

RxNav: A Web Service for Standard Drug Information

Kelly Zeng, M.S., Olivier Bodenreider, M.D., PhD,
John Kilbourne, MD, and Stuart J. Nelson, MD

U.S. National Library of Medicine, National Institutes of Health, Bethesda, Maryland, USA

*RxNav*¹ is a browser for *RxNorm*², the NLM repository of standard names for clinical drugs. *RxNav* displays links from clinical drugs, both branded and generic, to their active ingredients, drug components and related brand names. The current dataset (July 11, 2006) comprises 5,591 ingredients, 10,998 brand names, 13,913 clinical drug components, 17,788 clinical drugs, 13,850 branded drugs, 13,253 branded drug component, 8,296 clinical drug forms, 10,862 branded drug forms and 140 dose forms. *RxNorm* is one of a suite of designated standards for use in U.S. Federal Government systems for the electronic exchange of clinical health information.

RxNav has been successfully deployed for almost two years, with an average of about 20 users per day. *RxNav* has been recently redesigned using *web services*, i.e., a collection of protocols and standards used for exchanging data between applications, resulting in the improvement of several of its features.

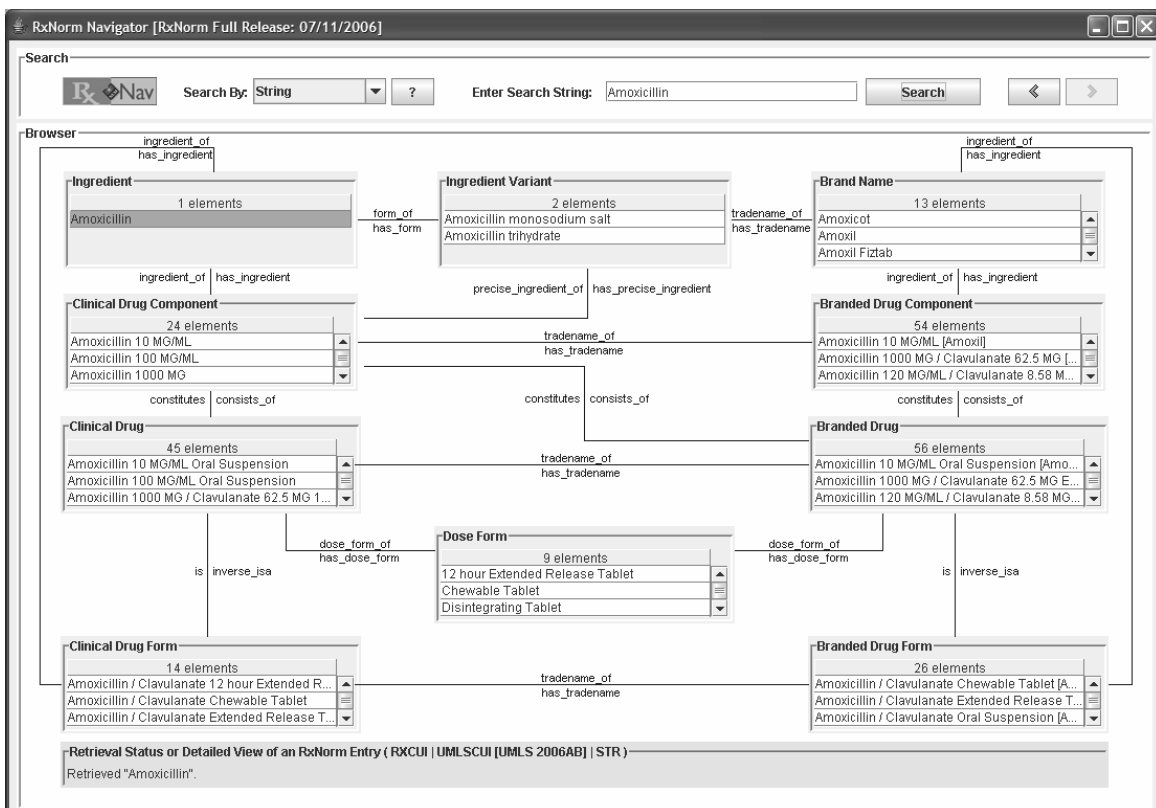
Open Access. Data are now transferred over port 80, which is the port used by default by the http protocol. This is particularly important for those *RxNav* users working behind a corporate firewall.

Efficient Access. Web service protocols are very efficient at both ends of the communication line. The performance of the serialization/deserialization mechanism is comparable to other communication protocols, such as JDBC, socket, and RMI.

Easy Access. Because web services use XML for transferring data, no specific programming language is requested for accessing the service. In the future, an application programming interface (API) providing fine-grained control over *RxNorm* data retrieval will be released.

¹ <http://mor.nlm.nih.gov/download/rxnav/>

² http://www.nlm.nih.gov/research/umls/rxnorm_main.html



RxNav screenshot for Amoxicillin