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Permalink

<https://escholarship.org/uc/item/0c4754vt>

Journal

American Journal of Kidney Diseases, 70(5)

ISSN

0272-6386

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Publication Date

2017-11-01

DOI

10.1053/j.ajkd.2016.12.015

Peer reviewed



Published in final edited form as:

Am J Kidney Dis. 2017 November ; 70(5): 602–610. doi:10.1053/j.ajkd.2016.12.015.

System-Level Barriers and Facilitators for Foregoing or Withdrawing Dialysis: A Qualitative Study of Nephrologists in the United States and England

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Abstract

BACKGROUND—Despite a growing body of literature suggesting dialysis does not confer morbidity or mortality benefits for all patients with chronic kidney failure, the initiation and continuation of dialysis in patients with poor prognosis is commonplace. Our goal was to elicit nephrologists' perspectives on factors that affect decision-making regarding end-stage renal disease.

STUDY DESIGN—Semi-structured, individual qualitative interviews

METHODOLOGY—Participants were purposively sampled based on age, race, gender, geographic location, and practice type. Each was asked about their perspectives and experiences related to foregoing and withdrawing dialysis.

ANALYTICAL APPROACH—Interviews were audiotaped, transcribed, and analyzed using narrative and thematic analysis.

RESULTS—We conducted 59 semi-structured interviews with nephrologists from the United States (n=41) and England (n=18). Most participants were age 45 years or younger, male, and White. Average time since completing nephrology training was 14.2 ± 11.6 (SD) years. Identified system-level facilitators and barriers for foregoing and withdrawing dialysis stemmed from national and institutional policies and structural factors, how providers practice medicine (the culture of medicine), and beliefs and behaviors of the public (societal culture). In both countries,

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the predominant barriers described included the lack of training in end-of-life conversations and expectations for aggressive care among non-nephrologists and the general public. Primary differences included financial incentives to dialyze in the United States and widespread outpatient conservative management programs in England.

LIMITATIONS—Participants' views may not fully capture those of all American or English nephrologists.

CONCLUSIONS—Nephrologists in the United States and England identified several system-level factors that both facilitated and interfered with decision-making around foregoing and withdrawing dialysis. Efforts to expand facilitators while reducing barriers could lead to care practices more in keeping with patient prognosis.

INDEX WORDS

dialysis withdrawal; foregoing dialysis; qualitative methodology; conservative management; end-stage renal disease (ESRD); ESRD decision-making; chronic kidney failure; end-of-life issues; conservative care; quality of life (QoL); palliative care; end-of-life care; survival benefit; financial disincentives; systemic barriers; culture of medicine; nephrology practice; purposive sampling; semi-structured interview

With the emergence and subsequent widespread availability of dialysis in recent decades, its use for the treatment of chronic kidney failure has transformed from an option extended to carefully selected candidates to a routine medical procedure made available to an increasingly aging and medically complex population.^{1,2} Initiation and continuation of dialysis in patients with poor prognosis is commonplace in the United States.^{1,3}

A growing literature suggests that a subset of patients (e.g. older than 75 years with dementia or ischemic heart disease) may not derive a survival benefit from dialysis and that it may worsen quality of life and functional status.^{4–11} Therefore, decisions to forego or withdraw from dialysis may be needed. Prior survey-based studies suggest variability in decision-making related to foregoing or withdrawing dialysis among providers from different countries and over time, but they do not fully capture the underlying factors driving differences in dialysis practice patterns.^{12–14} Understanding these factors may help identify facilitators and barriers to optimal care of patients with chronic kidney failure. In this qualitative study, we explored the perspectives underlying nephrologists' approaches to discussions about foregoing or withdrawing dialysis in the United States and England, which has established conservative management programs.

METHODS

Study Design and Conduct

We used a comparative narrative design of nephrologists' beliefs and practices in the United States and England as related to dialysis decision-making.^{15–17} We developed an interview guide using practical knowledge of the clinical arena and existing literature, with the intention of capturing the factors influencing nephrologists' beliefs and practices (Box 1). The University of California, San Francisco Institutional Review Board approved the study (#13-11184).

Box 1**Interview Guide**

1. Can you describe the process by which a patient outside of the hospital starts receiving dialysis? Who are the key individuals involved in making that happen? What are the local or national policies that help guide the process?
2. What about for the patient in the hospital? How is the process different?
3. Are there clinical situations when dialysis is not routinely offered to patients? Do you agree/disagree? Are there other clinical situations when you think dialysis should not be offered? Can you tell me more about your nephrology practice in relation to not offering dialysis? Is this a topic that you discuss regularly with your colleagues?
4. How do you usually approach discussions about dialysis with patients? How does your approach vary from patient to patient? Do you offer your opinion? If so, how?
5. Tell me about a time when you didn't offer dialysis (or wished you hadn't offered dialysis). How did this affect you at the time? Did this experience affect how you approached clinical situations going forward?
 - a. If you always offer dialysis, why do you think that is?
6. Tell me about a time when you managed a patient without dialysis. Whose idea was it (yours, patient's, family member's)? Did you suggest this option? How did this affect you at the time? Did this experience affect how you approached clinical situations going forward?
 - a. If you've never managed a patient without dialysis, why do you think that is?
7. Tell me about a time when you withdrew a patient from dialysis. Whose idea was it (yours, patient's, family member's)? Did you suggest this option? How did this affect you at the time? Did this experience affect how you approached clinical situations going forward?
 - a. If you've never withdrawn a patient from dialysis, why do you think that is?
8. What are the challenges and facilitators of coming to a reasonable decision regarding dialysis? Are there ways that we could overcome those challenges to enhance the practice of dialysis in this country? In an ideal world, what would you like to see changed regarding the practice of dialysis in this country?

Participant Selection

One investigator from England (D.O.) identified lead nephrologists who cared for adult patients with end-stage renal disease (ESRD) from dialysis units around the country to participate in the study. They in turn were asked to identify other nephrologists representing maximum variation between nephrologists by age, race, gender, and geographic location.

Similarly, in the United States, one investigator (N.R.P.) identified nephrologists who cared for adult patients with ESRD in various settings around the country. Using purposive sampling, we asked that they in turn identify nephrologists who varied in aforementioned characteristics in addition to practice types and payment structures, which vary considerably in the United States. We also directly recruited nephrologists at a clinically-focused national nephrology meeting who were similarly asked to identify others in their networks. We did not enroll nephrology trainees, nephrologists without a clinical practice, or pediatric nephrologists.

Data Collection

One investigator (V.G.), a nephrologist with 4 years' clinical practice beyond fellowship at the time of the study, conducted individual semi-structured interviews from June 2013 until June 2014 at a time and by means (e.g. in person, telephone) convenient for each participant. After providing written informed consent, participants were asked to provide basic demographic and practice characteristics and were then asked about their experiences with regard to treatment decisions for patients with chronic kidney failure, which included a focus on situations involving foregoing dialysis and dialysis withdrawal. Interviews were recorded and transcribed verbatim.

Analysis

Narrative and thematic analyses were systematically conducted by two investigators (V.G., D.S.T.) employing constant comparative analysis of text within and between interviews. Codes regarding the central themes were decided by consensus after independent analysis of 9 cases, 6 from the United States and 3 from England, selected randomly to represent both countries. Subsequent interviews were then coded according to these themes using ATLAS.ti to discover the range and variability in the subthemes and to scan for new themes. Saturation of themes was achieved after half the interviews were analyzed; all remaining interviews were thoroughly examined and provided evidence confirming our findings.

RESULTS

Participant Characteristics

A total of 59 interviews were completed among 18 English nephrologists (ENs) and 41 American nephrologists (ANs). Average duration of interviews was 34 (range, 13.5–60) minutes. All interviews with ENs were in person. Ten interviews with ANs were in person, 10 by videoconference (e.g. Skype or FaceTime), and 21 by speakerphone.

Most participants were age 45 years or younger, male, and White (Table 1). Average number of years since completing nephrology training was 14.2 ± 11.6 (standard deviation; range,

0–44) years. Roughly half practiced within groups of 10–20 nephrologists. While all ENs practiced within a closed system (i.e., National Health Service), only 7% of US nephrologists did so (e.g., Veterans Administration). The majority of ANs were in academic and private practice settings (61% and 29%, respectively). Approximately one quarter of participants cared for large numbers (more than 80) of maintenance dialysis patients, including half of ENs, whose practices were shared among several colleagues.

Response Categorization

We categorized nephrologists' perceptions into barriers and facilitators at the system level within contexts of foregoing and withdrawing dialysis. "System" was further categorized with 3 subthemes: the healthcare system, the culture of medicine, and societal culture (Table 2). Healthcare system subthemes included policy and structural factors imposed from a national or institutional level. The culture of medicine subtheme refers to factors relating to the shared beliefs, values, and behaviors of healthcare providers as a group. We defined societal culture as shared beliefs, values, and behaviors of the lay public.

In the following sections we detail nephrologists' views regarding first system-level barriers and facilitators of foregoing dialysis, followed by those for withdrawing dialysis. Each section is further divided into subthemes, where we first describe what views were common to nephrologists in both countries, followed by what views were unique to nephrologists in the United States or England.

Foregoing Dialysis: Barriers

Health Care System—ENs and ANs identified several healthcare system level factors that served as significant barriers to foregoing dialysis. They stressed the lack of guidelines, accurate prognostic tools, palliative care training, and adequate communication throughout the healthcare system as important barriers to foregoing dialysis. Without such information, practice defaulted to dialysis.

We really don't know who's going to do well and who doesn't. So I always err on the side of—at least give them a trial, see how it goes. [American nephrologist]

We have very little, if anything, about patient report outcome measures, quality of life measures. That's a big deficiency across the system. [English nephrologist]

Among ANs, the financial incentive to dialyze was a predominant subtheme.

I think that unfortunately, dialysis is very financially rewarding to dialysis centers and a lot of caregivers. I feel there are a lot of physicians who just feel that, 'We're going to keep people alive as long as possible, and because it's an option, we're just going to do it.' [American nephrologist]

This financial incentive was compounded by a perceived lack of reimbursement for prolonged discussions about foregoing dialysis with patients and families. As a result, many ANs were left feeling they had to prioritize seeing as many patients as possible in short time periods to maximize revenue. As one American nephrologist said, "There's no economic incentive [to present a non-dialytic care option]. You have other pressures." On the other hand, the only financial factor raised by one EN was that the system's different funding

mechanisms for dialysis (central) and non-dialytic management (local) could give rise to fewer resources for adequate non-dialytic programs in more rural areas.

Culture of Medicine—Many nephrologists in both countries described other specialties' involvement as a predominant barrier to foregoing dialysis. For example, non-nephrologists' expectation for dialysis, continuation of aggressive care for non-renal conditions, and offering dialysis to patients and families prior to consulting nephrology were all commonly experienced.

...If a cardiac surgeon does an open heart [surgery] in an 85-year-old and the patient develops renal failure tomorrow how can I come and say, 'I don't want to dialyze this patient because she's 85,' or something like that. So, what am I supposed to do at that time? [American nephrologist]

On the other hand, several nephrologists also described being expected by non-nephrologists to serve as the final arbiter in ending aggressive care.

The patient was vented for more than six months and she was described as vegetative state. They were doing everything for her except that when she needed dialysis they said, 'Okay, you tell [the family] there's no indication for dialysis.' [American nephrologist]

However, ANs and ENs also saw themselves as a barrier to foregoing dialysis. They expressed variable attitudes about the appropriateness of dialysis and noted that—particularly among hospitalized patients—it was easier to initiate dialysis than initiate difficult conversations. Furthermore, there was a perception that recommending that patients forego dialysis could garner negative attention from peers.

I would tell my colleagues, 'Well, I told her to do hospice and didn't offer dialysis because of this reason' and the other nephrologist will be like, 'Well, why?' It just seems like—I mean some of it might be also that you're afraid of what your peers would think of you for doing something like that because I think everyone has a different viewpoint about quality of life and what a patient should or should not endure. [American nephrologist]

A thought motivating some nephrologists to initiate dialysis was shared by one EN: "I suspect some of it is—well, in my case it's about a sense of failure of being unable to help, to heal, and to do the job that I was trained to do to make someone better." This belief may be changing over time; one younger AN suggested age factored into openness to the practice of foregoing dialysis, possibly as a result of increasing evidence.

[The younger faculty here seem to be a little bit more in tune with the idea that not everybody needs dialysis which obviously as you know becoming more and more evidence-based potentially in literature while others [older faculty] are just saying, 'Well, they need dialysis. We're going to dialyze them.' [American nephrologist]

Societal Culture—Both American and ENs identified societal expectation for intervention and misperceptions about chronic kidney failure and dialysis as significant barriers to foregoing dialysis.

If the family says, ‘We want everything done’ and automatically that means that you have to do dialysis. For me it’s that we want everything done but for somebody...who is declining. We wouldn’t do brain surgery if we knew it wasn’t going to save them. [American nephrologist]

Nephrologists in both countries also spoke of language and cultural barriers to foregoing dialysis. ANs also spoke of historical mistrust of the healthcare system as a barrier.

There are people for instance that practice medicine in a hospital that has been in existence from the 1800s and up until the late 1960s or 1970s, people of African-American heritage were not very trusting for a good reason.... It’s not that way anymore, but there are people still alive today that remember the 60s and find it very difficult to give their trust in a physician that comes out of that system. [American nephrologist]

Foregoing Dialysis: Facilitators

Health Care System—Nephrologists identified available palliative care and hospice services as important facilitators for foregoing dialysis. Of note, only a few ANs described having access to these services and that palliative care services were restricted to hospitals. In contrast, all ENs described having access to services in both inpatient and outpatient settings.

If [conservative management] option is taken by the family, then we provide the supportive care clinic that’s got two nurses, a dedicated two consultants who run a sort of referral and review system. So if you do choose not to dialyze, you’ll be seen repeatedly by a dedicated team who you’ll get to know. [English nephrologist]

A few nephrologists in both countries viewed the data suggesting dialysis has no survival benefit for certain groups as an important facilitator for foregoing dialysis. As an American nephrologist said, “There’s literature out there that says dialysis in those elderly folks with poor functional status doesn’t really improve survival. That’s what I tell them.”

Culture of Medicine—Some nephrologists viewed themselves as being part of a practice where discussions to establish consensus with colleagues, staff, and providers from other specialties were commonplace. For example, one EN said, “...we will discuss these complex patients, so we have a meeting weekly where if clearly there is an issue we will try and reach a consensus amongst ourselves.”

Societal Culture—The only aspect of societal culture that facilitated conversations about foregoing dialysis was expressed by one EN: “... patients don’t necessarily want to be given all the responsibility to make all the decisions. They want to be helped to make a decision.”

Withdrawing Dialysis: Barriers

Health Care System—Nephrologists identified several factors within the healthcare system that functioned as barriers to withdrawing dialysis when they believed it was appropriate. Similar to foregoing dialysis, only ANs described financial considerations as predominant factors influencing continuation of dialysis; one stated, “There is a huge

conflict of interest from the nephrology perspective, because frankly we're getting paid for this and at times, I think that really gets in the way." The lack of patient-centered quality metric requirements for payment was viewed as indirectly impeding consideration of dialysis withdrawal. Such metrics could remind nephrologists to consider how the patient felt, rather than just laboratory markers, which could in turn lead to a consideration of whether dialysis was actually improving a patient's life. An American nephrologist said, "We're focused on hitting guidelines and targets but until very recently, the patient experience isn't part of anything that we get incentivized for." Similar to foregoing dialysis, many ANs cited the lack of time for lengthy conversations required to consider dialysis withdrawal, as an indirect financial barrier to dialysis withdrawal. The need to meet efficiency targets required them to see patients quickly, which meant in-depth discussions were often avoided.

You have large [dialysis] units. You have to see a large volume of people at one time and people have to be in and out. There's no time for anyone to pause and then to talk about the person and their lives and all. It's more getting through the dialysis procedure. [American nephrologist]

ANs also described hospital leadership as a barrier to withdrawing dialysis. For example one AN said, "So as a group, we wanted to refuse to continue to dialyze this person. Even the ethics committee agreed that it was not appropriate but the hospital said that, 'You have to dialyze this person.' " However, this participant offered that the hospital's stance may have been influenced by societal level factors: "I think they didn't want the bad press, the potentially bad press and then being accused of refusing to treat someone."

ANs also mentioned the lack of clear evidence-based guidelines as a barrier for when to consider withdrawing dialysis. Finally, ANs also thought the hospice policy that requires abrupt dialysis discontinuance for most patients with chronic kidney failure acts as a barrier to hospice services for those desiring a slower transition to dialysis withdrawal.

The only healthcare system barrier to dialysis withdrawal noted by ENs was that technological advancements made dialysis of sicker patients possible. Prior to such advancements, the point at which dialysis was not technically possible was reached much sooner. One EN said, "You can dialyze a stone. It's not like the old days where you had the big bad machines and your systolic had to be 120."

Culture of Medicine—Nephrologists identified the lack of communication and prognostication skills as prominent factors within the culture of medicine that interfered with dialysis withdrawal. For example, one AN stated, "They [nephrologists] don't understand prognosis. They don't want to convey prognosis. Even if they could, they don't communicate it. Probably they may not communicate it in an essentially appropriate way."

ANs also described emotional ties to patients and the general lack of consensus or acceptance of the practice of dialysis withdrawal. Withdrawing dialysis was equated with "giving up," and perceived as a personal failure.

Societal Culture—Participants described societal expectations for medical intervention coupled with unrealistic expectations of dialysis as significant barriers to dialysis withdrawal. As one American nephrologist noted, “I think most people think, ‘Oh I’m on dialysis. So I’m fine as long as I’m coming to dialysis.’” Cultural and language discordance were also perceived as barriers to nephrologists in both countries.

Withdrawing Dialysis: Facilitators

Health Care System—ANs and ENs felt that the availability of palliative care or hospice services facilitated dialysis withdrawal. However, ENs spoke of having broader access to both inpatient and outpatient services; one said, “We have quite a large, and most units do, conservative care/end-of-life program because some people would choose to stop dialysis. So if they choose to stop dialysis then we need to support them.”

Culture of Medicine—Nephrologists in both countries spoke of having a team approach and consensus as facilitators of dialysis withdrawal. ENs also spoke of widespread adoption of specialized programs to facilitate end of life care.

I think overall, it felt like it was a well-managed process. It didn’t come as a surprise to anyone because we saw that his clinical status had changed. When dialysis was no longer a benefit but a burden to him, we, as a care team, met and had extensive discussions about it. [American nephrologist]

Societal Culture—No nephrologists from either country identified factors pertaining to societal culture as facilitators of dialysis withdrawal.

DISCUSSION

In this study, we found that nephrologists in the United States and England identified several system-level factors that both facilitated and interfered with making decisions around foregoing or withdrawing dialysis. System-level factors emanated from national and institutional policies and structural factors, from how providers practice medicine (the culture of medicine), and from beliefs and behaviors of the lay public. By virtue of its qualitative design, this study extends knowledge gained from survey-based studies.^{12–14}

American and English nephrologists agreed that evidence-based guidelines heavily influenced decision-making related to foregoing and withdrawing dialysis. While some perceived a lack of evidence-based guidelines serving as a barrier, others acknowledged the increasing body of literature suggesting dialysis does not confer mortality benefit for certain populations.^{4–8} This difference in perception may be due to an unawareness or undervaluing of existing literature, which consists of studies of relatively small and nonrandomized cohorts.

ANs and ENs also agreed that the lack of emphasis on end-of life issues in nephrology training was a significant barrier. This perception is supported by findings of a 2003 survey, in which US nephrology fellows reported that they received little training on end-of-life issues and felt less prepared to take care of dialysis patients at the end of life compared to other practice skills.¹⁸ A repeat survey of US nephrology fellows ten years later showed

nearly identical results,¹⁹ suggesting a general resistance to changing educational curricula. Of note, the US Accreditation Council for Graduate Medical Education (ACGME) program requirements in nephrology includes only one line that clinical experience include end-of-life care among long-term dialysis patients,²⁰ while the Joint Royal Colleges of Physicians Training Board (JRCPTB) requirements for renal medicine in England includes an entire section on non-dialysis or conservative care and end-of-life palliative care.²¹

A final area of shared perception between ANs and ENs was the pervasive culture of aggressive care and misperceptions about dialysis among medicine and general society. Nephrologists often found these expectations insurmountable. That nephrologists from neither country could identify any societal factors that facilitated dialysis withdrawal may further underscore expectations of treatment in general society. These commonalities illustrate the widespread belief that education about when risks of dialysis outweigh its benefits is critically needed for nephrologists, non-nephrologists, and general society.

There were also several striking differences between ANs and ENs. Perspectives of ANs were highly variable, while those among ENs were more similar. This may be explained in part by two other major differences: financial incentives to dialyze but no access to outpatient palliative care in the United States versus the lack of financial incentives to dialyze and commonly available primarily nurse-run outpatient conservative management pathways in England.²² Of note, ANs largely described inpatient experiences, while ENs described many outpatient experiences as well. The lack of capacity to provide chronic kidney failure care without dialysis in the outpatient setting—i.e., a “warm handoff” for patient care—may influence nephrologists’ comfort with recommending or even considering foregoing or stopping dialysis. Differences between the two countries’ healthcare systems may explain the differences in capacity to deliver non-dialytic chronic kidney failure care. In the United States, the 1972 passage of the Medicare ESRD program made ESRD the only disease-specific entitlement for government-funded healthcare—at the initiation of dialysis; whereas in England, the National Health Services, which launched in 1948, is the publicly funded national healthcare system that funds chronic kidney failure care with or without dialysis. A shift in quality metrics, funding mechanisms, and incentives may help shift practices.

Strengths of our study are purposively sampling across variable participant characteristics and studying two countries. A potential limitation is that participants’ views do not fully capture those of all ANs or ENs. However, the success of our sampling (all ages, race/ethnicity, experience, practice settings, and payments represented) minimizes this possibility.

As the experts in what dialysis can and cannot do, nephrologists are the natural leads in guiding decision-making for chronic kidney failure treatment. However, as this study demonstrates, there are several factors beyond nephrologists’ control that undermine their role as experts and affect efforts for less invasive care for chronic kidney failure in patients with poor prognosis. Strategies to minimize system-level barriers in both countries, most notably those in the United States not present in England, may lead to care practices more in keeping with patient prognosis.

Acknowledgments

We thank the participants of this study.

Support: Dr Grubbs was supported by grant 1K23DK093710-01A1 from the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK, Bethesda, MD) and by the Harold Amos Medical Faculty Development Program of the Robert Wood Johnson Foundation, Princeton, NJ. Dr Tuot was supported by grant K23DK094850 from the NIDDK. Funders of this study had no role in study design; collection, analysis, and interpretation of data; writing the report; and the decision to submit the report for publication.

Financial Disclosure: The authors declare that they have no other relevant financial interests.

Contributions: Research idea and study design: VG, DST, NRP; data acquisition: VG; data analysis/interpretation: VG, DST; data interpretation: VG, DST, NRP, DO, CAC; supervision or mentorship: CAC. Each author contributed important intellectual content during manuscript drafting or revision and accepts accountability for the overall work by ensuring that questions pertaining to the accuracy or integrity of any portion of the work are appropriately investigated and resolved. VG takes responsibility that this study has been reported honestly, accurately, and transparently; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned have been explained.

Peer Review: Evaluated by two external peer reviewers, a Co-Editor, and Editor-in-Chief Levey.

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Table 1

Participant characteristics, overall and by country

| Characteristic | Overall (N=59) | US (n=41) | England (n=18) |
|--|----------------|-----------|----------------|
| Age group | | | |
| 45 y | 34 (57.6) | 26 (63.4) | 8 (44.4) |
| 46–65 y | 20 (33.9) | 10 (24.4) | 10 (55.6) |
| 66 y | 5 (8.5) | 5 (12.2) | 0 |
| Male sex | 45 (76.3) | 31 (75.6) | 14 (77.8) |
| Race/ethnicity | | | |
| White | 35 (59.3) | 20 (48.8) | 15 (83.3) |
| Black | 4 (6.8) | 4 (9.8) | 0 |
| Latino | 3 (5.1) | 3 (7.3) | 0 |
| Asian | 17 (28.8) | 14 (34.1) | 3 (16.7) |
| Time since completed nephrology training | | | |
| <5 y | 10 (16.9) | 8 (19.5) | 2 (11.1) |
| 5–10 y | 16 (27.1) | 11 (26.8) | 5 (27.8) |
| 10–20 y | 16 (27.1) | 11 (26.8) | 5 (27.8) |
| >20 y | 17 (28.8) | 11 (26.8) | 6 (33.3) |
| US Region | | | |
| Midwest | 11 (26.8) | 11 (26.8) | NA |
| Northeast | 10 (24.4) | 10 (24.4) | NA |
| South | 10 (24.4) | 10 (24.4) | NA |
| West | 10 (24.4) | 10 (24.4) | NA |
| England Region | | | |
| Metropolitan | 10 (55.6) | NA | 10 (55.6) |
| Town and country | 8 (44.4) | NA | 8 (44.4) |
| Practice setting | | | |
| Closed* | 19 (32.2) | 3 (7.3) | 18 (100.0) |
| Academic | 25 (42.4) | 25 (61.0) | 0 |
| Private | 12 (20.3) | 12 (29.3) | 0 |
| Other | 3 (5.1) | 1 (2.4) | 0 |
| No. of nephrologists in practice setting | | | |
| <10 | 23 (39.0) | 17 (41.5) | 6 (33.3) |
| 10–20 | 30 (50.9) | 20 (48.8) | 10 (55.6) |
| >20 | 6 (10.2) | 4 (9.8) | 2 (11.1) |
| Physician payment | | | |
| Fee for service only | 7 (11.9) | 7 (17.1) | 0 |
| Salary only | 45 (76.3) | 27 (65.9) | 18 (100.0) |
| Salary + fee for service | 7 (11.9) | 7 (17.1) | 0 |

| Characteristic | Overall (N=59) | US (n=41) | England (n=18) |
|--|----------------|------------|----------------|
| No. of maintenance dialysis patients in care | | | |
| 0 | 6 (10.2) | 4 (9.8) | 2 (11.1) |
| <20 | 6 (10.2) | 6 (14.6) | 0 |
| 20–50 | 19 (32.2) | 16 (39.0) | 3 (16.7) |
| 51–80 | 14 (23.7) | 10 (24.4) | 4 (22.2) |
| >80 | 14 (23.7) | 5 (12.2) | 9 (50.0) |
| Duration of inpatient consult service | | | |
| <12 wk | 26 (44.1) | 16 (39.0) | 10 (55.6) |
| 12–24 wk | 20 (33.9) | 14 (34.1) | 6 (33.3) |
| >24 wk | 13 (22.0) | 11 (26.8) | 2 (11.1) |
| Average no. of inpatient consults per week | 25.8 ±14.0 | 27.4 ±14.5 | 22.1 ±12.4 |

Note: Values for categorical variables are given as number (percentage); for continuous variables, as mean ± standard deviation.

NA, not applicable; US, United States

* Closed: National Health Service (England) or Veterans Administration (US)

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Table 2
Themes and subthemes emerging from nephrologists' semi-structured interviews

| System level | Foregoing dialysis | Withdrawing dialysis |
|---------------------|--|---|
| Barriers | | |
| Health care system | Lack of training and prognostic tools; Financial incentive to dialyze (US only); Limited funding for conservative management in rural areas (England only) | Financial incentive to dialyze (US only); Lack of patient-centered quality metrics; Lack of time for discussions in high patient volume setting (US only); Hospital leadership (US only); Lack of evidence-based guidelines for when to consider dialysis withdrawal (US only); Hospice requirement for abrupt dialysis withdrawal (US only); Technological advancements make dialysis possible for sicker patients |
| Culture of medicine | Non-nephrologists' expectation of dialysis; Easier to initiate dialysis than initiate difficult conversations; Sense of failure | Lack of communication and prognostication skills; Sense of failure |
| Societal culture | Expectation for medical intervention; Misperceptions about dialysis; Mistrust of health care system | Expectation for medical intervention; Unrealistic expectations of dialysis; Cultural and language discordance |
| Facilitators | | |
| Health care system | Available inpatient palliative care and hospice services; Available outpatient palliative care and hospice services; Data regarding survival benefit | Availability of palliative care or hospice services |
| Culture of medicine | Discussions to establish consensus | Team consensus |
| Societal culture | Patient desire for nephrologist help in making decision | None identified |