

How Nashville Biosciences rapidly generated real-world data to address pharmacovigilance needs

New approach to quickly answer pharmacovigilance questions

OVERVIEW

Aggregating millions of adverse event reports to make meaningful conclusions on a drug, disease, or treatment is challenging, and individual case safety reports do not give the full patient medical history. Furthermore, it can be difficult to determine whether an adverse event is a singular occurrence or is likely to affect a wider population.

Nashville Biosciences is well positioned to aggregate real-world data on patient cohorts with longitudinal medical records. Leveraging our unique algorithms and BioVU®, our database of genetically-linked, de-identified electronic health records with over 3 million individual's EMRs spanning an average length of 12 years, we can rapidly generate valuable insights to address pharmacovigilance needs.

BACKGROUND

The Pharmacovigilance group at a top 10 global pharmaceutical company needed a deeper clinical understanding of several pressing medical cases they had recently studied in a more rapid fashion than their traditional processes could deliver. They chose to partner with Nashville Biosciences to develop a rapid, real world data-driven solution for pharmacovigilance insights. The objective of this project was to quickly generate high-level contextual data around multiple specific medical events, diseases and treatments to inform their decision-making and response to these cases.

APPROACH

In the collaboration, the pharmaceutical company described four cohorts of interest and the relevant pharmacovigilance questions to address for conducting downstream analysis. NashBio then rapidly created the cohorts to be studied from the BioVU® database, and extracted relevant data elements from structured EMR data. Throughout the project NashBio shared frequent updates, implemented client feedback and guided the project based on extensive experience with the BioVU® dataset.



Patient cohort of request

Data curated by Nashville Biosciences

Rare cancer	Number of patients managed with different treatment modalities and average time from diagnosis to treatment
Receiving contrast enhanced MRIs	Diagnoses that resulted in repeated use of a particular type of MRI and corresponding number of patients in each diagnosis category
Chronic kidney disease	Frequency of treatment with various medications among chronic kidney disease subjects
Chronic neurological condition	Timeline from diagnosis to resolution, and prevalence of specific procedures and other comorbidities

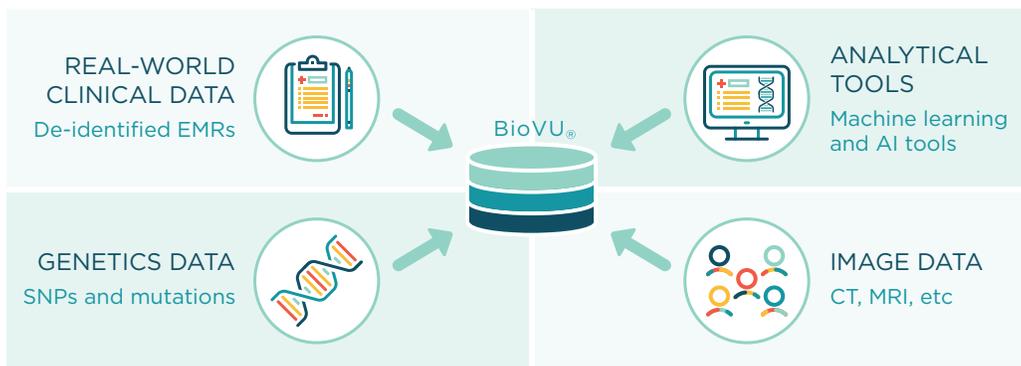
RESULTS & BENEFITS

Nashville Biosciences provided a standardized final report for each cohort, including a summary of the selection algorithm and descriptive statistics for each analysis. This successful project generated useful clinical insights for all four initial cohorts and demonstrated that Nashville Biosciences can deliver rapid, real world data for a wide variety of pharmacovigilance applications. Together, we are now scaling up this model to more seamlessly integrate into ongoing pharmacovigilance workflows.

BioVU® Database

Leverage real-world clinical and genomic data to assist in your pharmacovigilance needs

Started in 2004, BioVU® is the highest quality databank of genetically-linked, de-identified electronic health records ever created.



BioVU®

3M
EMRs

12 Years
Average length of data

265k
Germline DNA samples

120k
Genotyped subjects

ABOUT NASHVILLE BIOSCIENCES

Nashville Biosciences, a wholly owned subsidiary of Vanderbilt University Medical Center (VUMC), was created to harness the Medical Center's extensive genomic and bioinformatics resources for drug and diagnostics discovery and development.

Nashville Biosciences serves as a commercial interface between outside companies and the formidable research capabilities represented by BioVU®, one of the world's most comprehensive genetic databases linked to de-identified medical records with years of longitudinal clinical data.

This unique asset is one of the largest and highest quality of its kind, providing an unprecedented opportunity to guide R&D activity in biotech, pharma, diagnostics, medical devices and other life sciences applications.



Leveraging Vanderbilt University Innovation™

To learn more about Nashville Biosciences or to request a private demo of our capabilities, please visit www.nashville.bio or email us at info@nashvillebiosciences.com