

# ORACLE HEALTH SCIENCES TRANSLATIONAL RESEARCH CENTER

## INTEGRATED TRANSLATIONAL RESEARCH SOLUTION

### KEY FEATURES

- Identify new predictive biomarkers with seamless, integrated views of omics and clinical data
- Enable scientists and clinicians to easily identify and explore patient sub populations
- Provide real-time metrics on patient populations with dashboards
- Develop and refine hypothesis with integrated, high quality, normalized phenotypic data
- Integrate 'omics' data irrespective of scientific approach and technology
- Enable high performance TRC solution optimized on Exadata high performance hardware
- Streamline regulatory compliance with bioinformatics 'expert' user interface to traceably run scripts and command line applications
- Save time and resources with automatically combined clinical and lab data
- Use open source, proprietary and public domain analytics algorithms
- Lower costs by leveraging an ecosystem of partner applications and third party or proprietary analytics

### KEY BENEFITS

- Quickly and easily target patient populations with similar characteristics
- Collapse cycle times and minimize demands on IT by providing self-service analytics to researchers and clinicians
- Speed time to market by providing access to large sets of normalized, integrated data to find predictive biomarkers in finely targeted cohorts
- Improve hypotheses and decision making with appropriate access to high quality clinical data with role defined detail

*The comprehensive platform that supports the complete biomarker lifecycle from discovery to clinical use.*

## Overview

Developing and implementing biomarker guided therapies is critical to realize the benefits of personalized medicine. Having clinical and omics data stored across a variety of systems requires time and resources to get the information that is needed into the hands of people who can turn it into useful insights - ultimately at the point of care. In addition, there is a vast array of open source and proprietary algorithms as well as public and private data sets that need to be integrated during translational research studies.

Enter Oracle Health Sciences Translational Research Center. It normalizes, aggregates, controls and analyzes all the diverse clinical and omics data needed to support the complete biomarker lifecycle. With Oracle Translational Research Center researchers and clinicians have real-time access to internal, proprietary data as well as external, public data.

Oracle Translational Research Center provides a 360 degree view of genomic and genetic data by integrating multiple clinical and sample data sources. It offers researchers the information needed to identify new predictive biomarkers and rapidly find subjects with similar clinical and omic characteristics. Oracle Translational Research Center enables analysis and control capabilities that scale to millions of patients and thousands of whole genome sequences.

## The Translational Research Solution

Oracle Health Sciences Translational Research Center version 1.0 consists of the following components:

- Cohort Explorer
- Clinical Development Center v3.1
- Oracle Healthcare Data Warehouse Foundation
- Oracle Omics Data Bank

## Identify Predictive Biomarkers with Real-time Access to Clinical and Omics Data

Researchers and clinicians need easy access to a vast amount of data for robust, reliable identification of biomarkers that predict phenotypes such as treatment response and rate of progression. By integrating omics data with clinical

information Oracle Translational Research Center enables researchers and clinicians to do real-time hypothesis testing. This reduces discovery and validation time for biomarker studies. Oracle Translational Research Center provides an open platform to easily integrate proprietary and open source algorithms as well as internal and external data. With data integrated and accessible to those defining the scientific studies, time to discovery is collapsed and demands on IT are dramatically reduced. And, with full traceability for data and algorithms, regulatory approval is streamlined.

### Rapidly Identify Subjects with Similar Clinical and Omic Characteristics

Developing targeted therapies that work for individuals with a specific genetic signature requires ID of carefully selected cohorts. Cohort Explorer, part of the Oracle Translational Research Center, enables researchers and clinicians to be self sufficient in identifying patients with similar attributes. This helps them discover, validate and prescribe therapies that will be most effective with the fewest adverse events. With real-time, longitudinal views of patients, Oracle Cohort Explorer enables faster, better quality cohort identification. Having direct access to high quality, normalized data enables researchers and clinicians to rapidly create and evaluate hypotheses, shortening discovery time while enabling IT and precious bioinformatics skills to focus on higher value activities.

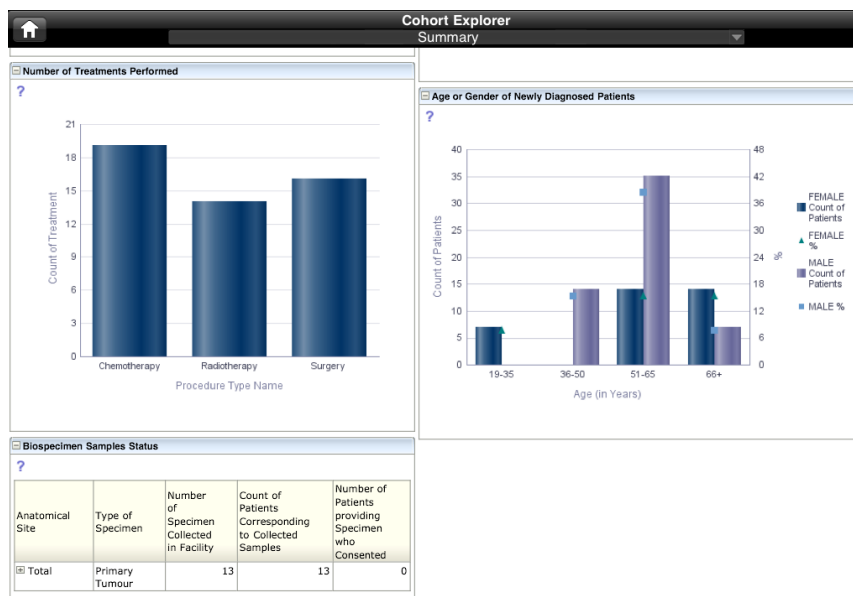


Figure 1. Biospecimen Sample Status, Treatments and Demographics in Oracle Health Sciences Cohort Explorer

### Streamline Regulatory Hurdles and Ensure Reliability with Complete Traceability

Advancing biomarker discovery requires the involvement of many people, algorithms and data sets. Oracle Translational Research Center is an open, traceable platform, streamlining regulatory compliance. Traceability also provides researchers the ability to easily replicate analysis. By enabling the use of open source and in-house algorithms as well as data Oracle Translational Research Center provides end-to-end efficiency by making it easy to capture the

### SUPPORT THE COMPLETE BIOMARKER LIFECYCLE

Oracle Health Sciences Translational Research Center provides advanced analytics capabilities for research, matching patients to clinical trials and clinical application

#### RELATED PRODUCTS

- Oracle Health Sciences Cohort Explorer
- Oracle Healthcare Data Warehouse Foundation
- Oracle Health Sciences Clinical Development Center
- Oracle Omics Data Bank

entire analysis process. This means less time to validate hypotheses and less time to demonstrate the reliability of biomarker predictions.

### Scalability

When targeting therapies, large amounts of information must be analyzed and distilled down to drive decisions. Oracle Translational Research center is capable of integrating millions of patient records and thousands of whole genome sequences. Providing scalability at this level ensures that as your need for genotype-phenotype analysis expands the research platform will scale so your researchers and clinicians can continue to deliver breakthroughs.

### Summary

As the need for personalized medicine drives convergence in healthcare and life sciences, the need to quickly and reliably identify and validate biomarker hypotheses is increasingly important. To manage the entire lifecycle of biomarker discovery through application with the traceability needed to validate hypotheses, Oracle provides a complete solution that enables the use of open source, proprietary and acquired algorithms as well as data. For organizations driving research and needing to compete on a global scale, Oracle offers a platform that scales to millions of patient records and petabytes of data.

### Contact Us

For more information about Oracle Health Sciences, please visit [www.oracle.com](http://www.oracle.com) or call +1.800.ORACLE1 to speak to an Oracle representative.

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