Identifying Hotspots of Chronic Non-Malignant Pain in Orlando, Florida

Jessica Bogard, BSN, SRNA, and Martin Perry, BSN, SRNA
Project Chair: Sarah L. Snell, DNP, CRNA
Project Mentor: Russ Butler, Ph.D.
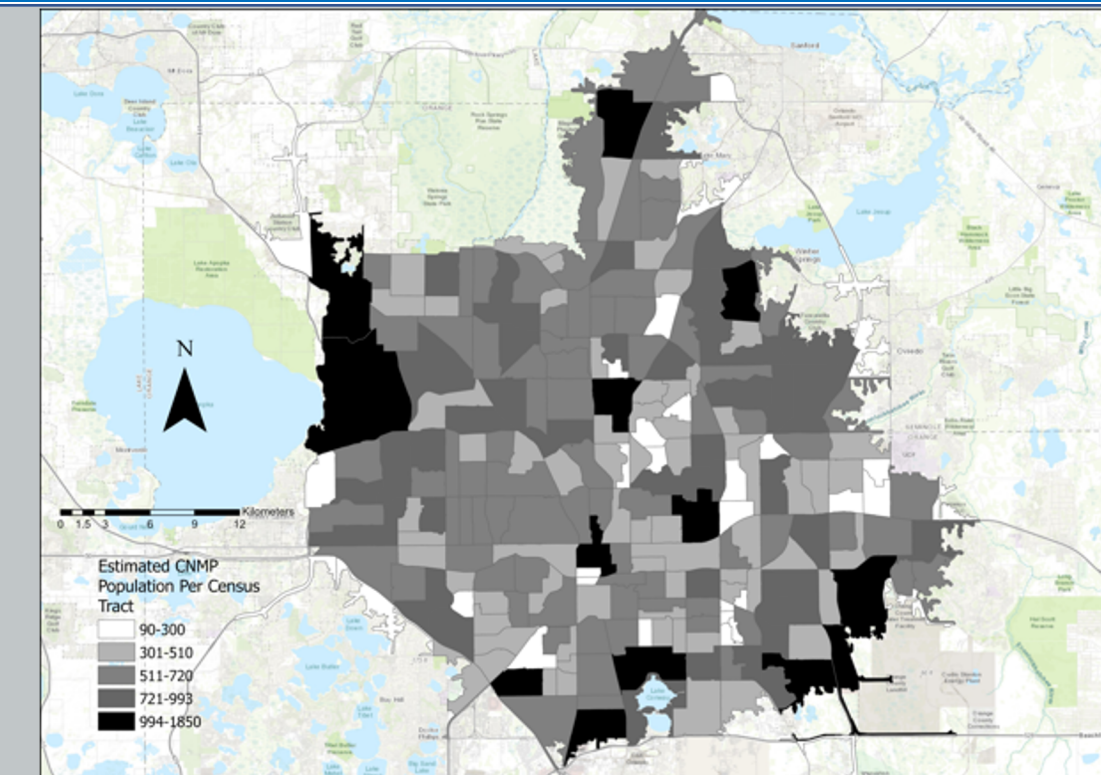AdventHealth Doctor of Nurse Anesthesia Program

Problem

Chronic non-malignant pain (CNMP) is one of the most significantly underestimated health issues in the world today.

At the local level in Orlando, Florida the burden and demographics of CNMP are also largely unknown.

Literature Review

In the United States, a reported estimate of 50 million Americans claimed they experienced chronic pain in 2016.

Sex, age, race, and socioeconomic background are key demographics in understanding the prevalence of CNMP.

Methods

Utilizing a geographic information system (GIS) we used K-means, empirical bayesian kriging (EBK), and the Getis Ord-Gi statistic to predict rates of clustering of CNMP populations within a 30-minute drive time of AdventHealth hospital main campus in Orlando, separated by census tracts.

Results

Total CNMP > 44yrs: 131,932

Hispanic CNMP > 44yrs: 22,981

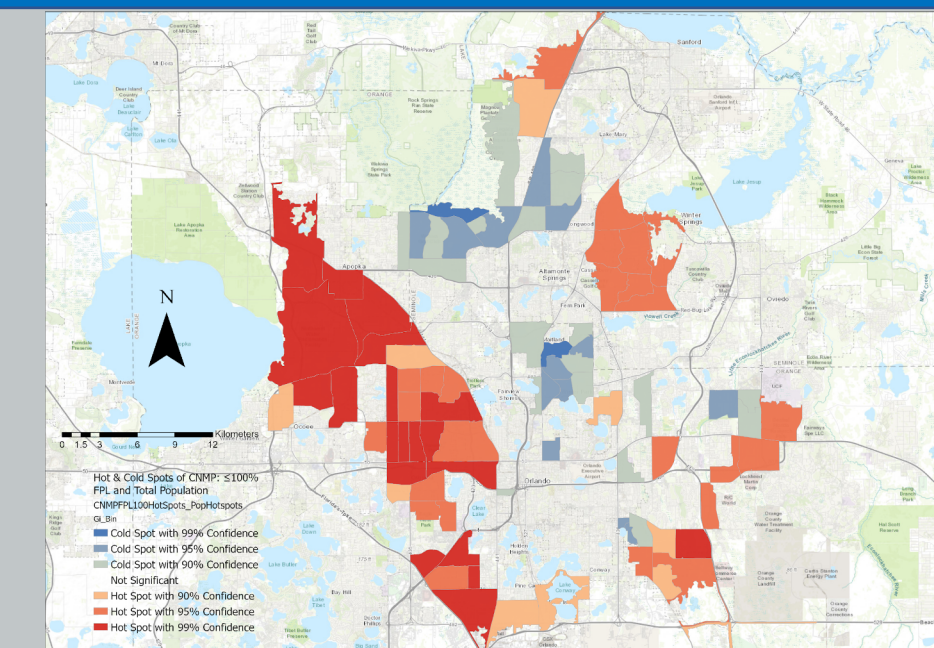Black CNMP > 44yrs: 16,333

White CNMP >44yrs: 43,250

Illustration

More Results

Total Population at ≤ 100% FPL: 48,232
Calculated Male CNMP > 44yrs: 38,543
Calculated Female CNMP > 44yrs: 52,505

Illustration

Discussion & Implications

Apopka tracts had many clusters of high disease burden.

Resource allocation towards facilities with a focus on program development in hotspot areas like Apopka.

Conclusions

Multiple geospatial analyses can be effectively used to identify high-risk populations for CNMP and to allocate resources to those who would most benefit from.

Acknowledgements

Dr. Sarah Snell, DNP, CRNA
Dr. Russ Butler, Ph.D.
Craig Gillen, B.S

Advent Health
UNIVERSITY