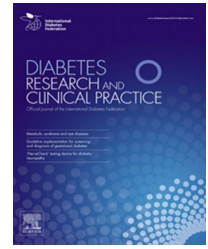


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# Higher rates of all-cause mortality and resource utilization during episodes-of-care for diabetic foot ulceration



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## ABSTRACT

**Aims:** Our primary objective was to determine whether all-cause rates of mortality and resource utilization were higher during periods of diabetic foot ulceration. In support of this objective, a secondary objective was to develop and validate an episode-of-care model for diabetic foot ulceration.

**Methods:** We evaluated data from the Medicare Limited Data Set between 2013 and 2019. We defined episodes-of-care by clustering diabetic foot ulcer related claims such that the longest time interval between consecutive claims in any cluster did not exceed a duration which was adjusted to match two aspects of foot ulcer episodes that are well-established in the literature: healing rate at 12 weeks, and reulceration rate following healing. We compared rates of outcomes during periods of ulceration to rates immediately following healing to estimate incidence ratios.

**Results:** The episode-of-care model had a minimum mean relative error of 4.2% in the two validation criteria using a clustering duration of seven weeks. Compared to periods after healing, all-cause inpatient admissions were 2.8 times more likely during foot ulcer episodes and death was 1.5 times more likely.

**Conclusions:** A newly-validated episode-of-care model for diabetic foot ulcers suggests an underappreciated association between foot ulcer episodes and all-cause resource utilization and mortality.

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## 1. Introduction

Defining episodes-of-care is an important and evolving part of modern healthcare economics. Traditionally, there have been

two approaches for defining episodes-of-care. The first evaluates care included beyond an initial event or procedure to include associated aftercare within a predefined time window. The second approach collects care-related information

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