



## Leveraging The Vast Amounts of Disparate Patient Data To Create An Impactful Population Health Management Solution

IMAT provides the most comprehensive, real time healthcare data management and decision support solution, enabling professionals to aggregate population data and analyze a full, real-time 360° view of the patient. IMAT is highly differentiated by the speed and accuracy with which it processes and analyzes both structured and narrative data from any source and any record type.

**Kurt Garbe, CEO, IMAT Solutions**

As the volume and sources of digital patient data continues to explode, the need to make sense of this data in a timely, cost-efficient manner becomes paramount to medical professionals seeking insight into large patient populations to improve patient outcomes and participate in value-based incentive programs. The challenge is how to capture, normalize and understand an accurate 360° view of each patient, no matter where the patient received services.

Gijs van Oort, CEO and Executive Director of the San Antonio-based HASA, a health information exchange (HIE) supporting 22 counties within Texas, agrees with this assessment, then puts an even finer point on the challenges associated with medical data aggregation: The inability to capture visit notes and transcriptions, commonly called unstructured data, has been a big limitation of medical data management systems.

“Because so many service providers may be involved in patient diagnosis and treatment,” said Kurt Garbe, CEO of IMAT Solutions, “data typically comes from incompatible sources, with a wide range of representations for even the most common terms, such as blood pressure, test names or demographic information. For those involved in community health, it is not enough to know that 30% of your community is likely to have diabetes in the coming year. You must enable community providers to drill down into the data and identify who those patients are today and implement treatment plans to manage their health.

With the implementation of IMAT Solutions software, van Oort and other IMAT clients are able to manage their data through the five-step IMAT data ingestion process: Connect – Collect – Validate – Normalize – Index. IMAT, which stands for Integrated Medical Analytics Technology, is a HIPAA-compliant solution that supports

customers across seven states, processes billions of records per year generated by more than 2,000 facilities and 31,000 providers, representing more than 16 million patients.

The IMAT system takes in multiple data formats (e.g. HL7, CCD/CCDA, CSV) found in source records, representing both structured and unstructured data. The solution normalizes varied representations of demographic information, dates, vitals, lab results, medications, and diagnosis down to one common set of terms as defined by the client. The system validates the data during intake using client-configured rules to ensure this accuracy. The IMAT system retains the original source documents for future reference during an analysis process. These original documents are easily accessed by drilling down from resulting reports or chart views.

A key differentiation is that the system is high performance throughout the process, from ingestion through analysis. For example, during a monitored ETL (extract, transform, load) process, the IMAT system was able to take in 2,000 records per second, which included running 15 validation rules against each record, while running on a single server. Once ingested into the system, all data is available for analysis via ad hoc queries or pre-built reports.

In performance and accuracy benchmarking, IMAT identified complex cohorts in 2 to 20 seconds across 2 billion records, 19 million patients from 20 data sources; competing systems took 20 hours to execute the same queries.

Hospitals, clinics, HIEs, ACOs, Medical Homes and most any organization seeking to identify and act on patient or population data has the means to do so today – quickly and accurately. Data-driven medicine has never been more accessible. ■

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