Labiano-Pérez-Seoane C. htpps://doi.org/10.37551/S2254-28842025012

Expert consensus on a nursing care report for haemodialysis patients in transition (The Nomad Patient Project)

Cristina Labiano-Pérez-Seoane[1], Irene Larrañeta-Inda[2], José Luis Cobo-Sánchez[3,4,5]

[1] Clínica Universidad de Navarra. Pamplona. Spain
[2] Hospital Universitario de Navarra. Pamplona. Spain
[3] Hospital Universitario Marqués de Valdecilla. Santander. Spain
[4] Grupo de Investigación en Inmunopatología. Instituto de Investigación Sanitaria Marqués de Valdecilla–IDIVAL. Santander. Spain
[5] Escuela Universitaria de Enfermería Hospital Mompía. Universidad Católica de Ávila. Bezana. Spain

Please cite this article in pres as :
Labiano-Pérez-Seoane C, Larrañeta-Inda I, Cobo-Sánchez J. Consenso de expertos para un informe de cuidados de enfermería en pacientes en hemodiálisis en transición (Proyecto Paciente Nómada). Enferm Nefrol. 2025;28(2):116-24

Corresponding author:
Cristina Labiano Pérez-Seoane
clabianop@unav.es

Reception: 19-03-25
Acceptance: 25-04-25
Publication: 30-06-25

ABSTRACT

Introduction: Continuity of care is vital for patient safety during healthcare transitions, where nursing care reports facilitate coordination and reduce risks.

Objectives: To reach a consensus on additional fields that should be included in the nursing care report for haemodialysis patients transitioning between care centres.

Material and Method: We conducted an exploratory study divided into 2 rounds. In Round #1, an expert committee designed a questionnaire based on literature review and Gordon's functional health patterns system, to determine the additional fields. In Round #2, a modified Delphi technique was applied in 2 rounds to reach consensus on the additional fields. 56 experts participated in the first round and 14 in the second. Consensus was considered when at least 80% approved an additional field.

Results: Consensus was reached on 54 of the 57 additional fields presented in Round #1 to be included in the report, such as the originating centre, need for medical transport, number of weekly dialysis sessions, duration of each session, and specific vascular access data. Elements related to the patient's health according to Gordon's patterns were also agreed upon, highlighting aspects such as blood glucose control, presence of muscle cramps, and use of aids for night-time rest.

Conclusions: The study successfully developed a standardised nursing care report for haemodialysis patients in transition, aiming to improve safety and continuity of care.

Keywords: haemodialysis; continuity of patient care; patient care planning; Delphi technique; patient transfer; nursing records.

RESUMEN

Consenso de expertos para un informe de cuidados de enfermería en pacientes en hemodiálisis en transición (Proyecto Paciente Nómada)

Introducción: La continuidad de cuidados es vital para la seguridad del paciente durante transiciones sanitarias, donde los informes de cuidados de enfermería facilitan la coordinación y reducen riesgos.

Objetivos: alcanzar un consenso sobre los campos adicionales que deberían incluirse en el informe de cuidados de enfermería de pacientes en hemodiálisis en transición entre centros asistenciales.

Material y Método: estudio exploratorio dividido en dos fases. En la primera, un comité de expertos diseñó un cuestionario basado en la revisión bibliográfica y el sistema de patrones funcionales de Gordon, para determinar los campos adicionales. En la segunda fase se aplicó una técnica Delphi modificada en dos rondas para consensuar los campos adicionales. Participaron 56 expertos en la primera ronda y 14 en la segunda. Se consideró consenso cuando al menos el 80% aprobaban un campo adicional.

Resultados: Se consensuaron 54 de los 57 campos adicionales presentados en la primera ronda para incluir en el informe, como el centro de origen, necesidad de transporte sanitario, número de sesiones dialíticas semanales, duración de cada sesión, y datos específicos del acceso vascular. También se consensuaron elementos relacionados con la salud del paciente según los patrones de Gordon, destacando aspectos como control de glucemia, presencia de calambres musculares y uso de ayudas para el descanso nocturno.

Conclusiones: El estudio logró desarrollar un informe de cuidados de enfermería estandarizado para pacientes en hemodiálisis en transición, con el fin de mejorar la seguridad y continuidad de cuidados.

Palabra clave: hemodiálisis; continuidad de la atención al paciente; planificación de atención al paciente; técnica Delphi; transferencia de pacientes; registros de enfermería.

INTRODUCTION

Chronic diseases are a determining factor in the utilisation of health care services and pose a significant challenge for health systems globally[1–3]. Chronic kidney disease presents a major public health challenge, with end-stage patients requiring haemodialysis treatment to sustain life.4 This renal replacement therapy profoundly impacts patients' quality of life, necessitating careful nursing management to ensure the best possible outcomes. The transition between health care facilities, such as during travel or relocation, presents a critical challenge in maintaining uninterrupted continuity of care for this vulnerable population[4].

Continuity of care for patients undergoing haemodialysis treatment is an essential component in ensuring their safety, preserving their quality of life, reducing associated risks, and optimising clinical outcomes[5–7]. Transitional care is defined as "a set of actions designed to ensure the coordination and continuity of health care as patients transfer between different locations or different levels of care within the same location"[8]. The definition of continuity of care proposed by Haggerty et al[9] focuses on the care of an individual patient over time and includes three fundamental components: relational continuity, referring to interpersonal interactions; informational continuity, related to communicative interactions; and management continuity, including coordination activities. This concept is recognised as an essential element for providing high-quality healthcare[10,11] and is linked to benefits such as more effective preventive care, reduced hospitalisation rates, and increased patient satisfaction[12,13].

In Spain, Law 41/2002, of 14 November, regulating patient autonomy and rights and obligations concerning clinical information and documentation, indicates that, among other contents of the patient's clinical record, it shall include the evolution and planning of nursing care, including a Nursing Care Report (NCR)[14]. Annex IX of Royal Decree 572/2023 includes the minimum mandatory data set for the NCR, in addition to a series of recommended (but not mandatory) fields[15]. Current nursing care reports often lack specific fields required to comprehensively document the unique needs of haemodialysis patients, which can compromise the quality and safety of care during transitions between care centres[16].

To address this gap, this study aims to achieve national consensus on additional elements that should be included in the nursing care report.

MATERIAL AND METHOD

Design

We conducted an exploratory study divided into 2 phases: the first involved finalising a questionnaire that included an initial proposal of fields to be agreed upon, while the second focused on reaching a consensus on the standardised NCR for the transitioning haemodialysis patient[17]. Both phases were carried out between March and December 2024.

Expert Selection

The finalisation phase involved a committee of experts comprising the 11 members of the board of directors of the Spanish Society of Nephrology Nursing (SEDEN) and nursing supervisors from 25 haemodialysis units with experience in caring for patients in transit between centres representative of the national geography. Supervisors with these characteristics were selected because, as those responsible for allocating places in the receiving centre for these patients, they possess first-hand knowledge of the clinical-care information needs that the NCR should include. Of these 36 experts invited to participate in this phase, 16 accepted: 3 members of the SEDEN board and 13 supervisors.

Item Development

Based on a previous literature review,[18–20] in addition to their clinical and management experience, the expert committee identified key aspects to include, following Marjory Gordon's functional health patterns system for assessment[21], which allowed for the development of specific questions and the design of the final questionnaire.

Data Collection: Delphi Technique

A modified online ranking Delphi technique was used in the consensus phase. Expert group selection was performed

via convenience sampling. Project coordinators directly contacted participants via email to request their collaboration. Inclusion criteria were more than 5 years of experience in nephrology nursing, professional activity in a haemodialysis unit, and active clinical practice during the study period. The exclusion criterion was not providing informed consent. All criteria were guaranteed to be represented in the group. Furthermore, the anonymity of participating experts was preserved to prevent potential influences among them.

Two rounds were conducted to reach consensus on the fields using the Delphi technique:

- An initial paper-based round during the SEDEN National Congress in November 2024.
- A second round in December 2024 via an online questionnaire created with Google Forms and sent via e-mail.

The questionnaire's structure included 3 main parts. The first part explained the study's objectives and requested informed consent from participants. Additionally, four specific data points were collected: email address, age, whether years of nursing experience were greater or fewer than five years, and whether the time since joining the haemodialysis area was greater or fewer than twelve months.

The second part of the form addressed the importance of including patient demographic data, as well as relevant information on vascular access and each of Marjory Gordon's established functional health patterns[21].

Finally, the third and last part of the questionnaire focused on assessing the essential sections included in the second part, evaluating their relevance and breadth.

Questions were dichotomous (yes or no). At the end of each part, an open field was available for providing additional information or fields not covered in the initial questionnaire. These fields, if deemed relevant by the coordinators, were included in the second round, along with the fields from the first round.

Data Analysis

A descriptive analysis was performed with absolute and relative frequencies for each field. Consensus was considered achieved when 80% of participants indicated that a field was relevant for inclusion in the NCR for the mobile patient in the second round.

Ethical Considerations

This study was conducted in full compliance with international ethical standards established in the Declaration of Helsinki. The invitation to participate in the expert panel was accompanied by a participant information sheet, which included details on the study's development using the Delphi methodology, the benefits of participating in the study, data confidentiality, and the voluntary nature of participation. Participants did not view the online questionnaire items until they agreed to participate, after reading the participant information sheet, giving their consent by clicking on a question to that effect.

The processing, communication, and transfer of personal data for all participants complied with the provisions of Organic Law 3/2018, of 5 December, on Personal Data Protection and Guarantee of Digital Rights[22].

RESULTS

A total of 56 experts participated in the first round, and 14 in the second one. The expert panel was characterised by most women, from public centres, aged over 46 years, with extensive clinical experience as nephrology nurses and more than 2 years of experience in a haemodialysis unit **(table 1)**.

Table 1. Demographic and professional characteristics of the expert panels in each round.

Característica	Round 1 (n=56)	Round 2 (n=14)
Woman	87.50%	92.80%
Works in a public centre	54%	71%
Over 46 years old	58.90%	78.60%
Experience as a nephrology nurse >6 years	96.40%	100%
Experience in haemodialysis >2 years	96.40%	92.90%

A total of 54 of the 57 additional fields presented in the first round were agreed upon for inclusion in the report. During the first round, 9 additional fields were suggested: 2 in demographic and clinical data, 2 concerning vascular access, and 7 in Gordon's functional health patterns (**tables 2, 3**, and **4**). The expert panel achieved a high degree of consensus in both rounds regarding the inclusion of the following fields related to demographic and clinical data **(table 2)**:

- Originating centre.
- Accommodation at destination.
- Need for medical transport.
- Number of days of stay.
- Emergency contact.
- Haemodialysis treatment: Hospital-based or home-based.
- Allergies.
- Requires own monitor.

In the first round, the items "Number of dialytic treatment sessions per week" and "Duration of each haemodialysis session" were suggested, both achieving 100% consensus in the second round **(table 2)**.

Labiano-Pérez-Seoane C, et al. htpps://doi.org/10.37551/S2254-28842025013

Table 2. Acceptance percentage for including additional demographic and clinical data in the Nursing Care Report for transitioning haemodialysis patients, by round.

Item	Round 1 (n=56)	Round 2 (n=14)
Originating centre	98.20%	100%
Accommodation at destination	91.10%	100%
Need for medical transport	100%	-
Number of days of stay	98.20%	100%
Emergency contact	98.20%	100%
Haemodialysis treatment: Hospital-based or home-based	92.90%	92.90%
Allergies	100%	100%
Requires own monitor	85.70%	85.70%
Number of dialytic treatment sessions per week*	—	100%
Duration of each haemodialysis session*	—	100%

* Items suggested in the first round, incorporated into the second round.

Table 3 illustrates the acceptance percentages for the inclusion of vascular access data in the NCR, disaggregated by each evaluation round.

For arteriovenous fistula, the fields with the highest consensus in both rounds were fistula type (native or prosthetic) and anatomical location, both with 100% acceptance in both rounds. Other fields with high acceptance included needle gauge for puncture (92.90% in both rounds) and usual blood pump flow (96.40% in the first round and 100% in the second). However, acceptance for the inclusion of data on fistula oedema did not reach the established 80% consensus threshold (78.60%). Regarding the central venous catheter, the fields with the highest consensus were location and functional status (normally functioning or dysfunctional), both with 100% acceptance in both rounds. Consensus for the inclusion of data on insertion date and blood pressure showed slight variation between rounds, with 88% and 82.15% in the first round, and 86% and 93% in the second round, respectively.

Table 4 illustrates the approval percentages for the inclusion of data according to Gordon's functional health patterns, disaggregated by each evaluation round.

General Health and Health Perception/Management Patterns
Within this pattern, haemodynamic status (blood pressure, heart rate, and temperature) obtained a high degree of acceptance in both rounds (92.9%). Similarly, immunisation vs Hepatitis B received broad agreement (96.4% in round 1 and 85.7% in round 2). Treatment adherence and the use of assistive devices also registered majority support, although they showed a slight decrease in the second round.

Table 3. Acceptance percentage for including vascular access data (Arteriovenous Fistula and Central Venous Catheter) in the Nursing Care Report for Transitioning Haemodialysis Patients, by Round.

Arteriovenous Fistula Fields	Round 1 (n=56)	Round 2 (n=14)
Type (native or prosthetic)	100%	100%
Anatomical location	100%	100%
Date of creation	89.3%	85.7%
Needle gauge for puncture	92.9%	92.9%
Hemostasis time	96.4%	100%
Edema	80.4%	78.6%
Signs of ischemia in distal areas: – Coldness, pallor, etc.	87.5%	85.7%
Signs of venous hypertension: – Hyperpigmentation, digital ulcers, etc.	83.9%	85.7%
Evaluation of proximal stenosis: – Presence of hematomas, etc.	83.9%	85.7%
Usual blood pump flow	96.4%	100%
Usual blood pressure	85.7%	92.9%
Usual venous pressure	89.3%	92.9%
Date of first use	75%	71.4%
Last nursing assessment (presence of thrill, bruit, and pulse)	78.6%	78.6%
Has fistulography been required in the last six months? *	—	/ 50%
Central Venous Catheter Fields	**Round 1 (n=56)**	**Round 2 (n=14)**
Location	98%	100%
Date of placement	88%	86%
Functioning properly	100%	100%
Malfunctioning	100%	100%
Causes of malfunction	95%	100%
Blood pump flow	95%	95%
Blood pressure	82.15%	93%
Venous pressure	88%	93%
Anticoagulant treatment for catheter lock	96%	100%
Date of last dressing change *	—	78.6%

* Items suggested in the first round, incorporated into the second round.

Nutritional-Metabolic Pattern
The inclusion of information on nutrition during or at the end of the dialysis session achieved 97.8% initial approval and 85.7% in the final round. Blood glucose control and insulin treatment maintained a constant agreement of 92.9% in both rounds.

Labiano-Pérez-Seoane C, et al. htpps://doi.org/10.37551/S2254-28842025013

Table 4. Acceptance percentage for including health status information based on Marjory Gordon's functional health patterns in the Nursing Care Report for transitioning haemodialysis patients, by round.

PATTERN	INFORMATION	Round 1 (n=56)	Round 2 (n=14)
Health Perception-Health Management	General status during session: blood pressure, heart rate, and temperature	92.90%	92.90%
	Immunised for Hepatitis B virus	96.40%	85.70%
	Treatment adherence	87.50%	85.70%
	Use of assistive devices: cane, crutch, walker, or wheelchair	94.60%	85.70%
	Individual's perception of their health*	—	58.90%
	Management of risks and general care behaviours*	—	64.30%
	Degree of mobility via Barthel scale assessment*	—	78.60%
	INR determination*	—	35.70%
Nutritional-Metabolic	Nutrition during or at the end of treatment session	97.80%	85.70%
	Requires blood glucose control and insulin treatment	92.90%	92.90%
	Type of foods consumed during the session	78.30%	57.10%
	Last bioimpedance data, if available*	—	64.30%
Elimination	Maintains residual diuresis?	94.60%	92.90%
	Is a urostomy carrier?	83.90%	100%
	Is a colostomy carrier?	87.50%	100%
	Residual diuresis volume	78.60%	64.30%
	Pattern of faecal elimination (daily, every 48 hours, every 72 hours or more)	53.60%	
Sleep-Rest	Patient's description of sleep quality	77.80%	50%
Activity-Exercise	Uses aids for nocturnal rest during haemodialysis treatment	94.40%	100%
	Has any neuromuscular deficit limiting daily physical autonomy?	84.30%	83.30%
	Commonly experiences muscle cramps during the dialytic technique?	96.10%	100%
Cognitive-Perceptual	Level of consciousness	96.20%	85.70%
	Presence of pain	94.30%	92.90%
	Presence of communication difficulty, in language or idiom	100%	100%
	If pain present, VAS scale and pain location	84.90%	78.60%
Role and Relationships	Lives alone	90%	91.70%
	Has a non-family carer at home?	88%	91.70%
	Lives in a residential care home?	94%	91.70%
	Lives in a family unit with spouse and/or children?	72%	100%
Coping-Stress Tolerance	Has a good pattern of adaptation and coping when changes are suggested during the treatment session?	100%	84.60%
	Consumes any substance that might affect tolerance during the session?	92.30%	92.30%

* Items suggested in the first round, incorporated into the second round.

Elimination Pattern

Measurement of residual diuresis obtained 94.6% approval in the first round and 92.9% in the second. Meanwhile, urostomy or colostomy carrier status experienced increasing acceptance, reaching 100% at the conclusion of the rounds.

Activity and Exercise Pattern

Data on neuromuscular deficits and muscle cramps during the dialysis technique received robust support (96.1% in round 1), reaching full agreement (100%) for cramps in the second round. Likewise, the need for aids for nocturnal rest was unanimously supported at the end of the process.

Cognitive-Perceptual Pattern

Level of consciousness and pain assessment maintained high acceptance, though with a slight drop in the second round. The detection of communication difficulties, for its part, remained unchanged at total agreement (100%).

Role and Relationships Pattern

Living alone, having a carer, and residing in a care facility achieved majority support in both rounds, showing minimal variations between them.

Coping and Stress Tolerance Pattern
The item related to coping strategies showed a reduction in its level of agreement in the second round, while information on substance use maintained the same high approval on both occasions.

DISCUSSION

This study successfully achieved a consensus on the inclusion of several key fields within the NCR for transitioning haemodialysis patients. Unanimous agreement was reached on incorporating demographic and clinical information, such as the originating centre, accommodation at destination, need for medical transport, number of weekly sessions, and duration of each dialytic session. Consensus was also reached on including aspects related to vascular access and health status according to Marjory Gordon's functional health patterns. However, some fields, such as the assessment of arteriovenous fistula oedema and the patient's perception of their health status, did not reach the established 80% agreement threshold.

Nursing assessment according to Gordon's Patterns also showed a high degree of agreement on several fundamental aspects.

In the health perception and management pattern, the assessment of general status during the session (92.9%), treatment adherence (87.5%), and immunisation vs hepatitis B (96.4%) were highly supported items. However, items suggested in the first round and incorporated into the second generated debate due to variability in the consensus achieved. These items were the patient's perception of their health (58.9%), management of risks and general care behaviours (64.30%), degree of mobility assessed using the Barthel scale (78.60%), and INR determination (35.70%).

The patient's perception of their health is a subjective indicator that can vary depending on the patient's emotional and cognitive state at the time of assessment. Although self-perception of health is recognised to be associated with disease progression and quality of life[23], its value in an NCR may be limited if not complemented by other objective clinical indicators.

The management of risks and general care behaviours is a relevant aspect of continuity of care, as it influences the prevention of complications and treatment adherence. However, its detailed assessment may require more extensive methods that are not feasible in an NCR. According to the World Health Organisation [24], effective risk communication is fundamental in healthcare, but critical information should be prioritised in transfer situations.

The degree of mobility assessed using the Barthel scale has shown greater acceptance, possibly due to its usefulness in determining the patient's level of functional dependence and its direct impact on care planning [25]. It could be important for care planning at the new centre, so its inclusion in the NCR might be justified. Although its justification is appropriate, approval was not reached.

Finally, INR determination received minority support from experts, which could be explained by its relevance only in patients on anticoagulant therapy. Although INR is crucial in managing patients at thrombotic or haemorrhagic risk[26], its inclusion may not be a priority in all cases and should be considered based on the individual clinical context.

In the nutritional-metabolic pattern, nutrition during dialysis (97.8%) and glycaemic control in insulin-dependent patients (92.9%) were widely supported, due to their positive impact on recovery, prevention of malnutrition, and clinical stabilisation of the patient during treatment[27,28].

In the elimination pattern, the assessment of residual diuresis (94.6%) and the identification of colostomies (87.5%) obtained a high level of agreement. Monitoring residual diuresis is key, as preserving partial renal function improves treatment adaptation and survival[29]. However, the lower support observed regarding the faecal elimination pattern (53.6%) can be explained by the lesser relevance this aspect has during treatment planning for centre transfers. Faecal elimination in these patients does not have an immediate and direct impact on the dialysis process, as it is not associated with critical alterations in fluid balance or renal function. Faecal evacuation management in haemodialysis tends to be considered less of a priority compared to other interventions addressing fluid overload or blood pressure control[30].

In the activity and exercise pattern, the importance of detecting muscle cramps during haemodialysis (96.1%) and the use of assistive devices for mobility (94.6%) was highlighted. These aspects achieved majority support from experts, as muscle cramps are associated with hypovolaemia and alterations in sodium levels[31], being relevant during patient transfer. Furthermore, the use of mobility aids promotes functionality, prevents complications, and promotes patient independence, key aspects in the NCR.

In the sleep and rest pattern, sleep quality was assessed with less agreement (50%), although the use of aids for rest during treatment received a high level of support (94.4%) crucial for patient recovery and well-being during the session.

The assessment of the level of consciousness (96.2%) and the presence of pain (94.3%) were widely accepted within the cognitive-perceptual pattern. These two items can negatively affect the patient's experience[32]. The degree of consensus obtained for these two items is consistent, as it underlines the importance of monitoring these aspects to improve patient comfort.

In the role and relationships pattern, factors such as living alone (90%), having a non-family carer (88%), or living in a family unit with a spouse and/or children (100%) were items with majority support from experts. These favourable results

for the first two items are consistent, given that the quality of social support is a determining factor in the quality of life of haemodialysis patients. Those who live alone or lack adequate support may face greater emotional and physical difficulties[33].

Finally, in the coping and stress tolerance pattern, the patient's ability to adapt to changes during the session (100%) and the assessment of substance use that might affect their tolerance (92.3%) were aspects of high agreement. The acceptance of including these items by professionals reflects their great importance. According to Pereira et al[33], the psychological adaptation of patients to physical and emotional changes during haemodialysis is crucial for maintaining emotional balance and stress tolerance, which improves treatment adherence.

Gordon emphasises that a structured and standardised approach to care documentation is essential to ensure continuity of care, especially for patients with complex needs such as those undergoing haemodialysis treatment. Standardisation of the report contributes to a comprehensive approach to patient needs and facilitates the transition between different professionals[21].

The inclusion of agreed-upon fields in the NCR is fundamental for continuity of care and patient safety. Standardised and structured information in the NCR allows nursing professionals to ensure a seamless transition, facilitating coordination between centres and reducing risks associated with the transfer of haemodialysis patients. Previous studies have shown that adequate continuity of care reduces hospitalisation rates and improves patient satisfaction and treatment adherence[5,7]. Furthermore, appropriate recording of information on vascular access and critical clinical data contributes to the prevention of complications and optimisation of therapeutic management for these patients[4,19].

While the unified NCR proposal represents a significant advance in the care of haemodialysis patients, its implementation carries several challenges. These include the harmonisation of criteria among centres[34], staff training in its use, integration with digital health systems[35], and compliance with privacy regulations[35].

The use of this NCR not only benefits patients but also health care professionals and the health system. Improved communication between centres optimises resource allocation and allows for more efficient monitoring of the patient's status. Furthermore, it contributes to patient and family satisfaction by providing a safer and more coordinated transition. Its application could also serve as a basis for future research on its impact on care quality and the reduction of adverse events.

However, the study presents some limitations. Firstly, the drastic decrease in the number of participants between the first and second rounds (from 56 to 14 experts, approximately a 25% response rate) could have compromised the representativeness and robustness of the final consensus, introducing a potential selection bias towards those professionals with greater availability or motivation, thus limiting both the interpretation and generalisation of the results. Additionally, while the Delphi method is a widely used technique for achieving consensus in healthcare, it is subject to biases derived from expert selection and subjective interpretation of responses[17]. Finally, the lack of consensus on some fields suggests the need for additional studies to explore their importance in clinical practice.

In conclusion, this study achieved consensus on identifying essential fields to include in the NCR for transitioning haemodialysis patients. Incorporating these elements could improve the continuity and quality of care, ensuring a safe transition between centres and optimising clinical outcomes. Nevertheless, further research is needed on fields that did not achieve consensus, as well as to evaluate the implementation and effectiveness of the NCR in clinical practice.

Acknowledgements
We sincerely thank the expert panel, SEDEN members, and involved professionals for their valuable collaboration in developing the NCR for transitioning haemodialysis patients.

Conflict of interest
None declared.

Funding
None declared.

REFERENCES

1. Cronin J, Murphy A, Savage E. Can chronic disease be managed through integrated care cost-effectively? Evidence from a systematic review. Ir J Med Sci. 2017;186(4):82734.

2. Teper MH, Vedel I, Yang XQ, Margo-Dermer E, Hudon C. Understanding barriers to and facilitators of case management in primary care: A systematic review and thematic synthesis. Ann Fam Med. 2020;18(4):355-63.

3. Davis KM, Eckert MC, Hutchinson A, Harmon J, Sharplin G, Shakib S, et al. Effectiveness of nurse–led services for people with chronic disease in achieving an outcome of continuity of care at the primary-secondary healthcare interface: A quantitative systematic review. Int J Nurs Stud. 2021;121:103986.

4. McClellan W. Processes of care and reduced mortality among hemodialysis patients in the United States. Clin J Am Soc Nephrol. 2010;5(11):1905-7.

5. Tizón Bouza E, Camiña Martínez MD, López Rodríguez MJ, González Veiga A, Tenreiro Prego I. Coordinación interniveles, importancia del informe de continuidad de cuidados de enfermería y satisfacción de los pacientes y familiares tras la hospitalización. ENE Rev Enfermería. 2021;15(2):1-14.

6. Rivas Cilleros E, Velasco Montes J, López Alonso JC. Valoración del informe de enfermería al alta tras la hospitalización. Nuberos científica. 2012;2(8):52-60.

7. Luna-Aleixos D, Francisco-Montesó L, López-Negre M, Blasco-Peris D, Llagostera-Reverter I, Valero-Chillerón MJ, et al. Optimized Continuity of Care Report on Nursing Compliance and Review: A Retrospective Study. Nurs reports (Pavia, Italy). 2024;14(3):2095-106.

8. Coleman EA, Boult C. Improving the quality of transitional care for persons with complex care needs. J Am Geriatr Soc. 2003;51(4):556-7.

9. Haggerty JL, Reid RJ, Freeman GK, Starfield BH, Adair CE, McKendry R. Continuity of care: a multidisciplinary review. BMJ. 2003;327(7425):1219-21.

10. Gjevjon ER, Romøren TI, Kjøs BO, Hellesø R. Continuity of care in home health-care practice: two management paradoxes. J Nurs Manag. 2013;21(1):182-90.

11. Van Walraven C, Oake N, Jennings A, Forster AJ. The association between continuity of care and outcomes: a systematic and critical review. J Eval Clin Pract. 2010;16(5):947-56.

12. Saultz JW, Albedaiwi W. Interpersonal continuity of care and patient satisfaction: a critical review. Ann Fam Med. 2004;2(5):445-51.

13. Saultz JW, Lochner J. Interpersonal continuity of care and care outcomes: a critical review. Ann Fam Med. 2005;3(2):159-66.

14. Gobierno de España. Ley 41/2002, de 14 de noviembre, básica reguladora de la autonomía del paciente y de derechos y obligaciones en materia de información y documentación clínica. Madrid; 2002. p. 1-14.

15. Gobierno de España. Real Decreto 572/2023, de 4 de julio, por el que se modifica el Real Decreto 1093/2010, de 3 de septiembre, por el que se aprueba el conjunto mínimo de datos de los informes clínicos en el Sistema Nacional de Salud. Madrid; 2023. p. 93313-78.

16. Schell JO, Germain MJ, Finkelstein FO, Tulsky JA, Cohen LM. An integrative approach to advanced kidney disease in the elderly. Adv Chronic Kidney Dis. 2010;17(4):368-77.

17. de Villiers MR, de Villiers PJT, Kent AP. The Delphi technique in health sciences education research. Med Teach. 2005;27(7):639-43.

18. Crespo Montero R, Casas-Cuesta R, Ochando García A. Procedimientos y Protocolos con competencias específicas para Enfermería Nefrológica. 2a Edición. Madrid: Sociedad Española de Enfermería Nefrológica (SEDEN); 2024.

19. Lok CE, Huber TS, Lee T, Shenoy S, Yevzlin AS, Abreo K, et al. KDOQI Clinical Practice Guideline for Vascular Access: 2019 Update. Am J Kidney Dis. 2020;75(4):S1-164.

20. García Palacios R. Práctica Enfermera a pacientes con ERC. Documento de Consenso. Ministerio de Sanidad. Gobierno de España, editor. Madrid: Sociedad Española de Enfermería Nefrológica (SEDEN); 2015.

21. Gordon M. Manual de diagnósticos enfermeros. Madrid: Elsevier España, S.L.U.; 2003.

22. Gobierno de España. Ley Orgánica 3/2018, de 5 de diciembre, de Protección de Datos Personales y garantía de los derechos digitales. Madrid; dic 6, 2018. p. 119788.

23. Fletcher BR, Damery S, Aiyegbusi OL, Anderson N, Calvert M, Cockwell P, et al. Symptom burden and health-related quality of life in chronic kidney disease: A global systematic review and meta-analysis. PLoS Med. 2022;19(4):e1003954.

24. Organización Mundial de la Salud. Comunicación de riesgos en emergencias de salud pública: directrices de la OMS sobre políticas y prácticas para la comunicación de riesgos en emergencias (CRE). Ginebra: Organización Mundial de la Salud; 2018. 1-79 p.

25. Bansal L, Goel A, Agarwal A, Sharma R, Kar R, Raizada A, et al. Frailty and chronic kidney disease: associations and implications. J Bras Nefrol. 2023;45(4):401-9.

26. Rajkumar T, Wong J, Harvey M, Weidersehn L, Surmon L, Makris A. Comparison of Sampling Methods for International Normalized Ratio Monitoring in Haemodialysis Patients (INRHaemo Study). Am J Nephrol. 2021;52(1):17-25.

27. Ma X, Tang C, Tan H, Lei J, Li L. Comparative effectiveness of nonpharmacological interventions for the nutritional status of maintenance hemodialysis patients: a systematic review and network meta-analysis. PeerJ. 2025;13(2):e19053.

28. Ikizler TA, Burrowes JD, Byham-Gray LD, Campbell KL, Carrero JJ, Chan W, et al. KDOQI Clinical Practice Guideline for Nutrition in CKD: 2020 Update. Am J Kidney Dis. 2020;76(3 Suppl 1):S1-107.

29. Daugirdas JT. Residual Kidney Function and Cause-Specific Mortality. Kidney Int reports. 2023;8(10):1914-6.

30. Pardo-Vicastillo V, Marks-álvarez M, de Castro-De la Cruz T, Sanz-De la Torre L, Andrino-Llorente MT, Trocolí-González F. Impacto del estreñimiento en la calidad de vida de las personas en hemodiálisis. Estudio multicéntrico. Enferm Nefrol. 2024;27(4):340-8.

31. Kot G, Wróbel A, Kuna K, Makówka A, Nowicki M. The Effect of Muscle Cramps During Hemodialysis on Quality of Life and Habitual Physical Activity. Medicina (Kaunas). 2024;60(12):2075.

32. Zhang K, Hannan E, Scholes-Robertson N, Baumgart A, Guha C, Kerklaan J, et al. Patients' perspectives of pain in dialysis: systematic review and thematic synthesis of qualitative studies. Pain. 2020;161(9):1983-94.

33. Pereira B dos S, Fernandes N da S, de Melo NP, Abrita R, Grincenkov FR dos S, Fernandes NM da S. Beyond quality of life: A cross sectional study on the mental health of patients with chronic kidney disease undergoing dialysis and their caregivers. Health Qual Life Outcomes. 2017;15(1):1-10.

34. Zhou Q, Yu T, Liu Y, Shi R, Tian S, Yang C, et al. The prevalence and specific characteristics of hospitalised pressure ulcer patients: A multicentre cross-sectional study. J Clin Nurs. 2018;27(3-4):694-704.

35. Hants L, Bail K, Paterson C. Clinical decision-making and the nursing process in digital health systems: An integrated systematic review. J Clin Nurs. 2023;32(19-20):7010-35