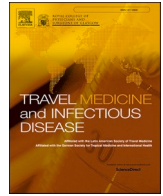




Experiences and attitudes of stroke survivors towards international travel health risks and benefits: A qualitative analysis

Title	Experiences and attitudes of stroke survivors towards international travel health risks and benefits: A qualitative analysis
Author(s)	Jones, Jennifer L.;Yeap, Harn;Dorsett, Rebecca;Flaherty, Gerard T.
Publication Date	2026-02-25
Publisher	Elsevier
Repository DOI	https://doi.org/10.1016/j.tmaid.2026.102962



Experiences and attitudes of stroke survivors towards international travel health risks and benefits: A qualitative analysis

Jennifer L. Jones^{a,b}, Harn Yeap^{a,b}, Rebecca Dorsett^c, Gerard T. Flaherty^{a,b,*} 

^a School of Medicine, College of Medicine, Nursing and Health Sciences, University of Galway, Galway, Ireland

^b National Institute for Prevention and Cardiovascular Health, Galway, Ireland

^c Crof, the West of Ireland Heart and Stroke Foundation, Galway, Ireland

ARTICLE INFO

Keywords:

Travel health
Prevention
Rehabilitation
Cardiovascular disease
Special groups of travellers
Travellers with chronic illness

ABSTRACT

Introduction: Cardiovascular disease is the leading cause of death in adult international travellers. Improved clinical outcomes of patients following acute stroke provide enhanced opportunities for stroke survivors to fulfil personal goals such as travel. This study aimed to describe the experiences of stroke survivors in relation to international travel health.

Methods: Semi-structured interviews were conducted with stroke survivors attending a rehabilitation programme. Interview data were collected under the headings of travel history, travel pattern, pretravel preparation, transportation, travel accommodation, activities, medications and comorbidities, perceived travel barriers and benefits. Coding and thematic analysis of transcribed interviews were conducted by two researchers.

Results: Twelve patients (five males) were interviewed, with a mean age of 62 ± 7.5 years and a mean of four years since their most recent stroke. Participants represented a range of stroke subtypes and disabilities, and all were able to mobilise independently. Ten participants had travelled since suffering their stroke. The principal themes emerging included: fear and anxiety towards travel; planning and preparation for travel; sources of travel-related support; negative travel experiences; and perceived benefits of travel.

Conclusions: Preparation of stroke patients for travel should include advice on reducing travel fatigue and air travel anxiety. Future studies should investigate the awareness of the travel industry regarding the challenges faced by people affected by stroke.

1. Introduction

Despite a growing recognition among the travel medicine community of the importance of providing tailored pre-travel health advice to individuals living with chronic illnesses, there remains limited published research to support recommendations for specific medical conditions [1]. Cardiovascular disease (CVD) is the leading cause of death in adult international travellers [2]. Our previous work based on the lived travel experiences of patients with cardiac disease [3] and patients living with severe obesity [4] highlighted challenges relating to air travel, accommodation, recreational activities, and accessing medical care overseas. The findings of the study are translatable into clinical practice and are used to inform health counselling at the pre-travel consultation.

Despite significant advances in modern stroke prevention and management, stroke remains a leading cause of morbidity and mortality

worldwide [5]. Sequelae which may compromise the capacity of stroke survivors to engage fully in society may include limb weakness, muscle stiffness, vision problems, poor coordination, dysphagia, incontinence, fatigue, cognitive impairment, speech impairments, anxiety-depression, seizures, and insomnia. The improved survival and clinical outcomes of patients following stroke in an era of acute stroke thrombolysis and thrombectomy, multidisciplinary stroke care and rehabilitation provide enhanced opportunities for stroke survivors to fulfil life-affirming personal goals such as international travel. The health benefits of travel for people living with a chronic illness and for their carers have been previously discussed [6]. While no data exist on the travel patterns of stroke survivors, stroke is among the most frequent motivations for international stem cell tourism [7]. Previous research from one of the authors (GTF) exposed deficits in the provision of travel health information by professional stroke associations to patients living with stroke [8]. This study aimed to apply a qualitative approach to exploring the awareness

* Corresponding author. School of Medicine, College of Medicine, Nursing and Health Sciences, University of Galway, Galway, Ireland.

E-mail address: gerard.flaherty@universityofgalway.ie (G.T. Flaherty).

<https://doi.org/10.1016/j.tmaid.2026.102962>

Received 6 February 2026; Received in revised form 19 February 2026; Accepted 20 February 2026

Available online 21 February 2026

1477-8939/© 2026 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

and experiences of stroke survivors in relation to the health risks and benefits of international travel.

2. Methods

2.1. Study setting and patient recruitment

The clinical setting for this study was the Croí Heart and Stroke Centre based in the western Irish city of Galway, serving a catchment area with a population of approximately 900,000 people according to the 2022 population census of the Republic of Ireland (<https://www.cso.ie/en/releasesandpublications/ep/p-cpsr/censusofpopulation2022-summaryresults/>). The centre hosts the National Institute for Prevention and Cardiovascular Health (www.nipc.ie) and a multidisciplinary team of healthcare professionals delivers various CVD prevention and rehabilitation programmes.

2.2. Study design

A qualitative research approach was employed according to a phenomenological research paradigm. Semi-structured interviews were conducted using video conference technology (Zoom Video Communications, Inc.) with stroke patients attending stroke support groups, including Stroke Rebuild, a multidisciplinary rehabilitation programme (<https://croi.ie/rebuild-programme/>). Adult participants were consecutively recruited using homogeneous purposive sampling [9]. A sampling framework was employed to ensure as broad a representation of the stroke survivor community as possible. Exclusion criteria included participants who were unable to read and understand the participant information sheet or consent form, participants who were severely cognitively impaired, and participants who had never travelled overseas, either prior to or since their stroke.

2.3. Semi-structured interviews

Interview data were collected under the following headings: travel history, travel pattern, pretravel preparation, transportation, travel accommodation, activities, medications and medical comorbidities, perceived barriers to travel, and health benefits of travel. Prompts from an interview topic guide (Supplementary file) based on the International Society of Travel Medicine Body of Knowledge [10] were used to elicit greater detail and to expand descriptions of participants' personal travel experiences. Interviews were conducted until all researchers agreed that data saturation had been reached. No handwritten notes were taken during or after the interview, and no repeat interviews were required. Interview audio recordings were transcribed verbatim using the transcription software Otter. AI (Mountain View, California, USA). Individual transcripts were made available to the relevant participant for any comments or corrections.

2.4. Thematic analysis

Coding and thematic analysis of the transcribed interviews were conducted independently by two researchers (JLJ and GTF) and supported by NVivo software version 1.7.2 (QRS International, Melbourne, Australia). Thematic analysis was performed in line with the principles described by Braun and Clarke [11]. The meanings inferred from the collected data were interrogated to generate codes. These were subsequently organised in an iterative process to yield preliminary themes, which were refined and agreed upon by members of the research team. Direct quotations were extracted from the transcripts to illustrate the themes and subthemes emerging from the study. To assure anonymity and confidentiality, the quotations were identified by participant number only (e.g., P1, P2). Demographic and clinical data such as gender, age, and stroke history were also recorded.

2.5. Researcher positioning and reflexivity

Reflexivity was maintained throughout this project by using a reflexive journal, documenting how the background of the interviewer influenced the interview interactions and thematic analysis. The potential bias arising from the researchers' academic and clinical backgrounds was acknowledged, and this awareness was used to encourage participants to elaborate on personal, rather than theoretical, accounts of their travel experiences. The resulting themes were thus co-constructed, representing a blend of participant experiences and the researchers' interpretive lenses.

Ethical approval

Ethics committee approval was obtained from the Clinical Research Ethics Committee of Galway University Hospitals (reference number C.A 3209). The privacy of participants was protected in accordance with the Data Protection Act 2018 [12].

3. Results

3.1. Patient characteristics

Twelve patients (five males) with a mean age of 62 ± 7.5 years and a mean of four years since their most recent stroke, agreed to participate in semi-structured interviews of 18-35 min duration each. Participants represented a range of stroke subtypes and disabilities, all shared their household with carers, and all were able to mobilise independently at the time of interview (Table 1). One participant (P8) required the assistance of his carer owing to communication difficulties caused by his stroke. Ten participants had travelled since suffering their stroke, eight of these within Europe, one to the United States, and one to South Africa. Two participants had suffered a stroke while travelling on a family holiday - one in Greece (P4) and the other in New Zealand (P6). Two participants (P6 and P8) had not travelled abroad since their stroke, although participant P6 returned home to Ireland six months after suffering a stroke in New Zealand. All participants were of Irish White heritage and resided in the west of Ireland.

3.2. Study themes and subthemes

The principal themes emerging from the interviews were: fear and anxiety towards travel; planning and preparation for travel; sources of travel-related support; negative travel experiences; and perceived benefits of travel. Among the most prominent subthemes were: fear of suffering a further stroke; preference for short-haul air travel; lack of

Table 1
Demographic and clinical characteristics of stroke survivors.

Subject	Age (y)	Gender	Post-Stroke Overseas Travel ^a	Stroke-related Disability
P1	70	Female	Yes (Eu)	Fatigue
P2	53	Male	Yes (Eu)	Fatigue
P3	60	Male	Yes (NA)	Fatigue
P4	62	Female	Yes (Eu)	-
P5	55	Female	Yes (Eu)	Right-sided weakness, fatigue
P6	76	Male	No	Visual field defect, fatigue
P7	54	Female	Yes (Af)	Fatigue
P8	67	Male	No	Left-sided weakness, dysphasia
P9	58	Female	Yes (Eu)	Fatigue
P10	57	Male	Yes (Eu)	Left-sided weakness
P11	63	Female	Yes (Eu)	Left-sided weakness, fatigue
P12	72	Female	Yes (Eu)	Left-sided weakness, poor coordination

^a Af: Africa; Eu: Europe; NA: North America.

awareness of travel health services; importance of carrying a sufficient personal medication supply; role of travelling companions; assistance from airport staff; impact of stroke-related fatigue; importance of medical clearance for travel; psychological and emotional benefits of travel; and promotion of personal confidence (Fig. 1).

A Fear and anxiety towards travel

Participants expressed unease towards aspects of international travel, with some having altered their travel patterns to travel less frequently or to short haul destinations since experiencing a stroke. One participant waited eight years before resuming international travel and commented:

“... normally we would go, you know, sort of once a year, or maybe once or twice a year anyway, on holidays. But as I said, that was the only reason that we didn't go because out of fear.” (P1).

“I didn't want to gamble any more than that. I knew 50 min is fine on an airplane once I'd done the first one. Now, if I was going to New York to my daughter, that's 7 h. Yeah. That might be a different situation. I don't know how stroke victims handle long flights or how they have their head or whatever.” (P10).

Concern over the possibility of another stroke during travel or of an air travel-related thrombotic event emerged as prominent subthemes. Only a single individual had used graduated compression stockings during air travel since having a stroke. One participant remarked:

“Because you're thinking, if I go flying now, what's going to happen? Am I going to be alright? What happens if I get a bleed when I'm up in the air? You know, you could worry and worry and worry about it and do nothing, but the fact that I've done it again, I will continue to do it. I can just feel the fear and do it anyway.” (P5).

Stroke survivors did not wish to be a burden on their travelling companions. As one participant recounted:

“I cried before I booked it thinking I was going to be a burden on my

friend.” (P9).

Two participants (P6 and P8) had not travelled since suffering their strokes, although P6 planned to return to New Zealand within six months of the date of his interview. In the case of P8, the participant's carer excluded the possibility of international travel since his stroke because of anticipated difficulties aboard an airplane and stated that they now only travel on short domestic staycations:

“Wouldn't dream about it. No, the thoughts now of having to go to an airport and get through an airport. And even for (P8), I mean, when you think about an aisle on an airplane, the aisle between the seats, there's not an awful lot of space, you know, for people walking up and down and getting into the bathroom. And, you know, it just would be too difficult. We wouldn't think of doing it.” (P8, carer).

B Planning and preparation for travel

None of the participants in this study had attended for a pre-travel health consultation and most were unaware of the existence of travel clinics. Some had consulted the internet for sources of information on the safe resumption of post-stroke travel. One participant reported inaccurate online information in this regard:

“... the research came back with saying that that would say, a couple of years afterwards, you should be safe enough to go ...” (P1).

Stroke survivors were very selective about their choice of flight times and airplane seats, preferring to avoid early morning flights and seek aisle seats near airplane toilets.

“And I'm not booking the early morning flights, and booking the afternoon flights, where I feel better and stronger.” (P2).

“And trying to get, the one thing is get an aisle seat and get it near a bathroom.” (P5).

The importance of carrying adequate supplies of medications and of obtaining a physician's letter and travel insurance was reinforced by several participants.

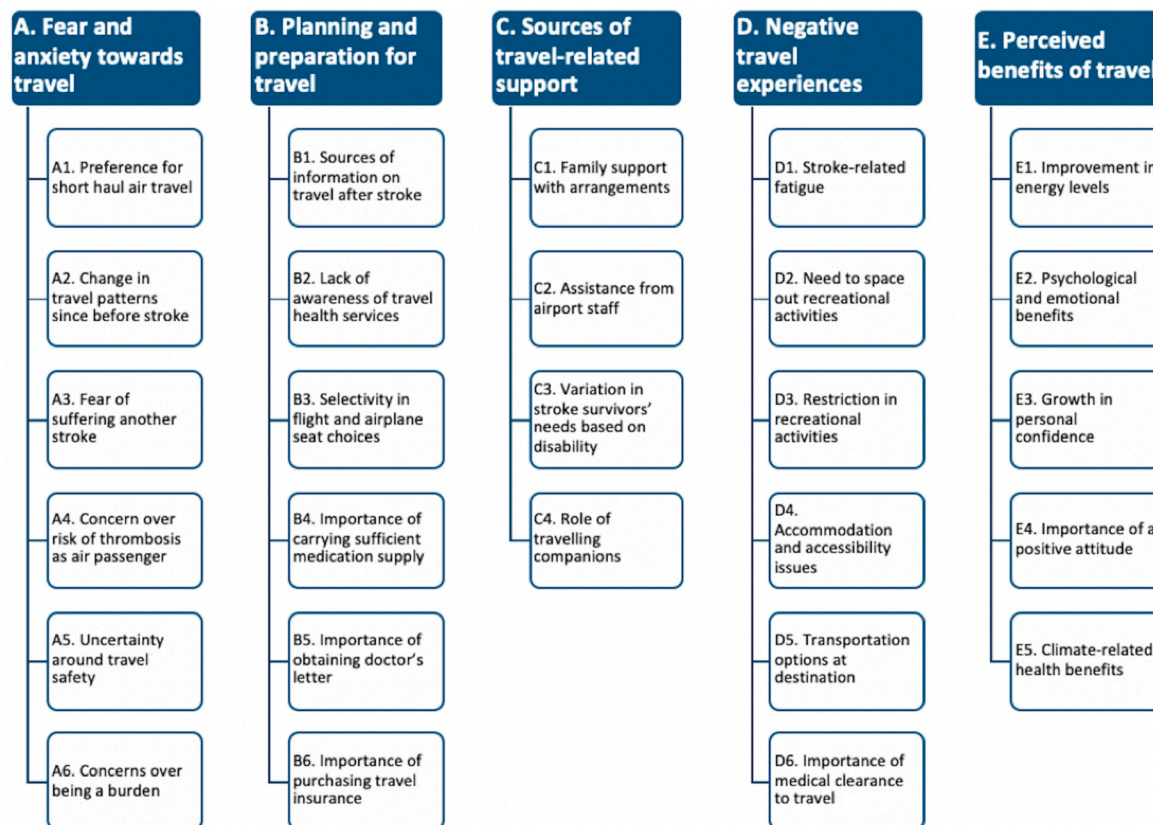


Fig. 1. Themes and subthemes emerging from semi-structured interviews.

"I brought a week's extra tablets in case I got stuck out there." (P5).

"... bring your list of medications, that if you need, I got a letter from my doctor before I went, and I get all my medications on it" (P1).

"I have private health insurance. I have travel insurance as well and that was still valid. So I rang the company and I said, I had this stroke. It doesn't affect my policy. She said, no, because of my age group. No, everything was perfect. Nothing to worry about. And I also have the European health insurance card too. I was extremely, extremely covered." (P9).

Some participants reflected on the need to pack light, to use luggage on wheels, and to avoid cabin baggage because of difficulty storing it in the overhead luggage compartment.

"I packed a bit sooner and didn't bring as much stuff, and then I used the wheels on the case, so that I could push my case, because I knew I couldn't lift it. And because I had the two surgeries, I wasn't ... I knew I wouldn't be able to put the case overhead. So, I booked my case in to get rid of it at the airport, so I knew I had no lifting to do." (P5).

C Sources of travel-related support

The necessity, since having a stroke, of depending on family members to facilitate travel planning was raised by multiple participants, one of whom stated: "... because my daughter made all the arrangements." (P6).

Participants who had received airport wheelchair assistance reflected very positively on its accessibility and ease of use, although some stroke survivors were reluctant to use it initially.

"I have to say, the people that worked in the airports, the people that pushed the wheelchairs, to me, they're the forgotten people. They're the heroes to me." (P5).

"And so basically, we just had to go to this a special window, so we say. So, we just had to sign in there, and they come for you, and they bring you onto the plane, take you off the plane. it was it was good, very good." (P1).

"Yeah, wheelchair, oh yeah, definitely. Definitely, I wouldn't, because I do have chronic fatigue as well, I forgot to tell you that. Okay, yeah. Yeah, no, I would, there's no way I could have walked that distance." (P9).

"The first time I travelled, I went from (regional airport) and the girls got wheelchair assist and I was saying I wouldn't use it, I don't want it, but I actually did need it. And from beginning to end, we were looked after 100%. We got brought onto a shuttle bus, brought out to the airplane, same coming back." (P5).

Airport assistance was particularly important for stroke survivors with neurological sequelae such as visual field defects.

"Because the problem I had basically was, was the vision, trying to get used to this, where you have to scan everything. Yeah. And like reading, reading signs and that type of thing in a busy airport would have been very confusing. So when I got off in, in Dubai, there was that arrangement, you, you give the man your boarding card for the next flight. Yeah. And he brought you in a wheelchair to it. And that was fantastic." (P6).

Stroke survivors with medical devices reflected on their positive experiences at airport security stations. One traveller with an implanted loop recorder commented:

"And then I had a pat down search such as opposed to actually going through the scanner. So that's the only thing that has changed." (P2).

Travelling companions, whether family or friends, were considered central to the stroke survivor's travel experience.

"And I wouldn't have gone away with anybody but her. Yeah. Because she has my back all the time. And she was beside me all the time. And I told her she didn't understand the airport assistance that she could be with me all the time. Yeah. Going through security. I said, just stay beside me. You're fine. Because you're my travelling companion. I need you." (P9).

D Negative travel experiences

A recurrent subtheme from the interviews was the negative impact of stroke-related fatigue on the quality of stroke survivors' travel experiences, with participants asserting the need to separate recreational activities more widely owing to poor energy levels.

"I get very fatigued. And the fatigue that a stroke person gets is different than just overtired. It's completely different fatigue." (P1).

"Definitely I need to rest, you know, that I probably take a nap, you know, during the day. That's one thing that has changed, you know, that I kind of pace myself a bit." (P5).

Participants highlighted the need to contact hotels directly regarding bedroom accessibility rather than relying on website descriptions, with one individual highlighting:

"You do have to kind of phone the hotel. You can't really trust what you see on the website. You have to really phone them to make sure that they know exactly." (P8).

"I wouldn't be unless there was an elevator I wouldn't be going up on an apartment that was like maybe three or four floors and you have to walk and you do find that a lot of the places away there may be no elevator you know." (P12).

Participants reported restrictions to their recreational activities at holiday destinations, with a tendency to avoid full-day excursions, sauna, and cold-water immersion.

"I didn't get into the pool because the consultant had said, don't get in through the cold water, don't shock your bodyI'd be the first one to jump straight into the pool and stuff like that, and now I'd be awful cautious." (P5).

"I wouldn't go now, you know, years when I go previously, I'd go say on a bus tour. You know, when I was that type of thing that you'd be gone from morning to evening. I won't do that now because I find it's too much, you know." (P11).

"Like, I couldn't go into the pool, or I wouldn't go in for a sauna, things like that, because I was afraid that would affect my head, and I was afraid the cold water would affect my body, as in going into shock or something." (P5).

E Perceived benefits of travel

Stroke survivors were united in their recognition of the health benefits of international travel, with reported improvements in personal energy levels and a sense of revitalisation.

"My first trip was, what, six months after my stroke, and all be it, I was very fatigued, and just very lethargic and everything, I came home, I was rejuvenated." (P2).

"I just think it gives you a lift. Mentally, I think it's good for you, you know, and seeing new things and doing new things. And I think you do get a bit of an adrenaline rush being somewhere new." (P11).

"There's a sense of achievement when I reach the far side." (P3).

Stroke survivors regained lost confidence and psychological resilience by engaging in international travel.

"It's the confidence that you get in your head to say, I'm not curtailed by what happened." (P10).

"I think if you do a four-and-a-half-hour flight, somewhere in your head you feel, well, I'm after doing this, I can do it again, I'm back to normal." (P5).

"I think it's good to get your confidence back because that's a big thing after having a stroke. You know, you have that kind of, well, for me and for people I've spoken to, other stroke survivors have said the same thing that you definitely lose your confidence going out on your own or going away from your home environment, you know. And it does take a while to get that back. But when you do, it's worth it. You know, once you're cleared medically to go, I think it's something you should do if you can, you know." (P11).

The importance of a positive attitude was raised by several interviewees.

"I'm not able to maintain my feet as I used to. And I thought, oh good, I'll have a pedicure, book a pedicure. And I used my Google Translate to tell them that I'd had a mild stroke. And you know, I may not feel things and they asked me a couple of questions. To make sure I was able to have this pedicure. And they wanted reassurance then, but I do think you should speak up if you have ... It's nothing to be ashamed of. You're a survivor." (P9).

The physical climate-related benefits were extolled by several participants who commented on the beneficial effects of sun exposure on their sense of wellbeing.

"It's the sunshine, you know, I find it's great. And I think just you're uplifted a bit by being away and being out of your normal environment, you know, it gives you a kind of a lift if nothing else, you know." (P11).

4. Discussion

The findings of this study highlight the unique views and experiences of stroke survivors in relation to international travel. There was no discussion in the interviews about travel vaccines and travel-related infectious diseases. Expressions of anxiety around the risk of recurrence of stroke during travel featured prominently in our semi-structured interviews, however, and were reminiscent of the travel anxiety that prevailed at phases of the COVID-19 pandemic [13]. Concern about the possibility of stroke occurring in-flight generated reluctance to travel long distances by air, representing a change from the patients' pre-stroke travel patterns. Stroke in air passengers is a rare occurrence. Possible stroke accounted for 0.03% of all in-flight medical emergencies and 1.8% of medical conditions requiring aircraft diversion [14]. Fourteen percent of episodes of aeromedical evacuation in Germany were for the transportation of stroke patients [15]. A study of acute stroke patients transiting through a major international hub found that air passengers with stroke were older with more severe strokes and a higher probability of receiving acute stroke thrombolysis or thrombectomy compared to non-passengers [16]. A randomised controlled trial found that pilots were less likely to respond to in-flight stroke than to myocardial infarction, but that this response rate improved significantly following a targeted educational intervention [17].

It is not fully understood if the relative hypoxia at cabin pressure altitude plays a significant role as a risk factor for stroke in susceptible individuals. The risk of stroke at high altitude (>2500m) may be secondary to hyperviscosity caused by polycythaemia secondary to dehydration or increased erythropoiesis. Travel to high altitude is generally advised against for a 90-day period following a transient ischaemic attack or stroke [18]. In the context of aeromedical evacuation, supplemental oxygen is recommended if the stroke occurred two weeks or less before travel. Airlines should be informed in advance, and a medical escort may be required if the stroke patient is travelling on a commercial airline.

Preparation of stroke patients for travel should include reassurance about the safety of air travel and the availability of in-flight medical support in the event of an emergency. The value of airport wheelchair and transfer assistance was recognised by this cohort, and these experiences may help to allay the fears of prospective travellers who may feel unable to navigate the airport terminal or board the airplane without support. Stroke survivors should also be counselled about the importance of keeping well hydrated aboard aircraft, wearing graduated compression stockings, and the necessity to minimise thermal stresses and avoid travellers' diarrhoea, given that dehydration is a risk factor for ischaemic stroke. Stroke patients who take diuretics for management of hypertension or heart failure should be particularly alert to the importance of maintaining hydration during travel.

This cohort of stroke survivors appeared to be aware of the importance of purchasing travel insurance. Because of the risk of a future stroke in a stroke survivor, travellers who have a history of stroke should be strongly advised to contact their travel insurance provider and confirm if their current policy extends to a recurrence of stroke. The

travellers in this study were diligent in carrying extra doses of medications and a physician's medical summary letter. The interviews did not establish the source of this knowledge, but it was noteworthy that no participant demonstrated an awareness of the existence of travel health services. Some individuals had approached their stroke consultant or general practitioner about fitness to travel concerns, but it is unclear if they received any formal travel health advice. A web-based analysis of information provided by stroke associations highlighted a missed opportunity to provide stroke survivors with relevant travel health guidance [8]. Travel medicine organisations are well positioned to upskill primary care and specialties such as geriatric medicine and neurology about the medical preparation of stroke survivors for travel abroad. There is a need for clear communication channels between the multidisciplinary stroke team providing stroke care and rehabilitation and the travel medicine specialist, especially when fitness to travel is being discussed with the stroke survivor. The multidisciplinary nature of travel health education and practice [19] should be matched by a closer cooperation between travel medicine and hospital-based clinical specialists to ensure that the traveller benefits from the sharing of specialist knowledge.

The severe impact of post-stroke fatigue on the capacity of stroke survivors to enjoy positive travel experiences emerged as a notable subtheme of this study. Individuals reported personal adaptations to cope with this physical restriction, such as spacing out travel leisure activities, keeping a light itinerary, and taking afternoon naps while travelling abroad. Post-stroke fatigue influenced travellers' selection of accommodation locations in relation to destinations of interest and their ability to use healthy active transport options, such as walking or cycling. A recent meta-analysis concluded that higher levels of post-stroke fatigue were associated with poorer mobility and balance, as well as greater disability and stroke impairment [20]. A systematic review of treatments for post-stroke fatigue failed to find sufficient evidence for the efficacy of any pharmacological or non-pharmacological interventions [21]. Counselling prospective travellers about practical measures to cope with fatigue during travel such as those shared by this study's participants is recommended. It is advisable to counsel travellers with a history of stroke to travel to closer destinations initially and to avoid travelling alone. A brief and undemanding first trip may help the stroke survivor to regain lost confidence before engaging in more adventurous travel.

Despite feeling limited by post-stroke fatigue and, in some cases, neurological disabilities such as limb weakness or loss of coordination, the stroke survivors interviewed in this study were universally positive about the perceived health benefits of travel, citing a subjective improvement in personal energy levels, a growth in personal confidence, and physical and mental health benefits from increased exposure to sunlight. A previous commentary on the health benefits of travel among cancer survivors pointed to improvements in their mood, enhanced self-esteem, improved body image, and a greater sense of independence, valuable outcomes which may transfer to their everyday domestic lives, improve their quality of life, and reduce their healthcare burden [22]. A study of bucket list themes identified the desire to travel (78.5%) as the most common aspiration of patients living with a terminal illness, far exceeding the desire to spend quality time with friends and family (16.7%) [23]. A recent study of the use of leisure tourism as a non-pharmacological intervention in patients with dementia explored multiple benefits with affective, sensory, cognitive, and conative dimensions [24]. Further research is needed to elucidate the elements of travel which contribute to these beneficial effects.

4.1. Strengths and limitations of research

This is the first study to examine the lived experiences of stroke survivors regarding international travel and adds to our understanding of the challenges and benefits of travel for people living with chronic illnesses or disabilities. The semi-structured interviews captured in this

study, though a rich source of authentic patient-generated data, are limited by potential volunteer bias, recall bias, and researcher bias, although every effort was made to minimise the effects of these factors. A standardised interview guide with open-ended questions was used, and an audit trail was maintained to ensure data dependability and to achieve a reliable, in-depth understanding of the participants' experiences. There was excellent agreement between the researchers on the emergent themes and subthemes. We acknowledge that this was a single-centre study with a relatively homogeneous ethnic sample, albeit drawn from a very wide referral network. We recommend that it be extended to multiple international centres to allow for a greater patient ethnic diversity. All the participants in this study lived with their carers. This level of support may have influenced their willingness to travel abroad. It would be of interest to examine the views of stroke survivors living alone and those who have not travelled since suffering their stroke.

4.2. Recommendations for further research

Building on the important role of carers and travelling companions arising from this study, we recommend an investigation into the role of both formal and informal support systems in assisting stroke survivors and other travellers with chronic medical conditions. Such research could focus on how support networks influence the travel experience and health outcomes of patients engaging in international travel. A longitudinal study to assess the long-term health outcomes of stroke survivors who travel abroad compared with those who do not would yield insights into the benefits of travel on stroke recovery and quality of life in this patient cohort. It would be of particular interest to explore the long-term effects of travel on post-stroke fatigue. Future studies should also investigate levels of awareness within the travel industry of the challenges confronted by people affected by stroke. Given the anecdotal difficulty in accessing credible information about the safety of international travel in the stroke traveller cohort, a public educational campaign involving a podcast series and a professional dialogue with the stroke medicine community are being planned.

5. Conclusion

Preparation of stroke patients for travel should include advice on reducing air travel anxiety, arranging airport assistance, and minimising the impact of post-stroke fatigue during travel. Future studies should investigate the awareness of the travel industry about the challenges faced by people affected by stroke.

CRedit authorship contribution statement

Jennifer L. Jones: Writing – review & editing, Validation, Supervision, Resources, Project administration, Methodology, Formal analysis, Data curation, Conceptualization. **Harn Yeap:** Writing – review & editing, Visualization, Methodology, Investigation. **Rebecca Dorsett:** Writing – review & editing, Validation, Supervision, Software, Resources, Project administration. **Gerard T. Flaherty:** Writing – original draft, Visualization, Validation, Supervision, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization.

Funding

HY received a summer student scholarship from Croí, The West of Ireland Heart and Stroke Foundation, for his role in collecting data for this study.

Declaration of competing interest

The authors declare that they have no known competing financial

interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.tmaid.2026.102962>.

References

- [1] Darrat M, Flaherty GT. International travel with a chronic medical illness-health risks, practical challenges and evidence-based recommendations. *Int J Trav Med Glob Health* 2021 Apr 1;9(2).
- [2] Lawson CJ, Dykewicz CA, Molinari NA, Lipman H, Alvarado-Ramy F. Deaths in international travelers arriving in the United States, July 1, 2005 to June 30, 2008. *J Trav Med* 2012;19:96–103.
- [3] Liew CH, Flaherty GT. Experiences and attitudes of international travelers with cardiovascular disease: a qualitative analysis. *Am J Trop Med Hyg* 2020 Mar;102(3):689–97. <https://doi.org/10.4269/ajtmh.19-0793>.
- [4] Flaherty GT, Geoghegan R, Brown IG, Finucane FM. Severe obesity as a barrier to international travel: a qualitative analysis. *J Trav Med* 2019 May 10;26(3). <https://doi.org/10.1093/jtm/taz018>.
- [5] GBD 2019 Stroke Collaborators. Global, regional, and national burden of stroke and its risk factors, 1990–2019: a systematic analysis for the global burden of disease study 2019. *Lancet Neurol* 2021 Oct;20(10):795–820. [https://doi.org/10.1016/S1474-4422\(21\)00252-0](https://doi.org/10.1016/S1474-4422(21)00252-0).
- [6] Flaherty GT, Steffen R, Leder K. Towards travel therapy: addressing the health benefits of international travel. *J Trav Med* 2025 Mar 30;32(3). <https://doi.org/10.1093/jtm/taae091>.
- [7] Connolly R, O'Brien T, Flaherty G. Stem cell tourism—a web-based analysis of clinical services available to international travellers. *Trav Med Infect Dis* 2014 Nov-Dec;12(6 Pt B):695–701. <https://doi.org/10.1016/j.tmaid.2014.09.008>.
- [8] Rofaief DP, Hession P, Flaherty GT. Analysis of web-based travel health advice provided to international travellers with chronic medical and psychiatric illnesses. *Int J Med Inf* 2021 Oct;154:104566. <https://doi.org/10.1016/j.ijmedinf.2021.104566>.
- [9] Palinkas LA, Horwitz SM, Green CA, Wisdom JP, Duan N, Hoagwood K. Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Adm Pol Ment Health* 2015 Sep;42(5):533–44. <https://doi.org/10.1007/s10488-013-0528-y>.
- [10] Kozarsky P. The body of knowledge for the practice of travel medicine - 2006. *J Trav Med* 2006;13:251–4.
- [11] Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol* 2008;3(2):77–101. <https://doi.org/10.1191/1478088706qp0630a>.
- [12] Irish Statute Book. Data protection act. 2018. <http://www.irishstatutebook.ie/eli/2018/act/7/enacted/en/html>. [Accessed 28 January 2026].
- [13] Flaherty GT, Nasir N. Reiseangst: travel anxiety and psychological resilience during and beyond the COVID-19 pandemic. *J Trav Med* 2020 Dec 23;27(8). <https://doi.org/10.1093/jtm/taaa150>.
- [14] Ceyhan MA, Menekşe İE. In-flight medical emergencies during commercial travel. *J Trav Med* 2021 Oct 11;28(7). <https://doi.org/10.1093/jtm/taab094>.
- [15] Sand M, Bollenbach M, Sand D, Lotz H, Thrandorf C, Cirkel C, Altmeyer P, Bechara FG. Epidemiology of aeromedical evacuation: an analysis of 504 cases. *J Trav Med* 2010 Nov-Dec;17(6):405–9. <https://doi.org/10.1111/j.1708-8305.2010.00454.x>.
- [16] Imam Y, Al-Salahat A, Aljurdi S, Mahfoud Z, Reyes CZ, Akhtar N, Abunaib M, Al-Orphaly M, Kim SW, Khodair R, Thekkumpurath T. Stroke in airplane passengers: a study from a large international hub. *J Stroke Cerebrovasc Dis* 2022 Jun 1;31(6):106452.
- [17] Leira EC, Cruz-Flores S, Wyrwich KW, Northam GJ, Acharya AB, Pan Y, Holzemer EM, Womack SB. Improving pilot response to in-flight strokes: a randomized controlled trial. *Cerebrovasc Dis* 2005;19(5):317–22. <https://doi.org/10.1159/000084500>.
- [18] Mieske K, Flaherty G, O'Brien T. Journeys to high altitude—risks and recommendations for travelers with preexisting medical conditions. *J Trav Med* 2010 Jan-Feb;17(1):48–62. <https://doi.org/10.1111/j.1708-8305.2009.00369.x>.
- [19] Hess KM, Seed SM, Clark EH, Lombardo T, Norman FF, Flaherty G. Multidisciplinary travel health education: current status and rationale for standardized competencies. *J Trav Med* 2024 Dec 10;31(8). <https://doi.org/10.1093/jtm/taae130>.
- [20] Usman JS, Wong TWL, Ng SSM. Relationships of post-stroke fatigue with mobility, recovery, performance, and participation-related outcomes: a systematic review and meta-analysis. *Front Neurol* 2024 Oct 8;15:1420443. <https://doi.org/10.3389/fneur.2024.1420443>.
- [21] Wu S, Kutlubaev MA, Chun HY, Cowey E, Pollock A, Macleod MR, Dennis M, Keane E, Sharpe M, Mead GE. Interventions for post-stroke fatigue. *Cochrane Database Syst Rev* 2015 Jul 2;2015(7). <https://doi.org/10.1002/14651858.CD007030.pub3>.

- [22] Lim JHC, Keenan C, Flaherty GT. All my life to live: travel health benefits and risks for cancer survivors. *J Trav Med* 2022 Aug 20;29(5):taac069. <https://doi.org/10.1093/jtm/taac069>.
- [23] Periyakoil VS, Neri E, Kraemer H. Common items on a bucket list. *J Palliat Med* 2018 May;21(5):652–8. <https://doi.org/10.1089/jpm.2017.0512>.
- [24] Wen J, Zheng D, Hou H, Phau I, Wang W. Tourism as a dementia treatment based on positive psychology. *Tour Manag* 2022;92. <https://doi.org/10.1016/j.tourman.2022.104556>.