Elevate home program collaboration and refine operations	3a: Promote a culture of teamwork and build strong relationships 3b: Measure, monitor, and assess program metrics to drive success and continued improvement 3c: Incorporate telehealth methods to support home programs
4. Educate and support patients and caregivers throughout the continuum of care	4a: Provide consistent patient and caregiver education and training while honoring individual needs 4b: Identify and proactively address barriers 4c: Recognize and support patient and family psychosocial needs



IV. Key Change Ideas

The following driver diagrams (Tables 2–11) expand on the home dialysis drivers (Table 1) and include specific change ideas for all the secondary drivers identified with high-performing home dialysis programs. The visualizations show the relationships between the primary and secondary drivers and the associated change ideas.

Table 2. Strengthen Nephrologists’ Comfort Level With Dialysis at Home

PRIMARY DRIVER #1: FOSTER PHYSICIAN SUPPORT OF HOME DIALYSIS
Secondary Driver #1a: Strengthen nephrologists’ comfort level with dialysis at home
Nephrologists are the captains of successful home dialysis programs and are at the heart of dialysis education and prescribing choices. Strong home dialysis programs have a physician champion, who is essential to a positive home dialysis culture within dialysis facilities. Change Ideas 1. Identify a nephrologist PD champion and a surgical PD champion for every center. Contact professional organizations (e.g., National Kidney Foundation [NKF], American Society of Nephrology [ASN]) for resources, if champions are not available locally. 2. Educate nephrologists on urgent start PD and writing PD prescriptions for a variety of clinical circumstances, e.g., CHF, chronic liver disease. 3. Support nephrologists one-on-one with writing prescriptions for PD and HHD, using case studies and published resources for reinforcement. 4. Implement dedicated rotations with renal fellows at the home dialysis facility. Ensure they participate in clinic visits, weekly plan-of-care (POC) meetings, and QAPI meetings and that they follow patients on PD longitudinally during their fellowship years. 5. Strengthen relationships between home nurses and less experienced nephrologists to build trust and share knowledge. 6. Engage nephrologists by creating feedback loops. a. For each encounter, be prepared with a different topic/question that expands the conversation, e.g., “What is your view of a good candidate for home therapy?” or “How do you feel about urgent start patients going to the home program?” b. Work with the team to develop a response to physician concerns/questions. c. Provide feedback to physicians. 7. Ask hesitant nephrologists, “What type of dialysis would you want for yourself or your family while waiting for a transplant?” 8. Provide research studies on patient quality of life or electrolyte management, e.g., to nephrologists who refute home dialysis as a viable option for their patients. 9. Share home patient success stories to motivate nephrologists and reach them emotionally. Also share patient quotes to make the patient voice real when talking to others. 10. Present case studies of unique patients or challenging clinical situations with solutions that worked and the patient disposition.



PRIMARY DRIVER #1: FOSTER PHYSICIAN SUPPORT OF HOME DIALYSIS

Secondary Driver #1a: Strengthen nephrologists' comfort level with dialysis at home

11. Partner with local nephrology fellowships to offer on-site educational open houses and invite fellows and their attendings.
12. Include home dialysis during nephrology training and fellowship and expose all medical students to it.
13. Invite nephrologists to attend meetings and lectures to address home dialysis misconceptions and communicate benefits.
14. Recommend that all nephrologists complete online and/or in-person education with CMEs related to home modalities, e.g., PD University.
15. Have nephrologists who are comfortable with home dialysis mentor new nephrologists on peritoneal dialysis and home hemodialysis.
16. Create or request operational playbooks for starting PD Urgent Start Programs, promoting collaboration between nephrologists and other specialties.
17. Encourage hesitant nephrologists to refer patients for home training.
 - a. Review benefits of home dialysis with nephrologists.
 - b. Ask home dialysis champions to share patient outcomes to increase nephrologists' comfort levels in referring patients for education and training on home dialysis.
18. Embrace the role of the nurse practitioner (NP) by creating a chronic disease platform where the NPs are actively involved in providing modality education.



Table 3. Improve Primary Care and Specialty Physician Awareness and Education

PRIMARY DRIVER #1: FOSTER PHYSICIAN SUPPORT OF HOME DIALYSIS
Secondary Driver #1b: Improve primary care and specialty physician awareness and education
Education of physicians improves their understanding of the benefits of home dialysis, which, in turn, helps to increase the use of this modality. Physician education also improves the potential for good outcomes with catheter placement and patients' longevity in home programs. Change Ideas 1. Conduct physician-to-physician education (e.g., nephrologist to primary care, intensivist, pulmonologist, hospitalist, emergency physician) informally and frequently to educate and address misconceptions and share clinical knowledge. 2. Invite surgeons and interventional radiologists who place PD catheters and nephrologists to home programs to meet with nurses for process improvement and case study reviews of complications and to meet patients who are successful with PD. 3. Request representatives from PD catheter companies provide educational sessions for physicians placing PD catheters (e.g., interventional radiologists) to enhance knowledge and technique. 4. Develop strong relationships (“go out of your way”) with a small number of surgeons through regular meetings, providing feedback, disseminating education, and recommending relevant conferences to attend. 5. Communicate the sense of urgency to surgeons who place PD catheters to prioritize direct starts on PD instead of directing patients to ICHD. 6. Develop a core team of surgeons that can develop expertise on catheter salvage techniques. Conduct periodic meetings to evaluate outcomes. 7. Share resources, such as online videos or research papers, to guide surgeons who place PD catheters to develop best practices. 8. Have nephrologists participate in grand rounds with internal medicine physicians, who may have misinformation or may not be familiar with home dialysis options. 9. Educate primary care physicians about the benefits of home modalities, including equivalent or better clinical outcomes than ICHD, better patient-reported quality of life, improved health care resource utilization, and marked cost advantages. 10. Support communication between the home nurses and the surgeons who place PD catheters to troubleshoot issues and share patient outcomes. 11. Encourage surgeons to be receptive to feedback and take accountability to increase their proficiency and impact success rates. 12. Provide education to surgeons on troubleshooting malfunctioning catheters and common repairs needed for tears, cuts, needle perforations, etc. 13. Expose surgical residents and interventional radiology residents to PD catheter placement procedures and the benefits of PD. 14. Engage hospital leadership around the potential cost benefits of placing a PD catheter or permanent bloodstream access in lieu of placement of a central venous catheter.



PRIMARY DRIVER #1: FOSTER PHYSICIAN SUPPORT OF HOME DIALYSIS

Secondary Driver #1b: Improve primary care and specialty physician awareness and education

15. Share the disposition of patients who successfully transitioned to home with hospital staff to “close the loop” and increase others’ awareness of how patient barriers are overcome by home programs.
16. Build trust with nephrologists by demonstrating staff capabilities, sharing successes with each patient as barriers are overcome.
17. Educate nephrologists on broadening the definition of the “ideal” home candidate.
18. Hold quarterly meetings with all nephrologists to review the home penetration goal and discuss reasons patients drop out of the program.



Table 4. Promote the Practical Benefits Among Staff Members and Patients

PRIMARY DRIVER #2: ADOPT A MINDSET THAT HOME DIALYSIS IS POSSIBLE
Secondary Driver #2a: Promote the practical benefits among staff members and patients
The benefits of home dialysis must break through the noise and medical inertia to achieve widespread adoption in healthcare. Successful program leaders routinely address misconceptions and advocate the benefits of home dialysis inside and outside their dialysis facilities. Change Ideas 1. Relay to ICHD staff that promoting home dialysis will not jeopardize their jobs. 2. Have new employees take a home dialysis education module as part of their orientation. 3. Communicate that a higher-than-expected failure rate at a home program is not necessarily a negative sign, as it cannot always be predicted who will be successful at home until it is tried; a high failure rate means “you are giving people a chance.” 4. Share anecdotes about less conventional patients being successful on home dialysis and what steps the team took to help them succeed. 5. Describe home dialysis as a good “bridge” to transplant. 6. Provide patients with videos about home modalities to take home and watch with families and caregivers. 7. Provide in-center patient education through materials in the lobby and during IDT rounds. 8. Invite the PD nurse to participate in lobby days. 9. Ask home patients to share their experiences on ICHD versus home modality, highlighting the improvement in quality of life or other experienced benefits. 10. Look for opportunities to be successful with each patient referred, e.g., “full assist” from family members. 11. Explain to ICHD staff the quantity and quality of education that patients get in training, specifically for patients on HHD, to minimize the potential of sharing misinformation. 12. Have ICHD staff and patients watch a real-life video of someone performing home dialysis that provides an accurate portrayal of what it is like. 13. Develop and structure one centralized relationship between ICHD staff/patients and home programs, e.g., a modality educator, a home program representative, or an access coordinator who takes accountability for repeating quality education and tracking progress. 14. Address ICHD staff misperceptions about home dialysis openly and educate on home frequently in meetings and one-on-one. Disseminate “Myth and Fact” sheets to address any confusion about home dialysis. 15. Tell others about the travel plans those on home modalities have been able to make because of their modality choice. 16. Advocate for PD as the first treatment for urgent start patients. 17. Invite home patients to stop in the in-center facility, so in-center patients can see how home patients look better, feel better, and have more freedom. 18. Being mindful of HIPAA requirements, share basic stories with ICHD patients of patients who transferred from ICHD to home and are doing well.



PRIMARY DRIVER #2: ADOPT A MINDSET THAT HOME DIALYSIS IS POSSIBLE

Secondary Driver #2a: Promote the practical benefits among staff members and patients

19. Select staff to be champions to meet with a pre-determined percentage of patients per month (e.g., 10 percent) to discuss home therapy and identify candidates to dialyze at home.
20. Ask patients to be advocates to meet with fellow patients about a home modality and contribute to educational materials.
21. Administer surveys (e.g., My Life, My Dialysis Choice Tool) to determine what motivates patients (e.g., health values, family, work, travel) and discuss how home modalities may support their plans and goals.
22. Develop a dialysis modality plan with patients from the beginning of dialysis that outlines all options in order to keep patients dialyzing at home.
23. If peritoneal dialysis adequacy becomes less than optimal, educate patients to be proactive with vascular access placement in preparation for HHD.



Table 5. Consider All Patients, Widely Refer Patients, and Explore Options

PRIMARY DRIVER #2: ADOPT A MINDSET THAT HOME DIALYSIS IS POSSIBLE
Secondary Driver #2b: Consider all patients, widely refer patients, and explore options before declining patients for home modalities
Successful programs cast a wide net to receive referrals. They also rise to the challenge of accepting as many patients as possible and avoid dismissing patients prematurely as ineligible for PD. Change Ideas 1. Schedule routine calls between ICHD facilities and home programs to share recorded ICHD patient interest, education, and progress toward home modalities. 2. Research and share clinical solutions to overcome misconceptions, e.g., PD regimens, obesity, past abdominal surgeries. 3. Allow the home team to make the final decision on suitability for home dialysis. 4. Create a facility-wide mindset that everyone is a potential candidate for home dialysis to ensure that all in-center staff can identify and recommend candidates for home dialysis. a. Do not ask, “Is this patient a home dialysis candidate?” Instead ask, “Why shouldn’t this patient be on home dialysis?” b. Think, “Every patient deserves a chance, even if they have been in-center for 10 years” and “Let’s see if anyone can go [to the home program]; then, look at the barriers.” c. Consider “every single patient that walks through our front door” as a home dialysis candidate, regardless of “cultural background or social status.” Work as a team to find solutions to potential problems. 5. Share a vision for home suitability, e.g., “Anyone with an intact peritoneum and a suitable home can do PD.” 6. Understand that the overwhelming nature of chronic illness may affect a patient’s ability to make decisions or absorb new information and be persistent and empathetic in educating. 7. Accept that there will always be a percentage of people who will struggle with home dialysis. Work with these individuals on a case-by-case basis to identify and resolve barriers with a mindset of maintaining what is in the best interest of the patient. Separate the barriers or issues from the patient. 8. Ask open-ended questions about patients’ lives before dialysis and offer ways that a home modality could return them to a status they experienced before dialysis. 9. Discuss home dialysis options during early stages of chronic kidney disease (CKD). Coordinate home program visits for patients with CKD with the referring nephrology practice. 10. Do not ask patients if they know about home modalities; instead, ask, “Has anyone ever talked to you about all the different ways you can get dialysis?” 11. Bring up the possibility of home dialysis at every assessment and plan-of-care meeting. 12. Start an “Experience the Difference” program in which a dialysis facility partners with a home program to offer a two-week in-center trial of a home dialysis machine and schedule coupled with intensive patient and family education about home modalities. 13. “Have faith” in the home team if it wants to give a patient an opportunity to be successful. 14. Explore the possibility of “full assist” for patients, work with the family and support system.



PRIMARY DRIVER #2: ADOPT A MINDSET THAT HOME DIALYSIS IS POSSIBLE

Secondary Driver #2b: Consider all patients, widely refer patients, and explore options before declining patients for home modalities

15. Show new in-center hemodialysis patients the “My Life, My Dialysis Choice” video, which depicts actual home hemodialysis and peritoneal dialysis patients. The video has an emphasis on African American and Hispanic patients who explain why they chose their modality.
16. When a patient receiving ICHD reports a significant life change, ask him or her follow-up questions and connect the patient to his or her nephrologist, educator, or home nurse; look for an entry point for a patient to consider a home modality.
17. Hire a modality educator who makes rounds at nephrology offices and among ICHD and home programs to foster discussion and disseminate education, such as flyers and factsheets.
18. Provide layers of education on home dialysis in different settings at numerous times with different healthcare team members.
19. After the initial education, revisit home dialysis in one month, three months, and six months if the patient declines home dialysis. Keep the conversation open. Revisit at least annually.
20. Consistently follow up with and boost the confidence of patients that are undecided about a home modality. Ask, “When are you going to get your PD catheter?” Or tell them, “You are going to do great on home dialysis.”
21. Send hospital discharge reports for patients with a new ESRD diagnosis to both the in-center hemodialysis and the home dialysis teams for review and to initiate evaluation of patients as home dialysis candidates.
22. Review all new patients who are on dialysis fewer than 90 days as potential home dialysis candidates, provide initial education, and address any barriers.
23. Have staff wear stickers that say “Ask Me About Home Dialysis” to stimulate conversations about home modalities.*

*Added 2024



Table 6. Promote a Culture of Teamwork and Build Strong Relationships

PRIMARY DRIVER #3: ELEVATE HOME PROGRAM COLLABORATION AND REFINE OPERATIONS
Secondary Driver #3a: Promote a culture of teamwork and build strong relationships
Patient-centered home dialysis care requires a strong team dedicated to making this modality work for patients and their caregivers. Recognizing this need, successful facilities create a culture of learning and hire the right staff for home dialysis. Change Ideas 1. Create opportunities for mentorship between nurses of the same modality, so they always have someone to call if they have questions. 2. Use staff huddles to provide quick updates on home dialysis therapies and share successes. 3. Hire home dialysis nurses with the right mentality for home, including flexibility, a passion for education, a warm and welcoming attitude, and a high sense of accountability. 4. Hire multilingual staff or use a translation service to speak with patients in their primary language. 5. Hold brief meetings every day to gauge how staff are feeling on a scale of 1 to 10; offer support when needed. “It all starts with the staff, and it trickles down to the patients.” 6. Bring a patient care technician (PCT) into the home program to be an ambassador, reinforce education, draw labs, and assist with scheduling. 7. Make the medical director accessible to all facility staff and admitting nephrologists, e.g., ensure all staff have the medical director’s cell phone number. 8. Encourage the nephrologist to explain why clinical decisions are made to expand the team’s knowledge and to share the nephrologist’s vision. 9. Provide facility staff with educational webinars that include continuing education credit. Introduce patients to other nurses in the program to provide support if their assigned nurse is not available. 10. Respect the willingness of either the home team or the nephrologist to train a less conventional patient to be a successful home patient, if the nephrologist has made the decision that the patient is eligible for home. 11. Schedule so that new home nurses have the time to both absorb the clinical information and build their skills with confidence. 12. Hire for personal attributes that contribute to a well-rounded team, while hiring consistently for empathy and positivity. 13. Treat all patients with compassion to make them feel welcome. 14. Be welcoming, empathetic, and respectful. 15. Respect that each member of the IDT is “one piece of the puzzle” and that all are needed to deliver excellent patient care. 16. Schedule all disciplines to attend the monthly clinic visit with the patient in person or via teleconference to address any changes that may be needed. Have the entire IDT in the same room as the patient at the same time, if space allows. 17. Encourage a family-like atmosphere at the home program for staff and patients, where everyone feels valued with fun activities and a welcoming atmosphere.



PRIMARY DRIVER #3: ELEVATE HOME PROGRAM COLLABORATION AND REFINE OPERATIONS

Secondary Driver #3a: Promote a culture of teamwork and build strong relationships

18. Manage home program staff, especially nurses, to minimize staff burnout by frequently assessing caseloads and the number of patients in training, allowing time for documentation, and being open to discussing professional or personal challenges.
19. Include nurses in physician rounds.
20. Use a secure electronic medical record for email communications among staff.
21. Develop and maintain a communication system (e.g., email, monthly meetings) between home and in-center staff.
22. Cross-train staff for in-center and home modalities.
23. Build an infrastructure in the broader organization (e.g., dietitians, social workers) and with local markets (access surgeons, inpatient services, PCPs, SNFs) to support home therapies.
24. Make the local hospitals and referring physicians aware that new patients will be going to the transitional care unit (TCU). Think of it as a 28-day journey during which patients can adjust to dialysis, get their questions answered, and have their fears alleviated.*

*Added 2024



Table 7. Measure, Monitor, and Assess Program Metrics

PRIMARY DRIVER #3: ELEVATE HOME PROGRAM COLLABORATION AND REFINE OPERATIONS
Secondary Driver #3b: Measure, monitor, and assess program metrics to drive success and continued improvement
Home dialysis programs are complex and require continuous quality improvement to maintain success and growth. Effective teams identify, track, and share metrics at regularly scheduled meetings. They also create a safe environment, looking to improve rather than to blame. Change Ideas 1. Ensure that discussion of home dialysis has a permanent place on the ICHD QAPI agenda, in weekly staff meetings, and during informal staff huddles. 2. Establish goals that feed into the overall goal of patients receiving dialysis at home, e.g., goal (percent) for conversion of in-center patients to home and goal (percent) for new start patients using home dialysis. 3. Implement the quality improvement process (plan-do-study-act) to address metrics not moving toward goals or trends moving in the wrong direction. 4. Implement regular (e.g., weekly) patient care conference meetings, led by physicians, where the entire IDT meets to discuss home dialysis care plans and monthly labs from the previous week. 5. Track the turnover rate from home dialysis back to in-center dialysis. Share with staff and nephrologists that a higher than expected turnover rate shows that people are being given a chance on home dialysis. 6. Track reasons for turnover to address modifiable reasons, including peritonitis, psychosocial issues, and loss of caregiver support. 7. Share real-time data related to physician home referral rates within a practice and across practices for benchmarking. 8. Use the qualitative MATCH-D tool to help identify and assess patients for home dialysis candidacy and track related follow-up. 9. Celebrate facility and patient successes, such as graduation to home, length of time treating at home, and program growth. 10. When possible, gather home programs together for consolidated QAPI meetings to be able to share best practices and learn from each other. 11. Collect and track metrics for interest, education, referrals, nephrologist input, and home program visits for all ICHD patients. Share these metrics with the ICHD and home team. 12. Use a “pipeline tracker” to follow every patient that is referred through each step of the pathway to home, e.g., catheter placement. Review the tracker weekly with staff and monthly at quality meetings with the IDT. 13. Balance the nurse-to-patient ratio to improve outcomes. 14. Create a pathway to track PD access (similar to a fistula pathway), which starts with the patient evaluation and goes through the start of PD training. Include milestones, such as surgery date and maturation, and take action if there are issues between steps in the pathway.



PRIMARY DRIVER #3: ELEVATE HOME PROGRAM COLLABORATION AND REFINE OPERATIONS

Secondary Driver #3b: Measure, monitor, and assess program metrics to drive success and continued improvement

15. Hold retention calls, as needed, for patients at risk of failing a home modality and discuss how to support the patient differently. Include the home nurse, PCTs, the social worker, and the dietitian.*
16. Use a health risk assessment tool that includes hospitalizations, adequacy, anemia, phosphorus etc., to identify high or medium risk for patients and develop a plan.*

*Added 2024



Table 8. Incorporate Telehealth Methods to Support Home Programs

PRIMARY DRIVER #3: ELEVATE HOME PROGRAM COLLABORATION AND REFINE OPERATIONS
Secondary Driver #3c: Incorporate telehealth methods to support home programs
Using telehealth improves communication among physicians, staff, patients, and caregivers; ensures questions and barriers are addressed early; keeps patients on track as they move to home programs; and helps sustain participation in home programs. Change Ideas 1. Conduct a home visit virtually to avoid delay in admission to the home program; ask the patient to walk around the house and show by phone or tablet (e.g., FaceTime) where they plan to place the cyclor and supplies. 2. Implement a treatment portal with patient information to allow staff to communicate with physicians and see treatment flowsheets in real time. 3. Create a patient portal to allow patients to access lab information. 4. Follow up with patients by telephone. 5. Use corporate resources, if available, e.g., a mobile app that supports video chats with patients, display of lab results, educational resources, and telehealth. 6. Conduct monthly video clinic visits virtually two months out of the quarter for patients who follow their treatment plan and are working, live far from the clinic, are traveling, or have other reasons for being unable to attend clinic visits. Include foot checks, medication reviews, and other aspects of the visits. 7. Use video functions of tablets or phones to troubleshoot problems (e.g., “my line is blocked”) in real time. 8. Provide electronic patient education, e.g., links to videos that patients can view on cell phones, tablets, or computers. 9. Use telephones or tablets to provide one-to-one education to patients on home modalities. 10. Adapt telehealth practices to accommodate patients’ resources and abilities, e.g., conduct telephonic appointments for patients without tablets or access to the Internet. 11. Supply tablets to patients who might not have devices. 12. Support patients and families in downloading applications as needed. 13. Facilitate virtual patient support groups. 14. Establish a virtual patient mentor program via monthly calls (one morning and one afternoon on different days), where patients can call in to talk with and ask questions of patients receiving home HD or PD, e.g., “How does it feel to cannulate yourself?”



Table 9. Provide Consistent Patient and Caregiver Education and Training

PRIMARY DRIVER #4: EDUCATE AND SUPPORT PATIENTS AND CAREGIVERS THROUGHOUT THE CONTINUUM OF CARE
Secondary Driver #4a: Provide consistent patient and caregiver education and training while honoring individual needs
The fear of the unknown is natural. Many patients and families contemplating home dialysis may have legitimate concerns about their ability to be successful. Effective home programs blend empathy and education to empower patients to be successful at home.
Change Ideas 1. Suggest that patients who are pre-ESRD visit an ICHD unit and a home dialysis facility prior to deciding on a modality. 2. When possible, have a home program nurse go to the hospital to meet with patients who “crash” into dialysis for one-on-one expedited education on dialysis modalities. 3. Meet with patients in the hospital and in their homes to provide information on home dialysis, including the benefits of home dialysis, e.g., improved quality of life, more freedom. 4. Facilitate a visit by a prospective patient to a current patient’s home. 5. Invite current home dialysis patients’ families and friends who have personal experience to talk one-on-one with prospective patients and caregivers interested in home dialysis to dispel anxiety and fear. 6. Share information with local nephrologists about the availability of pre-ESRD education, so that every patient receives education that includes modalities such as home prior to being on dialysis. Have nephrologists refer patients who are pre-ESRD to in-person or virtual classes to provide comprehensive education about kidney disease. 7. Collect a 24-hour urine sample to determine kidney function; model the results into what home PD or HHD would look like to give patients realistic expectations, e.g., number of exchanges, number of treatments per week. 8. Start a TCU to provide dialysis and educate patients on modalities, diet, and access prior to patients being brought in-center and when transitioning from in-center to home. Send all new patients and families through the TCU. 9. Implement a live virtual TCU for new and existing patients that includes:* a. Providing modality education. b. Conducting education while patients are on dialysis treatments. c. Assigning the administrative assistant to drive the program, i.e., make sure the iPad is charged, help patients connect to the Internet, and put the “Do Not Disturb” sign at the chairside. 10. Educate patients early (e.g., within the first 30 days) about the home dialysis option. 11. Prepare patients for possible scenarios that could occur at home, e.g., power outages. 12. Identify a home program manager who is dedicated to one facility and can provide consistent care and follow-up for patients. 13. Bring patients from in-center to the home treatment side to show them the dialysis machines and how they work to reinforce that they can do it. 14. Employ dedicated staff to educate patients.



PRIMARY DRIVER #4: EDUCATE AND SUPPORT PATIENTS AND CAREGIVERS THROUGHOUT THE CONTINUUM OF CARE

Secondary Driver #4a: Provide consistent patient and caregiver education and training while honoring individual needs

15. Have the physician play a central role in patient education, connecting the patient to others (nurse practitioner, dietitian, social worker), while owning the final referral to a home program.
16. Minimize variations in technique among RNs and technicians in the same facility to reduce confusion among patients and caregivers.
17. Create or use a standardized home dialysis training manual for education. Make the education hands-on and create modules for open discussion, nurse demonstration of home dialysis, and patient practice under observation. Create a checklist for training to ensure patients understand all aspects of their education.
18. Assign a home patient to the same nurse for training to build a relationship and ensure continuity of training.
19. Modify the time needed for training to meet patient and caregiver needs and to accommodate the patient's ability. Manage training schedules and patient assignments to be flexible for more time with a patient who needs it.
20. During initial home dialysis training or in the ICHD facility, observe patient and caregiver learning preferences. Use the preferences during ongoing support.
21. Schedule the training on consecutive days, i.e., Monday through Friday, for four hours a day for an average of two weeks.
22. Have a prospective patient use the HHD machine in the transitional start unit or the self-care unit in the facility.
23. If possible, train a patient on HHD in a room that is visible to all in-center patients to create curiosity and start a conversation about home dialysis modalities.
24. Create an educational toolkit with posters, pamphlets, and flyers to promote home therapies. Display them in ICHD units and distribute them to area physician offices.
25. Communicate with patients that they will always have other treatment options if home dialysis does not work for them.
26. Ensure all training, education, and patient interactions are upbeat and encouraging.
27. Develop or offer creative solutions to overcome training challenges for interested patients on ICHD or those in home training, e.g., color-coding the settings on the dialysis machine for a patient with low literacy, artificial anatomical tummy model (i.e., dummy tummy) that can be felt by patients who are blind, and phone translation for patients with languages other than English.
28. Reach out to local chapters of professional organizations to offer or create educational sessions on home therapies, e.g., American Nephrology Nurses Association (ANNA), National Association of Nephrology Technicians/Technologists (NANT).
29. Establish and implement a follow-up system for patients that complete home dialysis training and are going home for the first treatment. Ask them what time they get up. Tell them you are going to call to check in and make sure the treatment went well, even if it is a Saturday or a Sunday.
30. Have the PD nurse go to the patient's house for the first treatment to observe that the setup is done correctly. Conduct a follow-up call the next morning.*



PRIMARY DRIVER #4: EDUCATE AND SUPPORT PATIENTS AND CAREGIVERS THROUGHOUT THE CONTINUUM OF CARE

Secondary Driver #4a: Provide consistent patient and caregiver education and training while honoring individual needs

31. Set expectations for home dialysis. Patients starting on in-center hemodialysis might ask, “Do I have to come here three days a week?” Share that in-center dialysis can be temporary and patients can be trained to do dialysis at home.
32. Focus on a culture of “everyone deserves to go home first until they are no longer successful.”
33. Decorate the lobby to simulate a home setting by: *
 - a. Making a “fake” PD machine out of boxes or using a real one if available.
 - b. Adding a fireplace and decorating it for Thanksgiving and Christmas.
 - c. Putting a stuffed toy dog next to a chair or on a rug.
34. Use positive reinforcement: *
 - a. Tell patients they have been doing a good job.
 - b. Praise patients on what they have done, which helps motivate them to keep doing a good job.

*Added 2024



Table 10. Identify and Proactively Address Barriers

PRIMARY DRIVER #4: EDUCATE AND SUPPORT PATIENTS AND CAREGIVERS THROUGHOUT THE CONTINUUM OF CARE
Secondary Driver #4b: Identify and proactively address barriers
Helping patients maintain success at home is an important outcome. To retain patients, successful programs develop strong patient relationships to continually educate patients and caregivers as well as identify and solve issues that could prevent patients from continuing home dialysis.
Change Ideas
1. Conduct a home visit with the home team, including an assessment for fall hazards. Set the tone of the visit as one of helping, not of inspection. 2. Assist with problem-solving, e.g., ordering a smaller number of supplies for homes that lack space, using top shelves in closets for non-heavy ancillary supplies, and taping the drain line around the edges of the wall.* 3. Offer training in the home instead of the facility, so patients can experience how they will dialyze in their own homes. Adjust training to two weeks at the facility; then finish training at home.* 4. Be creative in solving challenges to home dialysis, e.g., work with the cyclor vendor to obtain an assistive device to hold the PD line for a patient with poor hand dexterity, use a machine that talks the patient through the set up and completion of treatments, use alarms with flashing lights or a bed shaker to alert patients who are hearing impaired to conduct machine checks. 5. Collaborate with the patient and family to identify and proactively address potential issues regarding the home environment. Focus on the places that are important to where dialysis will be taking place, instead of the whole house, e.g., bathroom or bedroom.* 6. Be respectful of the patient and family members during the home visit. 7. Conduct a follow-up visit once a week for the first four weeks of starting home dialysis. 8. Provide monthly education to caregivers and patients to sustain home dialysis. Create a curriculum with recommended topics for each month with available materials in a variety of media, such as written, verbal, and video. 9. Involve all members of the care team, including the patient, family, and caregivers, to develop solutions to potential barriers. Share all positive feedback with the care team. 10. Give patients 24-hour-a-day/7-day-a-week access to an on-call nurse to respond to questions or concerns and encourage them to call when needed. 11. Be proactive in assessing possible barriers by observing a patient's body language, tone of voice, behavior that is not typical, and responses to non-clinical questions. Ask follow-up questions to investigate. 12. Assess patients for social and financial support, e.g., family commitment, transportation, and insurance coverage. Provide support, e.g., the social worker can assist with gas cards from the American Kidney Fund (AKF).* 13. Use transportation issues as a motivator for home dialysis for in-center patients that live in rural areas and have difficulty with public transportation.* 14. Listen for when patients are asking for education and provide it in a timely manner. 15. Collaborate with patients and families to resolve barriers to home dialysis or clinic visits. 16. Implement telehealth options, such as phone, video, and secure messaging, to facilitate timely



PRIMARY DRIVER #4: EDUCATE AND SUPPORT PATIENTS AND CAREGIVERS THROUGHOUT THE CONTINUUM OF CARE

Secondary Driver #4b: Identify and proactively address barriers

patient-provider interactions.

17. Keep patients in the home program by transitioning to a different modality, if needed, e.g., transition to HHD if PD fails.
18. Implement a peritonitis initiative that incorporates the following:
 - a. Patient education at the start of PD.
 - b. Instructions for patients to “clamp and call” the nurse to begin the peritonitis protocol within two hours of a potential peritonitis episode.
 - c. Re-education of patients.
 - d. Seasonal education, e.g., what to do when gardening or at the beach.
19. Expedite the referral process to the home program (e.g., send the referral, schedule the home visit and catheter placement) to capitalize on excitement and maintain momentum.

*Added/updated 2024



Table 11. Recognize and Support Patient and Family Psychosocial Needs

PRIMARY DRIVER #4: EDUCATE AND SUPPORT PATIENTS AND CAREGIVERS THROUGHOUT THE CONTINUUM OF CARE
Secondary Driver #4c: Recognize and support patient and family psychosocial needs
Psychosocial issues are a significant barrier to home dialysis use. These may include fear, anxiety, finances, living conditions, availability of storage space, stress, layoffs, relocation, divorce, loss of caregiver support, and burnout. These matters affect patients and caregivers alike. Strong home programs recognize this and implement proactive person-centered strategies with involvement of experienced social workers to support patients and caregivers.
Change Ideas
1. Schedule the social worker to maximize the opportunity to interact with patients, including extended time to provide one-on-one counseling and emotional support. 2. When indicated, provide as much support to the care partners as to the patient. 3. See the social worker as a “treasure box” with tools that can help overcome many barriers. 4. Create support groups or refer patients and caregivers to existing support groups. 5. Invite patients with CKD to attend support groups, as current home patients will provide insight and peer support on home therapies. 6. Encourage patients to participate in peer mentoring to receive support and education. 7. For patients receiving ICHD, instill hope that they can be successful on home dialysis and can lead their best lives. 8. Schedule new patients to have additional time with the social worker to address emotional needs related to adjustment to dialysis. 9. Ask patients to picture what life could look like on a home modality, e.g., returning to work and still earn disability, future transplant, and a life similar to what they had before dialysis. 10. Address caregivers directly to thwart burnout as early as possible. a. Have the caregiver check in monthly with a social worker. b. Use a stress thermometer to measure the caregiver’s distress, health issues, financial issues, insurance questions, or transportation problems. c. Maintain regular contact between the healthcare team (nurses, the social worker, and clinical staff) and the caregiver via telephone or home visits. 11. Document a basic genealogy tree or support network during the social worker assessment, so the staff knows the patient’s extended support system if the patient needs additional support. 12. If patients share personal details relevant to their care with the social worker or dietitian and not with the nurse or physician, provide those updates immediately to the nurse and physician verbally and document them in the clinical record, if appropriate. 13. When speaking with a patient receiving ICHD who seems depressed or angry, bring up the possibilities and benefits of home dialysis. 14. To alleviate concerns, offer retraining and review of patient and caregiver technique to catch potential breaks in procedure and provide opportunities to ask questions without judgement. 15. Provide comprehensive training with the initial home visit, where the nurse and IDT can assist with removing or mitigating barriers (e.g., limited storage for supplies).



PRIMARY DRIVER #4: EDUCATE AND SUPPORT PATIENTS AND CAREGIVERS THROUGHOUT THE CONTINUUM OF CARE

Secondary Driver #4c: Recognize and support patient and family psychosocial needs

16. Offer respite care.

- a. “Everyone needs a break, a little vacation. Our job is to take care of their care partners. We want the care partners to have their own lives.”*
- b. Offer respite care for individuals on home hemodialysis by setting up a HHD machine in a home training room or scheduling them for in-center dialysis to allow care partners the ability to take a break or to do things such as traveling to see a grandbaby.
- c. Use home care services to assist caregivers with activities of daily living.*
- d. Send the nurse or PCT to the house to perform treatments to provide respite care to the care partner.*

*Added 2024



V. Conclusion and Next Steps

Increasing the use of home dialysis is a national priority. Dialysis facilities play a central role in helping more patients with ESRD understand their options with a hope of a higher quality of life. A concerted effort is needed among all kidney care stakeholders to meet the bold goals set by the HHS Advancing American Kidney Health Initiative.³ The ideas presented in this change package are being implemented in high-performing dialysis facilities across the United States. These ideas can be tailored and adapted to fit the needs of dialysis facilities and the patients with ESRD that they serve across the country.

As with any change, a best practice is to start small and build improvement toward systemic change. Facilities can start with one test of change and do it well. This will relieve the burden on staff and encourage buy-in when change begins. Measuring and monitoring performance improvement will ensure the facility stays on track with goals. Celebrating every success with staff, patients, families, and community partners at every change will be contagious. Above all, the best time to start performance improvement is now. With this change package in hand, program leaders, administrators, and staff should ask themselves, “What can I do by next Tuesday to get this started?”

VI. References

1. Institute for Healthcare Improvement. *QI Essential Toolkit* [ebook]. 2017; pp. 7–8. Available at: http://www.ihl.org/resources/Pages/Tools/Quality-Improvement-Essentials-Toolkit.aspx?utm_campaign=QI-Toolkit-Promotion&utm_medium=Whiteboard-Video&utm_source=ihl. Accessed February 5, 2020.
2. Institute for Healthcare Improvement. *QI Essential Toolkit* [ebook]. 2017; pp. 7–8. Available at: http://www.ihl.org/resources/Pages/Tools/Quality-Improvement-Essentials-Toolkit.aspx?utm_campaign=QI-Toolkit-Promotion&utm_medium=Whiteboard-Video&utm_source=ihl. Accessed February 5, 2020.
3. U.S. Department of Health and Human Services. Advancing American Kidney Health. Available at: <https://aspe.hhs.gov/system/files/pdf/262046/AdvancingAmericanKidneyHealth.pdf>. Accessed October 29, 2020.

This material was prepared by the End Stage Renal Disease National Coordinating Center (ESRD NCC) contractor, under contract with the Centers for Medicare & Medicaid Services (CMS), an agency of the U.S. Department of Health and Human Services. The contents presented do not necessarily reflect CMS policy nor imply endorsement by the U.S. Government. FL-ESRD NCC-NC3PAW-02152024-02