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Time for automated and real-time clinical decisions

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Today, electronic health information exchange is growing as the latest trend in digitization of healthcare systems and is the key driver of technology adoption in healthcare industry across Asia Pacific.

According to Frost & Sullivan, public sector spending on electronic health records in Asia Pacific stood at $582.1 million in 2012, and is slated to increase at a compound annual growth rate of 5.3 percent between 2012 and 2018. However, alongside, comes the challenge of raising efficiency and being able to analyze, and continuously improve the processes.

Streamlining business decisions through Business Rules Management Systems (BRMS) is one of the solutions to overcome this challenge. This approach allows healthcare providers to automate decisions and drive optimization across decision-intensive processes that would help the organization to increase control over implemented decision logic for compliance and better business management.

Dr Mark Allen, founder of business rules platform provider Corticon, which was later acquired by Progress Software in 2011, has developed rules-based systems to help physicians improve patient care decisions. Dr Allen analyzed the shortcomings of traditional business rule engines (BREs) and developed rules technology that is easier to use for business process automation. The innovation led to the development analysis software Corticon BRMS, used by companies in several industries including healthcare. In a conversation with *BioSpectrum*, Dr Allen talks about the application and what changes it can bring in the way healthcare is delivered.

What kind of analysis does Corticon BRMS provide to healthcare professionals?
This software provides a platform to clinicians and health providers to make right decision at the right time with business agility. It helps healthcare professionals in analyzing whether a patient is at high risk of infection, what kind of treatment is needed, and what resources are required to treat the disease. BRMS externalize decision logic from applications and represent as business rules. It monitors and tracks multiple streams of event data, detect and identify meaningful patterns, and visualize real-time events and decision outcomes.

The software allows continuous monitoring and evaluation of clinical information and executes quality indicators of the treatment. It uses complex clinical algorithms to find correlations in clinical data that indicate the presence of high-risk conditions and responds by early identification and intervention of any threat. The system has the feature to alert clinicians in real time so that patients can be assessed and best practice interventions can be delivered.

What are the areas in healthcare where this application can be implemented?
Corticon BRMS enables core measure reporting that enables automatic extraction of data across a set population. For instance, Romanian Ministry of Health has installed universal healthcare system for all citizens, including prescription drug coverage. There is considered to be wide mismatch of data available on the population leading to fraudulent activities. For instance, doctor claims for 27 million patients whereas only 19 million exist. Such analysis of the population can be easily detected through this application.

What is the usage of this application in real time drug monitoring in patients? How can this be useful in hospitals?
There is a wide real-time drug interaction monitoring feature of this application. For instance, when a new medication is administered followed by a rise in the heart rate by, say 10 percent, and blood pressure falls by say 20 percent, of minimum allowable for this patient within five minutes, real time window then reviews drug interaction model and if needed withdraws new medication and alerts clinician.

Other functions are, when an at-risk patient is detected outside an authorized area then it alerts the nearest appropriate nurse or when mobile medical device is detected outside an authorized area and not co-located with an authorized user then it alert the nearest appropriate security person. When care giver enters a room then customize in-room display with relevant information or when a nurse leaves a patient room followed by the same nurse entering another patient room and if any of the basic activities are not followed such as the latex glove dispenser not utilized or the hand sanitizer dispenser not utilized within 15 seconds, then it raise audio-visual disease control alarm.

What difference the new application can bring in the way healthcare is delivered?
Progress Corticon Business Rules Management is designed to drive smarter for faster business automation at health and human services agencies. It helps organizations across the spectrum of healthcare to automate operational decisions and intelligent citizen interactions by accelerating and streamlining the implementation and maintenance of regulations, rules and policies. It aims to improve accuracy and speed of benefits eligibility and delivery and consolidates redundant tasks and sharing information across programs. Besides, it also prevents fraud with automated audit and fraud investigation processes.

And how can it be deployed in hospitals?
Corticon BRMS can be deployed on a standalone desktop environment for business rules modelling with Corticon Studio or in a scalable enterprise-ready business Corticon Server.