

PRODUCT

Pathology information retrieval optimizer (PIRO), analytical tool to enable the rapid searching of archived pathology reports

INDICATIONS

Pathology, electronic health record (EHR) management, retrieval, and analysis

VALUE PROPOSITION

- First in class comprehensive approach to quickly and easily access pathology records through an intuitive, search-driven system
- Web-based solution that creates a network of archived pathology data for use in research, educational efforts, and clinical decision making
- Prompt-based interactions enable robust data / report filtering, querying, and organization

DEVELOPMENT STAGE

System developed and in-use (CCF)

PUBLICATION

Robertson, Scott. "A Novel Web Application for Rapidly Searching the Diagnostic Case Archive." [Journal of pathology informatics](#) vol. 11 39. 24 Dec. 2020, doi:10.4103

CONTACT INFORMATION

Jerry Wilminck, PhD
Director, Business Development and Licensing
wilminj@ccf.org
216.314.6397

IDF# 2024-076

Pathology Information Retrieval Optimizer (PIRO)

Scott Robertson, MD, PhD, Samer Albahra, MD, Hooman Rashidi, MD – Cleveland Clinic Lerner Research Institute

OPPORTUNITY

Pathology is a key medical science domain in which lab information systems (LIS) are often utilized to generate archives of historical patient records. The system through which pathology labs / practices catalogue their reports must remain dynamic in terms of their ability to be searched, sorted, and generally organized. The analytical needs of pathologists are seldom met by currently available systems. These needs often encompass clinical care, quality control / assurance, research, and educational purposes. Currently available systems fail to offer optimized searching functions that can locate historical patient records based on filterable criteria. The ability to leverage past data is crucial in both clinical and non-clinical applications and enables pathologists to quickly search, sort, and analyze their institution's archive of diagnostic case data to drive more effective decision making. Another common shortcoming of lab information systems is the inability to effectively search unstructured text reports. These types of advanced searches often require special user training and may take up to several minutes to complete.

At present, there is a severe unmet need in innovative medical record systems that enable advanced searching capabilities and empower users to rapidly analyze and compare institutionally archived records.

SOLUTION

We have developed a novel Pathology Information Retrieval Optimizer (PIRO) that is uniquely designed to address the dynamic needs of academic pathology labs / practices. PIRO utilizes an advanced built-in search engine that provides users with an intuitive interface that is capable of full-text filterable queries as well as a highlight function that can locate relevant words and phrases. Additionally, PIRO can transform unstructured pathology data into discrete insights that can be easily and rapidly analyzed by the user. PIRO also enables users to quickly access a patient's entire pathologic record by scanning a barcode located on their case file. The displayed record possesses full navigation functionality and is presented in an easy-to-read format. Inputs for the proposed solution can be integrated from any currently available LIS and does not require additional modification. PIRO was designed with strict data governance procedures in mind and is fully compliant with all HIPAA guidelines pertaining to user tracking and auditability.

The development of this medical information searching system enables pathologists to conduct rapid, targeted searches across an institution's entire archive of pathology records / reports. Additionally, this system provides tremendous advantages over currently available lab information systems with respect to its usability and built-in analytical capabilities.