# Zetta Genomics

**Case Study:** The Children's Hospital of Los Angeles (CHLA)

***Dynamic re-interpretation of genomic test results in response to changing patient phenotype, to improve clinical outcome in neonatal intensive care.***

## At a glance

The Children's Hospital of Los Angeles (CHLA) is a leading US paediatric hospital. It is the largest multi-speciality medical group is ranked the 5th paediatric hospital in the U.S. CHLA has been at the forefront of precision medicine and has built a ground-breaking genomic diagnostics program that includes industry-leading cancer testing, exome sequencing, and a range of virtual gene panels. Their aim is to accelerate the introduction of ever-more effective precision children's medicine – and support diagnosis in neonatal cases.

## Customer Feedback

**"With the ability to rapidly access, interpret and interrogate genomic data, there is real potential to identify disease more accurately, intervene earlier and deliver more effective and less invasive treatments. It promises to transform our ability to serve children with some forms of cancer, inherited disease, and infectious disease..."**

**..."There is no software system like it anywhere in the world."**

Director of Bioinformatics in the centre of Personalised Medicine, CHLA

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Find out more here

## CHALLENGES

CHLA has been at the forefront of precision medicine and use of genomic data. The hospital has built a ground-breaking genomic diagnostics program, however the widespread adoption of genomic medicine has been hampered by the volume of data generated from WGS at scale.

Beyond storage challenges, these datasets must be dynamically accessible where they are needed, while maintaining patient data privacy. Further, a patient's genomic data must be readily available for reinterpretation as their condition changes, or other new information becomes available that may open up new opportunities for diagnosis or treatment.

## SOLUTIONS

**XetaBase** - A fundamentally new approach to genomic data management that solves scalability, accessibility, and interrogation issues. A genomic-native tertiary analysis tool, allowing CHLA to aggregate, store, annotate, retrieve and re-analyse its data at speed. The IVA web application dashboard allows researchers and clinicians to visualise, analyse and interpret data in intuitive and customisable ways and is set to transform CHLA's analytics, research and discovery in the lab – and its diagnostics and therapeutics in the clinic.

**Aggregate, store, annotate and access genomic data in real-time**

**Constantly re-interrogate data and deliver diagnoses from rapid WGS testing**

**Scale to CHLA's current and future genomic needs**

## BENEFITS

### 1 Scale

XetaBase is a genome-optimsed platform - As the WGS data need increases at CHLA, they now have confidence that data management and interpretation can scale as required to support rapid diagnosis in their neonatal patient cohort

### 2 Data access

Accessing a dynamic data allows the genomic data stored to be easily re-analysed and re-interpreted - meaning as a neonatal condition changes, or other new information becomes available it can open up new opportunities for rapid diagnosis or treatment.

### 3 Clinical insight and re-analysis

Pioneering indexing architecture within the platform means CHLA can rapidly access data and automatically synchronise variant annotations – removing time intensive duplication of workload of data annotation across multiple files