MACHAON DIAGNOSTICS

Machaon's Subject, Site & Sample Finder

The Power of Combining Laboratory & CRO Expertise in Rare Diseases

Background

Machaon Diagnostics is a specialized reference laboratory and clinical trial services provider, committed to delivering clinically actionable results with the fastest turnaround times in the industry without sacrificing quality or accuracy. One expertise we have, as a diagnostic laboratory, is to develop assays based on new technology but also understand the value and landscape of disease profiling. Hence, we have helped many pharma and CRO partners access diagnostics that improve treatment outcomes. The collaboration between diagnostics and drug development is vital to creating targeted treatments that have a greater potential of success and therefore is essential to the emerging precision medicine field.

Therapeutic Areas

- Advanced Genetics
- Cardiology
- Coagulation Disorders
- Complement Disorders
- COVID-19
- Hematology
- Immunology
- Nephrology
- Medical Devices
- Oncology
- Ophthalmology
- Pharmacogenomics
- Platelet Disorders
- Rare Disease
- Visitless (Virtual)

Through our unique position in diagnostics and function as a CRO, Machaon has helped pharmaceutical clients find subjects and samples needed to develop new therapeutics.

Challenges

According to the Rare Diseases Act of 2002, "a rare disease is any disease or condition that affects less than 200,000 persons in the United States (1)." One of the bottlenecks for rare disease clinical trials is limited access to rare disease subject populations or rare disease samples because of poor characterization of the diseases. Often these challenges result in delayed success or failure of rare disease trials. Effective treatment is still only available for less than 5% of the 7,000+ known rare diseases in humans (2).

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Solutions

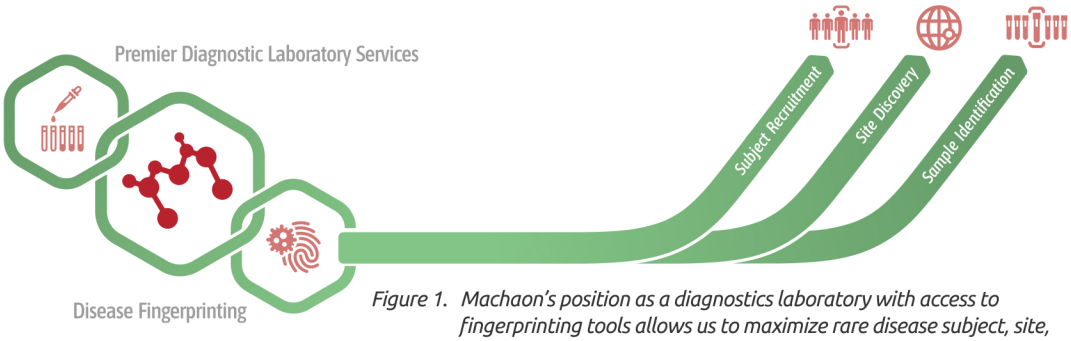

Figure 1. Machaon's position as a diagnostics laboratory with access to fingerprinting tools allows us to maximize rare disease subject, site, and sample identification.

Successful therapeutic development can be hindered by not understanding how patients are diagnosed or under-diagnosed. Machaon Diagnostics is uniquely situated to define a clear patient journey map for rare disease populations -- specifically in coagulation, platelet, complement-linked, chronic kidney and rare genetic diseases -- by operating at the junction between diagnostic services and disease fingerprinting (Fig. 1 above). We have aided the development of therapies by establishing a set of tools to solve difficult challenges in rare disease trials. Here, Machaon Diagnostics focuses on three of our effective offerings:

Solution 1

Disease fingerprint is critical to patient recruitment. Machaon Diagnostics tokenizes patients, enabling the ability to track individuals for a time period. A "patient journey" is created through backtracking disease progress and understanding etiology, leveraging the decades of hands-on knowledge of our medical directors. We create powerful tools for patient selection through patient fingerprinting by documenting individuals' disease course before diagnosis.

Solution 2

Rare disease subject recruitment solutions created by Machaon address the main hurdle to completing clinical trials in this area. We help biopharma clients match patients/subjects with specific studies. The algorithms we have designed simplify the search and data analysis by utilizing a combination of diagnostic codes that match study needs (e.g., DRG, ICD-10 and CPT) in concert with review of electronic medical records. Rare disease sample finding is often necessary for assay validation and subject recruitment. Our unique algorithms as well as clinical expertise and research relationships allow us to overcome challenges.

Solution 3

High-volume site finder means that we leverage our position to identify and target principal investigators that are aggregator physicians and see a large number of patients eligible for the trial. Thus, chosen sites are as productive as possible.

Through these solutions, Machaon Diagnostics is in a prime position to support clients.

Conclusions

As a rare disease CRO and diagnostics reference laboratory, Machaon understands the patient journey throughout the process of hospital, laboratory and clinical diagnosis. Finding rare disease patients and samples is the bottleneck in clinical trials that creates delays in trials and treatments and thus exponential costs. We combine our dynamic areas of expertise, generating a clear record of the diagnostic odyssey of patients through healthcare systems. This maximizes efforts in subject, sample and site finding and allows for meeting recruitment goals efficiently.

References

1. United States, Congress. Public Law 107-280, RARE DISEASES ACT OF 2002 (https://www.congress.gov/bill/107th-congress/house-bill/4013/text)
2. Kaufmann, P., Pariser, A.R. & Austin, C. From scientific discovery to treatments for rare diseases – the view from the National Center for Advancing Translational Sciences – Office of Rare Diseases Research. Orphanet J Rare Dis 13, 196 (2018). (https://doi.org/10.1186/s13023-018-0936-x)