

NHS CASE STUDY

Developing a framework for evidence-based grading and assessment of predictive tools for clinical decision support

WHAT IS THE NHS?

The NHS stands for the **National Health Service**, which provides healthcare for all UK citizens based on their need for healthcare rather than their ability to pay for it. It is funded by taxes.

Objective:

Clinical predictive tools quantify contributions of relevant patient characteristics to derive likelihood of diseases or predict clinical outcomes. When selecting predictive tools for implementation at clinical practice or for recommendation in clinical guidelines, Clinicians are challenged with an overwhelming and ever-growing number of tools, most of which have never been implemented or assessed for comparative effectiveness. To overcome this challenge, Vivoki had developed a conceptual framework to Grade and Assess Predictive tools (GRASP) that can provide clinicians with a standardised, evidence-based system to support their search for and selection of efficient tools.

PROCESS

A focused review was conducted to extract criteria along with which tools should be evaluated. An initial framework was designed and applied to assess and grade tools. After review, by many expert clinicians and healthcare researchers, the framework and the grading was established.

The following features make it unique

- Clinical EPR
- High and data interface compliance with H17, HFIR
- Disease register inform of evidence based data rich resources facilitating prediction on complex Chronic condition.

We used Python and R Programming to build a prediction dashboard, Deterministic Models, Probabilistic Models were effectively used

RESULT:

GRASP framework grades predictive tools based on published evidence across three dimensions

- Phase of evaluation;
- Level of evidence; and
- Direction of evidence.

grade, having demonstrated only pre-implementation positive predictive performance

CONCLUSION

This platform visibility improves revenue generation and brand SOV for NHS. Not only did NHS manage to retain current portfolio patient but also added 2000 new customers based on past history Patient Data Records.

They were also featured in innovate UK.

Technology

Python, R Programming, ML, NLP, Regression Analysis, AI and Data Science

