Age-related Medical Literature Retrieval

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Introduction
We provide recent medical literature matching a patient's case to health care professionals. This could help them to take latest studies into account in the decision making process. In our scenario, the data from the patient's health record forms the basis for automatically retrieving publications related to certain aspects or the latest development of the patient's case. We also use the patients profile as an optional context for manual ad-hoc search queries.

Approach
We extracted age-related terms from the collection and gathered definitions for each of the collected terms. Based on the mapping between a patient's age and the terms used to describe cases in publications, fuzzy membership functions have been modelled for each of the age-terms. The example shows how a 30 year old patient matches the membership function for "Young Adulthood" with a degree of membership of 0.7. This value can be used as a term weight for the query to retrieved publications matching the patient's age group and to rank relevant results higher.