Introduction
OU-HCOM has leveraged on the availability of public data to assess and evaluate if the College is meeting certain aspects of its mission and vision. Those aspects include placing graduates in areas with the highest need (i.e., Health Professional Shortage Areas & Medically Underserved Areas as defined by the Health Resources and Services Administration (HRSA) and/or professions with the highest shortages of specialists as outlined by the AAMC report (AAMC, 2018), that is, primary care, surgical specialties and other specialties. Through automating the process of public data collection from HRSA, Rural Health Information Hub (RHI) and the National Plan and Provider Enumeration System (NPPES) by the means of two in-house developed applications, the Office of Assessment and Accreditation at OU-HCOM is able to retrieve above-mentioned data based on alumni addresses.

Objectives
Application of computer technology to automate data collection and reporting, particularly of information core to institutional outcomes assessment, is long overdue. Furthermore, it enables labor to be redirected to more fruitful teaching, learning, and assessment elements of the academic enterprise while increasing data quality and accuracy.

The objectives of this poster-presentation is to provide the tools that facilitate automatic public data collection of HRSA defined shortage areas, geographic location data (e.g., metropolitan areas; percentage of rural population, etc. as defined by the U.S. Census Bureau) for tracking a medical school’s post-graduate. In addition, we offer a scraper that retrieves National Provider Identifier (NPI) to improve alumni tracking efforts, including easier tracking of board certifications.

Innovative Approach
High need for data-driven decision-making, calls for enhanced sources of information both internal and external. The Office of Assessment and Accreditation has successfully automated processes of collecting public data and has leveraged on the information to assess and improve program outcomes. In addition, the use of web applications enables to redirect hundreds of labor hours on complex tasks otherwise spent on repetitive work of data collection. Wide use of computer technology to automate data collection and facilitate advanced reporting, contributes to increased data transparency, improved decision-making process and continuous quality improvement efforts. Tracking and publishing outcomes on osteopathic physicians, increases awareness of osteopathic medicine and promotes the osteopathic profession.

Results
- Direct cost savings: at the minimum wage in Ohio (e.g., $8.25) after replacing manual work: ~$275 per 1000 records. As the number of alumni increases, the cost savings increase. In 2018, the direct cost saving at OU-HCOM increased $1,500 per year
- Time savings: over 30 hours of manual labor per 1000 records
- Opportunity cost: The efforts directed at manually collecting data can be re-directed to other valuable projects
- Improved data accuracy
- Improved efficiency
- Accommodates grant reporting needs for agencies aimed at enhancing health access and quality in rural and/or underserved areas
- Advanced data visualization and reporting: retrieved data allows creation of interactive maps to visualize a D.O. school’s impact in the area and the nation
- Limitations: The scrapers requires availability of a database containing valid students’/graduates’ in training/practicing addresses (i.e., street, city, zip code, state)

Outcomes
The web scrapers and detailed instructions are available for download through the following link: https://goo.gl/phGMdZ

IMPORTANT NOTICE: RHI & National Plan & Provider Enumeration System may change the content/structure of their databases without notice which may prevent the scrapers from working properly. HCOM periodically tests the scrapers and makes appropriate adjustments to accommodate changes/updates. HCOM does not guarantee the scrapers maintenance or other scraper support to the third parties. However, please contact the first author, if you encounter difficulties with the scrapers via the email below:
Contact information: Anna Holtzman, holtzman@udef.edu, Assistant Director for Data Management & Strategic Analysis, Career Center, University of Delaware

HRSA Web Scraper Access Link

The mission, vision and goals of osteopathic medical colleges in the U.S. and the national reports by HRSA & AAMC, show that service to communities, particularly those that have the greatest need, is a priority. A tool that enhances the identification of medical trainees and graduates practicing/training in federally designated underserved areas and rural areas is invaluable, particularly to the osteopathic medical schools that excel in meeting the social mission of the medical profession. The scrapers offers an automated data collection process that yields cost savings, improves efficiency and data accuracy, and advances the quality of data used to determine a college’s impact on the health care needs of the region, state and the nation.

Conclusion

References
HRSA (2016). Final report issued on address. Retrieved from https://bpo04.arcgis.com/sharing/rest/content/v1/organizations/45920140f1c5e2b6a843b2e55e65f189b5b88b50f643b758cc8_29427528982f42f6aae549a86.png