

## Using RULE STRATEGY and WIRED To Improve Training Compliance At Barking, Havering and Redbridge University Hospitals NHS Trust

The theoretical basis of so-called “Data mining” started in the early 20th century, with the emergence of the statistics of large sets of data. However, in the early years the theory was used in a fairly passive way to test hypotheses which were generated by human researchers. In the 1960s and 1970s, the Machine Learning community looked again at the theory to ascertain how it could be used pro-actively to generate interesting hypotheses from large sets of data (“big data”). From the 1990s onward, these techniques began to be used in various application fields, and the term “Data mining” grew up. The term expresses the success of the techniques in producing interesting general facts from large databases, e.g. interesting patterns, groupings and rules, which can be used in many useful ways, such as prediction, analysis and error detection.

Over the two years 2013 and 2014, the culture of training compliance at Barking, Havering and Redbridge University Hospitals NHS Trust (BHR) has undergone a complete revolution, moving from a rather inefficient centralised reporting system towards a Self-Service access system where staff take ownership of their own training. The result of this revolution is that compliance is continually improving.

This revolution has been accomplished under the direction of two key managers at BHR: Lynne Freegard, Head of Education, and Gill Dyerson, Workforce Information Manager. Gill and Lynne realised that in order to change the culture in the direction they wanted they needed an accurate information system that can be accessed easily by all staff from anywhere.

A key driver behind the improvement in compliance is the Trust's use of **WIRED** provided by Skills for Health. This system has the advantage of being rule based thus allowing subject matter experts to translate their knowledge of training needs into a set of rules, within the system itself. Once training needs were encoded within **WIRED**, the workload on department managers and subject matter experts was greatly reduced.

As with all new ventures, there are challenges to be solved. The first challenge was to establish the correct rules for translating the training needs analysis requirements. Although Gill and Lynne had a very good knowledge of National policy and staff training requirements, this still has to be formulated as a set of rules, relating the need to establish the correct staff categories. This proved to be a difficult and time consuming task when done by hand, and the rule sets being produced were not ideal, being very large and not easy to comprehend and manage. In addition, a second problem began to appear: errors and inconsistencies in existing data on training.

But fortunately Gill and Lynne found a simple answer to both of these problems, by using a data mining tool developed by Professor Brian Knight and his team at **RULE STRATEGY**. This tool accepts a standard data extract from ESR or HR system and converts this into a ready upload for **WIRED**.

**RULE STRATEGY** produces an efficient and simple set of rules which are easy to understand and comprehend, and thus also easy to maintain. Use of **RULE STRATEGY** saved a great deal of time in getting **WIRED** set up resulting in very clear and concise rule sets.

Another advantage to be gained from clear rule sets is that they can be checked with other experts to ensure accuracy and are more easily understood. Up until now experts have carried the entire responsibility for getting it right. With an explicit policy, key users are able to check and agree policy and rules on a wider (and safer) basis.

**RULE STRATEGY** also helps with the second problem, showing up data errors and inconsistencies and enabling Gill and Lynne to identify conflicts easily. By using **RULE STRATEGY** for each training element they identified all of the anomalies in a very short time and were able to update the rule set accordingly thus ensuring staff do not undertake training they are not required to do. All of this makes sure that the **WIRED** training Matrix correctly identifies the right

training for the right staff. Thus **WIRED** is able to produce accurate compliance reports.

*Harjinder Mann, Honorary Compliance Systems Lead at neighbouring Barts Health NHS Trust (also a WIRED user) says “The successful implementation of WIRED at BHR is down to the excellent leadership of Lynne Freegard, supported by the fantastic Gill Dyerson. As a former ward sister Lynne has intimate knowledge of staff training needs centred around patient care, and Gill’s workforce systems expertise is unparalleled.”*

*Deborah Tarrant, Director of People and Organisational Development at BHR, says “I am delighted my Education and Workforce Information team is held in such high regard by our partners and neighbouring Trusts. Having realised the benefits of both RULE STRATEGY and WIRED, we are happy to endorse these products and share our experience.”*

Combining **RULE STRATEGY** and **WIRED** has resulted in a highly efficient and well regulated compliance information system at BHR. But Gill and Lynne are not finished with the revolution as yet, seeing extra benefits which may accrue in terms of cost saving, they are turning the power of data mining in **RULE STRATEGY** onto training “no show” wastage rates and training costs generally. More than ever before, management is seeing the benefit of good reliable information.