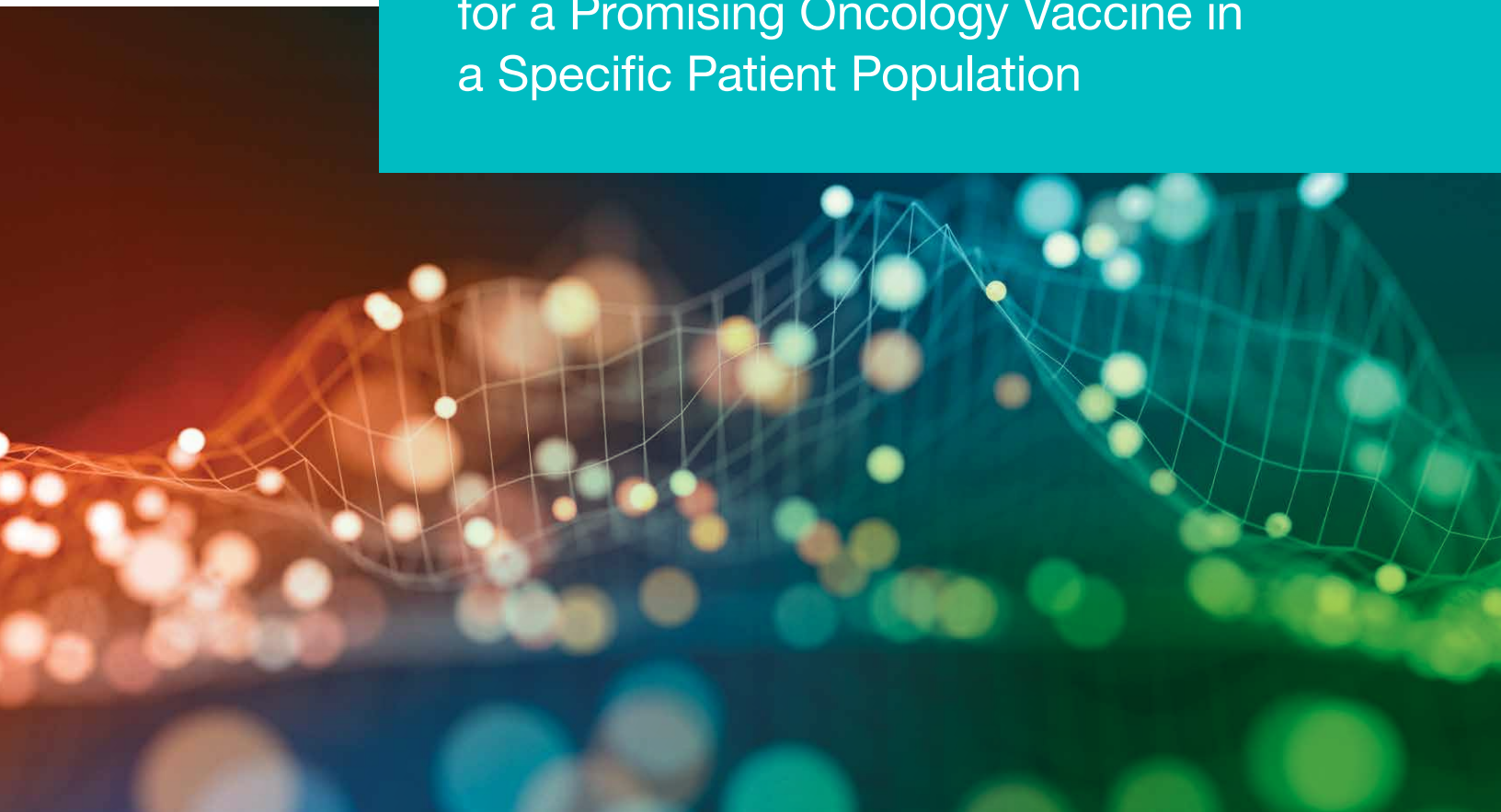
› CASE STUDY

VERISTAT

Understanding and Operationalizing a Complex Adaptive Design

Accelerating a Go/No-Go Decision for a Promising Oncology Vaccine in a Specific Patient Population



Background

A clinical-stage biopharmaceutical company that develops promising cancers vaccines came to Veristat with a complex statistical methodology for running a pivotal Phase II adaptive design trial to expedite a go/no-go decision for a specific biomarker (+) patient population. The sponsor's challenge: they didn't understand the complex adaptive design methodology enough to explain it to their senior management team and investors, nor could they determine how to operationalize the statistical method into a trial design. They partnered with Veristat to review the methodology, explain it to their teams and investors, and to interpret the adaptive trial design to the regulatory agencies, sites, project teams, and clinical study vendors into terms that they could all understand and implement. The adaptive design trial would need to run across 65 sites in North America, Europe, and Japan.

Study Demographics

Indication: Mesothelioma

Study Phase: Phase II Pivotal Study

Primary Services Provided:
Data Management (EDC), Biostatistics & Programming, DSMB, CDISC, Medical Writing and Project Management

65 Sites

>300 Patients

14 Countries
Throughout North America, Europe & Japan

SITUATION

The sponsor had identified a biomarker in a rare lung cancer that they hoped could predict an increased sensitivity to their product, so they wanted to quickly determine if there was a significant treatment effect in the overall patient population and in the biomarker-positive patient population. They came to Veristat with a complex adaptive methodology provided to them by another adaptive design consultant. Veristat needed to explain the study design to the sponsor, the sponsor's investors, the US Food & Drug Administration (FDA), the European Medicines Agency (EMA), the Japan Pharmaceuticals and Medical Devices Agency (PMDA), to the project team and finally to the study sites in order for the study to begin.

SOLUTION

Review & Revise the Adaptive Methodology

Veristat reviewed and revised the statistical methodology to align with the sponsor's study goals. We developed the study protocol and statistical analysis plan based on the complex adaptive methodology.

Explain the Trial Design

Next, Veristat's biostatistics team described the methodology and complex protocol to the sponsor's senior management team and investors so that they could better understand the study and how it would get implemented as an adaptive population enrichment design.

Once the sponsor understood the adaptive trial design, Veristat went to the FDA and the EMA to explain and justify the design. Our lead biostatistician went to Japan to have a face-to-face meeting with the Japan PMDA to review the adaptive design. After extensive discussions with the regulatory agencies, the FDA, EMA, and PMDA approved the study design to begin within their respective countries.

Lastly, Veristat trained the sites on how to implement the adaptive design. The sites needed to understand what could change after each interim analysis, since the following three adaptations were possible:

1. The study could continue enrolling both biomarker (+) and biomarker (-) patients
2. The study could continue enrolling biomarker (+) patients only
3. The study could stop for futility

Implement the Population Enrichment Study Design

Due to the efforts of the Veristat biostatistics team and their ability to explain the study to the FDA, EMA and Japan PMDA, the study received approval to start in the US, Europe, and Japan. Our project teams implemented the design, and the study ran smoothly until the first interim analysis.

THE IMPACT

Enrichment Design Leads to Early Elimination of Patient Population

At the very first interim analysis, the data safety monitoring board (DSMB) advised the sponsor to stop the study for futility in the overall sample population and in the biomarker (+) patient sample. Despite the study drug failing to show a treatment effect for the specific biomarker patient population, the study achieved its goal: getting to a go/no-go decision quickly for the biomarker (+) patient population. The sponsor is still developing and testing the vaccine for at least four other types of cancer and in combination with other chemotherapies in mesothelioma. The quick results of the adaptive design allowed the sponsor to re-allocate its resources to pursue additional studies in other areas for this promising cancer vaccine.

The project's key to success: the Veristat teams' ability to successfully design, communicate and implement the adaptive methodology to all the clinical development stakeholders.

ABOUT VERISTAT

Veristat is a smart, effective and impactful CRO focused on advancing medical therapies through the clinical development and regulatory submission process. Our work delivers meaningful clinical impact and our regulatory submission expertise is unrivaled in our industry. Veristat teams have worked on more than 75 regulatory submission projects that have resulted in more than 50 submission approvals to date from various regulatory agencies around the world. We partner with and guide biopharmaceutical companies from nonclinical planning through to market approval so that new therapies become available to improve and save people's lives.

Contact Veristat Today

To learn more about Veristat or how we can assist you in determining if an adaptive design is right for your program, reach out to us today.

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