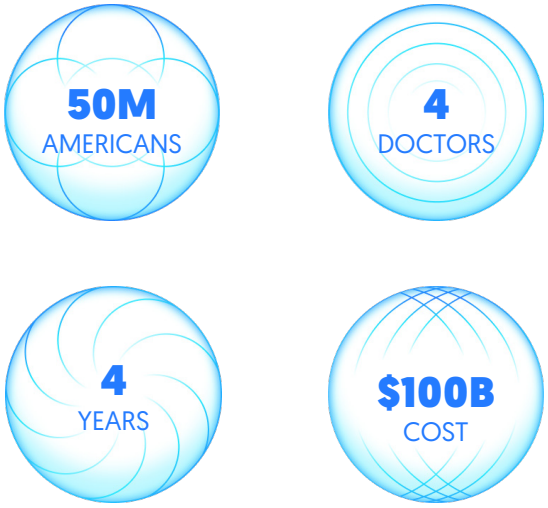
Predicta Med

We harness the power of AI to improve the lives of people with Autoimmune Diseases

The Challenges of Diagnosing Autoimmune Diseases [2]

- Autoimmune diseases represent the third most common cause of chronic illness in the US.
- Autoimmune diseases cumulatively affect 5–10% of the industrial world population. [20]
- The frequency of autoimmune diseases is steadily rising. [3]

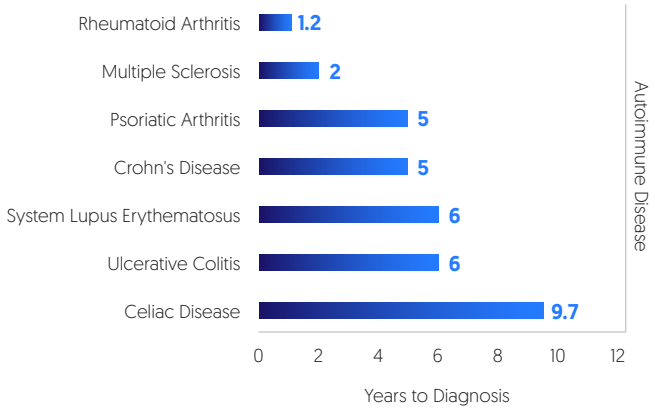


There is no model for proper coordinated care amongst medical systems and physicians to adequately diagnose patients with an autoimmune disease. [2]

- Initial symptoms can be non-specific, and frequently lead to diagnostic difficulties and delays. [4]
- Similarities in symptom manifestation are particularly difficult to discern in the early stages of an inflammatory process when physical damage due to inflammation is relatively minimal and laboratory tests or imaging studies are often inconclusive. This presents a challenge, fueling diagnostic confusion and an increased risk of misdiagnosis. [4]

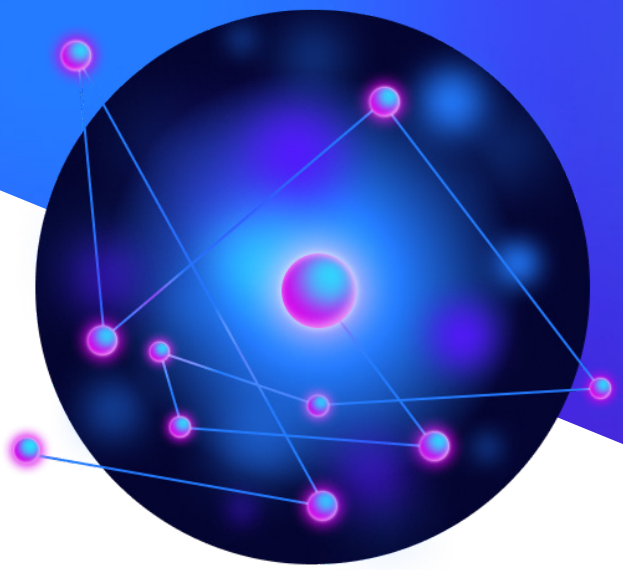
Average time to first diagnosis is lengthy. [5, 6, 7, 8, 9, 10, 11]

According to an AARDA study, **patients spend an average of four years seeking an effective diagnosis, with visits to more than four physicians required.** [2]



The changing landscape of health insurance in the last decade has lengthened diagnostic delay. Patients are delaying or avoiding what they perceive to be unnecessary visits as a strategy for limiting costs. Lag time in medical encounters leads to poorer outcomes for patients suffering from inflammatory conditions as the underlying damage inevitably accumulates. [4]

Lack of coordinated care and standardized diagnostic tests causing a delay in diagnosis and treatment initiation, placing substantial burden on patients, reducing their quality of life, and increasing healthcare costs, as well as disability. [2,4]



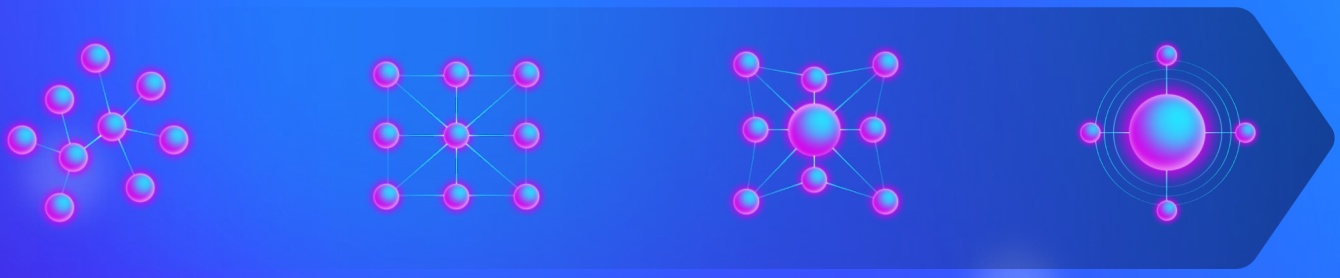
The potential for better patient outcomes, in addition to reduced healthcare costs rests on the ability to quickly and accurately diagnose patients. [4]

- Given the inherently unpredictable and varying clinical presentation of inflammatory conditions, physicians are faced with the difficult task of identifying and diagnosing these patients quickly and correctly. [4]
- Timely diagnosis followed by immediate intervention can help stabilize disease, induce remission, minimize irreparable tissue damage, and protect against the mortality and morbidity associated with many chronic inflammatory diseases. [4]
- If left untreated many autoimmune diseases progress to cause other disorders. Up to 83% of Americans with celiac disease are either undiagnosed or misdiagnosed. Since the average time to diagnosis is 6 to 10 years,[12] untreated patients are at risk for developing complications such as neurological disorders, reduced bone density, infertility and some types of cancers.
- Diagnostic delays of only 13 months for ulcerative colitis and Crohn's disease, often misdiagnosed as irritable bowel syndrome, are associated with poorer outcomes. [14] These delays can lead to blood clots, colon cancer and other systemic associated complications. [15]
- Physicians should diagnose Psoriatic Arthritis early because delaying diagnosis, even by 6 months, increases the risks of joint erosions and poor long-term physical function. [16]
- A 12-month delay in diagnosing Rheumatoid Arthritis is associated with greater radiological damage after 5 years of follow-up. [17]
- Despite increased physician's awareness and improved diagnostic and serological testing in recent years, the interval between the initial symptoms and the diagnosis of Systemic Lupus Erythematosus (SLE) is still very long; longer time to diagnosis was associated with worse outcomes. [18]
- Delays in the diagnosis of Multiple Sclerosis allow for the accumulation of axonal damage, progression of brain atrophy, and the development of severe and irreversible neurological disability. [19]

Continued innovation and commercialization of tools to supplement current diagnostic testing is essential to provide physicians with the best information to minimize misdiagnosis. [4]

Predicta Med is the First Clinical Decision Support Platform for Screening, Early Detection and Intervention Selection of Autoimmune-related Diseases

Solving the challenges of the lack of coordinated care and delayed diagnosis and treatment initiation, reducing the burden on patients and decreasing healthcare costs



Patient populations for analysis are identified and data is aggregated

Predicta Med's Data Processing & Deep Learning Engine

Identify at-risk patients and provide key decision factors

Clinician reviews factors and indications, and decides next steps

We aggregate, enrich and analyse structured and unstructured data elements from current and historical patient claims and EHR data:

- Biometrics (vital signs, height, weight)
- Demographics & Family History
- PCP/ Specialist visits
- Diagnoses & Symptoms
- Laboratory test & imaging results
- Medications
- Procedures
- Biomarkers (immunological, genomic, biochemical)

We are able to quickly analyze clinical symptoms and associated key data elements to identify patients who are currently undiagnosed, but have a high likelihood of having or developing a specific autoimmune disease.

A predictive score including which key clinical data elements contributed to the prediction, can be seamlessly integrated into the clinician's clinical workflow, thus providing confidence to help decide whether further diagnostic studies are warranted.

Predicta Med expedites time to diagnosis, facilitating appropriate testing and follow-up, and allowing therapy to be initiated earlier

Over 4 million records analyzed to date:

2.5M
EMR Records

1.7M
Claims Records

PARTNER WITH US TO SOLVE THE PUZZLE OF UNDIAGNOSED AUTOIMMUNE DISEASES

Predicta Med

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References:

1. National Stem Cell Foundation. Autoimmune Disease. Available from https://nationalstemcellfoundation.org/glossary/autoimmune-disease/ [Accessed 1 June 2021]
2. American Autoimmune Related Diseases Association (AARDA) and National Coalition of Autoimmune Patient Groups (NCAPG). The Cost Burden of Autoimmune Disease: The Latest Front in the War on Healthcare Spending. 2011. Available from http://www.diabetesed.net/page/_files/autoimmune-diseases.pdf
3. Lerner A, Jeremias P, Matthias T. The World Incidence and Prevalence of Autoimmune Diseases is Increasing. International Journal of Celiac Disease, 2015;3(4):151-155 Available from: http://pubs.sciepub.com/ijcd/3/4/8/
4. Wylezinski LS, Gray JD, Polk JB, Harmata AJ, Spurlock CF 3rd. Illuminating an Invisible Epidemic: A Systemic Review of the Clinical and Economic Benefits of Early Diagnosis and Treatment in Inflammatory Disease and Related Syndromes. J Clin Med. 2019;8(4):493. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6518102/
5. Rosa JE, García MV, Luissi A, Pierini F, Sabelli M, Mollerach F, et al. Rheumatoid Arthritis Patient's Journey: Delay in Diagnosis and Treatment. J Clin Rheumatol. 2020;26(7S Suppl 2):S148-S152 Available from: https://pubmed.ncbi.nlm.nih.gov/31609811
6. Grinstein J. Gait Disorders and Depression at Onset May Delay Time to MS Diagnosis, Study Finds. 4 February 2019. Available from https://multiplesclerosisnewstoday.com/2019/02/04/gait-disorders-depression-delay-diagnosis/
7. Ogdie A, Nowell WB, Applegate E, Gavigan K, Venkatachalam S, de la Cruz M, et al. Patient perspectives on the pathway to psoriatic arthritis diagnosis: results from a web-based survey of patients in the United States. BMC Rheumatol. 2020;4:2 Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6953285/
8. Fiorino G, Danese S. Diagnostic Delay in Crohn's Disease: Time for Red Flags. Dig Dis Sci. 2016;61(11):3097-3098. Available from: https://link.springer.com/article/10.1007/s10620-016-4298-8
9. Sloan M, Harwood R, Sutton S, D'Cruz D, Howard P, Wincup C, et al. Medically explained symptoms: a mixed methods study of diagnostic, symptom and support experiences of patients with lupus and related systemic autoimmune diseases. Rheumatol Adv Pract. 2020;4(1):rkaa006. Available from: https://academic.oup.com/rheumap/article/4/1/rkaa006/5758274
10. Cury DB, Oliveira R, Cury MS. Inflammatory bowel diseases: time of diagnosis, environmental factors, clinical course, and management - a follow-up study in a private inflammatory bowel disease center (2003-2017). J Inflamm Res. 2019;12:127-135. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6543909/
11. Norström F, Lindholm L, Sandström O, Nordyke K, Ivarsson A. Delay to celiac disease diagnosis and its implications for health-related quality of life. BMC Gastroenterol. 2011;11:118. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3233515/
12. Green PHR, Stavropoulos, SN, Panagi SG, Goldstein SL, Mcmahon DJ, Absan H, Neugut AI. Characteristics of adult celiac disease in the USA: results of a national survey. Am J Gastroenterol 2001 Jan;96(1):126-31. https://pubmed.ncbi.nlm.nih.gov/11197241
13. Conrad K, Shoenfeld Y, Fritzler MJ. Precision health: A pragmatic approach to understanding and addressing key factors in autoimmune diseases. Autoimmun Rev. 2020;19(5):102508. Available from: https://www.sciencedirect.com/science/article/pii/S1568997220300604
14. Fiorino, G., Danese, S. Diagnostic Delay in Crohn's Disease: Time for Red Flags. Dig Dis Sci 61, 3097–3098 (2016). Available from: https://link.springer.com/article/10.1007/s10620-016-4298-8
15. Zane G, et al. P030 Delayed Diagnosis Of Crohn's Disease Is Common And Associated With An Increased Risk Of Disease Complications, Inflammatory Bowel Diseases, Vol 25, Issue Supplement_1, February 2019, p S14–S15. Available from: https://academic.oup.com/ibdjournal/article/25/Supplement_1/S14/5308155
16. Krakowski, Przemyslaw et al. Psoriatic arthritis - new perspectives. Archives of medical science : AMS vol. 15,3 (2019): 580-589. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6524178/
17. Rosa JE, et al. Rheumatoid Arthritis Patient's Journey: Delay in Diagnosis and Treatment. J Clin Rheumatol. 2020 Oct;26(7S Suppl 2):S148-S152. Available from: https://journals.lww.com/jclinrheum/Fulltext/2020/10002/Rheumatoid_Arthritis_Patient_s_Journey__Delay_in.10.aspx
18. Kernder A, et al. Delayed diagnosis adversely affects outcome in systemic lupus erythematosus: Cross sectional analysis of the LuLa cohort. Lupus. 2021 Mar;30(3):431-438. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7933718/
19. Noyes K, Weinstock-Guttman B. Impact of diagnosis and early treatment on the course of multiple sclerosis. Am J Manag Care. 2013 Nov;19(17 Suppl):s321-31. Available from: https://www.ajmc.com/view/a406_nov13_ms_noyes
20. Defining and analyzing geoepidemiology and human autoimmunity. Journal of Autoimmunity Volume 34, Issue 3, May 2010, Pages J168-J177. Available from: https://www.sciencedirect.com/science/article/abs/pii/S0896841109001589