Med-Tech Analytics

Who We Are and What We Do

What characterises and drives us is identifying and using the best statistical tools to achieve greater understanding, improve decision making and solve practical problems for our clients. We have a core team of statistical consultants who are all Chartered Statisticians. They blend exceptional academic credentials with a wealth of practical experience applying statistical analyses to real world issues and challenges.

"The initial advice given for litigation support was both speedy and very clear. The guidance given has strengthened our case considerably and should help to bring the matter to a speedy resolution."
Ian Jarvis,
Director, Express Diagnostics

We work in partnership with our clients, using their knowledge of their sector and data, to help inform our analyses to create meaningful and valuable insights. Our expert medical statisticians work directly with individual clinicians as well as with NHS Foundation Trusts, fertility clinic groups, med-comms agencies, healthcare improvement companies, and innovators, to make med-tech research more reliable, understandable and usable.

Our Services include:

- Study Design, Sampling Plans, Sample Size/Power Calculations
- Protocol and SAP Development
- Advice, Critical Review, Publication Support
- Analysis and Reporting of Controlled and Observational Studies
- Interpretation of Results, Data Visualisations
- Quality/Statistical Process Control, Incident and KPI Tracking

"Select provided us with an excellent service. They were able to understand our requirements quickly and provided all of the data required for our needs (and more), alongside very straightforward advice."
Helen Lee,
Founder & CEO, Diagnostics for the Real World (Europe) Ltd

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Case Studies

Developing Medical Decision Tools

Working with an NHS Foundation Trust, analysing historical patient extubation data, we combined factors related to clinical assessments within a statistical model to predict the chance of successful extubation for new intensive care patients. The model was used to identify the most important predictive factors for success and to suggest a cut-off probability beyond which a clinician would be encouraged to extubate. The model provided a tool to help guide clinicians in their decision as to whether to extubate their patient. This published research contributed to improving the objectivity of extubation decisions and, in particular, to helping clinicians with less experience make the right decisions for the patients in their care.

Evaluating New Technologies in Fertility Treatment

We analysed observational data, routinely collected by a private fertility clinic group, to help them assess the effects on IVF cycle outcomes of the latest technologies being used to help patients in their clinics. By including patient demographics, clinical histories and concomitant treatments/medications within a statistical model, we were able to appropriately control for differences between treatment groups to help mitigate the potential for confounding effects leading to misleading results. This research, published in the medical literature, helped to demonstrate that the fertility group were using proven technologies and also promote effective novel treatments to help increase the chances of successful IVF cycles for future patients.

Comparing Failure Times of Medical Leads

Working with a cardiologist, we used survival modelling to analyse the time to failure of implantable-cardioverter defibrillator (ICD) leads, comparing the risk for different lead types used in clinical practice in their trust. Using this approach, we isolated the effects associated with the different leads and explored time-dependent effects where the risk of failure depended on the time since implantation. ICD leads are used in large numbers and failures can have serious and immediate consequences for patients, therefore the better understanding of the survival rates of these medical devices and how they might differ between lead types, gained from the analysis, is crucial in informing clinical practice and improving patient care.

> "Select provides an outstanding medical statistics service. They got to grips with my subject area very quickly and answered my questions very thoroughly. Nothing was too much trouble and the work was completed within days of the request."
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> *Clive Brewis,*
> *Consultant ENT Surgeon*

To learn more about these case studies, or to see further examples of our work, take a look at our web site: select-statistics.co.uk/case-studies