South West Academic Health Science Network

NHS

Bering Limited SBRI Healthcare

Bering Limited was successful in the 2014 Small Business Research Initiative (SBRI) Healthcare call on Integrated Care.

The company offers an artificial intelligence (AI) platform that allows clinicians, public health experts and data scientists to leverage the power of Big Data in everyday health and care practice. It is actively involved in systems biology research with academic and industry partners worldwide. The technology and infrastructure can be integrated into academic settings, core labs and industrial pipelines. Following the successful SBRI application, the company has worked with Somerset Clinical Commissioning Group (CCG) to develop its algorithms using real patient data.

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Challenge identified and actions taken:

Led by Dr Ignat Drozdov and founded in 2010, Bering has been working with Somerset CCG to build a model to predict when a patient will present at hospital based on their medical history.

Bering's risk stratification algorithm can predict when a patient with complex, often long-term conditions will present at hospital with a serious issue unless certain treatment/steps are taken in the interim. This has the dual objective of improving patient care and outcomes alongside increasing efficiencies in the NHS as dealing with serious, non-planned issues is usually more expensive.

The company has been working with Somerset CCG through Phase 1 and Phase 2 to refine its risk stratification algorithm since being awarded the SBRI Healthcare grant. This was also requested by the interview panel to test robustness of the system and further engage with clinical end-users.

Impacts/Outcomes

- In partnership with Somerset CCG, Bering's platform was used to analyse the health behaviour of over half a million people in order to predict unplanned hospital admissions.

- Bering's model was demonstrated to outperform all available statistical methods to date (98% accuracy, 90% positive predictive value).

- Bering's AI allows CCGs to identify complex patients, prioritise comorbidity profiles, plan future care and predict the impact of an intervention using an intuitive, unbiased, and fully data-driven environment.

- Somerset CCG patients have had better care provision enabled.

Plans for the future

During Phase 2 Bering will engage with additional CCGs with different data structures to Somerset to discuss business models and procurement strategies with procurement teams across the patch.

The South West Academic Health Science Network (SW AHSN) plans to help evaluate the work done in Somerset by assessing the number of patients that have presented as well as start brokering relationships with CCG procurement teams across the region to enable quick adoption of the technology.

"The support and guidance of the SW AHSN was instrumental in establishing an innovative collaboration between Bering and Somerset CCG to accurately predict unplanned hospital admissions in over half a million people. We hope to build on this foundation and further benefit both patients and the NHS"

– Dr Ignat Drozdov,
Managing Director of Bering

Tips for adoption

- Early CCG engagement is critical; need to identify the right stakeholders from across the CCG and get access to the right levels of data early in the process.

- Use case studies to show how the risk stratification tool can be used to improve patient outcomes and reduce costs to the CCG.

Which national clinical or policy priorities does this example address?

The SW AHSN's support of Bering addresses speeding up the adoption of innovation into practice to improve clinical outcomes and patient experience.

The SW AHSN's guidance helped the identification and spread of research and innovation at pace and scale to improve patient care and local population health. The support provided also creates wealth through co-development, testing, evaluation and early adoption of a new product.

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