



USING ANALYTICS TO DRIVE PRACTICE SUCCESS



A guide to the benefits and challenges of harnessing data analytics.

BY JASON HANDZA, DO

Advances in our ability to collect, analyze, and derive actionable insights from data has revolutionized how medical professionals deliver care and manage their practices. Interest in using analytics is growing fast; a survey found that 95% of hospitals and physicians have access to some type of data analytics application.¹

With dynamic analytics solutions, retina practices have the potential to operate more efficiently, leading to improved patient outcomes and satisfaction. Providers can also enjoy a more seamless and supportive experience, resulting in better patient retention and more empowering clinical experiences.

IMPROVED CLINICAL DECISION-MAKING

The ability to harness data for actionable insights has been particularly powerful for ophthalmology practices, where preventative care and timely access to treatments lead to significantly better outcomes. One study revealed that data can be harnessed not only to correct diagnostic errors, but also to compare a patient's symptoms with those of frequently misdiagnosed diseases.² By analyzing large volumes of patient data, it is possible to identify patterns and trends that support more informed clinical decision-making.

For example, analytics can help identify patients who are at a high risk for developing certain ocular conditions or systemic diseases with ocular manifestations, allowing for early intervention. Dynamic solutions can also help to determine the most effective treatment options for individual patients by analyzing patient characteristics, medical history, and outcomes, leading to personalized treatment plans.

ENHANCED OPERATIONAL EFFICIENCY

Analytics can also have a significant effect on a practice's operational efficiency by streamlining the administrative processes, reducing costs, and optimizing resource allocation. This helps eliminate bottlenecks, reduce wait times, and ensure the availability of necessary resources, ultimately creating a better experience for patients and providers.

For example, you can use analytics to identify the optimal number and timing of appointments to minimize idle time

and maximize patient throughput. Proactive scheduling solutions have the potential to reduce no-show rates to only 4%, saving an estimated \$1 million annually.¹

By understanding patient demand patterns, practices can ensure that the right equipment and staff are available when needed. Analytics further assist in inventory management to make sure essential supplies are stocked adequately.

IMPROVED PATIENT EXPERIENCE AND SATISFACTION

One study revealed a strong correlation between patient-centered care and improved outcomes.³ By using data, practices can personalize unique communication workflows and deliver targeted interventions based on clinical needs, such as personalized reminders for follow-up care based on a diagnosis. By understanding patient preferences and tracking outcomes through analytics, practices can tailor services and improve patient satisfaction and outcomes.

Beyond personalized clinical workflows, analytics can also help identify the most effective communication channels for different patient demographics. For example, some patients prefer a phone call reminder, while others prefer a push notification through an app or text message.

OVERCOMING CHALLENGES

While the benefits of data analytics are significant, there are challenges to successful implementation. Ensuring the quality of the data is essential, as well as maintaining privacy and security. Furthermore, the adoption of analytics tools by staff is crucial for the long-term success of these initiatives.

A retina practice must maintain high-quality data appropriately integrated from various sources, such as electronic health records and practice management systems. This requires effective and nuanced data collection processes, standardized data formats, and system interoperability.

An integrated data analytics system can minimize errors, enhance data governance, and automate data workflows. While the process to achieve an integrated data analytics system may vary, it is generally broken down into the following seven steps:

1. Clarify the goals and objectives of the project to guide subsequent steps effectively.

2. Gather relevant information from diverse sources to ensure a comprehensive understanding of the subject.

3. Refine and prepare the information for analysis and interpretation.

4. Combine and organize the refined data to create a coherent and unified dataset for analysis.

5. Safely store the organized data to ensure the integrity and accessibility of the information.

6. Extract insights and patterns to uncover meaningful learnings from the organized data.

7. Communicate findings and outcomes to relevant stakeholders for informed decision-making.⁴

By investing in data quality and integration, practices can ensure reliable and comprehensive insights. Privacy and security are critical considerations for a successfully implemented analytics workflow. Ophthalmology practices must adhere to regulations—such as HIPAA, encryption dictation, access control, and regular security audits—to safeguard patient information and implement data protection.

To effectively use analytics tools, staff education and training are essential. Ophthalmology practices should invest in training programs alongside technology investments to ensure that staff members understand how to leverage analytics for decision-making. Fostering a data-driven culture within the practice encourages staff buy-in and promotes the adoption of analytics tools.

SELECT THE RIGHT ANALYTICS TOOL

Choosing the right tool is crucial to harness the full potential of the data. Practices should consider factors such as data integration, visualization, and scalability. It is important to choose a solution that can seamlessly integrate data from various sources, provide intuitive visualizations for easy interpretation, and scale as the practice grows. It is also important to consider the overall ease of implementation, security, and potential for the vendor to serve as a strategic advisor for training, education, and support.

The future of analytics is promising, and retina practices that harness its potential will undoubtedly thrive. ■

1. Providers' underuse of analytics could be costing healthcare consumers billions of dollars, Black Book survey [press release]. Newswire. January 13, 2020. Accessed November 14, 2023. bit.ly/46UaeYW

2. Liberman AL, Newman-Toker DE. Symptom-Disease Pair Analysis of Diagnostic Error (SPADE): a conceptual framework and methodological approach for unearthing misdiagnosis-related harms using big data. *BMJ Qual Saf.* 2018;27(7):557-566.

3. Olaisen RH, Schluchter MD, Flocke SA, Smyth KA, Koroukian SM, Stange KC. Assessing the longitudinal impact of physician-patient relationship on functional health. *Ann Fam Med.* 2020;18(5):422-429.

4. Hiller W. A step-by-step guide to the data analysis process. Careerfoundry.com. February 28, 2022. Accessed November 8, 2023. bit.ly/3FPsWoD

JASON HANDZA, DO

■ Chief Medical Officer, Nextech, Tampa, Florida

■ j.handza@nextech.com

■ Financial disclosure: None