

# Diabetic foot ulcer patients' and clinicians' experiences of care transitions from hospital to home: a study protocol

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## ABSTRACT

**Background** Foot ulcers are an important cause of multiple hospitalisation and clinical complications in patients with diabetes. Before hospital discharge, the care transition should be planned across multiple care settings. Many problems occur during care transitions, resulting in negative patient outcomes and unnecessary readmissions.

**Aim** This paper presents a protocol for a qualitative study exploring the experience of care transitions from both patients' and clinicians' perspectives in a regional hospital context in Western Switzerland.

**Methods design** A qualitative descriptive design will be used to solicit patients' and clinicians' perceptions of care transitions. Semi-structured interviews will be conducted with six patients with a diabetic foot ulcer (DFU) and six community nurses. Data will be analysed according to Braun and Clarke's thematic analysis.

**Discussion** Exploring participants' experiences will afford information about their role within the process, any barriers to effective care transitions, and any strategies to overcome.

**Implication for clinical practice** The findings of this study will be pivotal to informing and developing new and enhanced transition planning for people with DFU, with the ultimate goal of improving patient outcomes, reducing hospital readmissions and enhancing cost savings. Additionally, this study takes a unique approach as it seeks experiences of both the patient and the clinician and is in alignment with the EWMA project *Living with chronic wounds*.

**Keywords** diabetic foot, transition of care, care transitions, qualitative research, lived experiences

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## KEY MESSAGES

- This is a study protocol for a qualitative research including six diabetic foot ulcer (DFU) patients and six clinicians.
- Its aim is to explore the lived experiences of both DFU patients and clinicians during care transitions from hospital to home.

## INTRODUCTION

Diabetes is a complex disease affecting around 425 million people worldwide<sup>1</sup>. This illness frequently leads to several complications such as retinopathy, neuropathy, renal and cardiovascular diseases<sup>2</sup>. One of the most severe complications is the development of a diabetic foot ulcer (DFU), often leading to multiple hospitalisations<sup>3</sup>. Approximately 15% of diabetic patients experience a DFU once in their lifetime<sup>4</sup>. Once healed, DFUs reoccur in 40% of patients within 1 year<sup>5</sup>. The reasons for this high recurrence appear to be linked to the pathophysiology and/or patients' and clinicians' behaviour<sup>6</sup>. A DFU reduces patients' quality of life and can lead to lower extremity amputation or even death<sup>7</sup>. Such a wound is a burden, not only for the affected individuals, causing suffering and requiring expensive treatments, but also for their close relatives and the society as a whole<sup>8</sup>. Due to their complexity,

these wounds necessitate a multidisciplinary team approach to provide comprehensive wound care within the different care settings<sup>9,10</sup>.

Patients with DFUs being discharged from the hospital to their home require a coordinated care plan involving the entire multidisciplinary team<sup>11</sup> as its absence can lead to fragmented care and decreased quality of care<sup>12,13</sup>. Moreover, a poorly managed care transition from hospital to home increases both healthcare costs and adverse events such as amputations<sup>11,13</sup>. Tasks associated with care transitions are complex and thus require a multifaceted approach and coordinated care to improve quality and health outcomes<sup>3,14</sup>.

Ensuring a high level of person- and family-centred care is one particularly important aspect for improving quality and health outcomes during care transitions<sup>11,15</sup>. It has been shown that, with appropriate support, progressively more patients with DFUs can be treated with additional advanced healthcare interventions at home, thus improving their quality of life and reducing costs<sup>16</sup>. However, today's healthcare system is mainly designed around an acute care paradigm. The main focus is to treat the acute health issue and not the chronic condition. Therefore, too often individuals with

DFUs are discharged from acute care settings without proper care planning, with the consequence of being readmitted within a short time. Recent literature has widely explored the transition of care, with studies assessing the efficacy of discharge interventions<sup>17,18</sup> or assessment tools for improving the discharge preparation<sup>19</sup>. Additionally, care transitions have typically been examined focusing on specific provider groups, such as nurses, physicians and patients, rather than combining the perspectives and experiences of multiple groups of people<sup>20</sup>. We therefore present a protocol aiming to explore the experiences of hospital-to-home transitions from the standpoints of both individuals with DFUs and nurses with regard to the use of coordinated transition care plans, the quality of care, and the way the hospital discharge is managed in a Western Switzerland care setting.

## METHODS

We will use a qualitative descriptive design in which the philosophical assumptions guiding researchers' attitudes are embedded in an interpretive position<sup>21</sup>. A total of 12 individuals will be included – six patients with DFUs and six nurses. The Ethical Committee of the Canton of Vaud approved this study (CER-VD: 2021-02181). All participants will provide verbal consent prior to starting the interviews. To protect anonymity, fictional names will be used throughout the publication of the results.

### Recruitment

#### Individuals with DFU

Male and female individuals with open DFUs who have been discharged from a regional hospital in Western Switzerland and are receiving care at home will be recruited. We will

include adults aged 18 and older, having an existing diagnosed open DFU, having been discharged from the hospital during the last 3 weeks and having proficiency in the French language. We will exclude individuals unwilling or unable to provide consent.

#### Community nurses

Additionally, we will include community nurses from a homecare association having proficiency in the French language and who care or have already cared for patients with DFUs at home. We will exclude individuals unwilling to provide consent.

#### Data collection

We will use a purposive sample. Then we will perform face-to-face, semi-structured, audio-recorded interviews to explore the in-depth perspectives of individuals and nurses. Both patients and nurses will be interviewed at home or respectively at the hospital. The topics of the interview guide are based on the literature and adapted by the authors (see Table 1). We will include six individuals with DFUs and six community nurses. The sample size was based on Braun and Clarke's recommendations for a small project<sup>22</sup>, but additional participants might be included if the quality of the dataset is estimated to be insufficient.

A study nurse will screen inclusion criteria for hospitalised patients in a regional hospital in the Western part of Switzerland on their medical record basis. S/he will then meet potential participants face-to-face at the hospital for oral and written information about the study. If they accept, and after obtaining informed consent, the first author will schedule an appointment.

Table 1. Interview guide: examples of questions translated from French to English by the first author.

Patients	Community nurses
<p><b>Please describe the way your return home was prepared before being discharged from the hospital.</b></p> <ul style="list-style-type: none"> <li>Tell me about the means put in place for you to manage your daily life.</li> <li>Tell me about the information that was given to you.</li> </ul> <p><b>Please tell me about your transition from the hospital to your home.</b></p> <ul style="list-style-type: none"> <li>In your opinion, what was helpful during this transition?</li> <li>Conversely, what made it difficult?</li> <li>(Personalised questions according to the context)</li> </ul> <p><b>Would you please talk about the different professionals involved during this transition?</b></p> <ul style="list-style-type: none"> <li>How did they interact with you?</li> <li>How did they interact with one another?</li> </ul> <p><b>If you met other persons experiencing the same situation, what advice would you give them?</b></p> <ul style="list-style-type: none"> <li>What advice would you give to professionals caring for patients during this transition?</li> </ul>	<p><b>Please describe the way the transition is prepared at the hospital before patients' discharge.</b></p> <ul style="list-style-type: none"> <li>Tell me about the means put in place for patients to manage their daily life.</li> <li>Tell me about the information that is generally given to patients.</li> </ul> <p><b>Please tell me how this transition happens.</b></p> <ul style="list-style-type: none"> <li>According to you, what is helpful during this transition?</li> <li>Conversely, what makes this transition difficult?</li> <li>(Personalised questions according to the context)</li> </ul> <p><b>Would you please talk about the coordination of the care plan?</b></p> <ul style="list-style-type: none"> <li>Please tell me about the tools used to communicate and exchange information.</li> <li>Tell me about your expectations from other professionals.</li> <li>Tell me about the patients' involvement during the process.</li> </ul> <p><b>According to your experience, how does the transition of care influence the patients' situation?</b></p> <ul style="list-style-type: none"> <li>In your opinion, what are the consequences of a poorly managed transition of care?</li> <li>How does the actual transition process meet the patients' needs?</li> <li>In a perfect world, what would you change in the actual transition of care process?</li> </ul>

Nurses will be recruited through the participation of a homecare institution who will propose the participation by email. The first author will contact the nurses who demonstrate interest by phone for informed consent and appointment scheduling. The first author will perform and transcribe all the interviews. Field notes will be taken to report the atmosphere and non-verbal aspects. The first author will transcribe the interviews verbatim and the last author will check the transcripts for accuracy.

## DATA ANALYSIS

We will use thematic analysis according to Braun and Clarke<sup>23</sup>. During the analysis, two authors will complete five phases, 1–3 independently, then 4–5 together. A third author will be involved to discuss the results. During phase 1 (familiarisation), we will read and re-read the transcripts and field notes to develop familiarity. In phase 2 (coding), the segments which are potentially relevant will be identified, a code label will be generated, code labels will be collated and the corresponding data segments will be compiled for each code. In phase 3 (generating initial themes), we will compile codes sharing ideas in potential themes. All of the coded data relevant for each potential theme will be examined. In phase 4 (developing and reviewing themes), we will return to the full dataset in order to examine the accuracy of the potential themes for performing our analysis. We will check if each theme shares something relevant for the study and if these themes collectively highlight the most important patterns of the dataset. Some themes will be collapsed together, split, retained or discarded.

In phase 5 (refining, defining and naming themes), we will ensure that each theme is clearly demarcated and relevant to answering our research question by writing a brief synopsis about each theme. The final name of the themes will then be chosen. Demographic data and medical history data will be analysed using STATA 16<sup>24</sup> and presented by descriptive statistics. All interviews will be analysed using MAXQDA<sup>25</sup>.

## RIGOUR AND TRUSTWORTHINESS

To improve the rigour of this thematic analysis, we will use a computer software to systematise coding<sup>26</sup>. We applied the trustworthiness criteria for qualitative research following Lincoln and Guba<sup>27</sup> and followed the COREQ EQUATOR guidelines<sup>28</sup>. Additionally, we will ensure reliability by writing a reflective journal (reflective diary) throughout the entire data collection and analysis process; in this way, we can keep track of any biases, assumptions and impressions we may have had. We will triangulate the analysis by means of two researchers working independently and thus enhance credibility. Verbatim quotes will guarantee the confirmability<sup>29</sup>. The last author will overview the entire work process.

## DISCUSSION

The findings of this study will generate new knowledge contributing to the further development of the wound care discipline about the transition of care from the hospital to the patients' home and will promote the use of patient-centred concerns to inform healthcare practices. Our results will contribute to characterising both patients' and nurses' roles within the process, any barriers to effective care transitions and any strategies to overcome. It will enable us to develop interventions for improving this key step in the trajectory

of patients with DFUs and thus improve quality of care and individuals' health outcomes and quality of life, as well as contribute to reduced health expenditure.

In addition, we expect a more general benefit – that our results will identify the strengths and weaknesses of the actual care process in the specific study area. This will inform hereafter a quality improvement project, including implementation of the existing tools for preparing patient discharge through institutional procedures and/or the development of inter-institutional teaching sessions. Moreover, we expect that our findings will also help to identify other determinants that may have a positive impact on wound healing, DFU recurrence and patients' quality of life, such as comprehensive therapeutic education and any new topics presented by the participants. Analysing and confronting both patients with DFUs and nurses' perspectives on care transitions will raise questions on nursing interventions during the complex trajectory of this specific patient group and will generate information transferable to patients with other chronic diseases such as information sharing between various institutions, discharge preparation and follow-up and patient empowerment, which are key factors in reducing hospital readmissions that apply to every chronic disease.

## CONFLICT OF INTEREST

The authors declare no conflicts of interest.

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