

When Shared Decision-Making Meets Organisational Reality: How Nephrologists Navigate Dialysis Modality Selection—A Q Method Study

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Abstract

Introduction: Dialysis modality selection (DMS), and consequently the uptake of home-based therapies, may be influenced by local medical culture and physicians' attitudes toward dialysis modalities. Shared decision-making (SDM) is considered the gold standard for DMS in pre-dialysis care; However, differences in how nephrologists conceptualize and implement SDM may shape the scope of treatment-modalities discussions and patients' opportunities to make a genuinely informed choice, particularly regarding home-based therapies.

Objective: To explore Belgian nephrologists' attitudes and patterns of thought regarding SDM with ESKD patients, and to examine how these perspectives may shape discussions and consideration of dialysis modalities beyond in-center hemodialysis (icHD).

Design and methods: We conducted a prospective, nationwide mixed-methods study using Q methodology, combined with an inductive thematic analysis of think-aloud interviews, to identify shared viewpoints and areas of disagreement. Participants ranked nine statements representing different attributes of SDM in response to a clinical vignette.

Results: Q-methodological analysis identified three distinct but complementary conceptualizations of SDM among nephrologists: (1) a pragmatic, team-based approach; (2) A single decision-making model polarized between an autonomy-focused approach emphasizing physician neutrality and, at the opposite pole, a physician-oversight-first approach.; and (3) an educational model involving nurses, family members, and peers. Findings suggested that nephrologists may navigate between these SDM frameworks during DMS depending on the clinical context. Explicitly paternalistic practices were broadly rejected across all three viewpoints. However, qualitative analysis revealed limited conceptual clarity and critical reflection regarding paternalistic assumptions, risk management, patient autonomy, and SDM. Participants frequently focused on perceived patient- or unit-level barriers to home-based therapies and case-by-case problem solving, while broader organizational and system-level approaches were less frequently discussed.

Conclusion: Approaches to SDM during DMS appear to be influenced by varying understandings of SDM and clinicians' capacity for critical self-reflection regarding paternalistic assumptions and patient autonomy. Although explicitly paternalistic positions were generally rejected, qualitative findings suggest that some assumptions shaping modality discussions may remain insufficiently recognised because they are embedded within organisational realities and established unit norms. Participants frequently favoured case-by-case problem solving focused on perceived barriers to home-based therapies rather than broader system-level approaches to addressing these barriers. This may narrow the range of options presented to patients and thereby limiting their opportunities to make a genuinely informed and feasible choice. These findings raise the question of whether such restrictions reflect individual clinical judgement, unrecognised paternalistic assumptions, or what might be conceptualised as collective professional normalisation of organisational, educational, and structural barriers that maintain icHD as

the default modality. The boundary between these interpretations remains unclear and warrants further investigation.

Introduction

Home-based kidney replacement therapies, including peritoneal dialysis (PD) and home haemodialysis (HHD), remain unevenly implemented across Europe. Although these modalities are widely recognized as clinically appropriate options for many patients, their uptake remains limited in most countries, often accounting for only around 10% of prevalent dialysis patients (1, 2). These national or even regional variations are not readily explained by differences in patient case-mix or by objective outcomes such as mortality, morbidity, hospitalisation, or health-related quality of life (3–5). As a result, attention has increasingly shifted towards contextual determinants of home dialysis use, including reimbursement models, financial incentives, logistical barriers, and organisational models of care (6–7).

However, these factors do not fully account for the observed variation. Financial incentives alone appear insufficient to substantially increase home dialysis uptake (8–9) and marked inter-centre differences persist even between regions operating within similar healthcare systems, dialysis reimbursement models, and resource constraints (10–11). These observations suggest that less visible determinants, embedded in unit organisational culture and established norms may play an important role. Recent studies have therefore highlighted the potential influence of centre-level culture, healthcare professional attitudes, and nephrologists' beliefs on dialysis modality education and decision-making processes (12–16).

We hypothesised that, beyond centre-level culture, nephrologists' implicit attitudes towards SDM and their underlying mental models of the physician–patient relationship may shape DMS. These attitudes may affect not only which treatment options are discussed, but also how they are framed, how patients' preferences are elicited, and how treatment-related risks, priorities and responsibilities are negotiated between physicians and patients (12, 17). Examining these underlying perspectives may therefore help clarify the clinician-level mechanisms through which patients' treatment options may be implicitly restricted and identify potentially modifiable attitudinal barriers to considering modalities beyond in-centre haemodialysis.

Q-sort methodology combines qualitative and quantitative approaches to explore subconscious subjectivity, such as opinions and beliefs by forcing participants to prioritize statements (Q-set) that capture the diversity of viewpoints on a specific topic (18).

We therefore aimed to explore nephrologists' mental models of SDM during DMS using Q methodology, with particular attention to the attitudes and reasoning processes that may influence discussions about home-based therapies.

Methods

Study design: We conducted a prospective, nationwide mixed-methods study using Q methodology combined with an inductive thematic analysis of Q-sort-elicited think-aloud interviews to capture and compare nephrologists' perspectives, beliefs and attitudes towards SDM in the context of DMS (19).

Setting and participants: Twenty-five active nephrologists were purposively included to ensure a diversity in age, levels of experience with home dialysis, as well as both male and female perspectives. Kidney units were selected to reflect variation in the size and organisational culture of home and overall dialysis programs. We intentionally restricted to one region (Belgium) with a single financial incentive model to exclude pure economic drivers.

Data collection: We developed a clinical vignette describing a 60-year-old patient with chronic kidney disease approaching end-stage kidney disease (ESKD), accompanied by a Q-set of nine statements representing different perspectives on the decision-making process. These statements reflected varying degrees of patient autonomy, nephrologist involvement, nursing influence, external influence from family members and general practitioners (GPs), and concerns for institutional and logistical constraints (Appendix 1). The resulting Q-set was constructed based on the existing literature on SDM in ESKD and through consensus within the research team. In a pilot phase, statements were evaluated for clarity and lack of ambiguity. During the sorting exercise, a think-aloud approach was used to elicit participant's reasoning and argumentation underlying the ranking process. All interviews were conducted by ALC alone or together with TL in the participants usual workplace, audio-recorded, and transcribed verbatim. Interviews were transcribed verbatim in French or Dutch. Selected quotations were translated into English, in accordance with COREQ reporting recommendations (20) (Appendix 2).

Data Analyses: Quantitative analysis of the Q-sorts was performed using the open-source software Ken-Q Analysis (KADE version 1.0.6) (21). Eight principal components were initially extracted. An eigenvalue greater than 1.5 was used as a preliminary criterion for identifying components for further examination, rather than as the sole criterion for final factor retention. We compared three- and four-factor solutions using Varimax rotation. Although the fourth component met the initial eigenvalue criterion (eigenvalue = 1.83), the four-factor solution did not provide a sufficiently distinct and interpretable additional viewpoint to justify the increased complexity, particularly given the limited number of Q-sorts ($n = 25$). We therefore selected the more parsimonious three-factor solution on the basis of total variance explained and interpretability. This solution explained approximately 80% of the total variance, with Factors 1, 2, and 3 accounting for 32%, 21%, and 27%, respectively.

We configured KADE to automatically flag each Q-sort for the factor on which it loaded most strongly. Under this setting, Q-sorts may be flagged even when their factor loadings do not reach statistical significance or when they exhibit substantial cross-loadings. Using the conventional statistical significance threshold based on the nine statements included in the Q-set ($|loading| \geq 1.96/\sqrt{9} = 0.65$, $p < 0.05$), three Q-sorts did not meet the threshold for a defining loading although they approach to this (0,58, -0,60, 0,58). In addition, two Q-sorts showed substantial cross-loadings and are therefore

potentially confounded. These potentially non-defining or confounded Q-sorts are included in the initial construction of the factor arrays because the choice to use the automated flagging in KADE.

To aid factor interpretation, five attributes were prespecified during the development of the Q-set, before any factor solutions were examined. These attributes represented dimensions of the shared medical decision-making process that we intended to explore through the Q-sort. For each attribute, the direction and relative weight assigned to each Q-statement were proposed by ALC (female nephrologist, 10 years' experience), WVB (PhD, male nephrologist, 30 years' experience), and TM (PhD, occupational therapist 10 years of experience). The final weights/orientations were agreed upon by consensus. For each factor, an attribute score was calculated by multiplying the signed weight assigned to each Q-statement by its corresponding factor-specific Z-score and summing the resulting values across the nine statements. These scores provided a descriptive and comparative representation of the different attributes associated with each factor and supported its interpretation (Appendix 3).

For the qualitative analysis of the think-aloud data, we conducted an inductive thematic analysis following Braun and Clarke's approach. Two authors (ALC and CC) independently coded transcripts line-by-line and iteratively grouped emerging themes into non-overlapping categories. Coding and theme development were regularly reviewed with the research team, and findings were checked against the audio recordings to ensure consistency and completeness. The study is reported according to the Consolidated Criteria for Reporting Qualitative Research (COREQ) guidelines (20) (Appendix 2).

Ethics: The study was approved by the Ethics Committee of University Hospital Brussels (SRB2023243), conducted in accordance with the Declaration of Helsinki, and all participants provided written informed consent.

Results

Demographic data of the 25 participants summarized in table 1.

Table 1: Baseline characteristics of the participants. Participant mapping by home dialysis programme size is provided in Supplementary Materials (Appendix 4).

Characteristic	Overall (%), <i>n</i> =25
Age, yr, mean (SD)	45,1 (± 9,5)
Sex, No. (%)	
• Men	14 (56)
• Women	11 (44)
Years since completed nephrology training, No. (%)	
• 0-5	6 (24)
• 6-10	5 (20)
• 11-19	8 (32)
• 20+	6 (24)
Involved directly with clinical dialysis work, No. (%)	
Yes	24 (96)
no (transplant nephrologist)	1 (4)
HHD – PD experience (number of treated patients), No. (%)	
< 10 patients	9 (36)
11-30 patients	7 (28)
> 30 patients	9 (36)
Practice Location - Region, No. (%)	
• Wallonia	10 (40)
• Brussels	7 (28)
• Flanders	8 (32)
Practice type – Physician reimbursement, No. (%)	
• Academic	6 (24)
• Non-academic	19 (76)

• Salaried	6 (24)
• Independent	19 (76)
Size of the overall dialysis program, No. (%)	
• < 100 prevalent dialyzed patients	1 (4)
• 100-150	4 (16)
• 151-200	14 (56)
• > 200	6 (24)
Home dialysis size program (vs Hospital high low care), No. (%)	
• ≤10% of overall dialyzed patients	12(484)
• 11-20%	10 (40)
• >20%	3(12)
Educational nurses, No. (%)	
• Specific experience in PD – self-care or home technique	16 (64)
• Little experience in PD – most experience in hospital or general HD	9 (36)

Quantitative Interpretation of Q sort Results

The Q-methodological analysis identified three distinct factors accounting for approximately 80% of the total variance (Figure 1). Factors 1, 2, and 3 accounted for 32%, 21%, and 27% of the variance, respectively. Based on the pre-defined attributes, each factor corresponds to a distinct and interpretable viewpoint (figure 1).

1. A group focused on a team-based approach with safety oversight and sense of institutional constraints.
2. A single (patient or physician) decision-maker driven group.
3. A group focused on collaborative empowerment of patients via nursing education and peers.

Main attributes, dialysis-decision-making physicians 'style and potential gaps across the 3 main profiles defined by the factor analysis is summarized in table 2.

Table 2: Main attributes, dialysis-decision-making physicians 'style and potential gaps across the 3 main profiles defined by the factor analysis.

	Factor 1	Factor 2	Factor 3
Main attributes	Collaborative empowerment with safety oversight	Hang yourself – detached – patient driven decision	Collaborative empowerment via nursing education
Main rejected values	Paternalistic stance (doctor driven)	Too much nudging guidance - steered approach	Paternalistic stance (doctor driven)
Dialysis-decision making style	Empowerment within institutional norms or medical safety	Patient independence – avoiding bias	Support through nursing education and transfer of lived experience (doctor or peers)
Potential caveats	institutional issues – constraints driven (normalisation of)	Doesn't apply SDM principles (unnecessary patient 'disempowerment)	Rely too much on the nursing team (possible education bias)

What follows is an abbreviated summary of highlights with relevant quotes.

A complete and detailed description of the 3 factors (with Factor arrays) is provided in appendix 5.

Factor 1 (32% of total variance) – “Unit norms- oriented SDM”

Factor 1 represents the statistically most prominent shared viewpoint within the study sample. Within this viewpoint, patient autonomy is supported while realistically considering organizational and safety constraints. The nephrologist nevertheless retains a coordinating role, ensuring that the chosen care plan remains feasible, safe, and sustainable for the patient and all those involved in their care.

We (the team) do not actually ask the patient what will ultimately be done. Rather, we ask what, ideally, would be the modality best suited to their life. Then, our role is to say, ‘This may not work, for this or that reason... The nephrologist can therefore influence the decision but should not necessarily have to.’ (F1, 12)

Statements supporting paternalistic approaches are strongly rejected, as were statements stipulating that modality choice is unrestricted by the level of perceived consequences for the local organization or the patient.

“I do not agree with the idea that the patient must always follow the nephrologist’s advice. However, I also do not agree with the idea that the patient can decide without considering the consequences for the team or the healthcare system. The system must continue to function.” (F1, 24)

Subtle 'nudging' by all stakeholders, including peer-patients, is perceived to facilitate a well-informed choice, and can be applied to demystify home-based therapies.

« I openly acknowledge that I am a nephrologist who promotes home dialysis. While I emphasize its advantages, I also discuss the responsibilities and potential risks.» (F1, 24)

Factor 2 (21% of total variance) – “pro-autonomist attitude”

Factor 2 accounted for 21% of the total variance, representing the smallest proportion among the three retained factors. Nevertheless, it reflects a distinct shared perspective within the analysed Q-sorts, as it strongly attributes decisional power to one single keyholder rather than looking for a true SDM process. It differs clearly in that regards from Factors 1 and 3. It displays a clear bipolar structure, comprising two opposing perspectives: one assigns final decision-making authority to the patient, whereas the other assigns it to the physician, and this irrespective of the consequences. Despite their opposition, both poles concentrate decision-making power in a single individual rather than endorsing a genuinely shared decision-making process. Factor 2 includes 4 participants with positive defining loadings and 3 participants with negative defining loadings. Participants that loaded positively on F2 assigns this authority primarily to the patient, even when such choices may have strong implications for the care team or for their own health (“The patient can decide at all times, whatever the consequences”; FA +1.66).

We had a patient who had previously received modality education but refused to start dialysis. He later presented in emergency with pulmonary oedema and remained reluctant to in-centre haemodialysis, even temporary. ... we initiated HHD training immediately. Six weeks later, he was performing HD at home. (F2, 8)

Quotations from participants loading negatively on Factor 2 illustrate the opposing pole of this bipolar factor. They express a strong preference for the nephrologist to steer DMS, with even greater emphasis than in Factor 1 on financial, logistical, and patient-related considerations.

« I strongly support placing the patient at the centre of our concerns, but I am also uncomfortable with situations in which patients dictate how physicians should manage their care. Patients should also show a certain respect for our clinical schedules and organization. It is ultimately a compromise, not a customer service relationship ». (loading negatively to F2, 16)

Their common denominator is therefore not a shared viewpoint, but a preference for one individual having the final say rather than for a « multi-stakeholders » shared decision-making process.

Factor 3 (27% of total variance) – “Modality choice relying on Nursing Education and Peer Support”

Factor 3, accounting for 27% of the total variance, emphasizes the key roles of nurse-led education and peer support in shaping the SDM process. From this perspective, the patient's preferences may be supported by both nurses and peers, while the final decision is made collaboratively by the patient, nephrologist, and nurse.

« I see the influence of nurses and peer patients as something very positive. As nephrologists who follow our patients over the long term, we sometimes become part of a very close relationship with them. Involving external people can open the discussion to different perspectives, allowing the patient to reflect and sometimes reconsider their initial preference, thinking.” (F3, 4)

The trust in the positive role of nurses and peer patients in DMS depends on nurses – peers being sufficiently experienced and/or avoiding too personal, emotional discourse.

The potential value of peers was especially acknowledged to demystify home-based therapies.

“Peers who were already performing HHD were very helpful in launching the program. Patients in the pre-dialysis phase meet patients who are in training or in respite care, and most of the time these exchanges are focused on practical aspects.”(F3, 22)

Areas of consensus & divergence (cross-factors comparison)

Factors 1 and 3 shared some general perspectives (correlation $r = 0.50$), but with some distinct narrative patterns and priorities. In contrast, Factor 2 represented a more singular viewpoint and could be considered as a “divergent” profile.

Across all factors, participants rejected leaving DMS entirely to nephrologists and generally valued the contribution of nurses and family members (but not the GPs)

“Involving the family in the process ultimately helps to partially relieve the patient from having to make a heavy decision alone. As for the GP, their role is primarily one of emotional support and should not interfere with the choice of dialysis modality itself.” (19, F2)

“Nudging” decision by nephrologists was moderately endorsed by participants associated with Factors 1 and 3 (FA 0.24 and 0.34, respectively), but not by those associated with Factor 2 (FA -0.55).

“We rely on our clinical expertise and our knowledge of the patient...more broadly, their psychosocial, family, and professional context. That allows you, to some extent, to gently orient them toward the modalities that might suit them best, without imposing your choice.”(F3, 3)

The ‘tripod’ collaborative model, whereby the final decision is jointly shaped by the patient, the referring nephrologist, and nursing staff, was strongly endorsed by participants associated with Factors 1 and 3 (FA 1.69 and 1.33, respectively) but received little support among those associated with Factor 2 (FA -0.21).

"For me, the decision should be a team decision, with the patient and their family at the centre. The nephrologist does not necessarily have the final word; they are one member of the team." (F1, 24)

The main divergence concerned the extent to which patient choice should remain unrestricted when clinical or organizational consequences were anticipated. This directly highlights differences in interpretation of patient autonomy and physicians' responsibility. The sentence "the patient should be able to decide at any time regardless of the consequences" elicited strong disagreement among participants from Factor 1 but strong agreement among those from Factor 2 (FA -1.16, +1.66 for F1 and F2 respectively).

"I do not agree with the idea that the patient must always follow the nephrologist's advice. However, I also do not agree with the idea that the patient can decide without considering the consequences for the team or the healthcare system. The system must continue to function and ensure that other patients can still receive the care they are entitled to." (F1, 24)

Qualitative Interpretation of Think-Aloud Data

While the overall quantitative analysis indicated that few participants perceived their own approach as paternalistic, the think-aloud interviews revealed a more nuanced picture. When discussing clinical scenarios encountered in practice, many participants described restricting patients' choices during DMS but rarely recognised these practices as potentially paternalistic. Such restrictions may arise early in the decision-making trajectory and were framed as "obvious" medical, technical, or logistical contraindications.

« I find it more difficult to accept the idea that a patient could impose any choice, particularly when it comes to home-based therapies, especially if we have serious concerns. I'm thinking of situations involving social vulnerability, non-adherence, poor hygiene, or substance abuse... In such cases, I believe we still have a legitimate role in overseeing the decision." (3, F3)

Others struggle to impose such early vetoes and preferred to allow patients to explore their options, although this sometimes resulted in delayed decisional conflict.

"When we are less confident about a patient's choice, the question becomes: should we allow some room for experimentation, letting patients learn from possible failures or mistakes? Or should we place a veto earlier?" (4, F3)

In some cases, paternalistic practices appeared more insidious through insufficient support for a chosen modality, thereby undermining its successful continuation after complication has occurred.

"If a patient insists on peritoneal dialysis but the PD team does not support the project, it is unlikely to work. At the first complication, there is a risk that the response will be, 'We told you so!'" (4, F3)

By contrast, participants loading strongly on Factor 2 tended toward a more absolutist view of autonomy, with less emphasis on professional guidance and fewer concerns regarding the consequences of patients' decisions.

"Patients should have the freedom to discontinue a given modality from one day to another, for example by transitioning to conservative management or by exploring an alternative modality through a trial period, with all our appropriate support." (19, F2)

Yet even among these participants, autonomy was often conditional upon patients demonstrating an adequate understanding of the consequences of their choices.

« If there are potential consequences that could harm the patient and that the patient may not fully understand that becomes problematic. On the other hand, if a competent patient makes a decision that may be harmful to their own health, then that is their choice." (17, F2)

Only a few participants recognized that a patient's limited ability to make informed decisions may itself be the consequence of a failing pre-dialysis education program with insufficient emphasis placed on patient empowerment.

There is a clear need to train more nursing staff across all dialysis modalities. When nurses are not comfortable with a technique such as PD, they are less likely to present it in a balanced manner. This can significantly shape patients' perspectives." (17, F2).

Participants inversely polarized to Factor 2 frequently weighed patient choice against the nephrologist's superior biomedical expertise and highlighted the influence of managerial and financial pressures on the range of modalities genuinely available for discussion.

« I always communicate my opinion as a recommendation grounded in scientific evidence. It is ultimately up to the nephrologist to discuss and decide on therapeutic limitations." (16, F2 polarized)

(about launching a home dialysis program) "We're the hospital's cash cow and every project will be scrutinized (business plan). If it's not profitable or at least as profitable as icHD, the medical direction won't support us." (16, F2 polarized)

Conversely, some participants loading positively on Factor 2 recognized that supporting true patient choice often depended on the flexibility and adaptability of local workflows for home-based therapies adoption.

"Yes, patients can decide at any time; nothing is set in stone. However, this flexibility is only possible because of the high level of flexibility within our team – for example, being able to insert peritoneal dialysis catheters urgently." (8, F2)

Discussion

We identified three distinct yet complementary conceptualizations of SDM in DMS among nephrologists. These ranged from a collaborative, team-based model acknowledging institutional constraints and physician responsibility for safety; to a more “single-decider” model, with either strong patient autonomy or dominant medical oversight; and to a strongly collaborative model emphasizing nurse-led education, peer support, and physicians’ experience transfer.

Together, the three factors explained a substantial proportion of the total variance, suggesting that they captured major patterns of thought among the participants.

At first glance, in the Q-sort exercise, none of the participants endorsed a position in which physicians override patients’ preferences regarding DMS. However, despite the explicitly anti-paternalistic positions expressed in the Q-sort exercise, the interviews revealed a more nuanced—and perhaps uncomfortable—finding. Although participants rejected paternalism in principle, many described real-world practices in which the range of available modalities was implicitly constrained before the SDM process had fully unfolded.

This restriction of patient choice was often unconsciously justified by perceived organizational norms of the unit, concerns regarding productivity-driven pressures, , insufficient provision of home dialysis services (such as home assistance), limited patient engagement, multimorbidity, and a deeply internalized sense of medical responsibility. **Although these underlying rationales were recurrent, the point at which such restrictions occurred varied.**

Some nephrologists limited options presented before education had begun or before their implications had been fully discussed; others intervened after an informed patient had made a choice they considered suboptimal, or only after complications had occurred. Some accepted patients’ decisions when they understood the consequences (conditional autonomy). Others failed to provide sufficient support for successful continuation of the chosen modality, leading to premature technique failure (“I told you so” scenario). These reported attitudes were particularly evident among nephrologists with limited familiarity with home-based therapies, who more frequently expressed potentially unwarranted assumptions regarding patient eligibility. In this line with this, many acknowledged feeling insufficiently trained in home therapies and conservative care and reported limited institutional support for challenging the status quo.

Further, it emerged that the concept of “patient autonomy” is sometimes conflated with “provision of service”, in which the patient is considered as a customer who can choose whatever is available and pleases him (22).

Overall, examination of the think-aloud data within the context of realistic clinical scenarios revealed that, although all three factor groups appeared to reject paternalism, this stance coexisted with implicit constraints on patients’ treatment options choice and differing interpretations surrounding medical responsibility, risk management, patient autonomy and paternalistic assumptions. These factors appeared to shape how SDM was understood and potentially implemented during DMS.

This discrepancy between the Q-sort exercise and think-aloud data may reflect a deeper tension between traditional medical culture in which they were trained and the contemporary shift toward patient-centred, goal-oriented care in nephrology (23,24). This tension may be partly rooted in a model of medical education that has traditionally positioned physicians as the primary “responsible caregivers”, rather than as partners engaging in genuine SDM with patients. This mindset becomes particularly visible when discussing life-changing, highly technical treatments such as dialysis. The cases discussed during the interviews strongly reflected this enduring model of physician responsibility. Consequently, patient autonomy is often viewed not as an absolute principle but as a context-dependent construct balanced against perceived risks to patients, families, healthcare teams, or the long-term sustainability of the chosen modality. Figure 2 illustrates how nephrologists’ clinical judgement and perspectives on risk management and patient autonomy may interact with established unit norms and organisational constraints to shape SDM during DMS.

Achieving patient autonomy during DMS requires that all modalities be presented with comparable expertise and accessibility. During counselling, patients and relatives should be helped to understand how treatment options may affect their daily lives and priorities rather than being overwhelmed with technical details of limited relevance (25,26). Yet decision aids designed to elicit patients’ goals and preferences were rarely used despite evidence supporting their effectiveness (27-29). Likewise, although most participants delegated patient dialysis modality education to nursing staff, few centres reported having nurses specifically trained in motivational interviewing and therapeutic education across all dialysis modalities.

Participants frequently invoked logistical constraints (e.g., limited availability of assisted PD) as barriers to true modality choice, often without considering their own role in addressing these challenges, perpetuating the status quo. Although a minority of nephrologists demonstrated the problem-solving mindset needed to support home therapies successfully, most felt insufficiently trained and inadequately supported by nursing teams to offer these modalities to patients with complex medical or psychosocial needs, consistent with previous reports (30,31). In contrast, nephrologists working in unit with > 20% of their dialysed patients treated with home dialysis viewed barriers not as automatic vetoes but as challenges to explore collaboratively (figure 2).

Finally, this shift toward goal-oriented, patient-centred care for people with complex chronic disease remains poorly supported by healthcare financing systems, which continue to reward technical procedures more than the intellectual, educational, preventive and relational dimensions of care (32,33). Participants highlighted how productivity-driven pressures limit their opportunities for engaging in meaningful conversations on goal-oriented care.

Our findings therefore raise the question of how meaningful cultural change at the unit level can occur when many nephrologists do not view healthcare transformation as part of their professional responsibility, but rather as dependent on higher political decisions or financial incentives. Notably, several participants described the introduction of dedicated funding for pre-dialysis education as a

“game changer”, enabling substantial changes in the organization and delivery of educational programmes for patients with ESKD.

Beyond financial incentives, meaningful cultural change in dialysis care may also be supported by structural initiatives aimed at strengthening training and knowledge exchange. These could include greater integration of home-based therapies and pre-dialysis care into nephrology curricula, as well as regular regional or national multicentre case-based forums focused on home-based therapies to facilitate knowledge exchange between more and less experienced centres (34,35). Consistent with this, participants frequently described how exposure to successful experiences with patients initially considered “non-ideal candidates” for home therapies could broaden their perspectives and help normalize these modalities as routine treatment options rather than exceptions.

Strengths and limitations: This study has several strengths, including its mixed-methods design, the use of a clinically realistic vignette, and the inclusion of nephrologists from diverse backgrounds and practice settings, capturing a broad range of perspectives on SDM. Limitations include its restriction to Belgian nephrologists, which was intended to reduce variability related to dialysis reimbursement models, but may limit transferability to other healthcare systems. Nurses’ and patients’ perspectives were not included, and associations between nephrologists’ perspectives and modality uptake beyond icHD were not assessed. Moreover, although this restricted Q-set was deliberately designed to represent a range of plausible nephrologists’ viewpoints, it cannot encompass all potential perspectives. The resulting factors should therefore be interpreted as patterns of viewpoints elicited within a predefined framework, rather than as an exhaustive taxonomy of nephrologists’ perspectives. Finally, the first author’s position as Head of a Home Dialysis Unit may have influenced the construction of the Q-set, the conduct of peer interviews, transcript coding, and the interpretation of findings related to home-dialysis advocacy. Although the structured nature of Q methodology may reduce socially desirable responses, and peer-interviewer effects, it cannot eliminate these potential sources of bias.

Conclusion

In conclusion, approaches to SDM during DMS appeared to vary alongside clinicians’ understandings of SDM principles and their capacity for critical self-reflection on paternalism, medical responsibility, and patient autonomy. Paternalistic assumptions may remain unrecognised when embedded within organisational constraints and established unit norms. Moreover, participants frequently described favouring case-by-case problem solving over broader care pathways aimed at supporting equitable access to the full range of dialysis modalities. These findings raise the question of whether restrictions in modality options may reflect individual clinical judgement, unrecognised paternalistic assumptions, or a limited collective capacity to challenge organisational, educational, and structural barriers that maintain icHD as the default option. Our findings suggest that clinicians’ perspectives on DMS and unit organisational culture may interact to shape SDM, while the distinction between clinician- and system-level influences may not always be clear. Further research linking clinicians’ perspectives on DMS to unit-level practice patterns and home dialysis uptake is needed.

Declarations

Ethical approval: The study was approved by the Ethics Committee of the University Hospital of Brussels (HUB) before the first participant was interviewed and conducted in accordance with the Declaration of Helsinki. Participants received written and verbal information about the study objectives and procedures and provided written informed consent.

Registration: The study was retrospectively registered on 23 January 2026 (NCT07364292). Prospective registration on ClinicalTrials.gov was not mandatory for the initiation of this study; All required ethics committee and local Clinical Trial Center approvals were obtained before the study commenced.

Informed consent to participate: Participants received written and verbal information about the study objectives and provided written informed consent regarding to anonymous publication of their data.

Conflict of interest statement: None declared.

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Author contributions: A.L.C. and W.V.B. designed the study. A.L.C and T.L conducted the interviews and A.L.C and C.C, data collection. A.L.C., T.M. and W.V.B. performed data analysis and interpretation. A.L.C. drafted the manuscript. W.V.B. and T.M provided critical revisions for important intellectual content. All authors approved the final version of the manuscript.

Data availability statements: The anonymized Q-sorts datasets can be made available after motivated request to the first author. The qualitative think-aloud data elicited during the Q-sorting process are available from the corresponding author upon reasonable request and subject to applicable ethical and confidentiality requirements.

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Figures

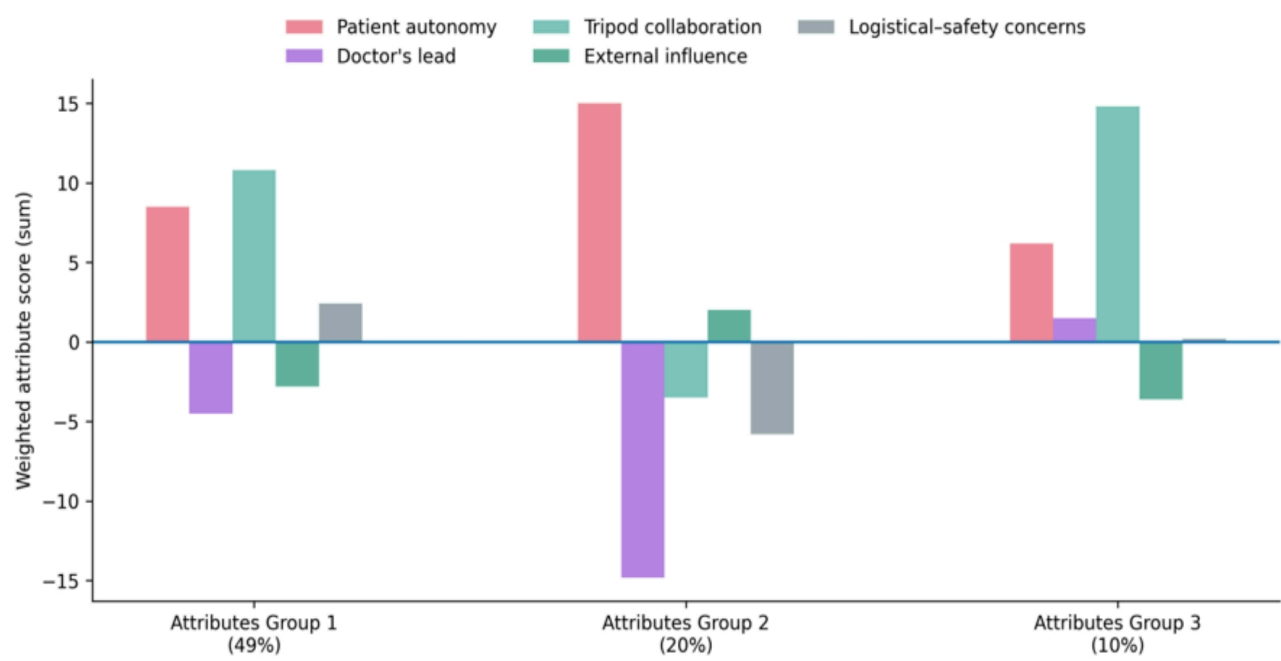


Figure 1

Cluster-style bar chart showing weighted attribute scores across the three factors. The five attributes represented are: patient autonomy; doctor’s lead; collaborative approach (tripod model); external influence (family or GP); and logistical–safety concerns. Positive values indicate stronger alignment with the attribute, whereas negative values indicate opposition or lower endorsement of the attribute within the factor.

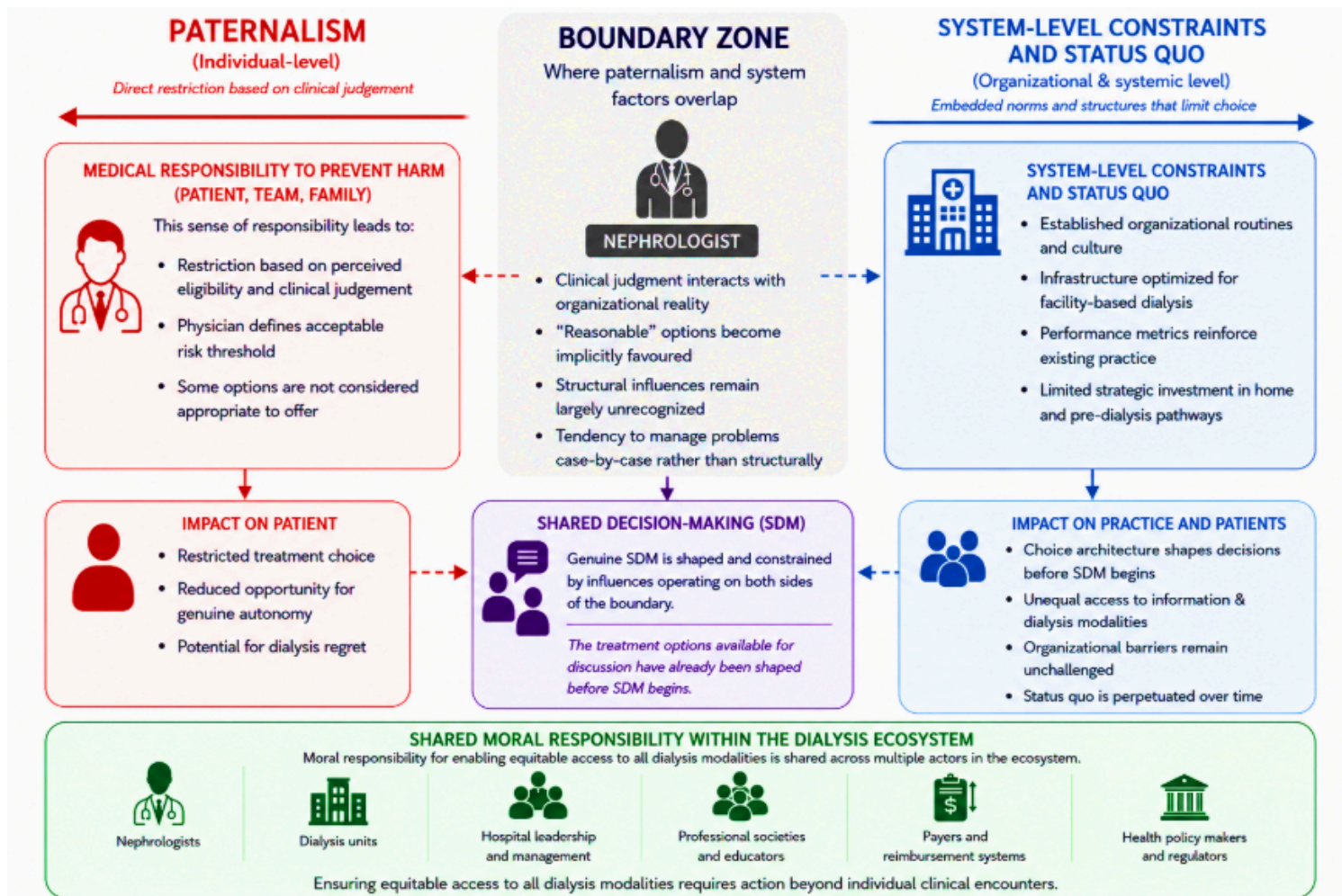


Figure 2

Conceptual framework illustrating how nephrologists' perceived responsibility to prevent harm, organisational realities, and system-level constraints may interact to shape DMS before SDM can fully unfold. Nephrologists' clinical judgments informed by a perceived responsibility to protect patients, families, and healthcare teams, intersect with organizational realities within a "boundary zone" where implicit norms may shape what is considered a reasonable treatment option. These clinician and organisational influences are embedded within broader system-level structures, including established routines, infrastructure, performance metrics, and limited opportunities for investment in home and pre-dialysis dialysis pathways. Together, these interacting factors may influence the choice architecture, restrict equitable access to the full range of dialysis modalities, and reduce opportunities for genuine patient autonomy.

Supplementary Files

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- [Supplementalmaterialsappendix17.docx](#)
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