

# 35 years of ICCH: Evolution or stagnation of circumpolar health research?

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## ABSTRACT

The first Circumpolar Health symposium took place in Fairbanks in 1967. Approximately every three years since, an increasing number of researchers have met to present and discuss the health conditions of the North. We analysed the proceedings from the 11 congresses and the abstracts from the 12<sup>th</sup> congress in 2003 and found a shift of focus from biology to sociology of health. Today, circumpolar health research is primarily focused on three major topics: 1. epidemiology of indigenous peoples of the North; 2. health care delivery in the North; and 3. the effect of physical factors on human physiology and health. Despite the diverse research interests, it is remarkable how a community of circumpolar scientists and practitioners has emerged over the past 35 years.

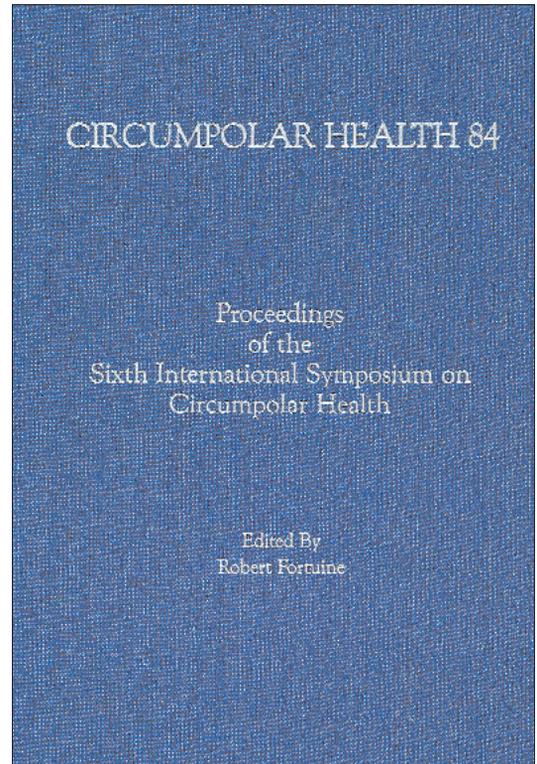
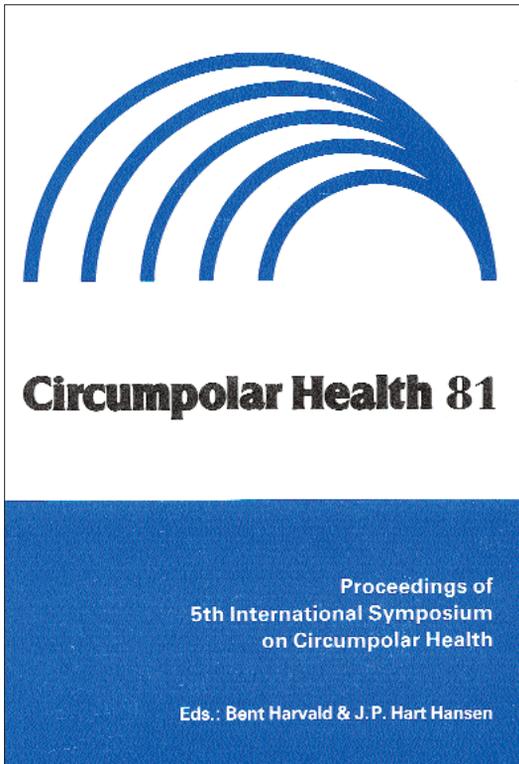
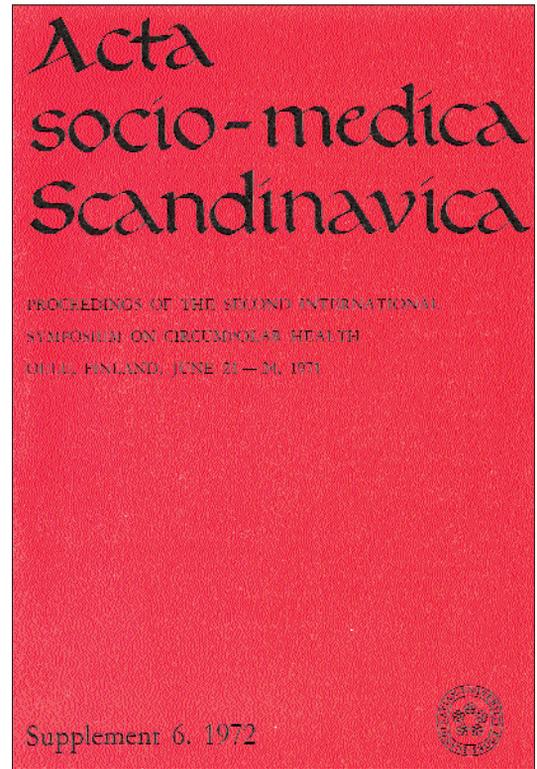
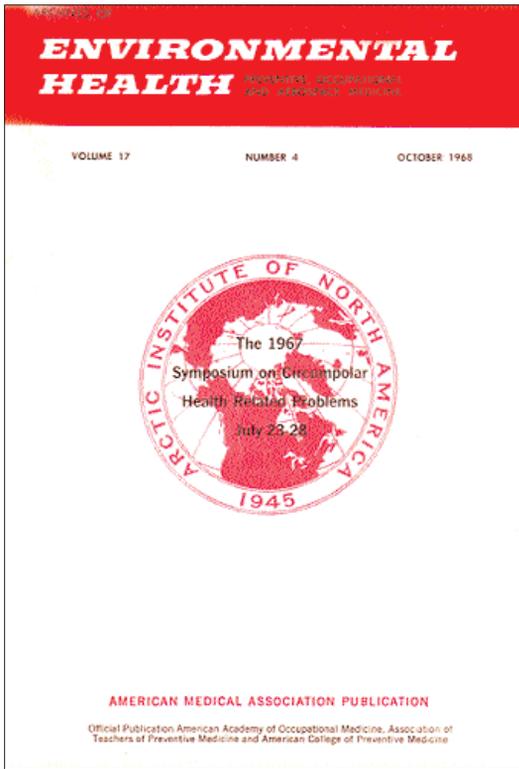
**Keywords:** Circumpolar health; congress proceedings; bibliometry.

## INTRODUCTION

In 1967, a Symposium on Circumpolar Health Related Problems was convened in Fairbanks, Alaska. This modest symposium was to be the first in a series of congresses, the most recent of which was the 12<sup>th</sup> International Congress on Circumpolar Health in Nuuk in September 2003. The purpose of this paper is to set the latest congress into an historical perspective.

At the Symposium on Circumpolar Health Related Problems in Fairbanks, 39 papers were presented on a diverse range of topics such as general descriptions of the arctic countries, arctic rabies, descriptions of tuberculosis, mental health, clothing, adaptation to cold, and hazardous contamination of the environment. One obvious question today is whether the development since 1967 has crystallized a circumpolar health research agenda, or whether the circumpolar research community still aims at a very wide range of topics.

Since 1967, 11 proceedings volumes with a total of 1,500 articles have been published by the congress organizers (Figure 1) (1-11). This represents a valuable cross section of circumpolar health research and comprises a fair proportion of what has been published. An unknown, probably substantial, number of papers has also been published in scientific journals based on presentations at these congresses. MEDLINE has a total of 4,200 articles about circumpolar health since 1965, but only the articles in the proceedings from the last two congresses have been individually indexed in Medline. The proceedings from the ICCH congresses have a wider scope than the papers published in peer-reviewed journals and give a more comprehensive picture of what is going on at the grass-roots level. In order to obtain a quantitative view of geographical and time trends we analysed the contents of the proceedings volumes and also the abstracts from the latest congress.



Proceedings  
of the Third  
International  
Symposium,  
Yellowknife,  
NWT

# CIRCUMPOLAR HEALTH

Edited by  
ROY J. SHEPHARD  
and S. ITOH



IVth INTERNATIONAL SYMPOSIUM ON CIRCUMPOLAR HEALTH

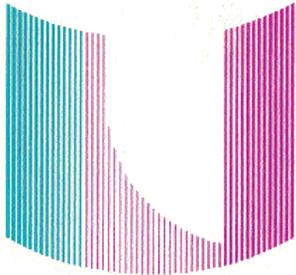
## SCIENTIFIC AND TECHNICAL PROGRESS AND CIRCUMPOLAR HEALTH

Vol. 1



## НАУЧНО-ТЕХНИЧЕСКИЙ ПРОГРЕСС И ПРИПОЛЯРНАЯ МЕДИЦИНА

IV МЕЖДУНАРОДНЫЙ СИМПОЗИУМ ПО ПРИПОЛЯРНОЙ МЕДИЦИНЕ



## Circumpolar Health 87

**Proceedings**  
of the 7th International Congress  
on Circumpolar Health

Umeå, Sweden, June 8—12, 1987

*Editors*

Håkan Linderholm  
Christer Buckman  
Noel Broadbent  
Ingemar Juselius



## Circumpolar Health 90

**Proceedings**

of the 8th International Congress  
on Circumpolar Health

Whitehorse, Yukon, May 20-25, 1990

*Editors*

Brian D. Postl  
Penny Gilbert  
Jean Goodwill  
Michael E.K. Moffatt  
John D. O'Neill  
Peter A. Sarsfield  
T. Kue Young



## Circumpolar Health 93

**Proceedings**  
of the 9th International Congress on  
Circumpolar Health

Reykjavík, June 20–25, 1993

*Editors:*

Guðrún Pétursdóttir  
Stefán B. Sigurðsson  
Mikael M. Karlsson  
Jóhann Axelsson

## Circumpolar Health 96



### Proceedings

*of the*  
Tenth International Congress  
on Circumpolar Health

May 19–24, 1996 • Anchorage, Alaska

*Editors*

Robert Fortune • George A. Conway  
Cynthia D. Schraer • Michael J. Dimino • Carl M. Hild  
Juli Braund-Allen

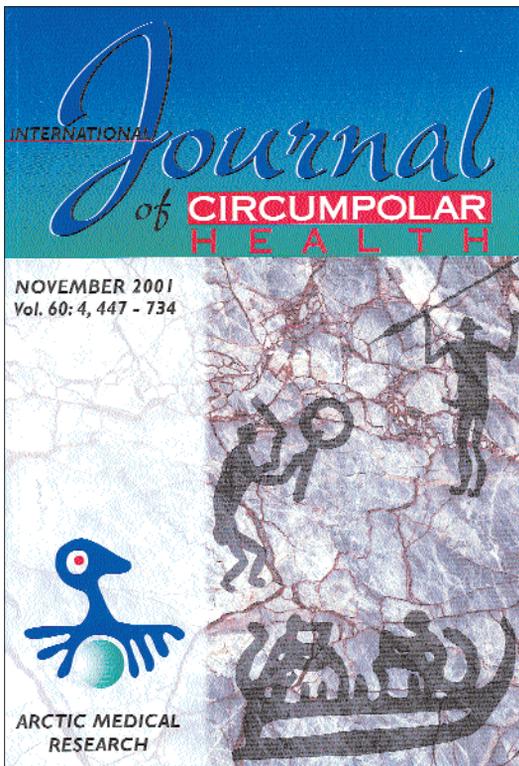


Figure 1. Covers of 11 proceedings volumes from 1968 to 2001.

## METHODS

We had access to the printed proceedings from 10 of the 11 previous congresses and to the abstracts from the congresses in Novosibirsk in 1978 and in Nuuk in 2003. A total of 1,500 articles or abstracts from the previous congresses and 201 from the 2003 congress were classified according to four dimensions:

1. is the article about indigenous peoples' health?
2. the type of research (basic biomedical, clinical, health services research, population health)
3. the disease or health problem addressed
4. risk factors (if any)

**Table I.** Number of articles and number of registered abstracts, and length of papers in the proceedings from 11 circumpolar health congresses.

Year	Venue	No. of articles	Total pages	Registered abstracts	Coverage: articles/abstracts	Pages per article
1967	Fairbanks	39	229	n/a	-	5.9
1971	Oulu	32	250	32	100%	7.8
1974	Yellowknife	99	664	175	57%	6.7
1978	Novosibirsk*	237	259	237	-	1.1
1981	Copenhagen	158	632	190	83%	4.0
1984	Anchorage	106	450	230	46%	4.2
1987	Umeå	178	704	326	55%	4.0
1990	Whitehorse	240	777	421	57%	3.2
1993	Reykjavik	194	762	375	52%	3.9
1996	Anchorage	148	746	516	29%	5.0
2000	Harstad	70	522	322	22%	7.5
2003	Nuuk	n/a	n/a	201	n/a	n/a

\* only abstracts were available

**Table II.** Articles in proceedings from 11 circumpolar health congresses by country of origin.

Year	Venue	Canada	Greenland/ Denmark	Russia	USA	Other Nordic countries
1967	Fairbanks	25.6	7.7	2.6	48.7	15.4
1971	Oulu	12.5	9.4	3.1	31.3	43.8
1974	Yellowknife	45.4	9.3	3.1	17.5	24.7
1978	Novosibirsk*	10.6	1.7	73.2	5.5	8.9
1981	Copenhagen	27.8	25.2	4.0	26.5	16.6
1984	Anchorage	51.0	7.1	1.0	25.5	15.3
1987	Umeå	44.3	10.2	5.1	15.9	24.4
1990	Whitehorse	52.8	6.6	17.9	15.3	7.4
1993	Reykjavik	36.6	13.4	5.4	10.2	34.4
1996	Anchorage	38.9	9.4	10.1	36.2	5.4
2000	Harstad	14.7	1.3	50.7	21.3	12.0
1967-2000 All		34.8	9.3	20.2	18.8	16.8

Note: \* only abstracts were available

All items were initially coded separately by two of the authors (PB and TKY), while the third author compared the two basic codings and solved discrepancies by referring to the text of the articles and/or discussing with the primary coders.

## RESULTS

The contributions were not of uniform style across the proceedings volumes. The two extremes were the Novosibirsk congress in 1978 which had abstracts only of an average size of 1.1 page per article, while the proceedings from the Harstad congress in 2000 were full length, peer-reviewed articles.

The remainder of the proceedings had articles of an intermediate size, compatible with the concept of a short paper or extended abstract (Table I). The coverage of the proceedings, i.e. the number of articles relative to the registered abstracts shows a clearly decreasing trend from 100% coverage in 1971 to 22% in 2000. This is probably part of a global trend towards protection of good results for publication as peer-reviewed articles in high impact journals that confer prestige and attract research funds. Unfortunately for an analysis such as the present one, this makes the establishment of time trends regarding research topics very unreliable.

The quantitative development of the congresses is best measured by the number of presentations and participants. The number of participants is not available, but from Table 1 it is seen that from a modest start the number of presentations increased to over 200 already from the mid-1970s. After a peak in 1996, the number of

presentations has been somewhat lower in 2000 and 2003. There is furthermore a certain geographical variation: congresses in North America and Russia have often attracted more presentations than those in the Nordic countries.

In general, contributions from the host country have dominated the proceedings, but with some exceptions. Contributions from the US dominated the first two congresses, contributions from Russia dominated the abstracts from Novosibirsk and the peer-reviewed articles from Harstad, while contributions from Canada dominated the remaining 7 volumes, including those arranged in the Nordic countries. A total of 34% of all articles are from Canada, ranging from 11% in 1978 (Novosibirsk) to 53% in 1990 (Whitehorse) (Table II).

Two thirds of the articles were related to the indigenous peoples of the Arctic and interestingly enough this proportion was constant over time. However, the proportion differed significantly among countries. Whereas 95% and 89% of the papers from Denmark/Greenland and Canada concerned indigenous peoples, this was only the case for 20% of papers from the Scandinavian countries excluding Denmark (Figure 2).

The major trends over the 35 year period with respect to research topics were a distinct increase in papers about the health services and decreases

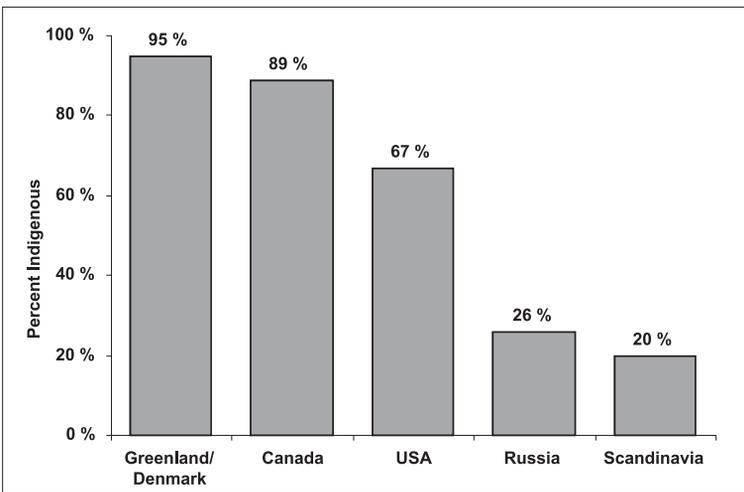


Figure 2. Proportion of research concerned with indigenous peoples by country, 1967-2000.

	Health care delivery	Biology and epidemiology of diseases
Indigenous	Canada USA	Denmark/ Greenland
Non-indigenous		Russia Scandinavia

Figure 3. Main research topic by country, 1967-2000.

in papers about topics related to human biology not directly relevant to public health. Throughout the 35 years each country has maintained its own research pattern, something that is evident to seasoned participants of the congresses (Figure 3). One third of all papers from Canada and the US are about health care of the indigenous population. A similarly large proportion of papers from Denmark and Greenland are studies among the indigenous population in Greenland. Finally, in Russia and the Nordic countries, the main research topic is the biology and epidemiology of diseases among non-indigenous people.

In addition to the quantitative trends described above, it is our general impression from looking at the 1,500 papers that there has been a gradual shift in focus during the last 35 years. In the beginning, articles were to a considerable extent descriptive: this is what the Arctic is like. Later, the focus shifted to comparisons of diseases among newcomers and indigenous peoples in the North. A gradual shift took place towards the study of human biology and risk factors for disease, and finally many studies of the late 1990s and 2000 deal with risk factors for risk

factors, and with sociocultural change. In 2003, the proportion of purely biological presentations is the lowest ever, and a new trend is emerging towards more introspection about "ourselves" – about the research process rather than specific health problems. Again, since the congresses have been held in different places every year it is very difficult, if not altogether impossible, to disentangle the time trend from the geographical preferences for certain research topics.

## CONCLUSION

Circumpolar health research has moved from descriptive studies of diseases or risk factors peculiar to the region towards epidemiological studies of the interaction of risk factors with diseases of public health relevance. At the same time, the study of health care has achieved an important position as one of the two most common topics. The relevance of research on indigenous health has been maintained over the years, but it has not increased. Furthermore, each country has its specific research pattern, which has changed little over the years. Since the number of participants from the different countries varies from congress to congress, an analysis of time trend must be rather imprecise. Today, circumpolar health research is primarily focused on three major topics: 1. epidemiology of indigenous peoples of the North; 2. health care delivery in the North; and 3. the effect of physical factors (predominantly cold and dark) on human physiology and health. The International Congresses of Circumpolar Health have played a significant role in defining the scope and direction of such research by offering an opportunity for colleagues to meet and exchange experiences. Despite the diverse research interests, it is remarkable how a community of circumpolar scientists and practitioners has emerged over the past 35 years.

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