

Introduction

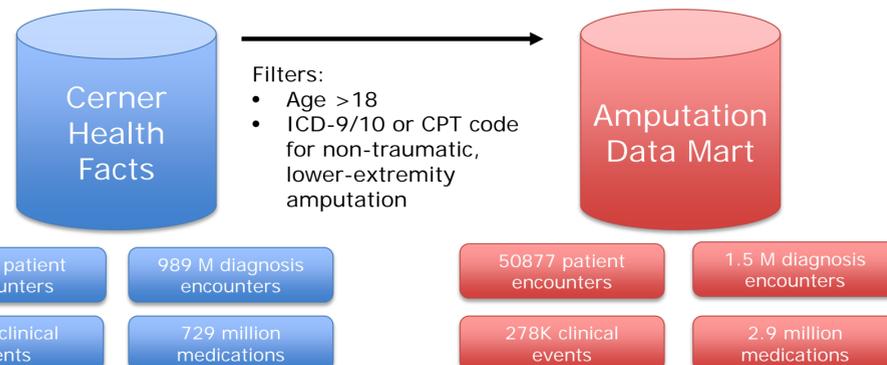
- Patients with chronic diseases such as peripheral artery disease (PAD), diabetes, or both are at higher risk of non-traumatic, lower-limb amputation.¹ The majority of non-traumatic amputations have advanced PAD and/or diabetic origins.²
- Contemporary and national estimates for the prevalence of patients with non-traumatic, lower-limb amputations is not well documented and the characteristics of this patient population is not well described

Aims

1. To construct a data mart of lower-extremity, non-traumatic amputation patients from the national Health Facts EMR database
2. To evaluate the characteristics of patients with lower-extremity, non-traumatic amputations in the Health Facts data mart

Methodology

- The Cerner Health Fact electronic health records (EMR) data provides 63 million unique patients seen at 863 Cerner health care sites across the US between years 2000 and 2017. Patient level data can be queried for demographics, diagnoses, medications, procedures, visit site characteristics for analysis



Results

Characteristic	Overall (Count, Percentage)
Encounters	50877 (100)
Age, years (mean±SD)	61.14±16.13
Sex, Male	32825 (64.5)
Race, Caucasian	33797 (66.4)
Married	19013 (37.4)
Payer: Medicare	19760 (38.8)
Patient Type: Inpatient	42255 (83.1)
Site Geography: Urban (vs. Rural)	41963 (82.5)
Acute Kidney Failure Diagnosed	8279 (16.5)
Chronic Kidney Disease Diagnosed	15971 (31.9)
Chronic Wound Diagnosed	28983 (57.8)
Critical Limb Ischemia Diagnosed	14469 (28.9)
Diabetes Diagnosed	31669 (63.2)
Heart Failure Diagnosed	9256 (18.5)
Hypertension Diagnosed	21388 (42.7)
Obesity Diagnosed	7003 (14.0)
Osteomyelitis Diagnosed	23388 (46.7)
Peripheral Artery Disease Diagnosed	3911 (7.8)
Smoking Documented	14386 (28.7)
Percutaneous Transluminal Angioplasty Procedure	4020 (10.8)
Anti-hypertensive Prescribed	22284 (53.0)
Opioid Prescribed	40241 (95.8)

Conclusions

- We identified 50877 unique patient encounters (for 39156 unique patients) who had undergone a non-traumatic, lower-extremity amputation in the Cerner Health Facts EMR database
- Patient encounters were more often for Caucasian males and the average age at encounter was 61.14 years old
- Patients were typically encountered at urban facilities and in the inpatient setting
- A large proportion of patient encounters had diagnoses for chronic wounds, critical limb ischemia, diabetes, hypertension, osteomyelitis, and 95% of encounters involved opioid medication prescribed

Next Steps

1. To create analogous data marts for all patients with a diagnosis of peripheral ischemic wounds, peripheral vascular disease, and diabetes
2. To examine the prevalence of patients with lower-limb amputations and peripheral ischemic wounds over time
3. To document the quality of care amputation and wound patients receive before and after their wound diagnosis and/or amputation procedure
4. To document rates of major adverse cardiac events and major adverse limb events for patients with wound diagnosis and/or amputation procedures
5. To evaluate predictors of peripheral ischemic wounds and non-traumatic, lower-limb amputations

References

1. Norgren L, Hiatt WR, Dormandy JA, Nehler MR, Harris KA, Fowkes FG, Rutherford RB and Group TIW. Inter-society consensus for the management of peripheral arterial disease. *Int Angiol.* 2007;26:81-157
2. Fowkes FG, Aboyans V, Fowkes FJ, McDermott MM, Sampson UK and Criqui MH. Peripheral artery disease: epidemiology and global perspectives. *Nat Rev Cardiol.* 2017;14:156-170.

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