

# Impactful Visualizations of Bibliographic Metadata in Cardiovascular Disease Epidemiology

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## Introduction and Background

In early 2014, Northwestern University's Galter Library began implementing a cohesive set of services around research evaluation and impact assessment. The services were complementary to the expertise and data already available from the library. Many of these services use bibliographic data, since it can be mined and visualized using a variety of techniques to gain a better understanding research impact. Deeper investigation also allows for a better understanding of effective research dissemination, mentorship relationships, professional development and more.

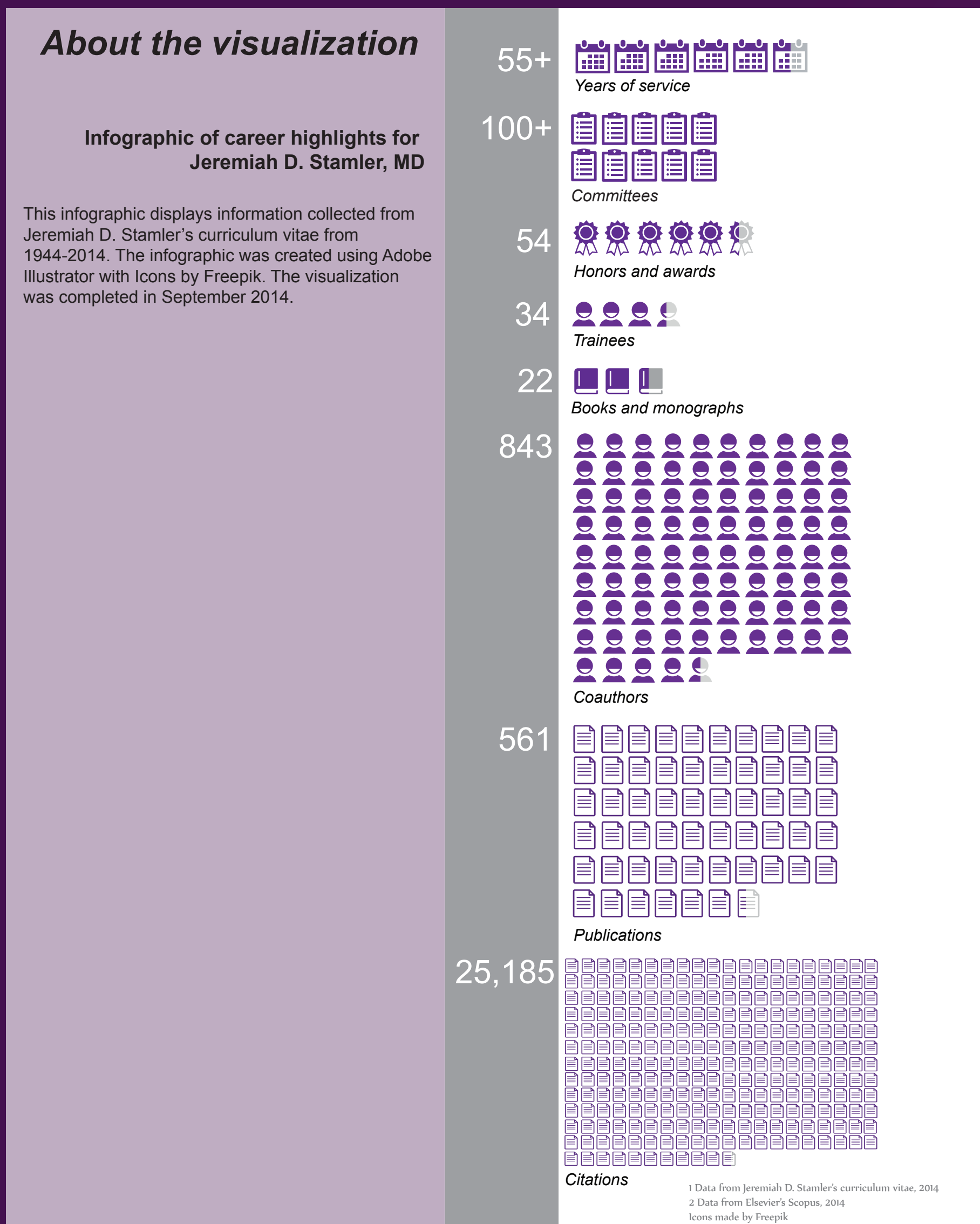
## Telling a Story

This study was requested by an awards committee to investigate the work of an eminent researcher and clinician in cardiovascular disease epidemiology. The committee hoped to highlight the scholar's career achievements, significant contributions to the scholarly literature, and to demonstrate the scholar's collaboration with and mentoring of others in this field. Metadata was harvested from open and commercial data aggregators including Scopus, PubMed, Web of Science, various online sources, and the scholar's CV. A wide range of tools and resources, such as Tableau, Excel, the Sci2 tool, and Adobe Illustrator, were used to visualize the data. Visualizations were chosen based on their ease of understanding, relevance to the committee's request, and overall visually appealing nature. The visualizations were presented in PowerPoint to the committee at the end of the project. Additionally, two large posters were created to further highlight the visualizations. These visualization have been included in a larger portfolio of works to demonstrate the services that the library can provide.

Librarians played a key role in the collection of data from the literature databases by providing expert searching skills and knowledge of the limitations of the data and file types available for export, among others. Additionally, the librarians explored different visualization tools, noting which visualizations were possible given the data available and the features of the tool. They noted the tools varied widely in terms of features, cost, and ease of use. Each visualization was accompanied by a short narrative stating the type of visualization, the data source, and the types of conclusions or impacts that could be drawn. Several visualizations were chosen by the committee to be displayed during an awards ceremony.

## Moving Forward

The ability to understand the impact of research and clinical activities in the academic environment is difficult. Today's medical libraries provide resources and expertise to their campuses that can be leveraged to accomplish data analysis and visualizations. The role of the librarian in accomplishing and supporting this work is essential, especially given the critical importance of data integrity, and the role that librarians already play as valued team members on significant enterprise-level information projects. Librarians offer the perfect combination of expertise, perspective and resources to support and advise their assessment and visualization of research impact across the peer-reviewed literature and beyond.

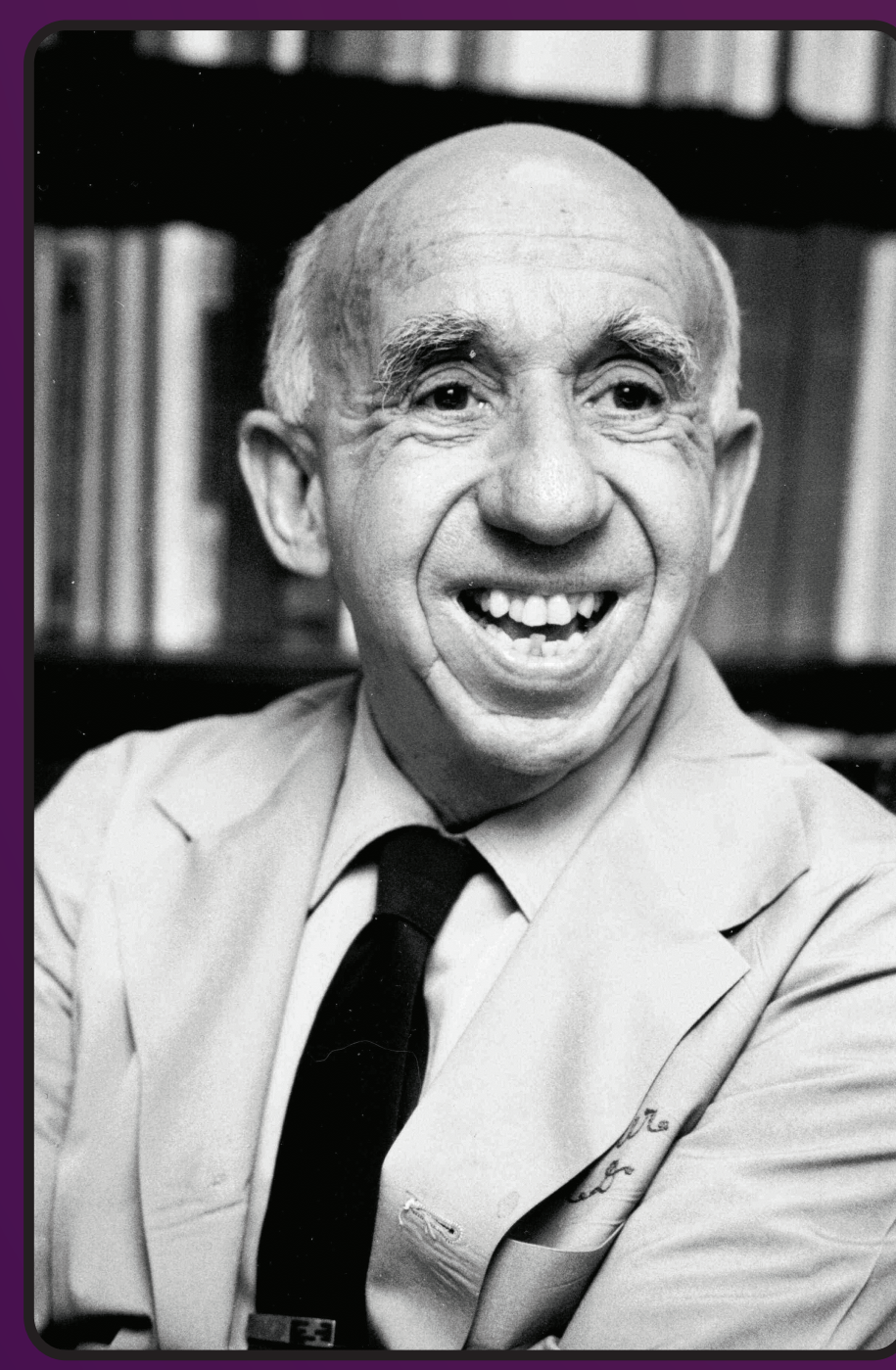


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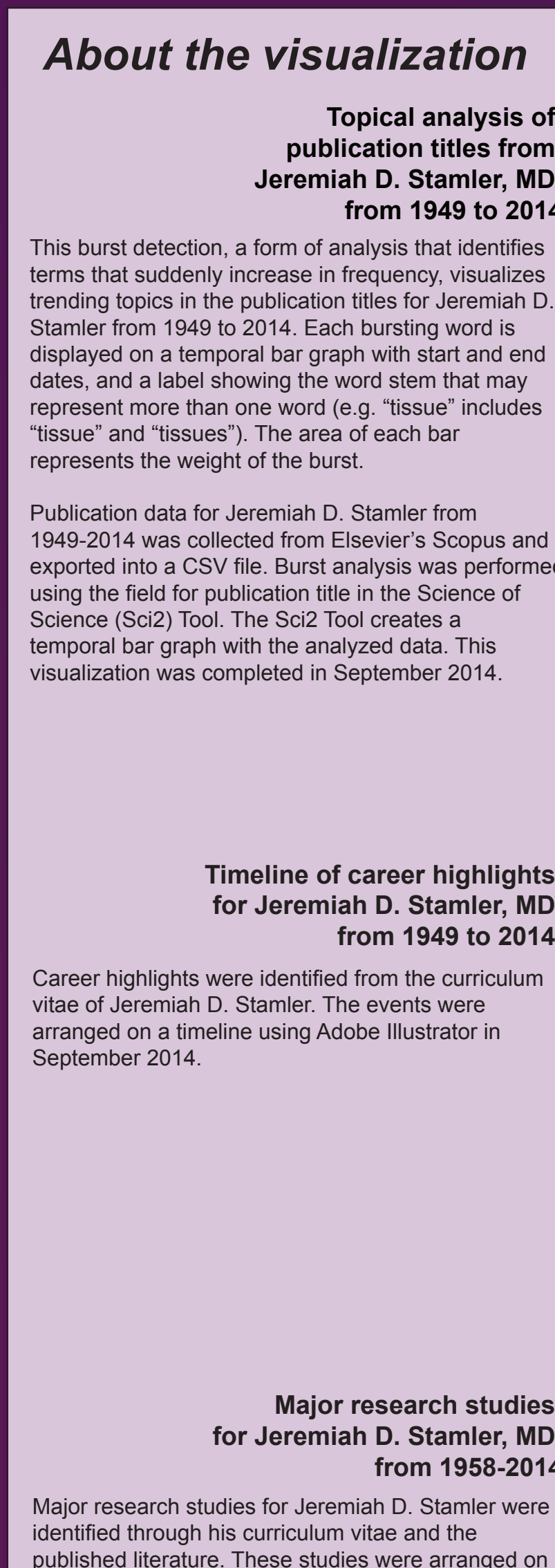
- Jeremiah Stamler during interview with Dr. Rowland Chang, 2013



Early on in his career while working as a Research Fellow for Dr. Louis Katz at Michael Reese Hospital in Chicago, Dr. Stamler did research on the influence of female hormones on diet cholesterol-induced atherosclerosis in chickens.

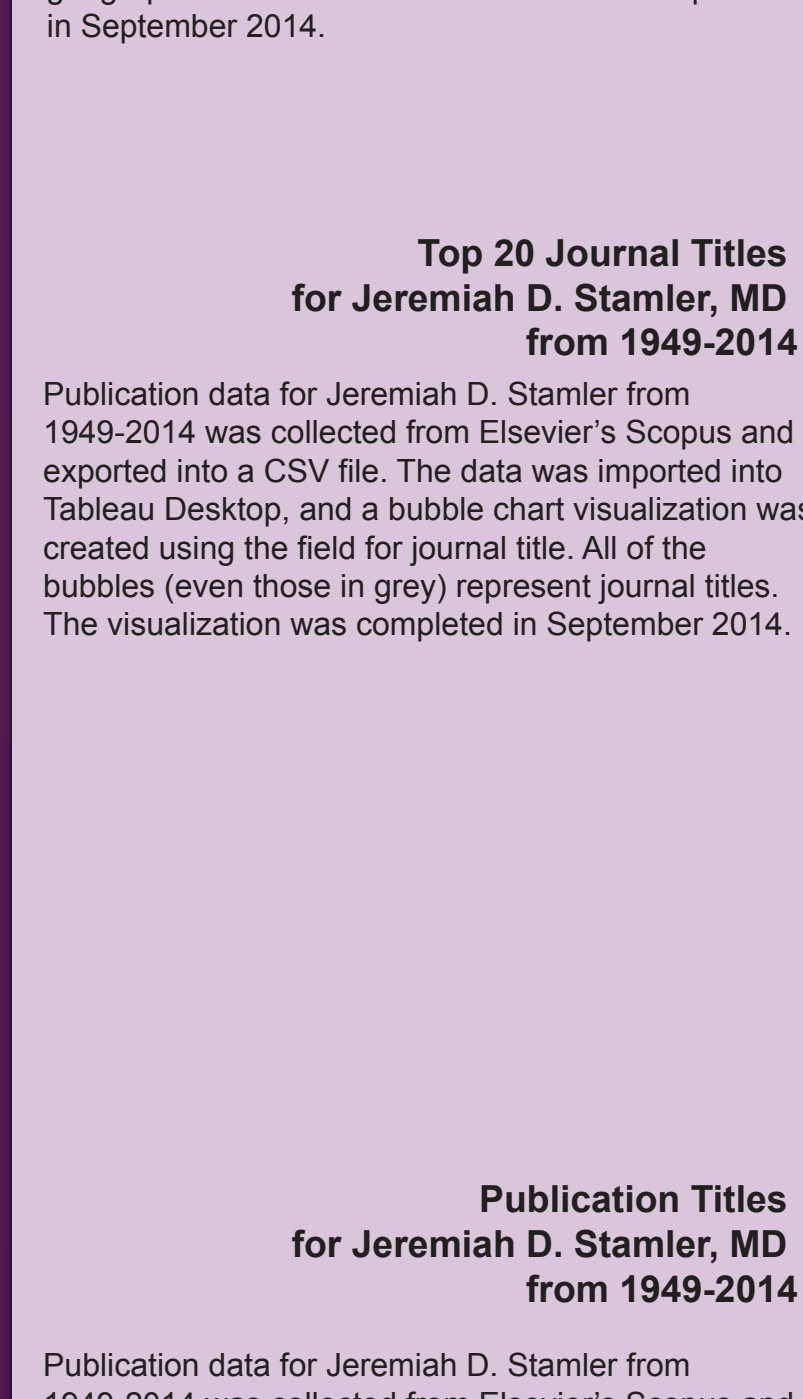


Jeremiah D. Stamler, MD Professor Emeritus in Preventive Medicine-Epidemiology Feinberg School of Medicine Northwestern University



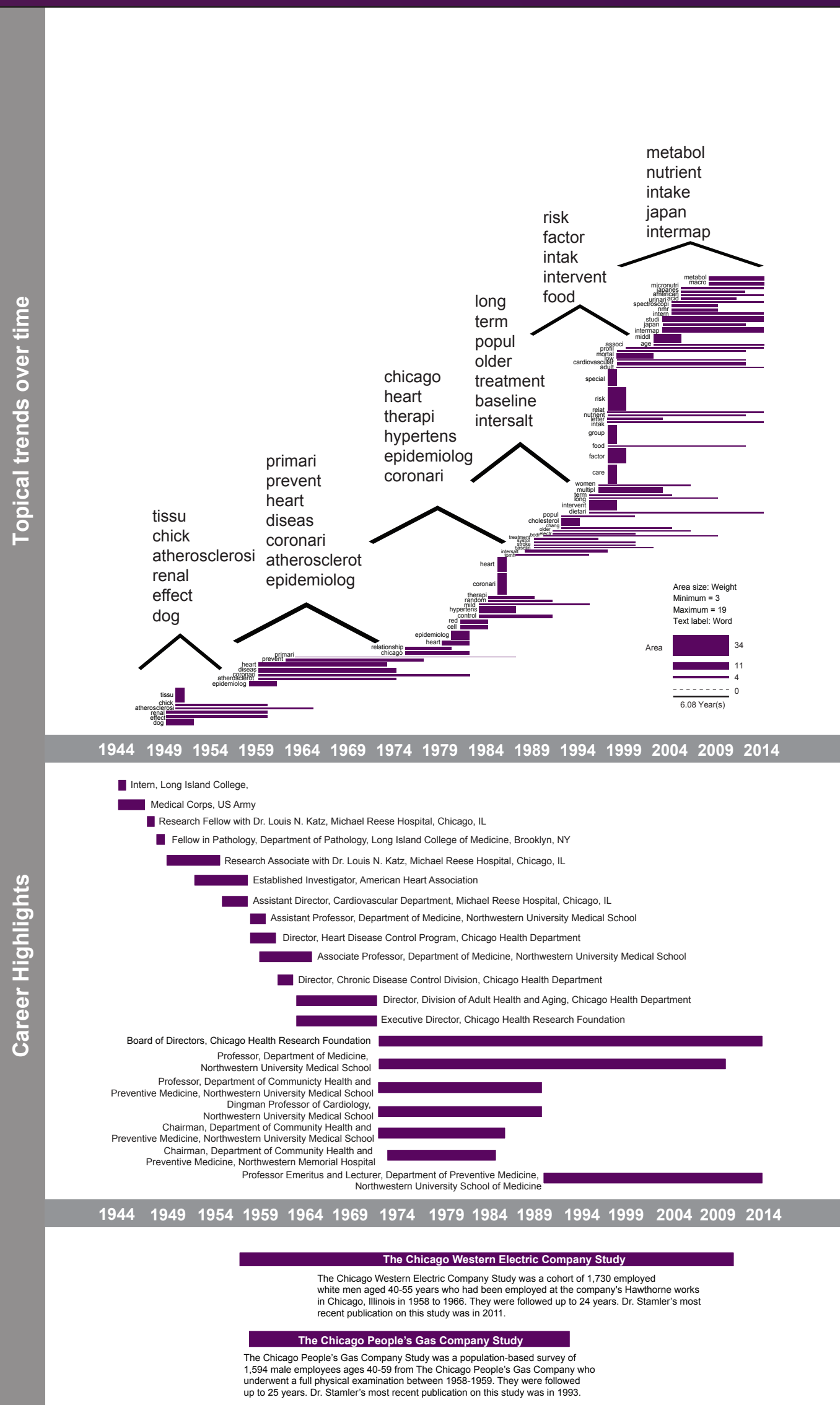
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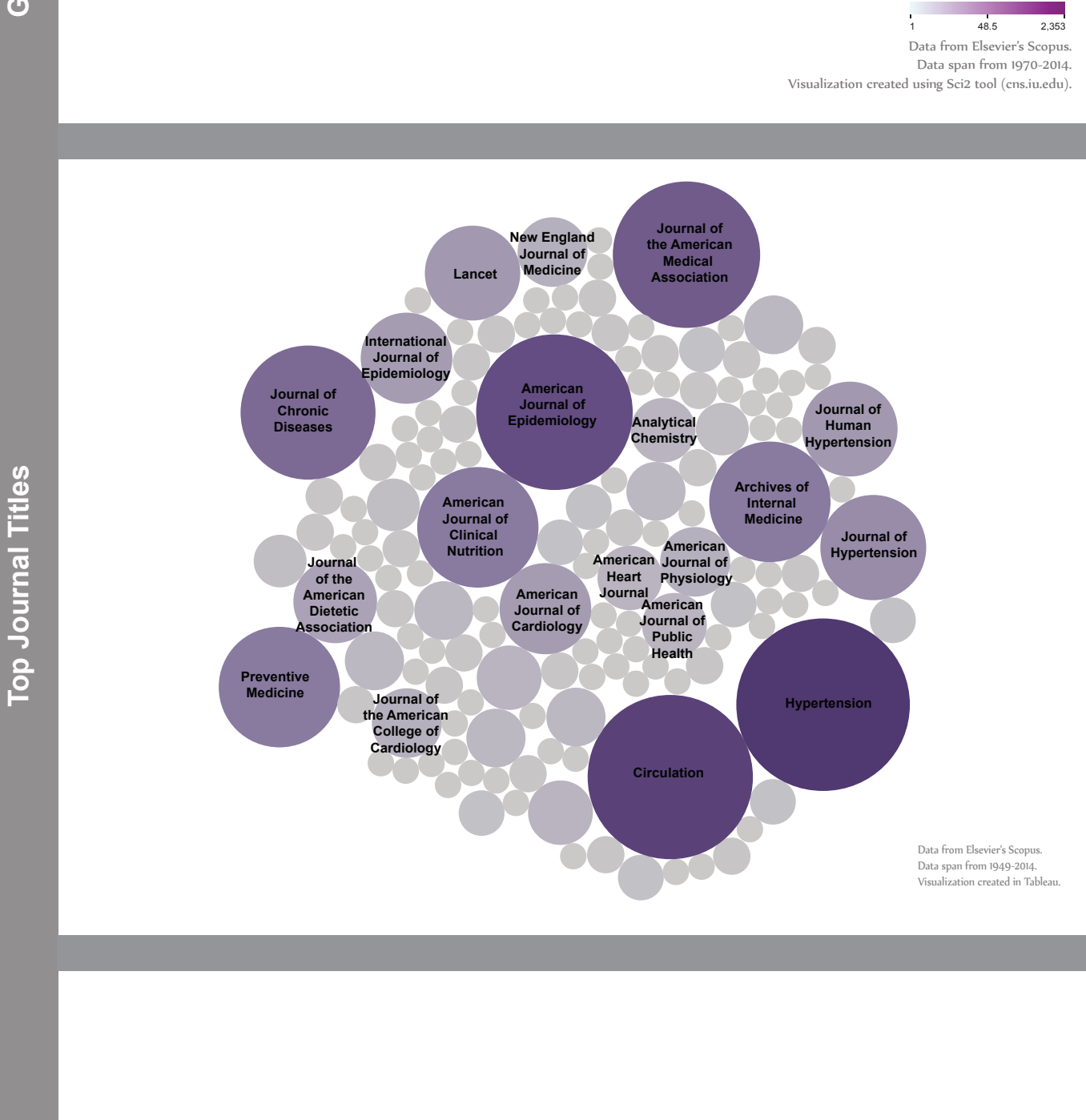
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Ancel Keys Photo Collection "Stamler, Jeremiah", 1950(s) Available at <http://www.epi.umn.edu/cvdepi/photograph/stamler-jeremiah/>



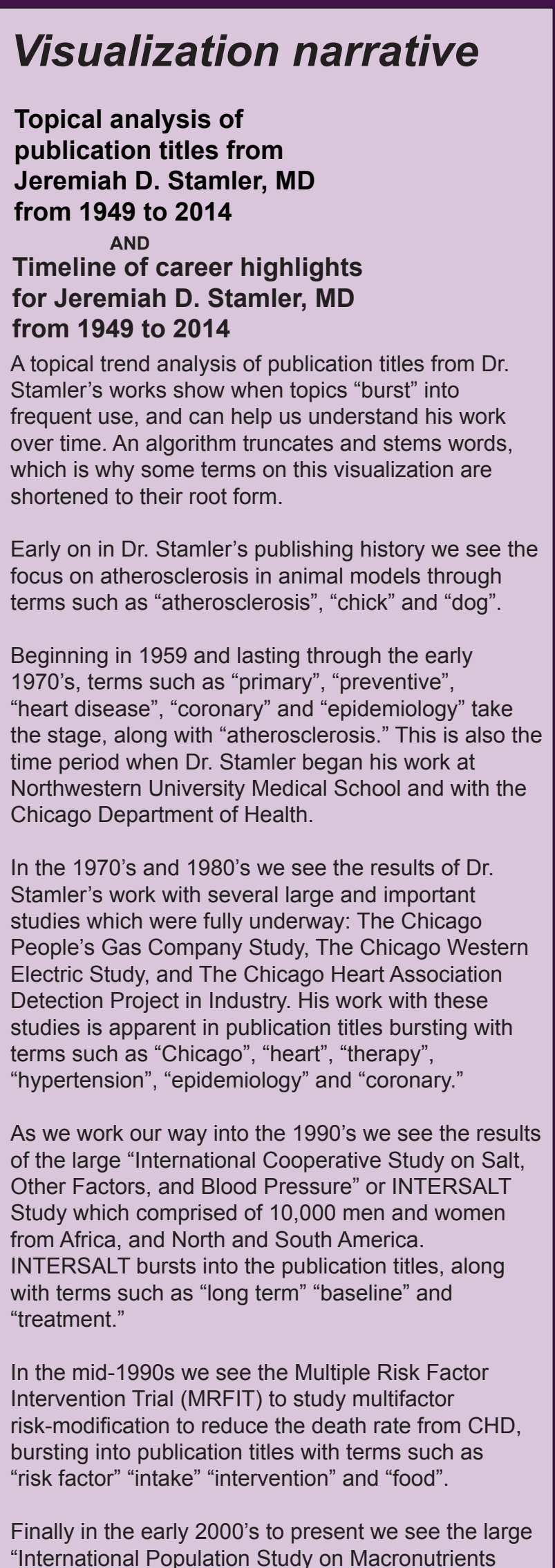
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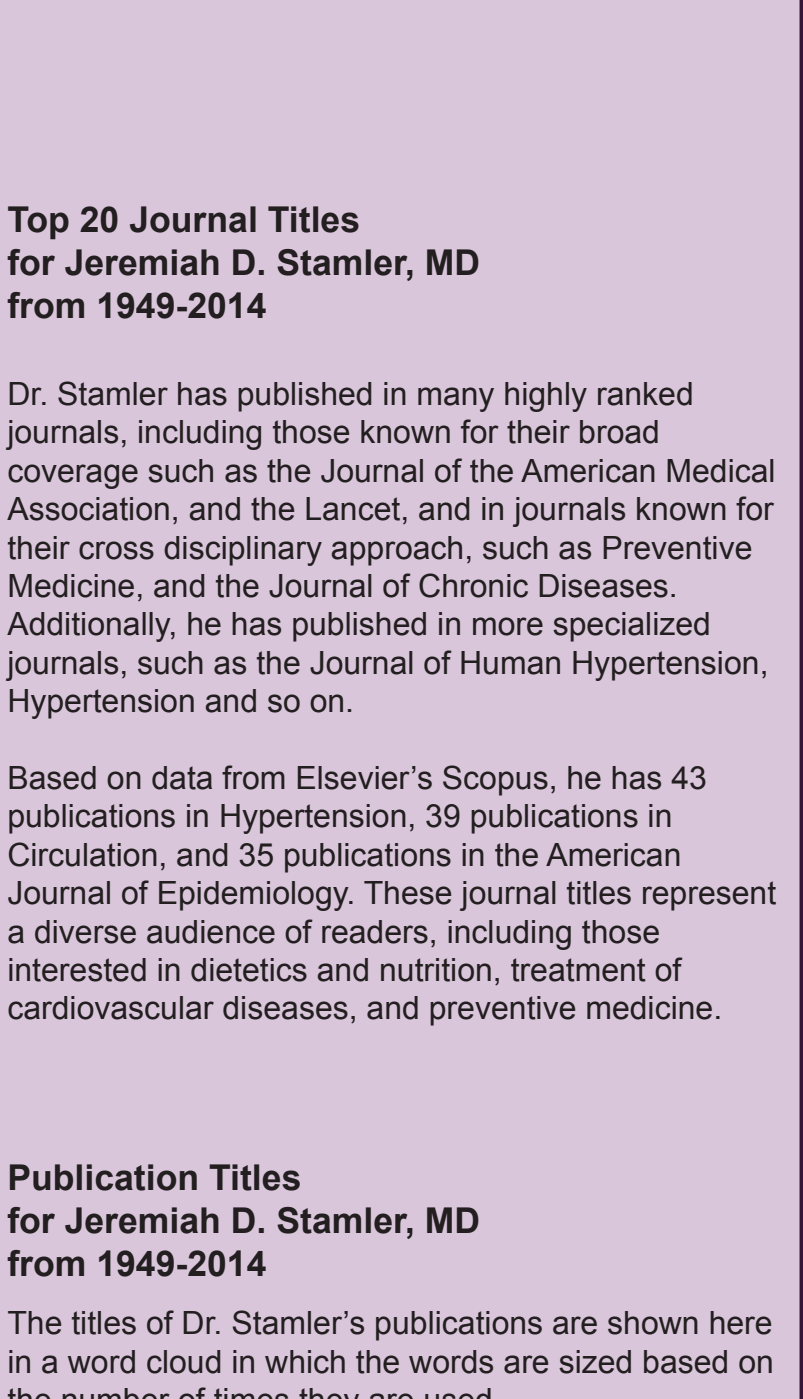
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