Stanford Project: RX--DERIVING KNOWLEDGE FROM TIME-ORIENTED CLINICAL DATABASES
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The objective of clinical database (DB) systems is to derive medical knowledge from the stored patient observations. However, the process of reliably deriving causal relationships has proven to be quite difficult because of the complexity of disease states and time relationships, strong sources of bias, and problems of missing and outlying data.

The goal of the RX Project is to explore the usefulness of knowledgebased computational techniques in solving this problem of accurate knowledge inference from non-randomized, non-protocol patient records. Central to RX is a knowledge base (KB) of medicine and statistics, organized as a taxonomic tree consisting of frames with attached data and procedures. The KB is used to retrieve time-intervals of interest from the DB and to assist with the statistical analysis. Derived knowledge is incorporated automatically into the KB. The American Rheumatism Association DB containing 7,000 patient records is used.

SOFTWARE AVAILABLE ON SUMEX

RX--(excluding the knowledge base and clinical database) consists of approximately 200 INTERLISP functions. The following groups of functions may be of interest apart from the RX environment:

SPSS Interface Package: Functions which create SPSS source decks and read SPSS listings from within INTERLISP.
Statistical Tests in INTERLISP: Translations of the Piezer-Pratt approximations for the T,F, and Chi-square tests into LISP.
Time-Oriented Data Base and Graphics Package: Autonomous package for maintaining a time-oriented database and displaying labelled time-intervals.

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Appendix D

AIM Management Committee Membership

The following are the membership lists of the various SUMEX-AIM management committees at the present time:

AIM Executive Committee:

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