LOGICNETS

CASE STUDY

Netherlands Nationwide Synoptic Reporting Application

PALGA — the national pathology foundation of the Netherlands — was created in 1971 to promote communication and information sharing among the 55 pathology departments in the country. The foundation currently supports over 500 pathologists and other clinical users, focusing on national directives such as improved outcomes and outcomes-based research.

Over the years, PALGA has pioneered the use of information technology to optimize and standardize the collection of pathology examination data and reduce the risk of errors. However, in 2011 the organization began to recognize that their applications for structured data collection had serious limitations. Paul Seegers, advisor and administrator of national pathology protocols for PALGA, describes how the system had reached its limits: "We saw that we were facing major technical constraints as the number of protocols and the complexity of our medical content began to increase dramatically. Pathology is constantly changing, and we could not keep our protocols up-to-date without a new flexible and highly intuitive system that would allow our experts to very rapidly model and maintain the decision-making processes underlying our protocols."

Using a traditional software engineering approach, even with vendors experienced in clinical processes, PALGA simply could not keep up. The challenge facing PALGA was not simply technical. Without a robust library of up-to-date protocols, the high field adoption rates the organization had built over the years were likely to stagnate and even decline. Finding a new solution was critical to the success of the organization and to realizing a return on years of investment. In 2013 PALGA announced a project to implement a new Synoptic Reporting platform. This platform would allow Pathology experts to visually design protocols and then present pathologists an intuitive, highly flexible, and dynamically constructed interface for collecting pathology report input, summarizing results, and synthesizing standardized conclusions in real-time. The new system would seamlessly integrate with the EHR and serve as a conduit to funneling results to the PALGA national pathology outcomes database.

Based on meeting these requirements and demonstrating a working pilot of complete PALGA protocols within only a few months, the LOGIC**NETS** Decision Support Platform was selected by PALGA as their go-forward solution for Protocol Management and Synoptic Reporting. Working with ICT Automatisering, LOGIC**NETS**' premier reseller and systems integration partner, PALGA began modeling protocols in the LogicNets system. The resulting application was put into live production in March of 2014 after just 5 months of content development.

"LOGICNETS allows our protocol library to be modular and for us to rapidly adapt and release new Protocols that address the implications of DNA testing, mutation analysis, and personalized treatment."

-Paul Seegers
Advisor and Administrator of PALGA

The new system offers a wide range of important Pathology reporting protocols which are accessed by the pathologist directly from the EHR. The system dynamically builds input forms intelligently presenting only relevant

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THE PROBLEM

- Pathology tissue examinations protocols are voluminous and fast-changing, yet pathologists need up-to-date automated support for minimizing errors
- Previous application input forms too cumbersome and were not widely used
- Without standardized submission of data, errors could not be minimized and results could not be used for outcomes based research at national level
- PALGA's fundamental mission of guiding pathologists and enabling research jeopardized

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questions. With each user input, the form rebuilds adding relevant question and updating computed conclusions. Users are not constrained to answering questions in any particular order and see all currently relevant questions. As a result, the system accommodates the clinician's workflow and automates time-consuming manual steps. Once all mandatory data has been collected, the system generates structured and properly coded SNOMED and CCDA output that is automatically submitted to the EHR, the payment system, and the PALGA national outcomes database.

Paul Seegers points out that the reaction to the new system has been "uniformly positive" and reports that all the players grasped its potential and supported the project. "From the initial presentation to the PALGA Board and our development of the Framework through the first nationwide rollout, our pathologists were very impressed by the possibilities. We have been able to measure this success very tangibly." Seegers also points out that an even bigger advantage will be derived from using LOGIC**NETS** over the short- to mid-term as LOGIC**NETS** capabilities that have not been exploited in the first project help PALGA increase the sophistication of the Pathology Protocol Modules.

Furthermore LOGIC**NETS** plays an important role in the national screening program in the field of colorectal cancer, cervical cancer. LogicNets also is a key link in "data liquidity", where the output data (source) is input data for clinical (quality) registration.

THE SOLUTION

Rapid visual capture of national synoptic reporting protocols with automated distribution to all labs and pathologists

Dynamic intelligent form-building so that clinicians see only relevant questions and can record and validate observations in any order

Conclusions are built dynamically onscreen as users respond to mandatory questions

Invalid reports cannot be generated or submitted due to missing or improperly entered mandatory data

Foundation positioned to meet national outcomes-based research goals