



Meilan Chen^{1,2}, Jaejoon Song¹, Yueqin Zhao¹ Shekhar Mehta³, Travis Ready³, Corinne Woods³, Saranrat Wittayanukorn³

Abstract

- In post-market drug safety surveillance, pharmacy dispensing data provide valuable insights to FDA of drug utilization patterns.
- We have developed a web-based interactive tool, called *geoMapr*, to analyze nationally projected data for prescription drug dispensing from a proprietary database available to the Agency.

Disclaimer

 This presentation reflects the views of the authors and should not be construed to represent FDA's views or policies.

Future Directions

- The geoMapr is continuously updated to address important needs in regulatory decision-making.
- A planned enhancement is to explore the feasibility of signal detection of infectious disease outbreaks related to intravenous injection of opioids.

Acknowledgements

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geoMapr: An analytic dashboard for prescription drug utilization with geographically referenced data enrichment and machine learning

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¹ US Food and Drug Administration, Center for Drug Evaluation Research (CDER), Office of Translational Sciences, Division of Biometrics VII ² University of Massachusetts Amherst, Department of Mathematics and Statistics ³ US Food and Drug Administration, Center for Drug Evaluation Research (CDER), Office of Surveillance and Epidemiology, Division of Epidemiology II

Figure 1. Home screen of geoMapr describes software objectives and the database.

geoMapr (Version 1.0.0)

Version 1.0.0; Last Update: 08/20/2020

Software Overview

- About this Software
- Version History
- Development/Release Timeline
- Download Software Manual

Data Analysis

Import Drug Utilization Data

2016-2018-

About geoMapr (Geographically-enriched Machine-aided analysis of Prescription drug utilization data)

Our project, funded by the Center for Drug Evaluation and Research (CDER) Safety Research Interest Group (SRIG) program, seeks to develop a data analysis pipeline and software for prescription drug dispensing database. This web-based software will provide tools to augment the nationally representative database for prescription drug dispensing with other geographically referenced, publicly available, demographic, socioeconomic, or healthcare service data. This software will subsequently generate a comprehensive collection of analysis that will be of interest to the Agency.

Database

PHAST Prescription is a syndicated view of U.S. retail and mail order pharmacy prescription activity, updated on a weekly and monthly basis. PHAST Prescription covers over 65,000 pharmacies in the sample including retail, mail order, and specialty pharmacies.

The dispensed prescriptions in the sample represent approximately 93% of all U.S. retail prescriptions (cash, Medicaid, commercial) as well as 72% of all U.S. mail order prescriptions. The retail and mail order prescriptions are projected to the national level.

Figure 2. Example analysis of naloxone prescriptions dispensed from U.S. from January 2014 through December 2018.

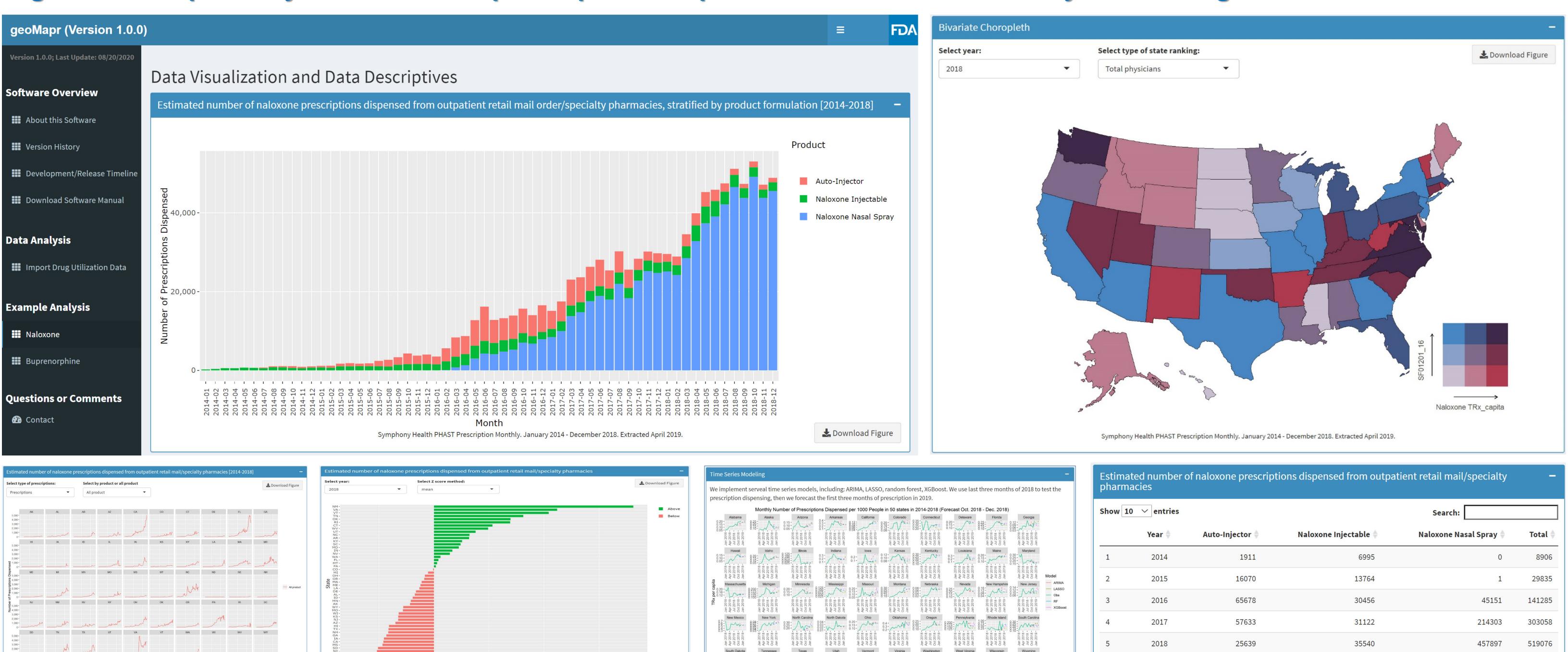


Figure 2 Note. Naloxone prescriptions dispensed from U.S. retail, mail-order/specialty pharmacies is included in the software to guide users. Current capabilities of the software include data visualization, comparison of per-capita dispensing using standardized scoring, and time series analysis. Results of this exploratory analysis can inform further investigations, as the data are not a reflection of the total use across all settings and availability of drug and do not directly measure the product's ultimate use.

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