Precision medicine, an approach for disease treatment and prevention that considers “individual variability in genes, environment, and lifestyle” 1 was endorsed by the National Institutes of Health, aided by the presidential Precision Medicine Initiative (PMI), in 2016. PMI provided funding for cancer research and for building a national cohort of one million or more U.S. participants, now known as the “All of Us” Research Program, which aims to expand its impact to all diseases. PMI was the catalyst to a widespread effort around precision medicine, as evidenced by the more than 1000 grants funded by different NIH institutes in just the last two years. The data being generated by these efforts is growing exponentially, and becomes both the greatest treasure and the greatest challenge for researchers. This workshop is a continuation of a similar session in PSB 2018, providing a forum for researchers with strong background in text mining or natural language processing (NLP) and/or machine learning (ML) who are actively collaborating with bench scientists and clinicians to tackle the challenges brought about by this explosion of data.