

Epidemiologic Trends of Amputation in Saskatchewan, 2006 -2019

Introduction

- The Saskatchewan patient oriented research team (PORT) identified the need to understand the epidemiologic trends of all limb amputations (LA) performed in Saskatchewan.
- Most reports limit analyses to lower extremity amputation (LEA) which skews the true scope and burden of LA on patients and society.
- Results from this investigation will be the springboard to further explore trends in Saskatchewan and for comparison to National and provincial trends.

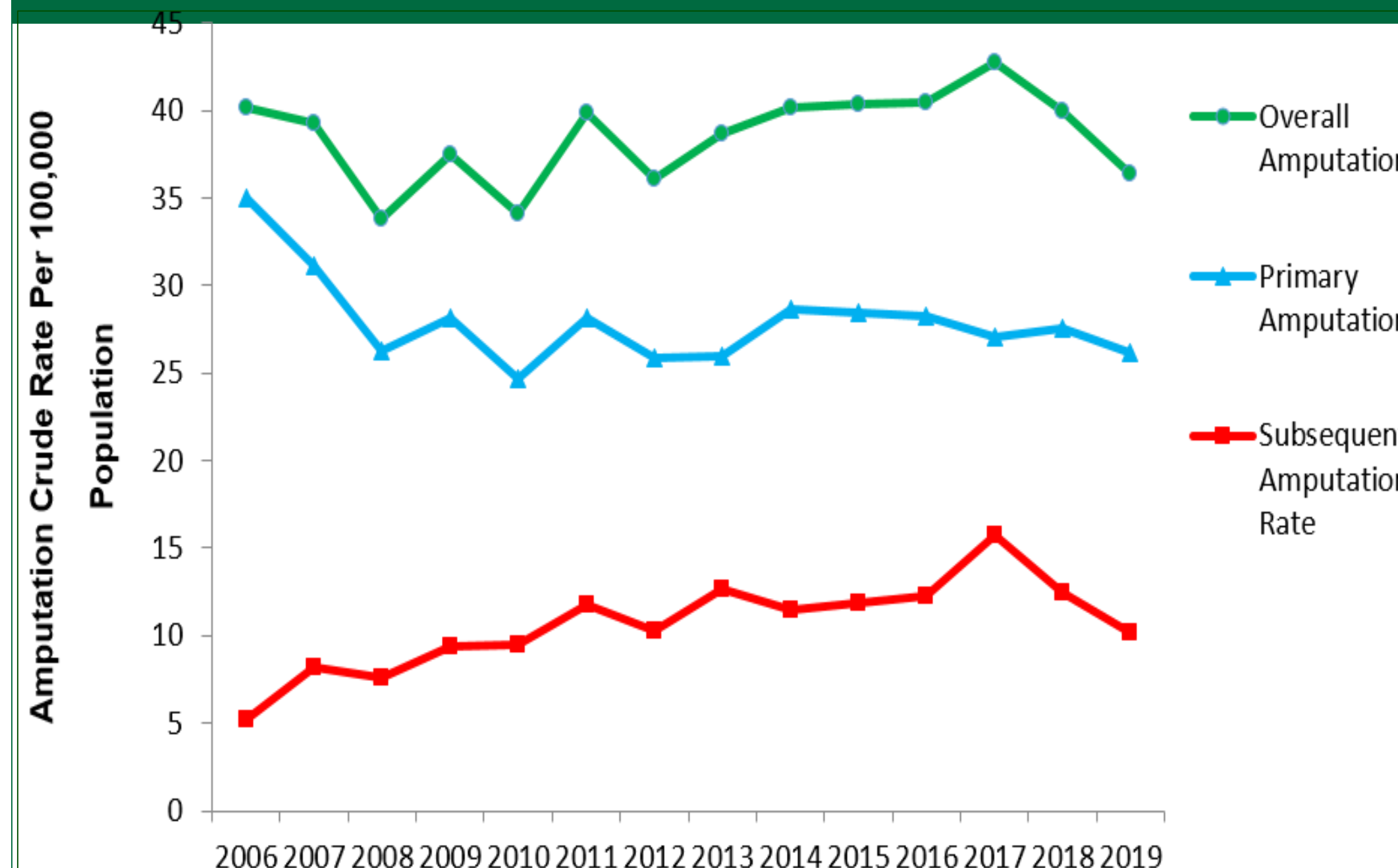
Objective

- To explore incidence rate of all LA, both upper extremity amputation (UEA) and LEA procedures in Saskatchewan over the past 14 years.

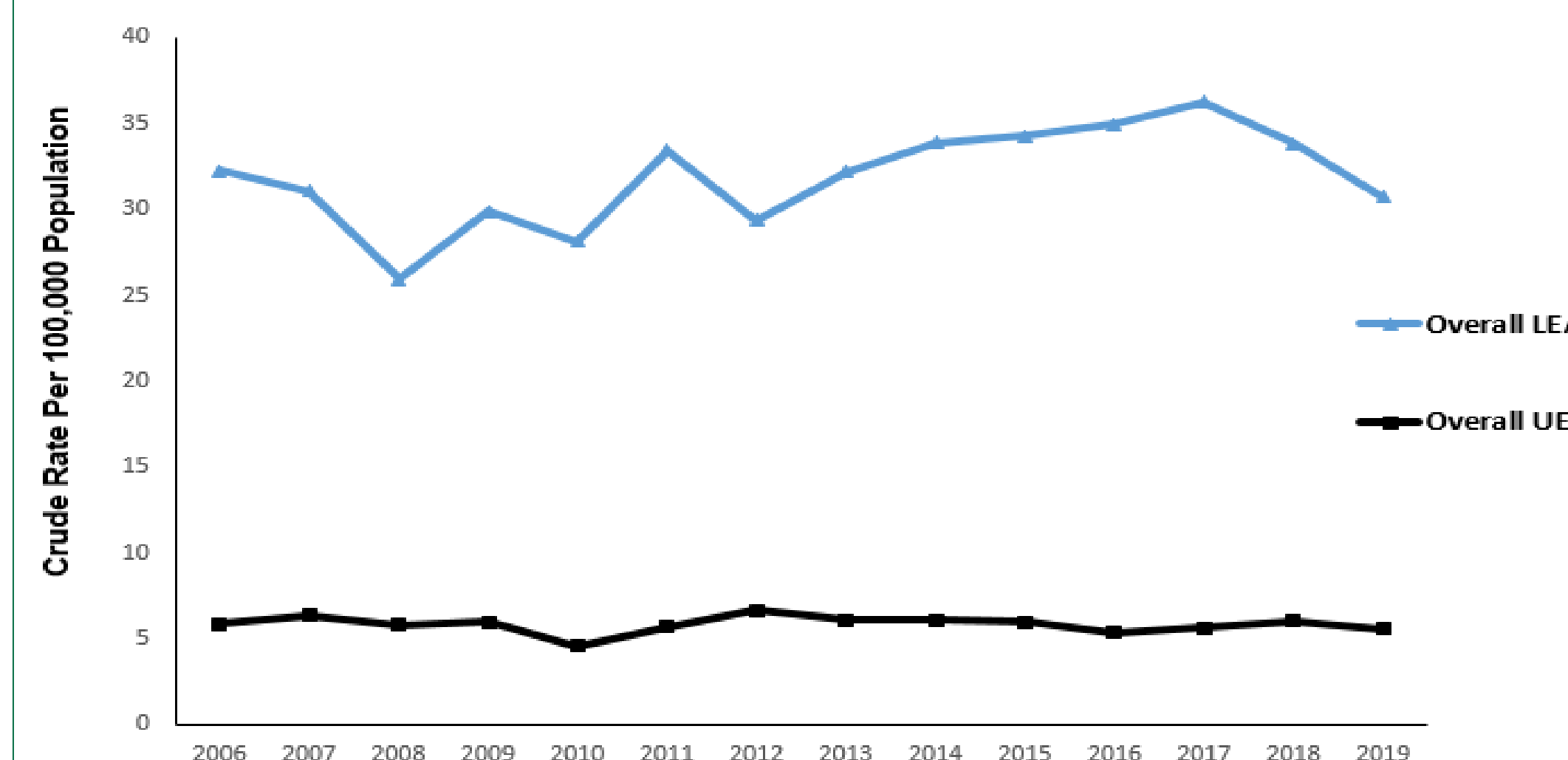
Methods

- Retrospective linked hospital discharge data between 2006-2019 including all LA performed in Saskatchewan were obtained from Saskatchewan Health Quality Council.
- Cases were classified into:
 - Overall (all amputation cases),
 - Primary (first report of LA in an individual), and
 - Subsequent (any report of additional LA in an individual)
- Cases were further divided into UEA and LEA.
- Rates were calculated using group as numerator and resident population as denominator.
- Joinpoint regression was fitted to LA rates.
- Annual percent change (APC), and 95% confidence interval (95% CI) were reported.

Results



Results-LEA and UEA



Results-Case Counts

	Overall Amputation N (%)	Primary Amputation N (%)	Subsequent Amputation N (%)
Cases 2006-2019	5868 (100%)	4239 (72.2%)	1629 (27.8%)
Level of Amputation			
LEA	4895 (83.4%)	3424 (80.8%)	1428 (87.7%)
UEA	973 (16.6%)	815 (19.2%)	154 (9.5%)
Both LEA and UEA			47 (2.8%)

Results - Joinpoint 2006-2019

Amputation Rate	Breakpoints	APC (95%CI)	Full Range	AAPC (95% CI)
Overall	2006-2008	-7.7 (-22.0 to 9.2)	-0.9	(-3.9 to 2.3)
	2008-2017	2.1* (0.3 to 4.0)		
	2017-2019	-6.8 (-21.2 to 10.3)		
Primary	2006-2008	-13.0 (-26.3 to 2.8)	-1.9	(-4.2 to 0.4)
	2008-2019	0.3 (-0.9 to 1.4)		
Subsequent	2006-2017	7.5* (4.3 to 10.7)	3.2*	(-3.1 to 9.9)
	2017-2019	-17.5 (-46.9 to 28.3)		

***Average overall rate breakdown

- The overall LA rate was 38.55 ± 2.6 per 100,000
- The overall LEA rate was 31.86 ± 2.9 per 100,000
- The overall UEA rate was 5.84 ± 0.49 per 100,000

****Joinpoint analyses of the study period:

- Overall and primary LA rates remained stable with an overall declining trend of 0.9% and 1.9% respectively.
- Subsequent LA rate increased 3.2% from 2006-2019.

Conclusion

- We were not surprised to find that overall LA rates were mainly driven by LEA.
- Our finding that primary LA remained stable and subsequent LA increased over the study period was discouraging as the past two decades have emphasized clinical efforts to decrease LA rates and risks including revascularization procedures, wound debridement, prevention programs and orthotic interventions.
- Further analysis is needed to determine how the epidemic rates of diabetes mellitus impact LA rates in Saskatchewan.

***This study is based, in part, on de-identified data provided by the Saskatchewan Ministry of Health and eHealth Saskatchewan. The interpretation and conclusions contained herein do not necessarily represent those of the Government of Saskatchewan, the Saskatchewan Ministry of Health, or eHealth Saskatchewan