ABSTRACT: A seamless clinical data integration and intelligent processing environment is presented, namely, the HealthObs system. HealthObs, and in particular its knowledge discovery component, aims towards the discovery of interesting associations from distributed and heterogeneous clinical information systems. HealthObs contributes to the semantic integration of patient health data stored across multiple sources. The system incorporates Association Rule Mining (ARM) operations, which operate on top of XML documents. A real-world case study, based on mining across patient records in the region of demonstrates the effectiveness, efficiency and reliability of the proposed approach and system.