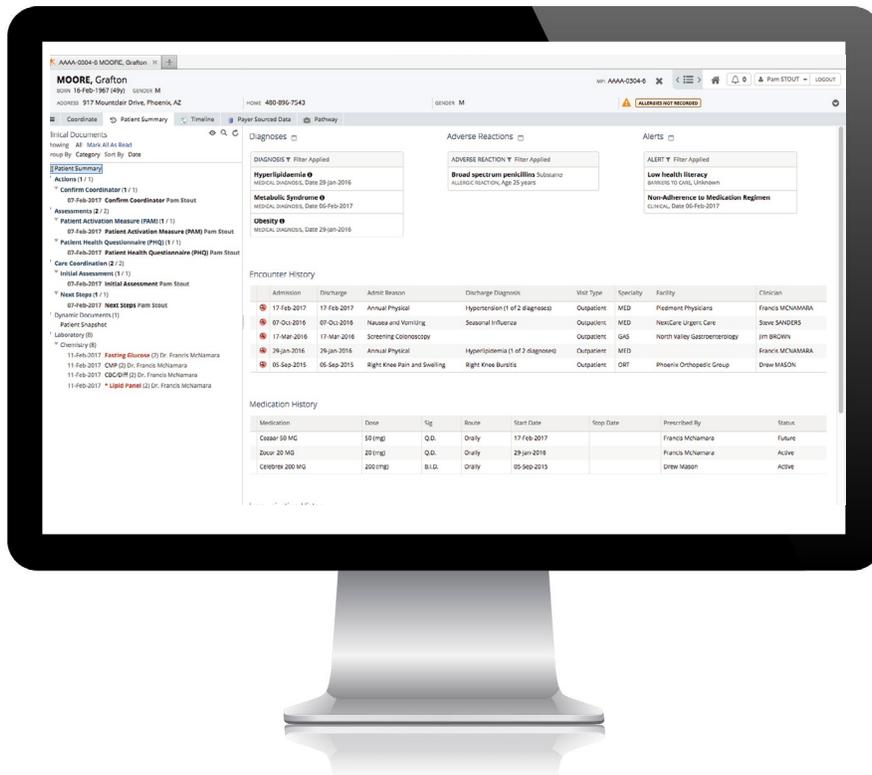


amadeus



The platform for population health and precision medicine.

Orion Health Amadeus delivers a comprehensive approach to acquiring, enriching, analyzing and presenting actionable clinical and claims data, as well as non-traditional data.

The scalable and open platform supports population health management initiatives, value-based care models, and provides healthcare professionals with real-time cognitive support at the point of care.



Amadeus is a highly scalable and open platform built on modern technology that aggregates all types of health data, from both traditional (e.g. claims, clinical) and non-traditional (e.g. behavioural, medical devices, social etc.) sources.

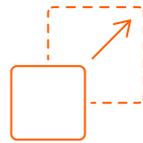
Amadeus supports the journey from fragmented care to population health management and precision medicine. Amadeus' API management layer allows third-party developers to build new capabilities and specialty applications on the platform, creating an innovative healthcare ecosystem.

Benefits of Amadeus



Supports innovation with APIs and BI interfaces

Amadeus provides secure access to all its data via APIs and ANSI SQL interfaces to Orion Health as well as third-party applications. Open APIs creates an application ecosystem that breaks down data silos and fosters innovation, enabling the best applications to be developed for every healthcare scenario. The SQL interfaces can power reporting, visualizations, statistical analysis as well as advanced machine learning models.



Highly scalable platform

Amadeus combines Orion Health's extensive data integration and HIE experience with modern technology and distributed architecture to handle massive volumes of high-velocity data. The scalable platform pairs a comprehensive range of data models—including clinical, claims, consumer and others—with powerful, custom data-modelling capabilities.



Adapts to new models of care

Drawing patient-centric data to Amadeus enables healthcare organizations to make informed decisions regarding the move from traditional payment to alternative payment models. Payers, ACOs, and other organizations involved in value-based models can support their participating providers with value-added services.



Robust privacy capability

Advanced, granular privacy capability provides controlled access to patient information based on user roles and the sensitivity of patient data. The privacy module provides a single, simple user interface that helps organizations easily create advanced privacy rules even in the most complex healthcare environments.



Foundation platform for population health and precision medicine

Precision medicine is only possible when there is a complete picture of a patient's health, including medical decisions, treatments, practices, and products so healthcare can be customized for each individual. Through seamless integration with our care-management and patient-engagement applications, Amadeus allows you to proactively identify, manage, and transition at-risk patients in real-time.



Intelligent modeling

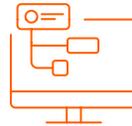
Amadeus enables predictive modelling that identifies and stratifies the at-risk patients in a population and provides the data to drive rapid decision-making. Additionally, Amadeus will enable the operationalization of machine learning, enabling predictions based on its large data sets.

Key Features



Capture and store massive volumes of data

Built using the latest storage technologies and a distributed processing architecture, Amadeus is unparalleled in its ability to extract maximum value from today's data and prepare organizations for exponential data growth.



Configure a data space specifically for your business

Custom data spaces enable bespoke data models to be designed and deployed through configuration. This allows the rapid prototyping of new domains and the capture of customer-specific data sets without the time and cost associated with traditional product development.



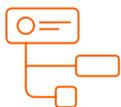
Access all types of patient data in one place

The Amadeus data pipeline distributes the processing of data to enable true scaling and consumption of data from all possible sources. It handles all of the processing required to prepare data for each target data space, including validation, sequencing, mapping, enrichment, and semantic normalization. Data spaces aggregate clinical, payer, consumer, and other healthcare data types (such as social, family history, device and omics data) into well-defined data models that expand the longitudinal health record.



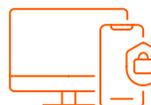
Extract future value from data collected today

The raw data store is an annotated archive that enables future value to be extracted from data collected today. By retaining all source data in its original form, organizations can focus on their immediate needs, safe in the knowledge that all data is being retained for future analysis and enhanced modelling. The raw data store can also act as a data lake for maximum flexibility in storing structured, semi-structured and unstructured data for a range of uses.



Interoperability with the HL7® FHIR® standard APIs

Amadeus supports FHIR (Fast Healthcare Interoperability Resources) APIs, innovative HL7 REST services for accessing discrete information. This approach is rapidly gaining momentum in the healthcare technology industry as the preferred approach to full interoperability. The platform allows third-party developers to access the rich data and services in real time through its API management layer and open, REST-based APIs. Organizations can develop speciality applications through which users can securely interact with authorised records, improving the delivery of care and creating a competitive advantage in new market models.



Security of access

Open APIs are governed by standards-based OAuth2 security, enabling access from multiple client types such as mobile devices, browser-based clients, and server-based clients for B2B access.

The Components of Amadeus

The Integration Engine

Rhapsody® Integration Engine

Rhapsody is the integration engine that powers the Amadeus platform with high-volume data-acquisition capabilities. Rhapsody is designed to offer rapid and reliable integration and is a proven and powerful integration engine that provides a comprehensive set of tools to simplify complex healthcare interoperability.

Raw Data Store

The raw data store is a massively scalable message and document archive for storing and indexing all data received from source systems in its raw form.

Data Processing Pipeline

The data processing pipeline is a distributed processing engine that provides the bridge between the raw data store and the data spaces. Processing routes retrieve data from the raw data store and process it through a series of configurable validation, mapping, enrichment and normalization tasks before updating the target data space.

Payer Data Spaces

Payer data spaces are a range of data models derived from a medical claim, pharmacy claim, and membership data. Each of the models is accessible through privacy-and security-enabled REST APIs.

Clinical Data Spaces

Clinical data spaces are a rich set of structured data models for processing clinical messages, such as HL7 and C-CDA, and capturing core clinical concepts, such as encounter, diagnosis, procedure, problem, medication, allergy, laboratory, radiology and microbiology results. The data models are securely accessible through FHIR-compliant REST APIs.

Consumer Data Spaces

Designed around the FHIR Observation resource, consumer data spaces enable the processing and storage of data from consumer devices and apps and unlock the significant potential of remote-patient-monitoring initiatives. The data models are securely accessible through FHIR-compliant REST APIs.

Custom Data Spaces

Custom data spaces provide customers with the ability to deploy custom data models solely through configuration, allowing for rapid prototyping of new domain models and the capturing of customer-specific data sets. In addition to providing the storage infrastructure for these custom models, custom data spaces automatically generate REST APIs that apply the required security, privacy, auditing, patient matching, and enrichment functionality, enabling both Orion Health and third-party applications to consume the captured data.

Data Access

Amadeus Open APIs

We recognise that innovation is not restricted to Orion Health. To foster real change, we need a complete ecosystem of partners and companies to make the best use of the patient-centric record as a whole. Amadeus' Open APIs enable a completely new ecosystem of opportunities through the development of a rich network of partners that can drive additional value and benefits for users. This value can be derived from working with other parties to leverage the data in the Amadeus platform.

The public Developer Portal and Sandbox is available at www.developer.orionhealth.io

Business Intelligence interface

Business Intelligence interface allows organizations to maximise their existing investment in analytics by accessing data from the data spaces in Amadeus directly from their data warehouse and analytics platforms. Access can be filtered by configurable rules to ensure that recipients are only provided with the data that they both need and are entitled to access.

Core Services

Patient Matching

The ability to match patient information from numerous—and varied—source systems of data is key to creating a valuable patient-centric record. Amadeus manages this with an advanced Master Patient Index (MPI) to facilitate patient matching, data quality management and interoperability.

Privacy and Consent

The wider data is shared, the more complicated information governance arrangements become. Amadeus includes an advanced privacy implementation that provides granular access to data elements based on the user's role, patient's consent directives and the sensitivity of the data. Supporting a 'privacy by design' approach, Amadeus's privacy module provides a unique and simplified user interface that enables advanced privacy rules to be implemented quickly and changed with ease when requirements evolve in today's complex healthcare environments.

Semantic Normalization

The Amadeus precision medicine platform creates a patient-centric record based on data from numerous sources. However, with the inclusion of new data sources from non-clinical settings, we find that our source systems speak different languages and use different dialects and code sets. Our advanced terminology services simplify and normalize the different languages to create an intelligent aggregated record where the information can be analyzed and understood by those who need it.

Clinical Services

Clinical Portal

Amadeus provides an all-encompassing precision medicine platform that can aggregate and manage all types of data. This aggregated health record is immensely valuable to clinicians and caregivers and is made available via the elegant user interface of the Amadeus's Clinical Portal. The web-based clinical portal provides access to the cross-community longitudinal record that presents the providers with the most relevant health information based on all connected sources (e.g. clinical, claims, behavioural etc.) all in one place. Single Sign-On (SSO) APIs deliver a seamless user experience for clinicians wishing to use the portal embedded inside their main EMR or another point-of-care system.

Clinical Notifications

With patients visiting multiple healthcare organizations throughout their community, it is important to keep relevant parties informed about a patient's ongoing care and treatment. Notification and subscription management is a clinical feature of Amadeus that enables real-time messaging of critical information, ensuring that providers know about patient events outside their organization. The notification tool distributes relevant alerts and clinical information about predefined events, such as hospital admissions, discharges, or the availability of finalized laboratory results for review.



“It is imperative that we consolidate clinical, claims and other data fed from a variety of databases to create a longitudinal patient record. Mismatched payer and provider data poses both a standard of care and financial risk.” Amadeus has an Open API model that “gives us tremendous flexibility to manage diverse information sources.”

Joe O’Hara

Director, Healthcare Marketplace Innovations Horizon Blue

(BLUE SHIELD OF NEW JERSEY)

Future-proof your journey from Population Health to Precision Medicine.

Every step you take toward delivering personalized healthcare is valuable. Our end-to-end solution—built on our Amadeus platform with real-time-analytics, clinical, and patient-engagement will future-proof your journey.

[Find out more at orionhealth.com/global/products/amadeus](https://orionhealth.com/global/products/amadeus)

