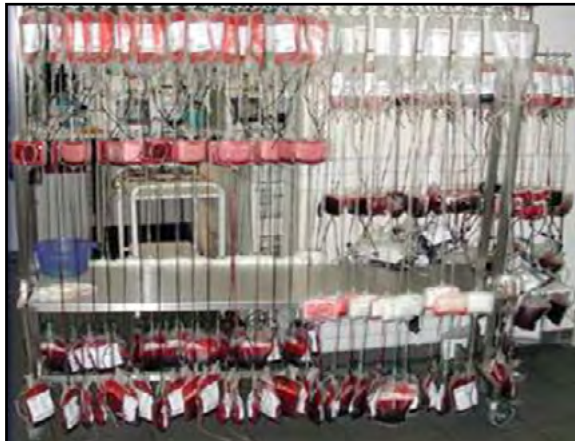


Maintaining A-Positive Blood Quality: Belgian Red Cross Blood Service



The Belgian Red Cross Blood Service and the Institute of Statistics of Université Catholique de Louvain uses Minitab macros to monitor the daily quality of blood products.

KEY FACTS

ORGANIZATION

Belgian Red Cross Blood Service

OVERVIEW

- Collects and processes blood from nearly 100,000 donors each year
- Analyzes 198,000 concentrate, plasma, and platelet samples annually

QUALITY CHALLENGE

Monitor processes on a daily basis to ensure legal standards are met

PRODUCTS USED

Minitab® Statistical Software

RESULTS

- Proven compliance with the Ministry of Health guidelines
- Automatic creation of daily reports allows rapid response to fluctuations and irregularities

For most of us, donating blood seems like a simple process: a technician asks some questions, collects your pint of blood and it is finished. But when blood donation is done, the work of the Red Cross is just beginning. To make sure the blood they collect is safe for patients, samples from every donor undergo extensive testing, analysis, and preparation.

In Belgium, blood processing standards are set by the Ministry of Health which also conducts audits to ensure that quality controls are maintained. The Belgian Red Cross Blood Service uses Minitab Statistical Software with help from the Institute of Statistics experts of the Université Catholique de Louvain to meet these stringent processing standards and monitor the quality of their blood supply.

The Challenge

In an average year, the Belgian Red Cross Blood Service collects 173,000 samples of blood units, 16,000 plasma and 9,000 apheresis platelet samples from more than 99,000 donors. In total, the organization's laboratories need to analyze a total of 198,000 samples annually. Donations that meet the country's standards are filtered and separated into different blood components.

The Red Cross statistically monitors these processes to ensure that they meet Belgium's strict quality standards and that the blood patients receive is safe. In the beginning, the Red Cross collected control quality data in a Microsoft Excel spreadsheet and reviewed it monthly. Corrective action was taken if the monthly reviews revealed a problem. However, this system created the risk that nearly one month's worth of samples could be processed before the organization discovered they did not meet legal standards even if this event is rare.



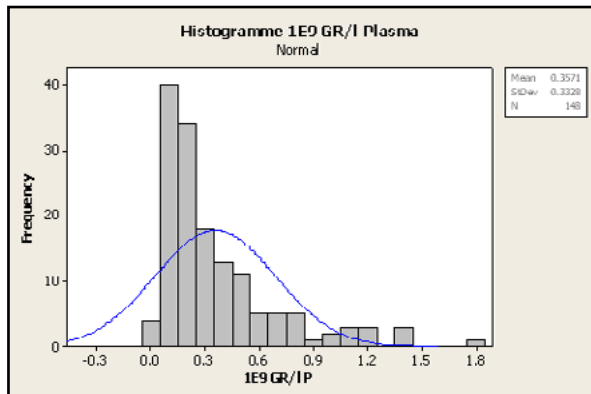
*Learn how Minitab software can help you
improve quality at www.minitab.com.*

So the Blood Service set out to establish a daily quality control system that would enable them to respond more quickly to quality fluctuations and ensure compliance with legal standards.

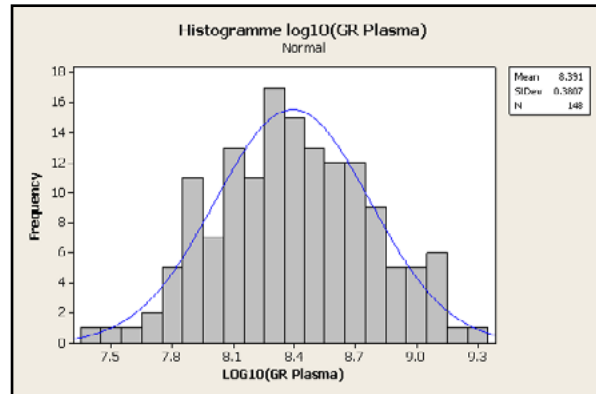
How Minitab Helped

The team that devised the new system found that Minitab Statistical Software was a much better solution for analyzing their data. They used Minitab's Control Charts to analyze and understand their normally distributed data, which counted for 26% of the samples studied. When they encountered non-normal data, they used Minitab's Individual Distribution ID Plot to evaluate potential transformations.

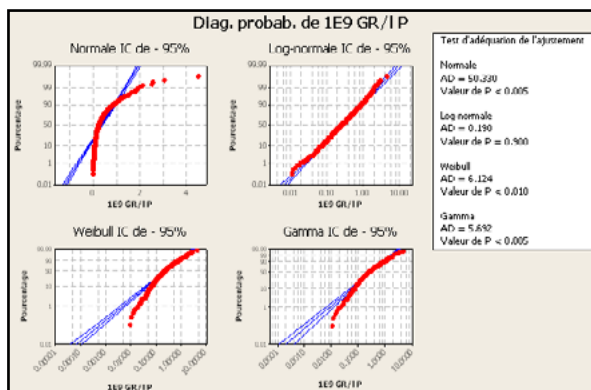
Once the proper transformation was identified and applied to the data, the Belgian Red Cross used Minitab's powerful macro capability to automatically generate customized Control Charts that suited their organization's unique requirements.



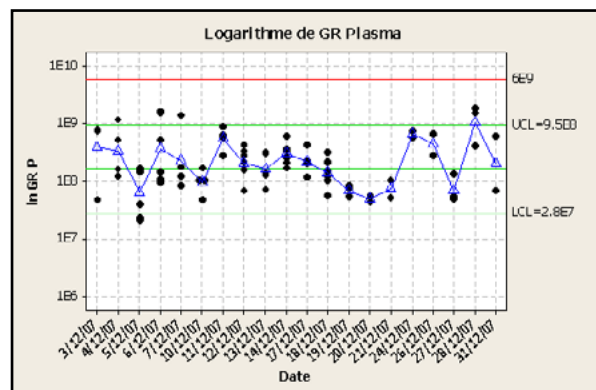
Data before transformation



Data after transformation



Individual Distribution ID Plot



Customized Control Chart

Results

Waiting a month to assess the quality of their processes is a thing of the past for the Belgian Red Cross Blood Service. Using macros in Minitab means that they can automatically and easily generate daily control charts, helping their donation sites to react quickly if problems are detected. When it comes to meeting the Ministry of Health's standards, the service can now ensure complete confidence in the quality of the processes every day.



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