

# A World of Rural Health in the Literature

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## Background:

The RURAL bibliographic database is an extensive collection of journal articles (n=36616) written since 1944 to 2015. The publications are retrieved on an annual basis and selected for their relevance to rural health, the provision of services to rural geographies, the health concerns of rural patients and the education of health practitioners to work in rural areas, their recruitment and retention.

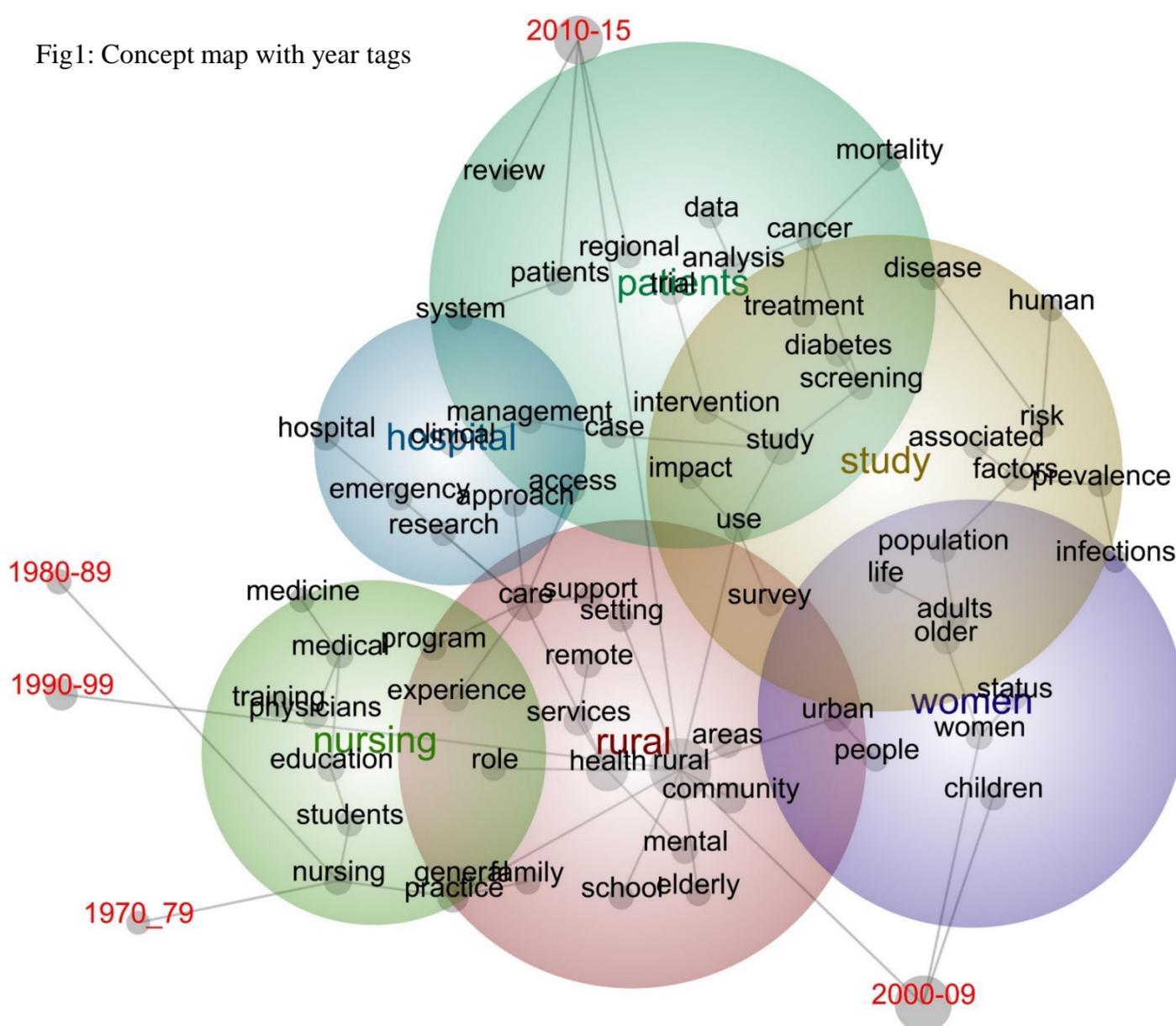
## Objective:

To identify the type of content published and detect title changes over time in the RURAL bibliographic database using Leximancer

## Method:

Leximancer is a tool that uses semantic mapping to develop concept maps from natural language. The text-mining features of the program were used to visualise the changes in focus, in the written literature of rural health. Titles from the period 1944 through to 2015 were included. Leximancer identifies themes around related concepts, with concepts which co-occur in the text with high frequency being closely positioned. Spheres indicate connected concepts.

Fig1: Concept map with year tags



## Results:

The major rural health themes identified were:

- the provision of care and services to rural and remote communities (59.2%),
  - the provision of nursing and medical education in rural environments (16.6%),
  - the study of risk factors in the population (11.1%),
  - the study of issues relating to the status of women, the older adult and children in rural areas (8.1%),
  - the management of hospitals and clinical access (5.7%),
  - the treatment of cancer and chronic disease for patients in regional areas (3.7%).
- A timeline of changes in the focus on these concepts, indicates that from 1970-99 nursing and medical education programs dominated the research literature, with a shift in 2000-2009 to community, women's status, children and older populations. Most recently, 2010-2015, the focus has developed around the treatment of chronic disease, cancer and diabetes in rural patients.

## Conclusion:

Leximancer provides an innovative tool for the visual appraisal of a large dataset, which in this example, demonstrates changes in research for the provision of health services to the rural population. This change is consistent with the need for sustainable development initiatives to integrate appropriate science and technology to improve rural health.

Table1: Change in Theme and Concept presentation over time

Theme/Concept	1970_79	1980-89	1990-99	2000-09	2010-15	Mean across years %
rural, health, care, practice, community, services, areas, remote, urban, mental, family	62.3%	58.6%	63.2%	58.0%	53.9%	59.2%
nursing, medical, education, general, program, experience	25.2%	20.8%	16.5%	11.0%	9.8%	16.6%
study, use, adults, factors, disease, population, risk	3.8%	10.3%	8.6%	14.9%	17.9%	11.1%
women, older, children	1.4%	4.0%	23.6%	6.3%	5.3%	8.1%
hospital, clinical, management	6.5%	6.3%	5.8%	4.7%	5.2%	5.7%
patients, cancer, regional	0.9%	1.8%	2.9%	5.1%	8.0%	3.7%