### Case Study:





#### **The Client**

WellData's client focuses on analysing data of those who are considered to be at risk of, suffering from or recovering from critical illness. Its mission is to facilitate improvements to structure, processes, outcomes and experiences of critical care.

So when they noticed that performance was degrading, the client required immediate intervention.



# The Challenge: What happened when a mass data surge caused performance to deteriorate?

By the end of 2021, a main application was struggling to cope with the amount of data being uploaded to the client's system.

The research centre supported the NHS and critical care colleagues by analysing patient outcomes to report on those in ICU, which reached a staggering figure, of over 1.8 million patients.

With such surge, databases fell under massive pressure and as a result, performance lagged. The company realised its urgent need for a SQL Server Health Check which would provide recommendations on how to improve the situation, and create an IT system which could maintain performance during data surges.

#### What Did WellData Do?

WellData were introduced to perform a **SQL Server Health Check**; a service designed throughout a number of years by specialist consultants, to create a thorough and concise review of database performance, when operational issues are suspected.

WellData spent some time investigating the client's database and running the health check to produce a list of recommendations to improve the company's infrastructure. As part of this, WellData applied missing indexes. It's important to get indexing right - too many indexes can take up unnecessary space and potentially slow down database writes.

#### **SQL Server Health Check**



A hybrid of T-SQL and PowerShell scripts which test every SQL Server instance and collect data on all aspects; configuration, performance, space and usage.

The results are reviewed by our analysts and graded according to severity.

Indexing did however, give significant performance improvements. Some tables were missing primary and foreign keys. While this does not affect performance, it aids database integrity so WellData worked with the team to come up with a list of keys to add and provided scripts to resolve data integrity issues.

A review of data highlighted significant levels of duplication. WellData provided a solution to resolve the historical issue and protect future uploads from incurring a repeat of the same issue - WellData believes this will reduce the size of the database by over 50%.

As part of the ongoing project, WellData plans to archive data that is no longer required, in a way which allows the team to access historic information, if required.



## A Problem Shared Is A Problem Halved

While working with the client, another element of the business required urgent assistance, and WellData had the knowledge and expertise to provide support.

The national research centre required an amalgamation of data from various data sources to align with one another. Some of the rules which required implementation to achieve this are complex, and due to time constraints, the client's internal team were under pressure to investigate and resolve quickly. Having established a strong working relationship with the project lead, WellData stepped in with an appropriate solution.

WellData's development team continues to work on this project, while mentoring staff to improve internal knowledge levels, which will give the research centre greater confidence to address future concerns.

#### **Here To Help You**

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