

# The Current State of the Role of the Nephrology Registered Nurse in Home Dialysis Therapies and Future Implications

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**NC PD** 1.4 contact hours

One component of the Advancing American Kidney Health Initiative (AAKHI) is an emphasis on increasing the availability and utilization of home dialysis therapies (HDTs), including home hemodialysis (HHD) and peritoneal dialysis (PD). The American Nephrology Nurses Association (ANNA), the leading organization representing nephrology nurses, fully supports this increased emphasis on HDTs.

ANNA believes every individual with kidney disease has the right to professional registered nurse (RN) care that encompasses all aspects of the nursing process and

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**With an increased emphasis on home dialysis therapies (HDTs), and to ensure nephrology nurses have a voice in health policy discussions and decisions, the American Nephrology Nurses Association (ANNA) initiated the Home Dialysis Therapies Task Force. ANNA fully supports the increased utilization of HDTs and wants to ensure every individual has the option of HDT and deserves an RN in their care. Careful consideration must be given to the impact of legislative initiatives aimed at the nursing shortage and increasing the use of HDTs on delivery of safe care and RN practice. The HDT Task Force implemented a Think Tank to explore and delineate the role of nephrology RNs in HDT to ensure a safe and informed transition to HDT for individuals with kidney failure. The mission was to gather and analyze information on the role of the nephrology RN in HDTs, clarify RN-specific tasks versus tasks that may be delegated to support staff, and gather and gain insight into barriers to HDTs.**

## Key Words:

Home dialysis, staffing, nephrology nursing, home hemodialysis, peritoneal dialysis; home dialysis therapy.

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meets or exceeds the ANNA Nephrology Nursing Scope and Standards of Practice (Gomez, 2022) and the Centers for Medicare and Medicaid Services (CMS) Conditions for Coverage (CMS, 2008). ANNA monitors the health policy environment and addresses issues such as this that have the potential to affect the care of individuals with kidney disease and the role of nephrology registered nurses (RNs) in their care. The current health policy landscape, RN staffing issues, and the state of nurse work environments (Ulrich & Kear, 2018; Ulrich et al., 2022) are all factors that can potentially impact the ability to increase the number of individuals utilizing HDTs. To ensure that individuals with end stage kidney disease (ESKD) receive the care they need and that nephrology RNs have a voice in health policy discussions and decisions regarding HDTs, ANNA initiated an HDT Task Force.

The HDT Task Force implemented a Think Tank (focus group) to explore and delineate the role of nephrology RNs in HDT, in the current health care environment, and to ensure a safe and informed transition to HDT for individuals with kidney failure. The mission was to gather and analyze information on the current role of the nephrology RN in HDTs, clarify RN-specific tasks versus tasks that may be delegated to support personnel, and gain insight into barriers to HDTs.

### Think Tank Participants

A call for Think Tank participants went out to the ANNA membership; 70 responses were received indicating an interest in participating. A careful review of applications was completed to ensure participants included a diversity of nurses representing each modality. The review focused on applicants' experience in dialysis and within home therapies, with consideration to position, availability to participate on the identified date, education level, strengths the applicants could bring to the Think Tank, program size, setting (small, medium, or large dialysis provider), location (urban/rural), and ethnicity. Twenty individuals with demonstrated expertise in HDTs and an understanding of day-to-day care for individuals on HHD and PD were selected and agreed to participate.

### Process

The Think Tank convened an all-day virtual meeting in April 2022. In addition to Task Force members, the final composition of the Think Tank consisted of 14 of the 20 selected in attendance. There were joint sessions and breakout sessions. Breakout sessions were separated into either PD or HHD, with standardized questions developed to ensure comprehensive feedback on each aspect of HDTs. Task Force members fulfilled roles of facilitators, timekeepers who ensured active participation, and notetakers. Information was gathered on the role of the nephrology RN in HDTs. The Task Force organized data by HDT workflow, starting with recruitment and referrals, training, monitoring, and determining success in HDT.

Following the Think Tank, the Task Force reviewed the ANNA position statements on the "Delegation of Nursing Care Activities" and on "The Role of the RN in Nephrology." The review began with the "Delegation of Nursing Care Activities" position statement, which was updated with enhanced areas to strengthen the definition of RN role components and identify tasks that can and cannot be delegated to support staff. (Bednarski & Painter, 2023, pp. 23-30 in this issue of the *Nephrology Nursing Journal*). During the discussion of the "Delegation of Nursing Care Activities" position statement, the Task Force identified the need to further clarify the role of nephrology RNs in caring for individuals with kidney disease in all nephrology settings. The "Role of the RN in Nephrology" position statement was updated to specify requirements with rationale for an RN's knowledge and skills in the care of every individual with kidney disease (Bednarski & Painter, 2023, pp. 23-30 in this issue of the *Nephrology Nursing Journal*). The position statement recognizes the support role of licensed/unlicensed personnel; however, they have not completed the educational requirements to fulfill role components of a RN.

### Top of License Practice

Regulations vary from state to state regarding scope of practice and level of professional autonomy. In a recent editorial published in the *American Journal of Kidney Diseases*, Boyle and colleagues (2021) noted that "the nephrology community, particularly dialysis organizations, must ensure that nurses practice at the top of their license; they are overburdened with administrative duties that can be delegated to other staff members and PCTs [patient care technicians]" (p. 114). Top of license (TOL) practice means that "each employee practices to the full extent of their education and training, instead of spending time doing tasks that could be performed by someone else" (Anguilm, 2018, para 3).

RNs practicing to the full scope of their education and license (TOL practice) was a theme identified during the Think Tank. When describing TOL practices, Buck and colleagues (2018) suggested one should consider several factors, including role components of RN care that require high-level knowledge, critical thinking for complex clinical decision-making, and interprofessional communication required for successful delegation and education. TOL practice includes how time is spent by the RN. Think Tank participants identified that they spend a considerable amount of time performing non-nursing tasks. However, during the Think Tank, the Task Force observed a reluctance to delegate tasks that are not nurse-centric (e.g., home visits, peritoneal equilibrium tests [PETs], non-sterile dressings, reinforcing education, and scheduling of appointments). Several participants, from smaller programs, reported having only one or two RN personnel, and with no support staff to delegate to, had no experience delegating.

Additional factors impacting the RN's decision to delegate include understanding the role and scope of practice of support staff, level of experience, and confidence levels of RNs. RNs can be reluctant to delegate because they remain accountable and responsible for delegated tasks (Crevacore et al., 2022). Organizational policies, guidelines, and practices may influence how RNs delegate and their ability to operate at the TOL (Loversidge et al., 2018).

Think Tank participants also noted that they intervene when a change in dialysis prescription is required, when a provider has a knowledge deficit in prescribing therapies. RNs need to be cautious that they are not practicing above their license. Participants recognized the importance of prescribers having the necessary skills and training to ensure appropriate prescription and utilization of each modality.

## Staffing

The RN shortage crisis is an issue for the nursing profession, health care systems, and individuals. The supply of RNs is not expected to meet the future demand. By 2026, there is a projected shortage of 500,000 RNs (American Hospital Association, 2021). The U.S. Bureau of Labor Statistics (2022) projects nearly 195,000 nursing job vacancies each year for the next decade.

Staffing was a common theme throughout Think Tank discussions. Staffing for HDTs has been reported as a barrier to training and onboarding of patients. Think Tank participants reported that all RN positions were currently filled; however, there was the feeling that the number of positions was inadequate. In fact, only one participant reported hiring proactively to accommodate an increase in the number of individuals going to HDTs. Another participant stated they proactively hired staff, but when the HDT program did not expand quickly enough, staff were laid off, and the program is now short-staffed.

The SARS-CoV-2 (COVID-19) pandemic taught us that individuals on HDTs were safer doing their treatments at home, and HDT programs were able to adjust care delivery in a safe way (Perl et al., 2021; Sachdeva et al., 2021). HDT programs had to adjust the number of face-to-face contact times and the acceptance of new patients. Participants of the Think Tank identified increased utilization of telehealth for both clinic visits and educational opportunities to continue to deliver services during the pandemic. Telehealth has the potential to improve access and deliver repetitive nursing tasks more efficiently (Falanga, 2022). Most participants agreed that skill-based education should be provided in person; however, some participants had experience setting up the HHD machine virtually, with validation of the skill being done in person. Think Tank participants agreed that cannulation does not lend itself to virtual training. One participant noted that teaching the same things repeatedly (for example, handwashing) can be exhausting for staff,

and utilizing technology to provide some parts of the training can prevent RN burnout.

Think Tank participants identified the need to have diversity among staff to reflect the diverse population of individuals with chronic kidney disease (CKD). Health care disparities have negatively affected marginalized communities. Building relationships, particularly in home settings, can improve individual-centered care (Narayan, 2022). Adequate staffing is needed to build these relationships. Having a diverse staff improves outcomes in populations, particularly in Black communities (Lasater et al., 2021). While Black individuals make up 13.6% of the United States (U.S.) population (U.S. Census Bureau, 2022), they make up 29.0% of the population of individuals with ESKD (U.S. Renal Data System [USRDS], 2022). The incidence of ESKD is almost four times higher in Black individuals than in White individuals (949 vs. 249 per million population) (USRDS, 2022). Less than 20% of the RN workforce (19.4%) is nonwhite, with only 6.7% of RNs identifying as Black (Smiley et al., 2021), while only 5.0% of nephrologists are Black (Association of American Medical Colleges [AAMC], 2019). Diversifying the nursing workforce has the potential to improve the number of individuals who seek and remain in HDT because individuals see RNs who look like them and with whom they can build trusting relationships (Partners for Nurse Staffing, 2022).

There are many variables to consider when determining adequate staffing. The Think Tank identified several issues affecting staffing, including patient acuity and frequency of patient training. Think Tank participants reported RN-to-patient ratios varied from 1:10-15 for HHD and from 1:10-27 for PD. Concern was expressed regarding the accuracy of ratios due to a lack of specific criteria. Patient acuity tools are available for acute HD units through electronic health records, and this has been replicated for outpatient HD units (sometimes referred to as in-center HD units). There have been informal efforts at determining acuity in HDTs (Schulke, 2017). Think Tank participants noted that patient acuity should be considered because some individuals require more training and follow up. Think Tank participants also stressed that patient training is a responsibility that cannot be delegated by an HDT RN and is considered a major component of the RN's scope of practice.

Cross-training was identified by the Think Tank as one strategy to support HDT. Think Tank participants recommended all HDT RN staff should be cross-trained in PD and HHD, and that consideration be given to including cross-training in in-center HD. Job descriptions must be specific as to what is expected, including adequate time for RN orientation and being regularly scheduled in the different modalities to maintain competency (Partners for Nurse Staffing, 2022). Some positive experiences for cross-training, as identified by the Think Tank, were the ability to flex staff and provide alternate experiences for nephrology RNs as a recruitment tool into home

therapies. Some disincentives included HDT RNs being pulled to in-center HD units to address an immediate staffing shortage. As one participant, who had held a shared position, reported: “When I was in-center, home felt abandoned, and when I was working in home therapies, in-center felt abandoned.” No participant reported cross-training with Transitional Care Unit (TCU) staff. Smaller programs are at a disadvantage, with fewer staff to cross-train.

Some Think Tank participants stated that HDT staff were hired to work in more than one clinic, so they can accommodate patient needs at multiple sites. In this scenario, a float pool of cross-trained staff could be helpful. Staff could then be scheduled in areas of greatest need. This cross-training of highly skilled staff and the availability of a float pool to pull from can decrease the time from patient referral to training. This increases the responsiveness to the needs of individuals and improves the workflow when staff are assigned to the area of need (Partners for Nurse Staffing, 2022); however, adequate training and time within the different modalities is essential.

### **Adequate Training/Education Ensuring HDTs are a Modality of Choice**

The Think Tank identified adequate training and education of RNs and support staff as critical to ensuring HDTs are a modality option for all individuals with kidney failure. Participants specified that adequate training includes RNs and support staff, and that providers in all practice settings should be involved in education to ensure informed decision-making by all individuals.

A barrier to HDTs is the lack of education of providers who do not have the knowledge, experience, or skill set to inform individuals about home therapies as a treatment option. Providers themselves need to be educated on all modalities of kidney replacement therapies, as well as the need to explore and understand the life goals of the individual.

Individuals have been shown to prefer home dialysis over dialysis treatment in outpatient dialysis centers when increased RN support is available (Thomas-Hawkins et al., 2022). The RN may use other members of the clinical dialysis staff to assist in reinforcing home training (CMS, 2008). Licensed and unlicensed assistive personnel should be knowledgeable about HDT modalities to reinforce education. These team members participate in recruiting and talking to individuals about modality options in their everyday care.

Individuals do not go through their dialysis journey alone, and input from their support persons can assist in identifying the modality of choice. Think Tank participants acknowledged the education of families and support persons is critically important for success. Including support persons in education and re-education of high-risk issues, assessments, monitoring (including dialysis access, home environment, supply ordering and inventory),

understanding lab values, prescription management, recognizing burnout, and knowing when respite is needed are integral to the success of HDTs. Think Tank participants confirmed some programs include solo therapy and do not require a designated care partner available during treatments as an option for individuals without that level of support available.

Education on modality options is not a one-time endeavor. All individuals on dialysis should have their options reviewed at regular intervals. Many times, initial education is completed when there are lifestyle adjustments and individuals are not ready to begin a home modality.

CKD clinics should be an initial starting point so individuals receive the modality education required to make an informed decision versus ‘crashing’ or starting dialysis as an emergent situation. Think Tank participants believed that early referral to a nephrology provider would allow adequate preparation for dialysis and/or transplant. Individuals living with kidney disease should be made aware of all options, without biases, and concentration should then be on modality differences, without pitting one therapy against another. Training needs to include identification of life goals, addressing fears, preconceived ideas, access needs, and financial considerations (Lockridge et al., 2020). While studies have shown that education prior to commencing dialysis results in a greater incidence of HDTs being selected as the modality choice, only about 1% of those with Medicare coverage at the time of initiation have received Kidney Disease Education (Shukla et al., 2021). The Kidney Disease Education benefit covered by Medicare (up to six sessions of kidney disease education services for individuals with Stage 4 CKD; Medicare.gov, n.d.) is woefully under-utilized, but this tool is invaluable to ensure individuals are fully informed of their options.

Studies have shown that 23% to 63% of individuals have unplanned initiation of dialysis (Molnar et al., 2016). The inpatient setting may be when an individual is first introduced to the need for dialysis. The standard of care for acute care RNs should include educating individuals on modality options, the use of catheters as a temporary access, and early consultation for permanent access. Additionally, any time an individual is admitted to the hospital, re-education should occur and awareness of options confirmed.

Outpatient HD unit RNs should evaluate baseline knowledge of modality options for individuals new to in-center HD. Although education may have been initiated prior to starting at an in-center HD unit, providing education while adjusting to dialysis may not always be the best time for learning, so the individual should be continually assessed for readiness to learn. The assessment and evaluation of readiness to learn is only within the scope of practice of an RN, who then can develop an education plan.

Transitional care units (TCUs) also play a role in educating individuals on the different modalities. A TCU, according to Hussein and colleagues (2021), “provides care for individuals commencing in-center HD in a structured program lasting 3 to 8 weeks” (p. 179). The program is meant to stabilize the individual emotionally and physically while providing education on dialysis and specifically modality. Think Tank participants did not have a lot of experience with TCUs for educating individuals on HDTs. TCUs provide more opportunities to educate patients and give them a trial run of what it might be like to be in a HDT program (Lockridge et al., 2020).

## Additional Barriers

Several additional barriers to increasing individuals choosing HDTs were identified by Think Tank participants, many of which surrounded the availability of adequate resources for a successful transition to home.

### Individual Barriers

Some identified barriers discussed in the Think Tank included those associated with the health disparities. This included lack of resources available for individuals in high-risk categories. One participant suggested that making resources available for those deemed at the highest Social Deprivation Index (SDI) would address the distribution of resources based on individuals’ social conditions. Social deprivation, as defined by the American Psychological Association (APA), is “Limited access to society’s resources due to poverty, discrimination, or other disadvantage or lack of adequate opportunity for social experience” (APA, 2023). Initially developed in 2012, the SDI “is a composite measure of area level deprivation based on seven demographic characteristics” and “used to quantify the socio-economic variation in health outcomes” (Robert Graham Center, 2018, para 2). Think Tank participants also raised concerns related to telehealth utilization due to lack of Internet or sufficient bandwidth, limiting access to services.

Think Tank participants identified that starting dialysis with inadequate or no insurance for appropriate medical care increases the likelihood of the individuals ‘crashing’ into dialysis and not being prepared to make a modality decision. Transportation was a repeated concern throughout the Think Tank, whether it was the overall cost of transportation, distance to a home dialysis center, or needing to cross state lines for services. One Think Tank participant shared having had several patients who felt they were a burden to their families because of transportation needs. Discussion during the Think Tank included consideration for additional support for individuals on HDTs, including housing vouchers and Medicare/Medicaid expansion to improve options for a home modality and success.

There were also barriers associated with supply delivery and storage. In addition to needing sufficient space, the Think Tank noted issues with the delivery of supplies to certain areas due to road size, lack of available parking, and the need to have someone present for deliveries.

### Patient/Care Partner Burnout

Think Tank participants identified patient and care partner burnout as one reason for HDT failure. Early identification of those who appear at risk for burnout allows for the mitigation of potential causes. There was discussion on increasing follow up, the use of telehealth for more frequent monitoring, and the importance of developing a trusting relationship for open and honest conversations to relieve some of the burnout experienced by patients and care partners.

### Program/Unit Barriers

A lot of comparison was made by Think Tank participants of the different programs represented. There was representation from large, moderate, and small dialysis providers, and from urban and rural areas. Definite variations in resources were available to the individual programs. Think Tank participants suggested the need for a mechanism to share resources. A repository of helpful educational materials and a forum for HDT personnel to communicate about barriers would particularly help RNs and programs with fewer resources. Many of these educational mediums are homegrown per participants of the Think Tank. ANNA has resources available, including ANNA Connected with the Home Therapies Specialty Practice Network, that can be a resource and opportunity for mentoring of ANNA members.

### Providers

Think Tank participants identified missed or delayed opportunities for referrals to Kidney Disease Education and delays for referral for permanent dialysis access as factors leading to a lack of preparation prior to dialysis initiation. Many Think Tank participants expressed concern with a lack of availability of surgeons/vascular surgeons for timely permanent access placement, which delays the ability to get individuals into a home program.

### Training Barriers

There were several barriers to training identified during the Think Tank, particularly when it came to looking at alternate ways to complete education (e.g., lack of space for group training and adequate technology/resources for virtual training). In addition, participants reported difficulty with flexibility in accommodating special schedules of individuals. Scheduling in HDTs was deemed a time-consuming effort by RNs, who at times are reluctant to give up this task; however, scheduling can be delegated to support staff. Participants were not aware of any management applications that could assist in scheduling as compared to ones available for in-center HD.

## Streamlining Care

Think Tank participants also reported a redundancy of documentation. Some participants still utilized paper documentation, while others had fully integrated electronic medical records. There were recommendations for creating templates for documentation, as well as the development of standards for care. A lack of consistent standards was identified related to follow-up monitoring once released to home and follow-up home visits. There was also discussion on the opportunity for telehealth in these situations.

## Opportunities

As a result of the Advance American Kidney Health Initiative (AAKHI) executive order, many nephrology providers have embraced the philosophy that everyone is a candidate for HDT. As one Think Tank participant stated: “We used to be pickier, but now we will at least try.” However, one Think Tank participant noted: “We only have me and my co-worker. We don’t have the leeway to try and fail because it is a waste of resources.” To aid in the assessment of HDT readiness, the use of the Method to Assess Treatment Choices for Home Dialysis or MATCH-D (Home Dialysis Central, 2023) created by the Medical Education Institute, Inc., has increased. The form, typically completed by the social worker, assists the team to identify challenges that individuals may experience on HDT and assists in better planning to deal with those challenges.

## Transitional Care Units

Transitional Care Unit (TCU) programs are one model that in-center HD units have implemented to provide education after kidney replacement therapy has already begun. A TCU program may be delivered in an in-center HD facility with designated chairs or in a stand-alone unit. Staffing levels are typically lower, and the usual treatment schedule is relaxed. Think Tank participants reported that an added benefit of TCUs would be in utilizing them to provide respite for those on HDT.

Think Tank participants supported claims that HDT candidates sometimes had to wait up to six weeks to be trained after selecting a HDT modality. One method for dealing with the delay is a virtual TCU pre-training or simply beginning training for the HDT modality while continuing HD in the outpatient HD center. These methods are especially beneficial for those selecting HHD. The method of providing education is varied and delivered at the patient’s convenience. In some cases, written material may be provided with follow-up quizzes, while in others, training may be provided virtually by an HDT RN in sessions lasting an hour or less. An additional benefit is including the care partner, which allows them to see exactly what their role may be. In some cases, cannulation may be taught by an in-center HD RN prior to the commencement of home training. Individuals may then be grouped by those who have had TCU training and

those who have not. According to Think Tank participants, TCU patients begin home training much less overwhelmed because they can focus on technical issues, such as equipment.

## Staff-Assisted HDT

Staff-assisted HDT is an avenue to transition individuals to HDTs. It provides reassurance to those unsure of their abilities, provides an opportunity for ongoing training and mentoring, and can sustain those who have a temporary condition making it difficult to continue with the HDT (Oliver & Quinn, 2009). There is no standardized definition for staff-assisted HDT. There may be some opportunity for even short-term assistance for care partner respite. Think Tank participants had minimal experience with staff-assisted HDT, and in most cases, it was performed in long-term care facilities, with staff (both RNs and PCTs) performing most of the treatment. There is a cost for the assistance, and although some commercial insurance plans provide coverage, the Medicare payment bundle does not. One participant reported that one insurance plan specified an RN must perform the treatment.

## Advocates

Think Tank participants educate and recruit individuals with CKD to HDT utilizing Kidney Care Advocates. Sometimes, these advocates are referred to as CKD Care Managers or Nurse Navigators, and sometimes they are simply called CKD Educators. Regardless of the title, these roles require RNs with experience and knowledge in home and in-center dialysis who have the ability to educate and support individuals in determining their best modality. This role consists of working with individuals with CKD and assisting them through education, regular follow up, and ongoing support. Some will go into the acute setting to provide the education and support.

## Recruitment and Retention

Think Tank participants reported it is difficult to get RNs interested in an HDT position. Sign-on bonuses were reported as an effective recruitment tool, but not effective as a retention strategy. Some organizations are just beginning to consider the use of unlicensed assistive personnel, such as medical assistants/PCTs/certified clinical HD technicians. Sharing staff between small programs has helped cover the current growth. Think Tank participants advised organizations to ensure clear communication of role expectations at multiple locations and the potential for varying shift times when hiring individuals into these positions. Think Tank participants also discussed the need to be proactive when a barrier to recruiting is identified; for example, in-center HD RNs may take a pay cut when transferring to HDT positions because they will no longer receive a charge nurse differential.

Ensuring adequate training was seen as important to retention. RN training should be standardized and provided in a clinic that is fully staffed. While the new HDT RN may not yet meet requirements to train patients, the

RN can perform other nursing duties until requirements to train are met. An HDT RN may be the only one at a particular location; thus, backup support should be clearly identified. Ongoing training was also viewed as important. An opportunity exists for developing mentoring programs to ensure new HDT RNs continue to learn and grow in this role.

During the pandemic, state requirements were relaxed that allowed RNs to practice across state lines without the traditional paperwork and time required getting a license in another state. The continued ease of practice across state lines could increase access to resources in rural areas (National Academies of Sciences, Engineering and Medicine, 2021). Expansion of the Nurse Licensure Compact (NLC), although not all states participate, can impact care delivered by telehealth, allowing RNs in other states to help with education, on-call, and care in rural areas (National Council of State Boards of Nursing [NCSBN], 2023), as well as providing care to individuals on HDT residing across state lines.

Continuing education keeps the workforce educated and informed of new and innovative ways of delivering evidence-based practice and promotes networking with other HDT RNs. Investing in continuing education was described as giving new energy to HDT RNs. This as a hiring incentive has the potential to improve retention showing leadership's investment in professional staff and their needs. Participants in the Think Tank identified not being funded or provided the paid time off to attend continuing education as an issue for many nephrology nurses.

### Scope of Practice

Due to the small size of many HDT programs, it has not been uncommon for the HDT RN to be the only staff member for the program. To address the use of other licensed/unlicensed assistive personnel in HDT, refer to the revised ANNA position statement on "Delegation of Nursing Care Activities," which added an addendum with examples (Bednarski & Painter, 2023). These support staff may obtain weights and vital signs; assist with paperwork; manage inventory and equipment; perform phlebotomy and capillary blood glucose, if trained; perform non-sterile dressing changes; and reinforce education. Consideration also needs to be given to differences based on each state nurse practice act or statutory equivalent. Licensed practical nurses (LPNs)/licensed vocational nurses (LVNs) may also administer medications depending on the individual state's nurse practice act (Bednarski & Painter, 2023).

### On-Call

On-call coverage for HDTs requires an HDT RN trained in the modality for which the coverage is provided. If staff are not cross-trained in both modalities, enough staff for each modality must be available. Language barriers must also be considered in on-call scheduling. Dialysis facilities have language services or applications that trans-

late for individuals when a language barrier is present. Arrangements must be made for the availability of an interpreter or other device to ensure effective communication even after hours.

### Training

Group training can result in more individuals being trained to begin home dialysis. The physical plant can be prohibitive in older facilities; however, new clinics are being built with folding walls between rooms to allow one RN to interact with more than one patient. For PD, the walls can be closed for sterile procedures. Think Tank participants reported that some individuals request to train with others. In the interest of confidentiality, permission should be obtained from all involved. Those who have utilized group training believe it results in connections between patients and care partners. Some may prefer parts of the training in a group setting, and others to be done individually, which should be accommodated. Think Tank participants reported group training can be advantageous for learning to respond to alarms and noted more questions come up when more participants are involved. This type of training also has the potential to positively affect those programs with reduced staff.

Building telehealth into an HDT program can improve staff and individual comfort with the technology. The use of telehealth may increase the ability to expand training to individuals at their convenience in the home. Telehealth can also be used for group training, as well as for lectures, webinars, and guest speakers, and allows flexibility in training schedules.

### Cannulation

Cannulation can be an obstacle for many desiring HHD. An opportunity exists to teach HHD candidates this skill while they are still dialyzing in-center. This requires an excellent relationship between in-center HD staff and HHD staff. The HHD RN will need to teach the in-center HD RN the one-handed cannulation technique. The treatment schedule may require modification to ensure adequate time for the training. Providing cannulation training in this way allows the individual to focus on this one aspect of the treatment before beginning HHD training. Think Tank participants reported much of the cannulation training was currently being provided by PCTs. Still, all participants believed initial education should be kept within the RN scope of practice with PCTs reinforcing the education.

Less than 45% of fistulas mature without intervention (Lok, 2007; Wang et al., 2021), so the HHD RN must follow up on this. Think Tank participants reported that in-center HD staff may have overlooked vascular access issues, making them difficult to cannulate for those less than expert. In fact, poorly functioning access may result in delayed HHD training. Access coordinators have been used in in-center HD programs, and the value can now be seen for HHD programs.

## Research Opportunities

To support the role of RNs in caring for individuals with kidney disease, the Task Force recognized that more research is needed to determine the impact of nephrology RNs, specifically in HDTs. Although there is some evidence supporting the essential role of the RN in HDTs (Thomas-Hawkins et al., 2022), additional research is needed in areas of patient outcomes that can be linked to RN care and RN-to-patient ratios. Staffing was consistently an area of concern throughout the Think Tank; thus, research is needed on the impact of the work environment and workload on RN retention.

Some areas of research identified during the Think Tank include areas that lacked current evidence and had inconsistent practices between programs. These included the frequency of monitoring following the transition into the home to ensure a safe and successful transition, the use of virtual interactive educational tools, and how to attract individuals to increase the use of HDT modalities. Additional areas identified as needing research include staffing and delegation, validating patient acuity tools for HDTs, and factors impacting patient retention and success rates.

## Conclusion

The importance of competent and skilled RNs in providing care to individuals on HDT cannot be overemphasized and is required by CMS (Lamb et al., 2018). Currently, CMS sets the requirements for the dialysis care team for facility payments and supports the RN in HDTs. The current standards have been in place since 2008 (CMS, 2008). Standards of significance include the standard for nursing services, which indicates that a nurse manager is responsible for nursing services in the facility, and must be an RN and a full-time employee of the facility. The standard for self-care and HDT training indicates that an RN is responsible for self-care and/or HDT training. In addition, it specifies the experience required to meet job qualifications, which includes an RN with at least 12 months of experience in providing nursing care with an additional 3 months of experience in the specific modality for which the RN will provide self-care training (CMS, 2008). LPNs/LVNs and PCTs must work under the supervision of an RN in accordance with state nurse practice act provisions (CMS, 2008). There is also a standard that states an adequate number of qualified and trained staff need to be present, which is to include an RN in the facility at all times when patients receiving dialysis are being treated.

The HDT Task Force assisted ANNA in clarifying the role of the RN in HDT. ANNA fully supports the increased utilization of HDTs and wants to ensure that every individual has the option of HDT and an RN in their care. Careful consideration must be given to the impact of legislative initiatives aimed at the nursing shortage and increased use of HDTs on RN practice and the

delivery of safe care and RN practice. Opportunities for research, defined roles, staffing, and education have been discussed and will lay out a clear path to promoting HDTs as the modality of choice for those with CKD in need of kidney replacement therapy.

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