Soz Präventivmed 1992; 37: 151–158

0303-8408/92/040151-08 $1.50 + 0.20/0

A descriptive analysis of articles in the journal of Social and Preventive Medicine (Soz Präventivmed): 1980–1990

Hyma Schubert-Subbarathnam, André Rougemont

Unité de Santé communautaire et Médecine tropicale, Institut de médecine sociale et préventive, Genève

This analysis focused on nine hundred and forty three articles published in the Swiss Journal of Social and Preventive Medicine (Sozial- und Präventivmedizin/Journal de Médecine sociale et préventive). The aim was to present a descriptive image of the principal characteristics of the work published in the field of social and preventive medicine and public health, and then to analyse certain trends, which we hope will be useful in the future orientation of research. To date, no other studies have analysed the articles published in the Journal.

The present journal evolved from the *Jahrbuch der Schweizerischen Gesellschaft für Gesundheitspflege* first published in Zurich in 1900. It underwent many changes of title and fusions with other journals to become, in 1956, the Review of Preventive Medicine [1], with the aim of addressing "all the questions concerning preventive medicine" [2]. In 1974, it adopted the new title of Journal of Social and Preventive Medicine and became the official journal of the Swiss Society of Social and Preventive Medicine (SSMSP). The journal publishes papers on original scientific research (studies), review articles, abstracts of scientific meetings of the SSMSP, letters to the editor, and announcements of upcoming congresses. It appears six times a year with articles in German, French and English, with abstracts in all three languages. Since 1987, the studies and review articles of the Journal have been cited in the Medline data base. Since January 1, 1988, the SSMSP has collaborated with the German Society of Social Medicine and Prevention [3]. At this time, a new editorial policy emphasizing originality, pertinence, structure and clarity was announced [4]. Therefore all articles submitted for publication are reviewed by an editorial committee of scientific experts in order to improve the overall quality of the Journal, and a majority of the presentations at the scientific meetings of the SSMSP are published only as abstracts.

Methods

All issues of the Journal from 1980 to 1990 inclusive (Volumes 25–35) were examined. Not only were the studies recorded, but also the review articles, editorials, abstracts, and posters, all of which were classed in separate categories. Only appreciations, book reviews and announcements were excluded. The data were entered with the software package Epi Info Version 5,0 (distributed by USD, Incorporated, 2575 A West Park Place, Stone Mountain, GA 30087, USA).

The recording and the analysis of the data were not carried out in the classical manner used for literature data bases, with access by key words, authors, title and subject heading, but according to a particular plan of analysis adapted to our objectives. We would also like to stress that each article, after careful reading, was classified by us with respect to criteria sometimes different from those used by the authors and/or the Journal.

We opted for a strict definition of the different categories of articles, with the hope of introducing a certain objectivity in their qualification. While a complete definition of all the categories is not possible in this article due to space limitations, some of the variables will be clarified. For example, in the category of "first author affiliation", only departments and institutes affiliated to a *University* were coded as such, whereas the *Institutes of Social and Preventive Medicine*, the *Federal Polytechnic Schools of Zurich and Lausanne* and the *cantonal teaching hospitals*, even though they are part of the University system, were expressly coded separately in order to evaluate better their contributions to the Journal. In addition, when an article was written by a multi-disciplinary group with diverse affiliations, as in the case of national research programmes, their affiliation was coded as *PNR/FNRS/SOMIPOPS*, although this latter category is, strictly speaking, only a source of funding. A few more precise definitions are necessary regarding the classification of the different types of articles. In the category *discussion/essay*, we included only articles (and not original scientific research papers, i.e. studies) that prove a particular point or interpret a particular subject. An article was classed as a *review* if it consisted of an exhaustive coverage of a particular subject with a minimum of ten references in the bibliography. Short reports of meetings, documents issued by working groups, and descriptions of activities and services offered by organisations, were classified as *reports*.

Furthermore, by our definition, a study should consist of the rubrics classically required by any

journal with an editorial policy: material and methods, population or sample studied, results and discussion. We defined three types of epidemiological studies: *descriptive epidemiological study 1*, a population-based study of a randomly selected sample, representative of the target population, with the results expressed in rates, indicating a well-defined denominator [5,6]; *descriptive epidemiological study 2*, a study with results from cancer registries and other routinely collected data bases; *descriptive epidemiological study 3*, a systematic examination and/or screening of a group of persons.

We classified in the category of *analytical epidemiology* (cohort, case-control etc.), only those studies which, in addition to the criteria already cited above, selected and compared two groups following the strictest rules. Thus, a study of the urinary creatinine levels in a non-specified sample in military training school X, which was presented as an epidemiological study, would not have been included as such in our analysis but was included in the category *clinical research*. This latter category includes clinical, social, psychological, and behavioral studies which do not fulfill the criteria of epidemiological studies and which take into consideration only the numerator, without associating it with the population from which the subjects are derived.

Studies that appraise and evaluate programs, campaigns, and utilisation of health services were classed under *evaluation*, while those that evaluate health expenditure were classed separately under *economic evaluation*. Studies pertaining to the environment and habitat, as well as laboratory-based studies, were included in the category of *bio-medical research*.

The subject matter, on the other hand, was classified strictly according to the classification followed by the Journal.

Each article was categorized by the first author following preliminary guidelines for each of the variables listed below: year of publication, volume, page length, language, title and first author of article, city of location of first author, affiliation of first author (types of institutions), sponsor (source of support), citation in Medline, regions concerned, type of article, population studied and subject matter. The remaining principal variables are described in the Results section. A copy of the data base can be requested from the authors.

Results

For the most part, the results were analysed year by year and the trends were described by comparing 1980 with 1990, with the single exception of the subject matter, in which the 1980–1984 period was compared with the 1985–1990 period.

Length of articles: For this analysis, all studies and review articles were taken into account. Only abstracts and a 1989 supplemental issue which contained one article of 81 pages were not included in the analysis. Thus 884 records were analysed. Between 1980 and 1987, the average number of pages per article per year was 3,8, whereas it gradually increased to 5,7 pages in the last three years. As the average article length increased, the total number of articles per year decreased, i.e. 87 articles in 1980 and 29 in 1990.

Tab. 1. First author location (country), *Soz Präventivmed*, 1980–1990.

Country	Frequency (%)
Switzerland	777 (82,4)
Germany	73 (7,7)
France	16 (1,7)
USA	9 (1,0)
Other countries*	25 (2,7)
No information	43 (4,6)
Total	943 (100)

* 11 countries with less than 5 articles each.

Tab. 2. First author location in Switzerland (city), *Soz Präventivmed*, 1980–1990.

City	Frequency (%)
Lausanne	179 (23,0)
Zurich	160 (20,6)
Geneva	116 (14,9)
Basel	111 (14,3)
Bern	111 (14,3)
Lucerne	23 (3,0)
Other locations	77 (9,9)
Total number of articles from Switzerland	777 (100)

Language: About 50% of the articles are in German. Since the beginning of the period studied, this tendency diminishes slightly, corresponding to a progressive increase in the proportion of articles in English (0% in 1980 to 23,9% in 1990) and a relative stability in the average proportion of articles in French.

First author location (city/country): Even though the location of the first author was not indicated systematically, 82,4% of the contributions were, understandably, Swiss, with Lausanne being the most prolific (23%) among the Swiss cities. The 7,7% of articles from Germany reflect the collaboration, since January 1988, between the Swiss and German Societies of Social and Preventive Medicine (Tables 1 and 2). The contributions from Germany were from diverse cities.

First author affiliation: The majority of first authors have university affiliations when the different academic settings, i.e. university (departments and institutes affiliated to a university; does not include

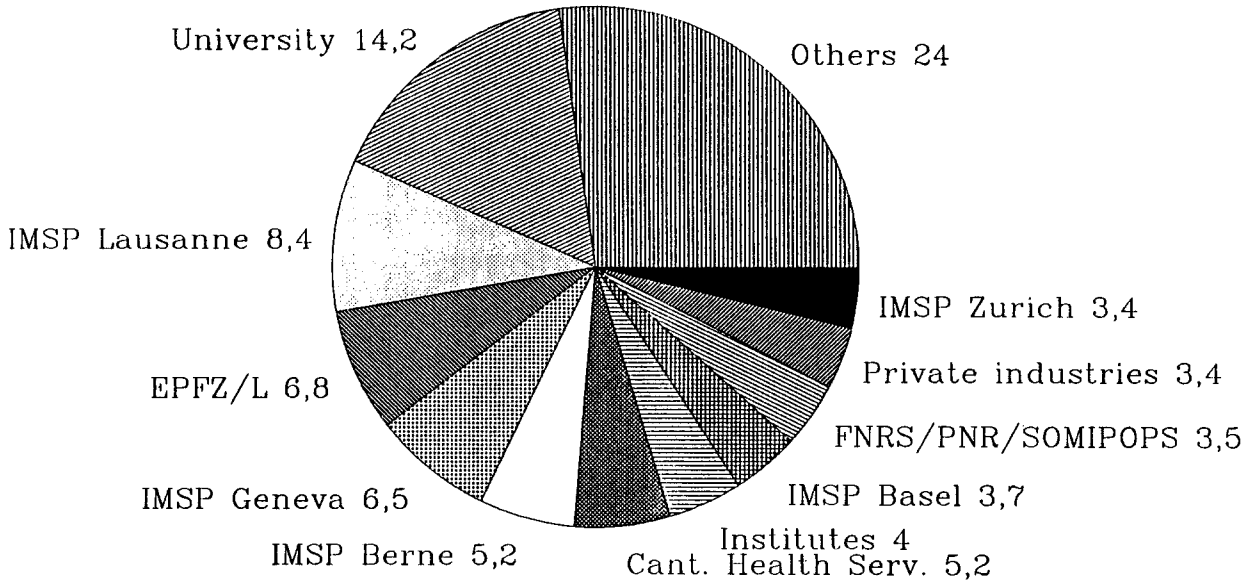

Fig. 1. First author affiliations, *Soz Präventivmed*, 1980–1990.

private institutes and schools not affiliated to a university), the Institutes of Social and Preventive Medicine, the Federal Polytechnic Schools of Zurich and Lausanne, and the cantonal teaching hospitals are combined. The category "others", which represents a quarter of all affiliations, includes authors who have not indicated their affiliations or those with rare affiliations that do not fall into the broadly pre-defined categories. For example, the school medical officer (*médecin scolaire/Schularzt*) is classified in this category because his affiliation changes from one canton to another (Figure 1).

Sponsor: Sources of funds were cited only for 153 articles (16,2%), although the editorial policy requires this information from contributors. The principal source of support cited was the *Fonds National de la Recherche Scientifique.*

Citation in Medline: The articles in *Soz Präventivmed* have been systemically cited in Medline since 1987. Only editorials and abstracts are not cited. The apparent decline in the proportion of articles cited between 1988 and 1990 reflects the change in the editorial policy of the Journal, i.e. most of the oral and written communications presented during the scientific meetings of the Society have been published in the form of abstracts and not as articles (Figure 2).

Regions concerned: About 33% of the articles are concerned with Switzerland as a whole, and 23,1% focused on certain Swiss cantons (Berne, Basel, Geneva, Vaud and Zurich) or a linguistic region of Switzerland (German and French Switzerland), and 6,8% on Germany, with a sharp increase between 1988–1990 (20,2%). The increase is due to the collaboration established with the German Society of Social Medicine and Prevention as of January 1, 1988. Only 10,2% dealt with other parts of the world (i.e. the rest of Europe excluding Germany, other industrialised countries, Third World) (Figure 3).

Types of articles: A variety of articles (abstracts, descriptions of programmes, editorials, discussions, reports and reviews) made up 55,4% of the total, and 44,6% were studies with original results (all types combined). The paucity of articles on economic evaluation of health and health serives should be noted (Table 3).

Proportion of studies among all articles: A closer year by year analysis shows that the proportion of studies is lower than 50% (range 31 to 45%) for seven years, and higher than 50% (range 50,6 to 56,6%) for four years (1980, 1982, 1983 and 1987). Overall, the proportion of studies shows a slight tendency to decrease from 1980 to 1990. We note also a much greater proportion of studies among the contributions from Germany between 1988 and 1990, than from all other countries, i.e. 56,4% versus 26,1%.

Distribution of the different epidemiological study designs: Among all the studies, 14,1% were descriptive epidemiological studies (types 1, 2 and 3) (see description in the Methods section), whereas only 1,8% were analytical (case-control, cohort, randomised clinical trial and community intervention trials). Once again, German studies used descriptive epidemiological study designs (1, 2, and 3) more commonly (32,8%, 1988–1990) than did the studies from other countries (11,1%). This is explained by the German participation in the MONICA study.

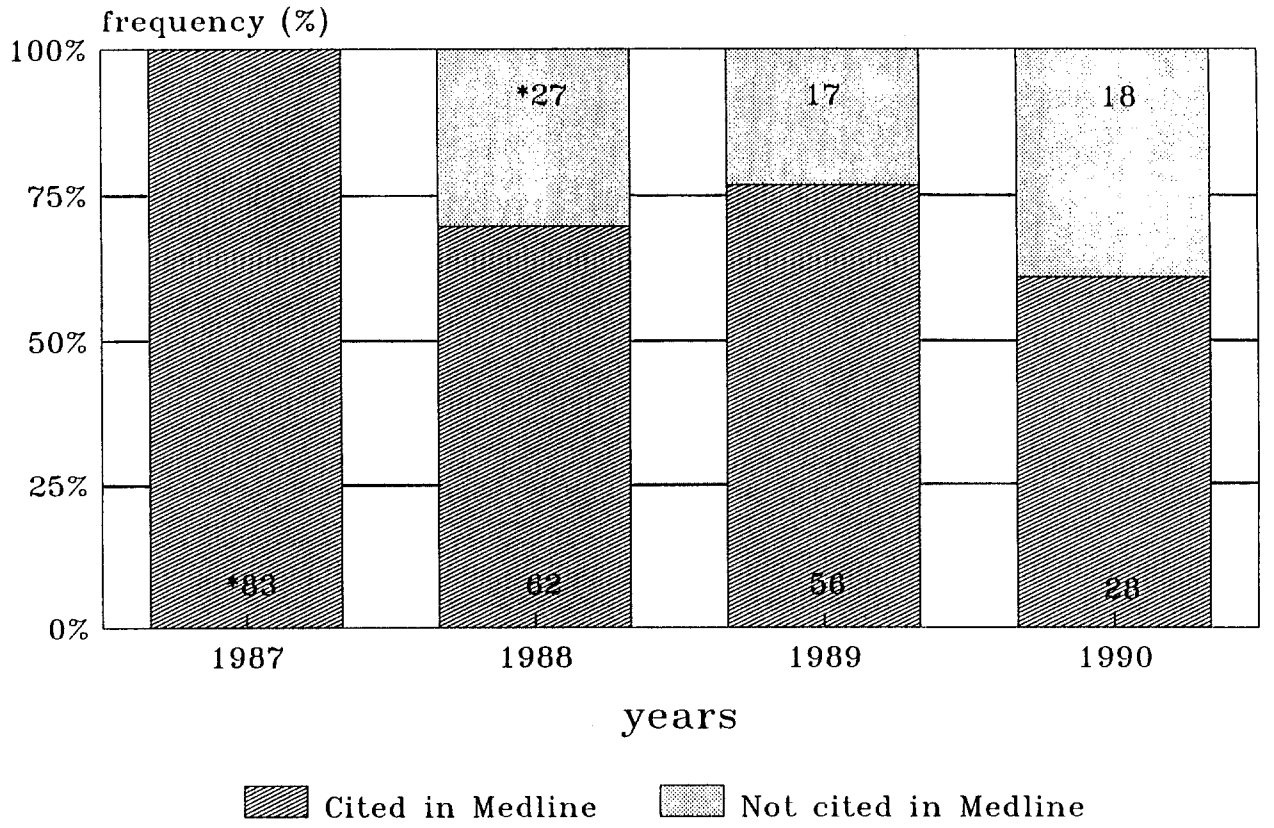

Fig. 2. Citation of articles in Medline, *Soz Präventivmed*, 1980–1990.

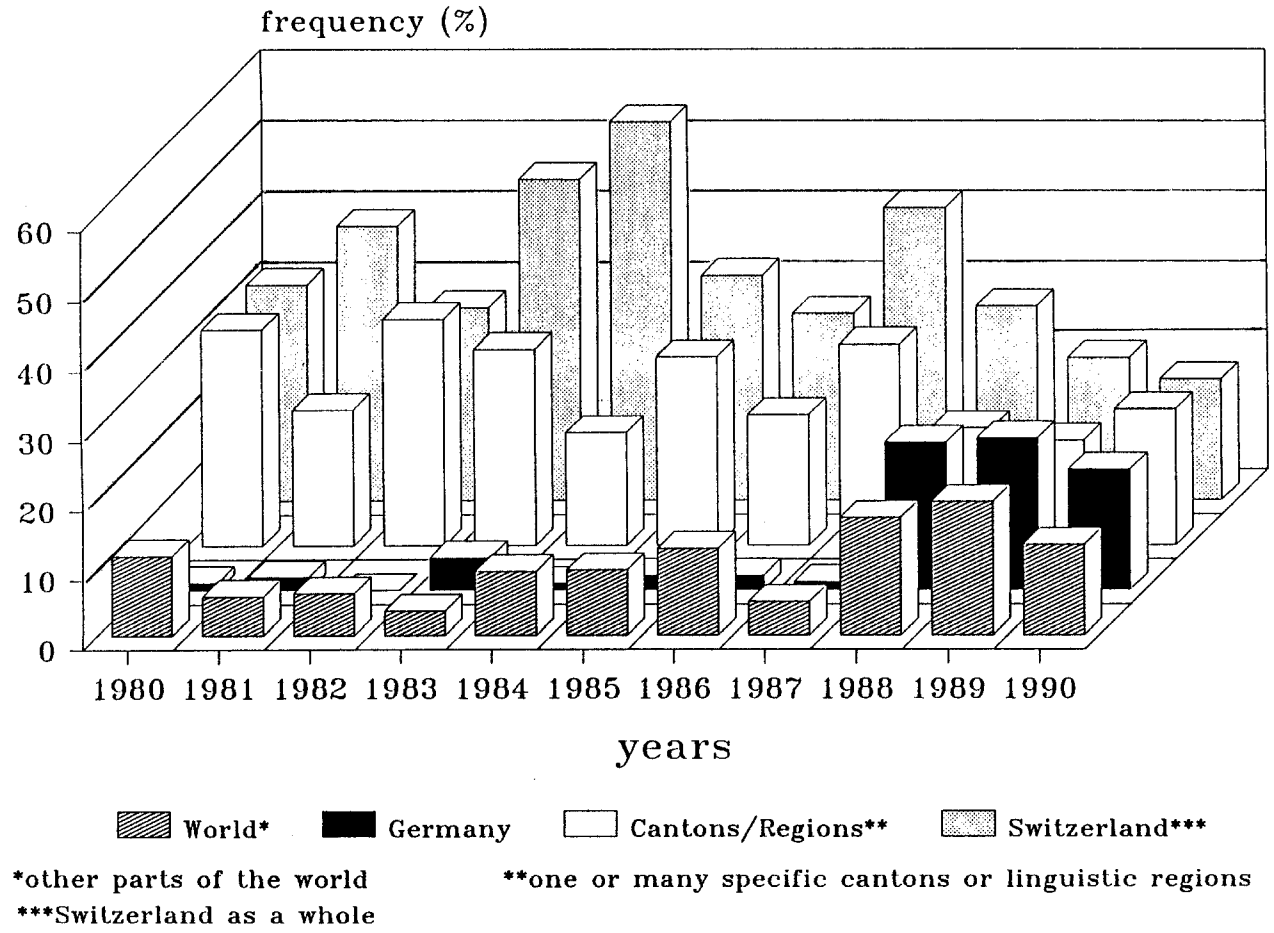

Fig. 3. Distribution of the regions concerned, *Soz Präventivmed*, 1980–1990.

Tab. 3. Distribution of types of articles, *Soz Präventivmed*, 1980–1990.

Type of article	Frequency (%)
Discussion/essay	248 (26,3)
Clinical research etc.	178 (18,9)
Descriptive epidemiology 1	87 (9,2)
Review	82 (8,7)
Evaluation (diverse)	63 (6,7)
Abstract	61 (6,5)
Editorial/opinion	45 (4,8)
Description of programme	39 (4,1)
Reports	39 (4,1)
Descriptive epidemiology 2	35 (3,7)
Bio-medical research	21 (2,2)
Descriptive epidemiology 3	11 (1,2)
Epidemiology (case-control)	8 (0,8)
Miscellaneous	7 (0,7)
Economic evaluation	6 (0,6)
Epidemiology, (cohort)	5 (0,5)
Epidemiology, (clinical trial)	4 (0,4)
Simulation	3 (0,3)
Epidemiology, (community intervention)	1 (0,1)
Total	943 (100,0)

The proportion of epidemiological studies (all types combined) has steadily increased since 1980 and has more than doubled between 1980 and 1990 (from 20,5% to 57,9%) in comparison with all other types of studies.

Among epidemiological studies, analytical and descriptive, 3 types (screening) are poorly represented throughout the 11-year period. Descriptive epidemiological studies type 1 (population based) were not only ubiquitous, but represented the biggest proportion among all epidemiological studies and have increased appreciably between 1980 (13,6%) and 1990 (21,1%). Descriptive studies type 2 (data base studies) have shown a remarkable increase from nearly 0% in 1980 to 21,1% in 1990 (Figure 4).

Trends in selected subject matters, all articles versus studies: The subject matter is so diverse (Table 4) that it is not possible to do an exhaustive analysis. Therefore, we concentrated on twelve subjects which are priorities in the public health field, and at the same time can serve as indicators as to the preoccupations in the sphere of health and health services. These subjects are listed in Table 5, which gives the frequency and percentage distribution of the subject matter over the "decade", i.e. the eleven-year period studied. Globally, the subjects that are pervasive throughout the decade, to a greater or lesser extent, are elderly persons, environmental hygiene, health services research, heart disease, occupational health, prevention and substance addiction. *We note with surprise the paucity of articles and studies on infectious diseases and health promotion in general.*

Table 5 gives a preliminary view of the following general tendencies, based on the proportion of

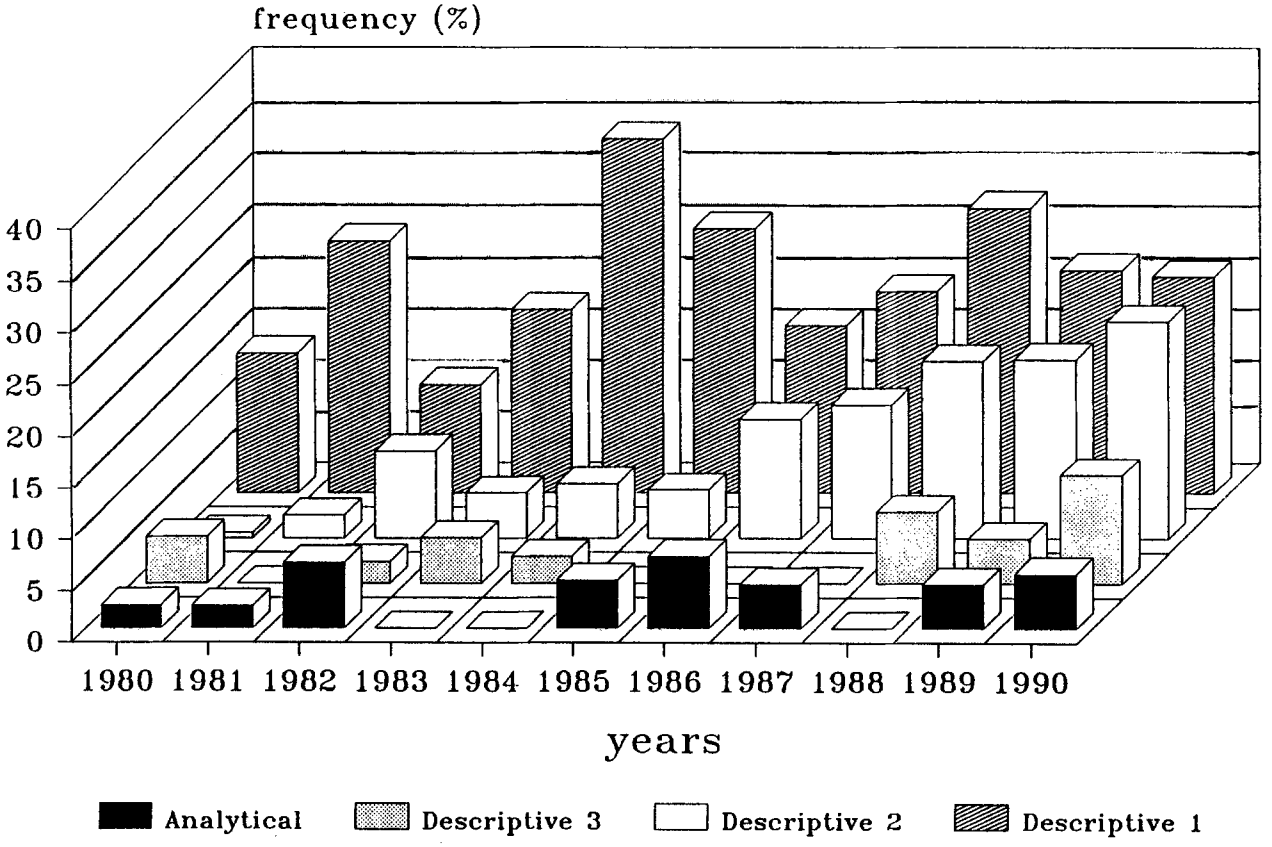

Fig. 4. Proportion of each epidemiological design, *Soz Präventivmed*, 1980–1990.

Tab. 4. Frequency distribution of the subject matter, *Soz Präventivmed*, 1980–1990.

Subject matter	Frequency (%)	Subject matter	Frequency (%)
Prevention	156 (16,5)	Nutrition	38 (4,0)
Occupational health	105 (11,1)	Medicines, drugs	37 (3,9)
Health services research	91 (9,7)	Screening	35 (3,7)
Heart disease	89 (9,4)	Accidents	34 (3,6)
Methodology	89 (9,4)	Health behaviour	31 (3,3)
Epidemiology	88 (9,3)	Ergonomy	30 (3,2)
Environmental hygiene	82 (8,7)	AIDS	26 (2,8)
Elderly persons	70 (7,4)	Statistics	20 (2,1)
Mortality/morbidity	59 (6,3)	Health costs	20 (2,1)
Substance addition	58 (6,2)	Material and child health	19 (2,0)
Health education	57 (6,0)	Health promotion	17 (1,8)
Infancy and childhood	56 (5,9)	Social psychiatry	15 (1,6)
Health care	56 (5,9)	DRG	11 (1,2)
Cancer epidemiology	52 (5,5)	Vaccination	11 (1,2)
Industrial hygiene	40 (4,2)	Others*	92 (9,8)

* Subject matters each with a frequency distribution of less than 1%.

Tab. 5. Trends in selected categories of subject matter: all articles versus studies, *Soz Präventivmed*, 1980–1990.

Subject matter	1980–1984 N = 460*		1985–1990 N = 483*		Total N = 943*	
	A (A/N%)	*S (S/N%)*	A (A/N%)	*S (S/N%)*	A (A/N%)	*S (S/N%)*
Accidents	28 (6,1)	*5 (1,1)*	6 (1,2)	*4 (0,1)*	34 (3,6)	*9 (1,0)*
AIDS	0 (0,0)	*0 (0,0)*	26 (5,4)	*3 (0,1)*	26 (2,8)	*3 (0,3)*
Cancer	6 (1,3)	*5 (1,1)*	46 (9,5)	*23 (4,8)*	52 (5,5)	*28 (3,0)*
Elderly persons	44 (9,6)	*21 (4,6)*	26 (5,4)	*16 (3,3)*	70 (7,4)	*37 (3,9)*
Environmental hygiene	41 (8,5)	*21 (4,6)*	41 (8,5)	*17 (3,5)*	82 (8,7)	*38 (4,0)*
Health services research	54 (11,7)	*33 (7,2)*	37 (7,7)	*22 (4,6)*	91 (9,7)	*55 (5,8)*
Heart disease	22 (4,8)	*15 (3,3)*	67 (13,9)	*35 (7,2)*	89 (9,4)	*50 (5,3)*
Infectious diseases	0 (0,0)	*0 (0,0)*	4 (0,8)	*2 (0,4)*	4 (0,4)	*2 (0,2)*
Occupational health	60 (13,0)	*26 (5,7)*	45 (9,3)	*19 (3,9)*	105 (11,1)	*45 (4,8)*
Prevention	67 (14,6)	*14 (3,0)*	89 (18,4)	*18 (3,7)*	156 (16,5)	*32 (3,4)*
Screening	17 (3,7)	*9 (2,0)*	18 (3,7)	*4 (0,8)*	35 (3,7)	*13 (1,4)*
Substance addiction	32 (7,0)	*26 (5,7)*	26 (5,4)	*17 (3,5)*	58 (6,2)	*43 (4,6)*

* = Total number of articles for the period.
A = Number of articles on subject.
S = Number of *studies* on subject.

articles and studies concerned with a particular subject for the 1980–1984 period and for the 1985–1990 period. Certain of the twelve subjects are clearly more present in the first half of the decade, others in the second half. Since the nature and type of articles chosen for publication in any given issue of the Journal reflects the decisions made by the editorial board, it is relevant to speak of tendencies rather than of random fluctuations. Among the subjects most frequently present from 1980 to 1984 are health services research, especially from 1981 to 1984, and again in 1987. Since 1988, a smaller proportion of articles is dedicated to this theme, although it is one of growing popularity. A similar tendency is noted, although on another scale, for elderly persons and accidents. Studies on accidents make an abrupt and brief appearance with the two "best" years being 1981 and 1982. Paradoxically, accident have not been the object of any article or study between 1983 and 1986, and there are very few articles between 1987 and 1990. This can be explained by the fact that certain issues are entirely dedicated to this theme.

The subjects very clearly better represented in the second half of the decade are heart disease, cancer, and, or course, on another scale AIDS (only 2,8% of the total). Heart disease has progressively become a subject of interest over the decade, reaching a peak in 1988 and 1989, due to major research programs such as the MONICA study, with a sudden decline in 1990. Both cancer and heart disease have been the object of an appreciable number of "true" studies (with original data) during the same period; we note a very low proportion of such studies on AIDS.

Prevention in general is discussed in an increasingly progressive manner from 1980 to 1988, although there are few studies on this subject. We observe a very clear decrease in the articles on prevention in 1989 and 1990, which we are not as yet able to

explain. Articles and studies on environmental hygiene, occupational health, screening and substance addiction are also more or less present throughout the decade, with interest in these subjects being manifested in a cyclical manner.

Discussion

Among the principal tendencies emerging from this analysis, some are progressive, such as the use of English in the writing of articles, signifying its rising importance as a medium for scientific communication, especially in a trilingual country such as Switzerland. Similarly, we note the emergence of epidemiological studies, which reflects the growing interest and the increase in qualified personnel in this field. There is a slightly progressive reduction of the number of studies among all articles, which pass from about 50% in 1980 to nearly 30% in 1989 and 40% in 1990. We note also the expected and progressive appearance of articles on AIDS in the second half of the decade, with an important proportion consisting of commentaries and descriptions of programmes, to the detriment of studies. This latter trend could be explained by the publication of the more interesting results obtained by research groups in journals of better international distribution.

Other trends are more sudden, such as the reduction in the absolute number of articles and increase in the length of articles (number of pages per article), which occurs in 1988. This trend can be explained by the change in editorial policy introduced in 1988. Up to 1987, every communication at the scientific meetings of the SSMSP was published as an unreviewed 2-page article, whereas since 1988 only those that have passed the usual review process by the scientific community are accepted for publication. All the remaining presentations are accepted only in the form of abstracts. The appearance of articles of German origin, to which sometimes entire issues are devoted, can be explained by the formal agreement between the Swiss and German Societies of Social and Preventive Medicine in 1988.

Finally, there are trends that seem rather cyclical, like the interest in elderly persons, with two peaks in 1983–1984 and 1987–1988, and in accidents, in 1981–1982 and since 1987.

It is also to be noted that the Journal provides a privileged platform for the five Swiss IMSPs, with a cumulated proportion of more than 25% of all articles originating from them.

Conclusion

This study reflects the development in the field of social and preventive medicine and public health in Switzerland since 1980. Although this study is limited to the description of some of the principal characteristics of the work published in this field, further studies on this data base could analyse the quality of scientific research papers[7,8] or assess research productivity of academic departments[9], comparing their publications in this journal as well as in other international ones.

One important limitation should be mentioned in order to aid further research of this type. The articles did not always provide sufficient information for their complete and precise categorization. For example, the affiliation of first authors, the regions covered by the article, the precise methodology of the study, and the number of subjects were not always clearly indicated, and had to be inferred. Occasionally, the Journal failed to classify the subject matter of an article.

At this stage of the analysis, some suggestions could be made, in the perspective of giving a more original profile to the Journal, now cited in Medline, and reinforcing its reputation. For instance, a greater specialisation, either among the subjects tackled, or in the type of articles: exhaustive reviews or essays of a certain length or, conversely, short articles with "robust" results not published elsewhere. There is also a need for more precise documentation of the research design criteria by authors.

More contributions focusing on parts of the world other than Switzerland and Germany could, in the same manner, improve the interest of the Journal, as could more contributions from the cantonal and federal services of public health, which focus on priority health problems and suggest solutions, within the framework of their policy of preventive medicine and promotion of health. In this sense, it is to be hoped that more attention will be given in the future to economic analysis, infectious diseases and epidemiological evaluation of community health interventions, as only a small percentage of all articles (0,6%, 0,2% and 0,1%, respectively) is devoted to these subjects.

Summary

This study provides a descriptive image of the work published in *Soz Präventivmed* between 1980 and 1990, and analyses certain trends. All articles of this period were categorized and recorded in a data base for: language of publication, city of location and affiliation of first author, sponsor (funding body), citation in Medline, regions and population concerned, type of article and subject matter. Over the decade, we note a reduction in the number of articles with a corresponding increase in their page length, and a progressive increase in the number of articles in English when compared with the two principal languages, German (1/2) and French (1/3). A majority of authors have university affiliations. Studies with original results comprise on

average 44,6% of all publications, a tendency which gradually decreases over time. The proportion of epidemiological studies, a majority of which are descriptive studies, has increased progressively since 1980. Among the twelve categories of subject matter chosen as indicators some, such as health services research and research on elderly persons, appear more frequently during the first half of the decade, and others, such as heart disease, cancer epidemiology and AIDS, appear during the second half.

Résumé

Une analyse des articles publiés dans «Sozial- und Präventivmedizin», 1980–1990

Cette étude donne un aperçu descriptif et analyse certaines tendances des travaux publiés dans *Soz Präventivmed* entre 1980 et 1990. Tous les articles de cette période ont été enregistrés dans une base de données et classés selon: la langue de publication, l'origine du premier auteur, le financement, la citation dans Medline, les régions et populations concernées, le sujet, la méthode etc. Au cours de la décennie, on note: une diminution du nombre des articles et une augmentation correspondante de leur longueur, une augmentation progressive du nombre d'articles en anglais, par comparaison aux deux langues principales, l'allemand (1/2) et le francais (1/3). La plupart du temps, les auteurs appartiennent à une Université. Les études, comprenant des résultats originaux, représentent en moyenne 44,6% de l'ensemble des articles; cette proportion a eu une légère tendance à diminuer durant la décennie. La proportion d'études épidémiologiques augmente progressivement depuis 1980; dans leur grande majorité ce sont des études descriptives. Parmi les douze sujets spécifiques choisis comme indicateurs, certains, comme les services de santé et les personnes âgées apparaissent plus fréquemment durant la première moitié de la décennie, d'autres, commes les maladies cardio-vasculaires, les cancers et le SIDA durant la seconde moitié.

Zusammenfassung

Eine Analyse der zwischen 1980 und 1990 in „Sozial- und Präventivmedizin" publizierten Artikel

Die Studie beschreibt die wichtigsten Charakteristika der in *Soz Präventivmed* erschienenen Arbeiten und deren Tendenz. Alle Artikel der Jahre 1980 bis 1990 wurden nach bibliographischer Information, Sprache, Ort, Affiliation der Autoren und der Sponsoren, Aufführung in Medline sowie nach betroffener Region, Charakteristika der Befragten, Studiengebiet und Art der Studie aufgeschlüsselt und in einer Computer-Datenbank gespeichert. Seit 1988 findet man eine Abnahme der Zahl der Artikel, eine Zunahme deren Seitenzahl und der auf Englisch geschriebenen Arbeiten; die deutschsprachigen Studien machen 50% der Arbeiten aus, die französischen 30%. Die Mehrzahl der Autoren sind an einer Universität tätig. Studien mit Originaldaten machen 44,6% aller Artikel aus; dieser Prozentsatz verringert sich über die studierte Zeitspanne. Epidemiologische Studien nahmen über die Jahre regelmässig zu: es handelt sich vorwiegend um deskriptive Studien. Die Studien wurden in 12 Kategorien aufgegliedert. Studien über die Gesundheitsdienste sowie über altersbedingte Gesundheitsprobleme waren etwas häufiger in der ersten 5-Jahreszeitspanne, Studien über Herz-Kreislauf-Krankheiten, Krebsepidemiologie und AIDS in der zweiten.

References

1 Répertoire des périodiques bio-médicaux dans les bibliotheques de Suisse. 4e ed. Académie Suisse des sciences médicales, 1989.
2 *Kaufmann F, Grandjean E.* Von der Hygiene zur Präventivmedizin. Zeitschrift für Präventivmedizin 1956; *1*: 1–3.
3 *Ackermann-Liebrich U, Keil U, Paccaud F.* Editorial. Soz Präventivmed 1988; *33*:3.
4 *Jeanneret O.* Editorial. Soz Präventivmed 1988; *33*:261.
5 *Last JM*, ed. A dicitionary of epidemiology, second edition. Oxford: Oxford University Press, 1988, 141 pp.
6 *Morton RF, Hebel JR.* A study guide to epidemiology and biostatistics, second edition. Baltimore: University Park Press, 1984:144 pp.
7 *Cooper GS, Zangwill L.* An analysis of the quality of reasearch reports in the Journmal of General Internal Medicine. J Gen Intern Med 1989; *4(3)*:232–236.
8 *Gabram SG, Champion HR.* A review of the Journal of Trauma. J Trauma 1988; *28(7)*:1060–1064.
9 *Ellwein LB, Khachab M, Waldman RH.* Assessing research productivity: evaluating journal publication across academic departments. Acad Med 1989; *64(6)*:319–325.

Acknowledgements

The authors would like to gratefully acknowledge the help of Eric Brenner, Philippe Chastonnay, Victor Gabriel, Aude Jaccard and Christine Lehmann who contributed to the successful completion of this study.

Address for correspondence:
Unité de Santé Communautaire et Médecine tropicale
Hôpital cantonal universitaire
1211 GENEVE 4/Switzerland