Can stroke survivors use e-bikes as a form of outdoor physical activity?

This research is adapted from "Exploring the factors influencing the use of electrically assisted bikes (e-bikes) by stroke survivors: a mixed methods multiple case study" published by Taylor & Francis in Disability and Rehabilitation. Scan the QR code at the bottom of this poster to read the full article.

INTRODUCTION
Stroke survivors can face a number of restrictions to outdoor physical activities as a result of impairments and disability. Electrically assisted bikes (e-bikes) have grown in popularity over the past decade and have the potential to help stroke survivors overcome some of these barriers.

WHAT IS AN E-BIKE?
Using a battery and a motor, e-bikes provide electrical assistance when the person is pedalling, making it easier to travel longer distances with minimal effort. In this study participants could use either an e-bike (A) or an e-trike (B).

WHAT WERE THE RESULTS?
Six participants were recruited but only three were able to loan an e-bike/e-trike.

Reasons for withdrawal were:
- Unable to store an e-trike in their home.
- Unable to get permission from their doctor.
- Did not feel safe cycling.

Two of the three participants loaned an e-trike due to their level of impairment and issues around balance.

Analysis of interviews identified a number of factors that affected the participants use of the e-bike/e-trike. These included:
- Level of impairment affected the choice of e-bike, the adaptations required and for one of the participants, their ability to cycle.
- Support from family gave encouragement for participants to cycle, provided a companion to cycle with and to aid those with severe impairments to get on and off the e-trike.
- Most participants felt that the electrical assistance gave them the confidence to cycle further for longer, although one participant preferred to cycle without the assistance as it was deemed too fast for them.
- One participant had a fear of bumping into things and finding safe places to cycle was a concern.
- The additional weight and battery life could be a barrier for some stroke survivors.
- It was an enjoyable form of physical activity that could increase independence.
- Reasons for withdrawal were:
  - Unable to store an e-trike in their home.
  - Unable to get permission from their doctor.
  - Did not feel safe cycling.

CONCLUSION
Stroke survivors can use e-bikes although barriers do exist. Due to the small number of participants who were able to loan an e-bike, further research is required to determine whether e-bikes are a feasible and effective intervention for increasing physical activity levels in stroke survivors.