

May 2023

ReCent

US Underwriting News

somewhat
different

hr | ReFlex Select rules for LabPiQture continue to expand and are available through life insurers' existing connections to ExamOne

hr | ReFlex Select for LabPiQture

LabPiQture Overview

ExamOne's LabPiQture is a data product comprised of clinical lab results and diagnosis history. It is the largest network of both inpatient and outpatient clinical lab results with approximately two-thirds of all US laboratory records included in the dataset. The volume of data and the data structure, with LabPiQture returning results represented by LOINC (Logical Observation Identifiers Names and Codes), makes this a valuable tool for the life insurance underwriting industry in assessing and stratifying mortality risk. The data provided includes seven years of lab history results in an FCRA-compliant report that can reduce overall underwriting time and cost, serving as a possible APS alternative.

hr | ReFlex Select – Underwriting Rules for LabPiQture

Hannover Re collaborated with ExamOne to develop a rules-based solution that enables life insurers to automate the use of LabPiQture's comprehensive, real-time clinical laboratory records to enhance accelerated underwriting programs and overcome data interpretation challenges. Until now, the solution has been available as a standard part of hr | ReFlex, Hannover Re's automated underwriting platform. However, the rules are now available to carriers through hr | ReFlex Select, a new automated underwriting solution from Hannover Re. hr | ReFlex Select is an API based solution that enables carriers to use hr | ReFlex Select rules for LabPiQture irrespective of their current underwriting engine.

Since launching in early 2022, new features have been added including automated MIB coding, the inclusion of insurance panel testing, soon-to-be-released rules for laboratory tests done during pregnancy (as we know pregnancy affects typical reference ranges), and International Classification of Diseases (ICD-10) diagnosis codes.

Hit rates have increased to approximately 70% with an automated underwriting decision for the LabPiQture data on more than 85% of people with LabPiQture results per Hannover Re Underwriting Analytics.

The solution consists of rules developed for approximately 3,000 LOINCs, including complex rule combinations and hierarchical rules. It covers over 95% of LabPiQture data, including the most important and frequently encountered results in an insurance context. With the addition of insurance panel testing results in 2022, the hit rates have increased from 55% to approximately 70%, with an automated underwriting decision generated for the LabPiQture data on more than 85% of people with LabPiQture results per Hannover Re Underwriting Analytics. With the ongoing development of new rulesets with sophisticated hierarchies, less than 15% of hits will require an underwriter review.

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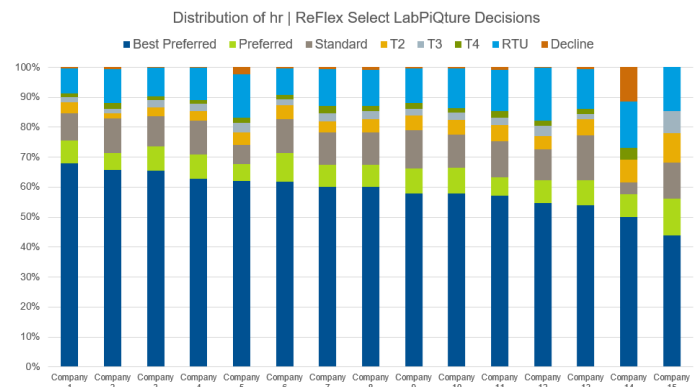
Benefits of hr | ReFlex Select

- Improved customer experience
- Reduction in APS(s) ordered
- Time saved for underwriters
- Increase in automated decisions and straight-through processed applications
- Rules customized to company-specific underwriting guidelines
- Automatic MIB coding
- Incorporation of labs during pregnancy into the rulesets
- Incorporation of ICD-10 diagnosis codes
- Consistent decisions using a combination of medical director and underwriter leadership and experience for critical decision outcomes – leading to improved mortality assessments
- Underwriting recommendations in XML format can be easily integrated into any predictive model or underwriting engine solution

Protective Value of hr | ReFlex Select

The hr | ReFlex Select product provides a critical component to the risk assessment process and allows carriers the ability to modify rules to best fit their needs. This flexibility not only delivers a solution from a business standpoint, it also provides significant protective value when compared to alternative solutions. The protective value is driven by the frequency and severity of the adverse information identified by ExamOne's LabPiQture. The hr | ReFlex Select product instantaneously analyzes large sets of lab data provided by ExamOne and interprets the data to produce a sophisticated and comprehensive underwriting decision that transcends the traditional numerical mortality score. This risk assessment tool is designed to provide carriers with real-time underwriting decisions by providing specific underwriting risk classes with outcomes spanning best class to rated cases and declines. The rules utilize an approach that brings the critical analysis and medical expertise of Hannover Re's Chief Medical Director, Dr. Nico van Zyl together with the perspective of an underwriter's approach to a case. The tool identifies adverse information on 35-50% of hits which can vary by target market, distribution channel and other factors. The unique protective value will depend on whether other underwriting requirements used overlap with the lab test data.

Exhibit 1 - Protective Value of LabPiQture Results



The opportunity cost should be measured by comparing the time it would take an underwriter to review the full lab report with variables such as the experience level of the underwriter. It should also measure the time it would have taken the same underwriter to obtain and review insurance panel labs and attending physician statements. This includes the cumulative amount of time it takes for the proposed insured to complete the lab draw, the lab processing of the specimen, and the underwriter review of the lab panels. A similar comparison can be made for the time it takes the underwriter to decide which records are needed, order the records, wait time for processing the order, and time it takes an underwriter to review the records. That total time should be juxtaposed with carriers using a directly connected API set up with ExamOne to instantly receive laboratory data and the hr | ReFlex Select risk assessment tool. The ExamOne and hr | ReFlex Select option significantly reduces the time needed in the review process from days or weeks to mere seconds or minutes.

Utilizing hr | ReFlex Select increases underwriter efficiency and production. Lab tests assessment results are presented immediately, allowing the underwriter to quickly assess the risk and focus on the most relevant lab results.

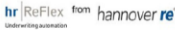
The time savings realized by companies, along with the efficiency gains in underwriting production will result in


measurable recaptured costs that vary based on business type, usage, distribution and other factors. The savings further increase and compound in value the more the tool is used. These critical components should be considered when assessing the overall cost, value-add, and protective value of hr | ReFlex Select.

Exhibit 2 - hr | ReFlex Select Decision Examples

Examples reflect Decline, Standard, and Rated outcomes respectively and can also reflect Refer to Underwriter and Preferred assessments.

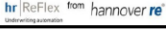
Decline Example


Underwriting Recommendations Powered by: 

Aggregated Recommendation	
Recommended Action for LabPiQture	Decline
Recommended Underwriting Class	
Nicotine Test	POSITIVE
MIB Codes	
Reasons	Buprenorphine (3414-0) Buprenorphine (3415-7) Norbuprenorphine (49753-7) Hydromorphone (9835-0)

Lab Test Results Assessed - Underwriting Recommendation				
Test Name (LOINC Number)	Action	Underwriting Class	Extra Mortality Loading	Most Serv
Hydromorphone (9835-0)	Decline			12/

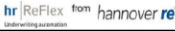
Standard Example


Underwriting Recommendations Powered by: 

Aggregated Recommendation	
Recommended Action for LabPiQture	Approve
Recommended Underwriting Class	Standard
MIB Codes	
Reasons	All assessed lab test result recommendations are 'Approve'

Lab Test Results Assessed - Underwriting Recommendation				
Test Name (LOINC Number)	Action	Underwriting Class	Extra Mortality Loading	Most Recent Service Date
Urine Protein (20454-5)	Approve	Standard		5/25/2021
Alanine aminotransferase ALT (1742-6)	Approve	Standard		5/25/2021

Rated Example

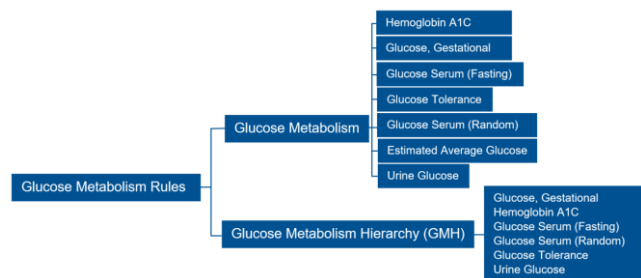
Underwriting Recommendations Powered by: 

Aggregated Recommendation	
Recommended Action for LabPiQture	Offer
Recommended Underwriting Class	SubStandard
Recommended Extra Mortality Loading	100 (Table 4)
MIB Codes	
Reasons	Hemoglobin (718-7)

Lab Test Results Assessed - Underwriting Recommendation				
Test Name (LOINC Number)	Action	Underwriting Class	Extra Mortality Loading	Most Serv
Hemoglobin (718-7)	Offer	SubStandard	100	6/
Hemoglobin A1c/Hemoglobin.total (4548-4)	Approve	Standard		7/
Urea nitrogen BUN (3094-0)	Approve	Preferred Plus		7/

Exhibit 3 - hr | ReFlex Select Hierarchy Rule Structure Sample

Sample rule structure for Glucose Metabolism Hierarchy



Improved Customer Experience

The hr | ReFlex Select rules for LabPiQture provide a tool that allows carriers the ability to offer an improved customer experience by significantly reducing the processing time on a traditionally underwritten case. The benefit of using LabPiQture data with the hr | ReFlex Select rules is that it allows carriers the option to forego traditional methodologies, such as collecting client fluids or ordering APS records prior to an underwriting decision. It provides a degree of consistency with the underwriting assessments and eliminates an intrusive process from the insurance purchasing paradigm. The reduction in average turnaround times varies based on company, distribution, underwriter experience and other variants.

The hr | ReFlex Select tool allows carriers to factor in the benefits of an improved customer experience and increased turnaround times without compromising mortality.

Rule Building Philosophy & Considerations

Hannover Re's rules for LabPiQture are firmly grounded in the hr | Ascent underwriting manual and also provide additional guidance with rules that address LabPiQture data with nuance. The Hannover Re solution features rulesets that

can handle cases where there is more complexity, such as introducing hierarchical rules and complex combination rulesets. Unlike traditional rulesets where engines follow rules that solely trigger debits or scores, Hannover Re's rules for LabPiQture are built to offer more individualized underwriting sophistication. Rulesets are continuously refined in real time, making them fluid rather than finite. Clients utilizing the tool will automatically receive the most up-to-date version of the product at no additional cost.

An example of a hierarchical ruleset is the glucose metabolism hierarchy shown in Exhibit 3, with the glucose tests/variables that could be encountered in underwriting. The hierarchical ruleset assigns debits for each lab panel on a granular level once the steps within the hierarchy rules have been followed. The advantage of the hierarchy is that it can prioritize one lab test over another (in this case for example, the A1c over the random serum glucose). The reports provides a summarized underwriting assessment including detailed assessments on each lab with an adverse outcome. Unlike typical rulesets that follow granular rules alone, building these hierarchical rulesets offers more precise assessments on complex underwriting cases, emulating what an underwriter does when manually looking at such cases. With the abundance of data available via LabPiQture, there's a risk of applying overlapping mortality to test results during the underwriting process, thereby making a higher substandard offer than necessary. Hannover Re's complex-combination and hierarchical rules eliminate that risk and instead, suggest an underwriting decision that mirrors how the tests would be evaluated in a traditional underwriting process.

This level of rule sophistication can be found within various impairment categories that drive mortality including labs for renal function, liver function, serum protein status, cardiac risk, and more. The rules can be applied to an array of laboratory categories including blood chemistry, urinalysis, microbiology, toxicology, and cancer biomarkers often found on insurance panels. It also includes hematology, coagulation tests, endocrine tests, vitamins & mineral labs, and autoimmune & inflammatory mediators typically found in attending physician statements and electronic health records.

Updates: MIB Code Backs, Rulesets for Labs During Pregnancy, & ICD-10 Diagnosis Codes

There have been many product improvements and updates since the initial launch of the hr | ReFlex Select rules for LabPiQture including the ability to automatically code for MIB. This feature provides underwriters with even more time-saving tools and efficiencies. Enhanced rules have been put in place to instantly capture both mandatory and discretionary MIB codes. Hannover Re's continuous iteration and improvement model will automatically include future changes implemented by MIB.

The hr | ReFlex Select rules for LabPiQture will now assess labs performed during pregnancy in an automated manner. Many times, granular rulesets fail to address situations where adverse lab findings are being driven by testing done during pregnancy. Pregnancy lab rules are the newest updates to reflect the versatility of hierarchical rulesets. They will be implemented in the second quarter of 2023. Analogous to underwriters reviewing a live case, the hr | ReFlex Select model can automatically determine whether the labs occurred early after conception, throughout the gestational period or after delivery. With the assessment now able to handle the physiological changes that occur during pregnancy and assess associated abnormal labs more appropriately, the tool will reduce the number of cases unnecessarily referred for underwriting review.

ICD-10 diagnosis codes will also be included in the next product updates with expected availability in the second quarter of the year. Rules are being implemented to more accurately assess the mortality risk and better help carriers understand the data by utilizing the approximately 12,000 ICD-10 codes found in the LabPiQture environment. Once implemented, the ICD-10 rule solutions will work in combination with existing rules driven by the lab tests. They can be used in various configurations to fulfill the client's risk assessments needs.

How to Use the hr | ReFlex Select Tool?

The following seven use cases illustrate the versatility of hr | ReFlex Select:

- **Use Case 1:** In conjunction with life insurance applications and other third party services such as a pharmacy check to triage the applicant's mortality risk in lieu of ordering attending physician statements, insurance laboratory panels, and paramedical examinations on all cases.
- **Use Case 2:** On an ad-hoc basis per underwriter discretion and/or per age and amount guidelines
- **Use Case 3:** In an accelerated underwriting and/or fully automated underwriting environment
- **Use Case 4:** In a traditional underwriting setting
- **Use Case 5:** For simplified issue cases
- **Use Case 6:** For retro-study analysis
- **Use Case 7:** For post-issue audits

Each use case can further accommodate a number of configurations and settings including:

- Within the client company's existing underwriting workbench environment
- Within the hr | ReFlex workbench environment allowing access to free hr | ReFlex Select rules fully loaded with all rule options and functionality
- With Hannover Re standardized out-of-the-box rules
- With fully customizable rulesets mapped to client company's Preferred guidelines and underwriting preferences¹
- In conjunction with the hr | Ascent underwriting Manual which contains the extensive research, background, and context on hr | ReFlex Select rule decisions
- Without the use of the hr | Ascent Underwriting Manual

How Long Does It Take to Implement?

Once a carrier is set up with the ExamOne LabPiQture service there is no integration work with Hannover Re to gain access to hr | ReFlex Select. A carrier simply updates their contract/account with ExamOne to start using hr | ReFlex Select, executes the required documents, and

implementation of the hr | ReFlex Select work will be completed within 1-2 weeks.

How Much Does hr | ReFlex Select Cost?

Hannover Re works in collaboration with ExamOne to provide a product specific to the client's needs and offers hr | ReFlex Select on a per usage basis. The tool varies in cost based on use case implementation type, usage rate, and the level of customization required. Hannover Re and ExamOne also offer clients strategic fee-based services to maximize the hr | ReFlex Select protective value and return on investment, such as retro-study analysis, rule calibrations, underwriting training, and client consultations for customization. Hannover Re offers the hr | ReFlex Select tool for free for all hr | ReFlex clients using our out-of-the-box rules. For more information on product cost please reach out to a hr | ReFlex Select product representative.

Conclusion

LabPiQture is an extremely valuable tool that life insurers can use in a multitude of ways. Adding hr | ReFlex Select rules for LabPiQture supports carriers' use of the data to make automated decisions, reduce manual case reviews and improve the efficiency and consistency of those cases requiring manual review without negatively impacting mortality. hr | ReFlex Select rules can be seamlessly integrated into life insurers' processes through their existing LabPiQture connection.

Whether a carrier is looking to add a new channel of business using a lab-free model, better improve their underwriting processes in a post-COVID world, or looking to seize upon the opportunities available among the direct-to-consumer cohort, this product excels in accomplishing those goals.

Hannover Re went through an extensive collaboration process with the underwriting, data analytics, and hr | ReFlex teams to ensure the rules are consistent with the way an underwriter would make decisions in production. As new data and trends emerge, Hannover Re will continue to iterate

¹ requires calibration via consultation with Hannover Re team at an additional cost

and refine rulesets to ensure that hr | ReFlex Select for LabPiQture reflects an up-to-date underwriting philosophy guided by the hr | Ascent underwriting manual.

For more information on how to access hr | ReFlex Select for LabPiQture, contact your LabPiQture representative.

For more information on the hr | ReFlex rule development, please contact Hannover Re.

Additional Resources

1. [Hannover Re: hr | ReFlex Select for LabPiQture—March 2022](#)
2. [ExamOne & Hannover Re: LabPiQture Collaborative Study – June 2020](#)
3. [Hannover Re US collaborates with ExamOne to incorporate LabPiQture into hr | ReFlex platform – August 2021](#)
4. [hr | ReFlex + LabPiQture: An Interview with Kevin Oldani and Heather Haslam – November 2021](#)

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