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SPATIAL ORGANIZATION OF THE HEALTH CARE SYSTEM IN POLAND

In contemporary human geography, great attention has focussed recently upon a multicontext problem of human well-being. Among factors determining the well-being or welfare status of the population living in a given territory, the factors related to the health of the population play an important role. The discipline concerning them is medical geography, which in general deals with spatial aspects of health and health care delivery. Medical geography, well developed in other countries, is still almost unknown and practically not applied in Poland.

In 1986, a research program was established under the title "Spatial determinants of socio-economic development of Poland" and the Institute of Geography and Spatial Organization of the Polish Academy of Sciences is responsible for coordinating and conducting the program. As its part, studies concerning typical problems of medical geography have been initiated in the form of a research subprogram entitled "Spatial determinants of population health and modelling an optimal spatial structure of the health care system".

In this paper, some preliminary results of the first stage of the above mentioned studies are presented. The results deal with the spatial organization of the system of health care services at the scale of the territory of Poland. To recognize all

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aspects of this organization, proper data are needed, which are spread, however, among many offices and institutions and, as usually in such a situation, substantial difficulties have been encountered to collect the information required. The process of data collecting is now in progress, but not all the necessary empirical material is gathered as yet. This is the main reason that only a fragmentary picture of the spatial structure of the health care system can be presented in this paper.

The health care delivery system in Poland is composed of all health institutions within the National Health Service, which serves approximately 37 million people. These institutions were called into being by legal acts of 1973, when health institutions were put together; and of 1975, when welfare facilities were added. Establishing new organizational form of health care was part of a wider program of reorganizing the whole administrative structure of the state. A spatial aspect of this administrative reform was to divide the territory of the country into 49 voivodship regions replacing the old partition including 22 units.

All the health institutions within the National Health Service, except the supraregional viovidship health care and special health services, are laid down and administered by the voivodship authorities. This falls into autonomous liabilities of voivodships and their administrative authorities. The other health institutions within the National Health Service are founded by the Minister of Health.

The health care system in Poland, as a complex socio-economic system covering the whole territory of the country, is hierarchical in its

structure. Three hierarchical levels /tiers/ constitute the structure of this system. The lowest tier is that of primary care.

The most common and typical institutions in the first level of the health care system are Local Health Care Complexes /in Polish abbreviation - ZOZ's/. Local Health Care Complexes /LHCC's/ were founded in 1973 to ensure integral health care for the district population. A district was at that time an intermediary unit between the province and the comune. When LHCCs arose, there were 392 districts with an average of 85000 inhabitants each. The 1975 administrative reform abolished districts. LHCC lost support at that administrative authority level maintaining, however, their tasks and activity areas.

The LHCC is designed to provide a full range of medical services. Included are such services as:

- primary health care with social welfare provided at the domicile;
- hospital services;
- specialist out-patient services;
- first aid;
- diagnostic laboratory and other services;
- institutional care of infants and the elderly.

Those services are subject to common management and are financed from the same budget. As single-handed institutions, LHCCs carry on such tasks as: personnel policy planning, laying-out the development of institutions and facilities, cost planning, and maintenance and repair of facilities and equipment.

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In 1983 there were 404 Local Health Care Complexes in Poland serving approximately 37 million population, which gave the average of 91,500 inhabitants per one LHCC.

The spatial distribution of LHCCs and their sizes measured in number of population served is presented in Figure 1. There are distinguished six classes of sizes, which range from almost 17,000 to nearly 400,000 population. Four LHCCs serve a population larger than 300,000, and 22 LHCCs a population larger than 200,000 in each case. The first ten largest LHCCs are: Szczecin /399,670/, Katowice /381,336/, Lublin /320,200/, Kielce /314,000/, Praga Pld., one of seven districts of Warsaw, /287,900/, Nowa Huta /270,000/, Rzeszów /260,000/, Krowodrza, part of Kraków city, /260,000/, Sosnowiec /258,000/ and Radom /250,000/. In Warsaw there are 11 LHCCs. Their sizes have been summarized and presented in Figure 1 in the form of 7 larger units corresponding to the main administrative districts into which the city is divided.

On the other hand, the smallest LHCCs are Miedzychód in Gorzów voivodship, /16,878/, Pionki and Nowe Miasto, both in Radom voivodship, /18,000/, and Chelmza, Torun voivodship, /20,000/. In Figure 1, the average size of LHCC typical of this region also is attached to each voivodship. As may be seen from the Figure, the smallest average size LHCCs are in Gorzów voivodship /43,1/, Suvalki /48,6/, Pila /56,0/, and Olsztyn /58,9/; while the largest ones are in Kraków voivodship /191,7/, Wroclaw /154,9/, Lódz /145,7/ and Bielsko Biala /142,9/; all numbers in brackets are in thousands.

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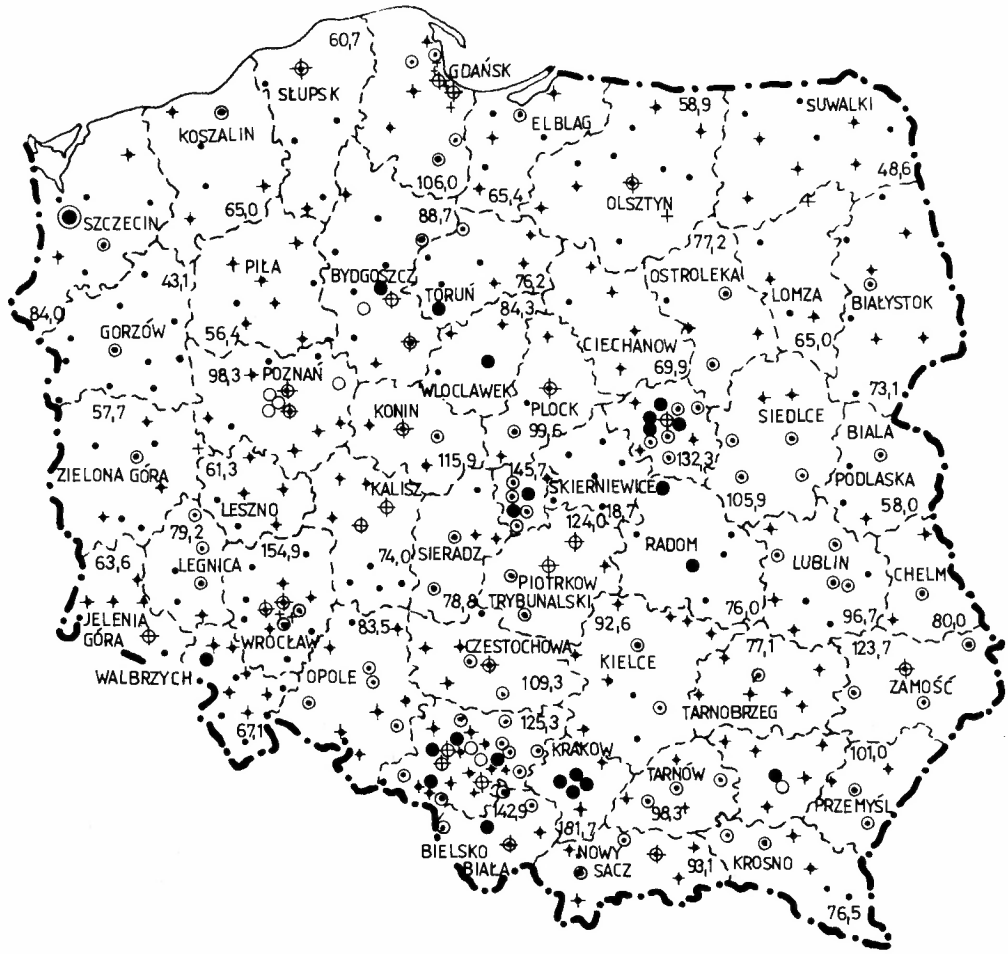

Numbers indicate average sizes of LHCCs in particular voivodships.

Classes of size in thousands of people

- • 50 and less
- ✦ 50 - 100
- ⊙ 100 - 150
- ⊕ 150 - 200
- ● 200 - 300
- ◉ 300 and more

FIGURE 1 The distribution and sizes of 404 Local Health Care Complexes in Poland

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Apart from LHCCs, primary health care also includes health institutions dealing exclusively with the health care of workers employed in areas that actually overlap areas of the LHCCs activities. These institutions, termed Industrial Health Complexes/IHC/, are established in highly industrialized areas with a great number of workers. They provide primary health care activities and a vast range of ambulatory services; in certain areas hospital treatment is also provided, but not social services.

The second level in the health care system hierarchy consists of institutions covering by their services the population of particular voivodships. The idea of integration applied at the regional level gave rise to the concept of Integrated Voivodship Hospitals /IVH/. An Integrated Voivodship Hospital performs not only specialist medical functions, but also developmental and manpower tasks. In compliance with regulations, the IV Hospitals should involve:

- health related tasks: inpatient services, ambulatory specialist services, and emergency services;

- developmental and staff functions: organization of medical personnel training for regional centres, development of social welfare, planning and programming of activities;

- auxiliary tasks: administrative, economic and technical tasks, personal policy and social services.

Integrated Voivodships Hospitals have been established mainly in newly created voivodships.

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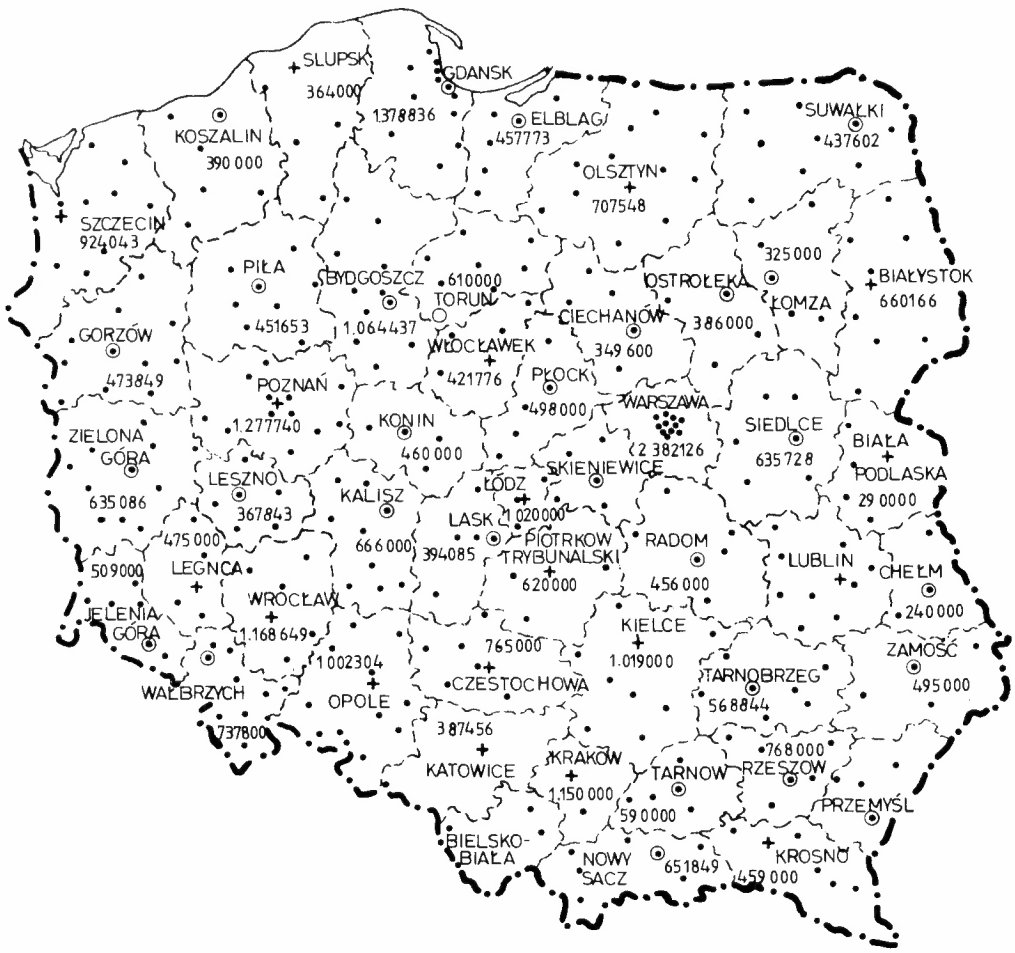
This is shown in Figure 2 where locations of hospitals are underlined when they are situated in new regions. Few of these regions do not set up a IVH and instead organize Voivodship Hospitals.

In the case of new voivodships, these hospitals do not carry on specialized functions. But at the same time specialized services are provided by Voivodship Hospitals localized in "old" voivodships, that is, in regions remaining as fragments of those existing before the administrative reform. On Figure 2, these hospitals are mostly in cities whose names are not underlined. As compared with hospitals created in new regions, the Voivodship Hosipitals in the old voivodships, by reason of longer treatment traditions, are better equiped, their personnel is much better trained, and they provide a larger range of specialized functions. Thus two kinds of institutions constitute the second level in the health care system hierarchy - Voivodship Hospitals and Integrated Voivodship Hospitals - excluding some specialized wards in the case of the latter hospitals as well as in the case of Voivodship Hospitals, when they are situated in old voivodships.

The third level of the health care system in Poland is the supraregional tier, constituted of numerous "narrow" specialities provided by certain wards of Voivodship Hospitals, Medical Academies hospitals, and medical research institutes. As examples of specialized wards in Voivodship Hospitals, the dialysis centres and oncological clinics are presented on Figure 3 and Figure 4 respectively.



Numbers represent population of voivodships.
Locations in newly created voivodships are underlined.

· Integrated Voivodship Hospitals
+ Voivodship Hospitals

Dots represent locations of LHCCs.

FIGURE 2 The distribution of the Voivodship Hospitals in Poland

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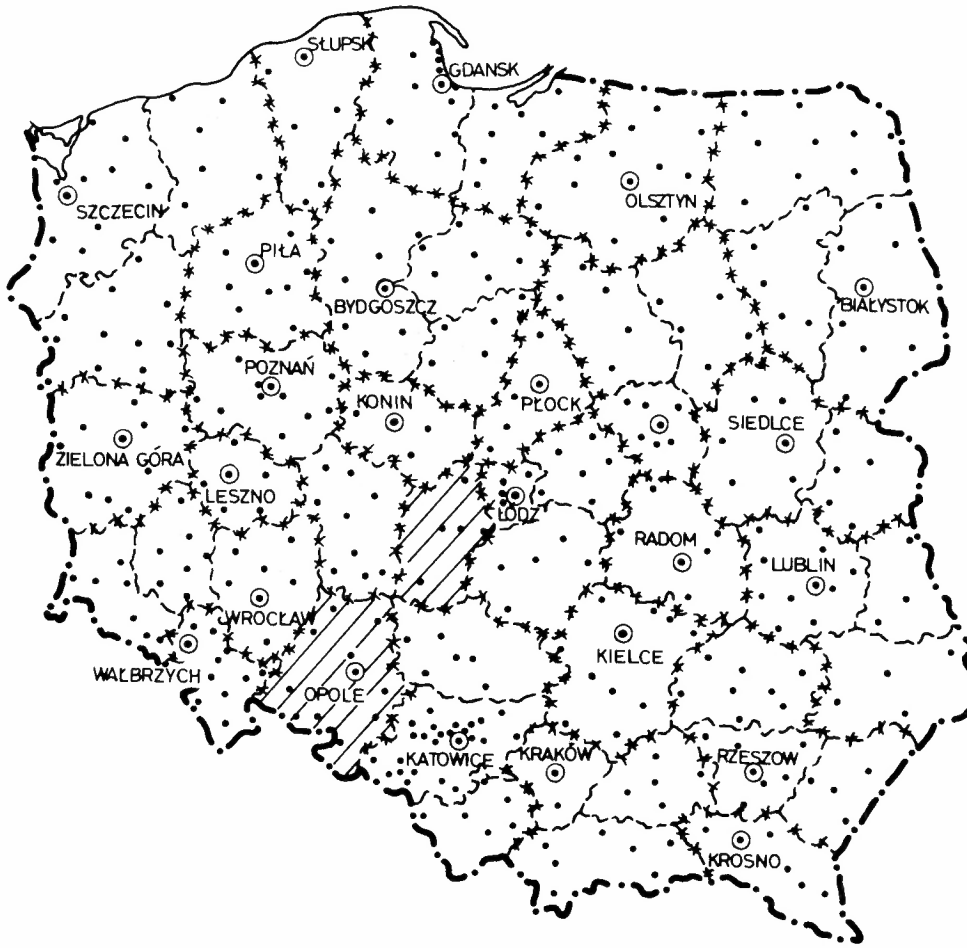

The catchment area composed of two separate parts is hatched.

Source: Dziennik Urzedowy MZiOS, 1980, 8.

FIGURE 3 Location and catchment areas of dialysis centres in Poland.

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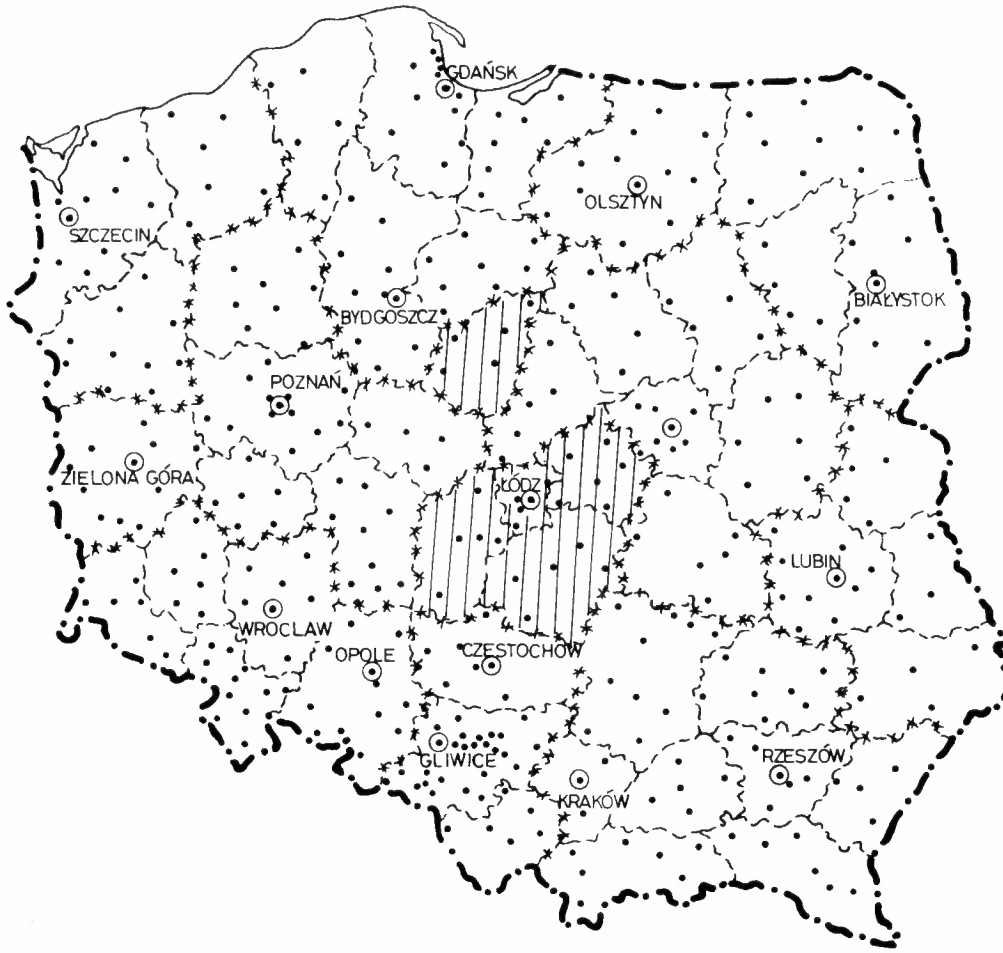

The catchment area composed of two separate parts is hatched. Dots represent locations of LHCCs.
Source: Dziennik Urzedowy MZiOS, 1975, 18.

FIGURE 4 Location of oncological hospitals in Poland in relation to areas they serve.

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In Figure 3, locations of 25 dialysis centres and their catchment areas are shown. A national average is almost exactly one centre per two voivodships. This proportion varies and so, on the one hand, there are centres serving three voivodships each, like Katowice, Szczecin, Bydgoszcz, Bialystok, and Warszawa; while on the other hand, some voivodships have their own dialysis centres, for example: Plock, Pila, Konin, Slupsk, Kielce, and Radom.

On Figure 4, the spatial distribution of 16 oncological clinics and wards is presented. In this case, the country average is one clinic per three voivodships. As may be seen from Figure 4, disparities in the sizes of areas being served are quite large. The largest catchment areas have Warszawa and Lódz, six and five voivodships to be served respectively, and the smallest areas of influence are in the case of Katowice and Czestochowa as well as Olsztyn and Bialystok. Spatial organization of oncological treatment services is such that patients living anywhere in a given set of voivodships are served by two oncological centres excluding the areas of influence of Warszawa, Lódz, Lublin, and Szczecin clinics.

Medical Academies, due to a 1982 regulation, act singlehandedly, independent of both the Minister of Health and administrative authorities. The range of services provided is subject to an agreement between the Medical Academy and administrative authorities of several neighbouring voivodships. In Poland there are several Medical Academies, eleven each covering the population of 4-6 voivodships. Figure 5 shows the distribution of Academies and the size of area under their influence. The largest catchment areas

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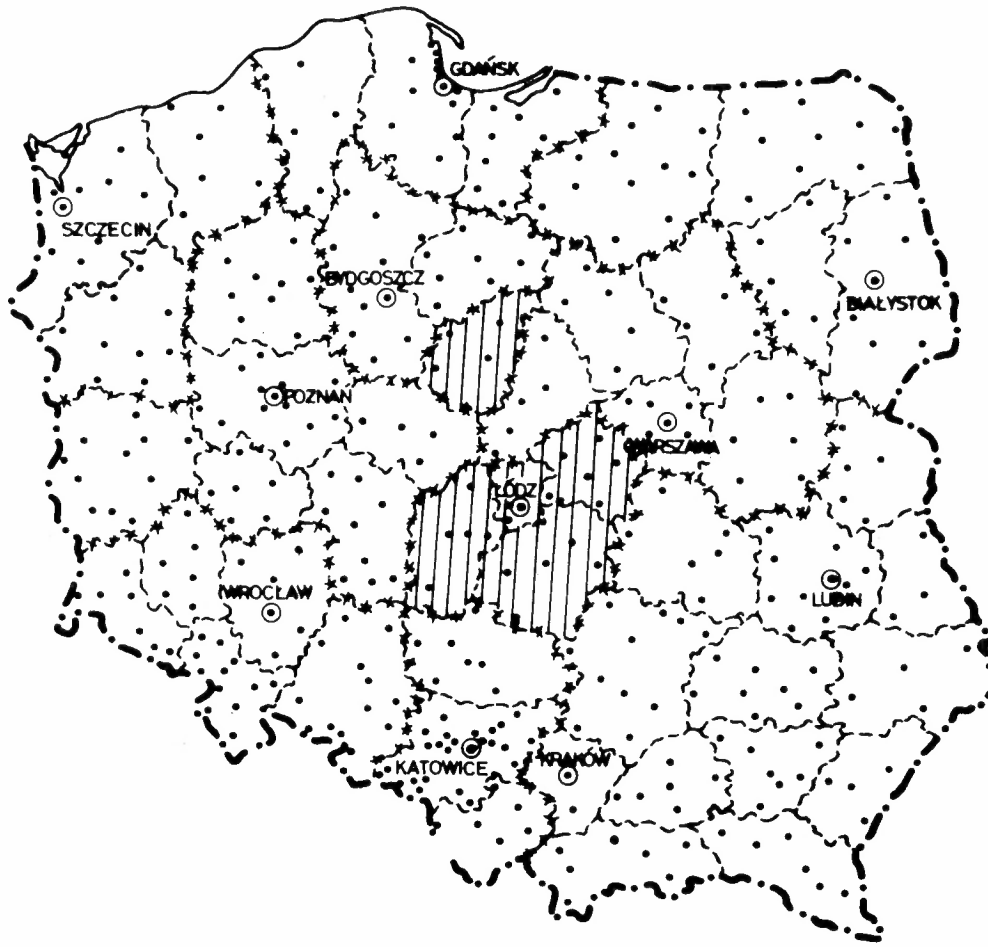

The catchment area composed of two separate parts is hatched. Dots represent locations of LHCCs.
Source: Dziennik Urzedowy MZiOS, 1975, 18.

FIGURE 5 Location and catchment areas of Medical Academies in Poland.

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are related to Medical Academies in Kraków, which serves 8 voivodships and Warsaw and Poznan - 6 voivodships each; while the smallest areas are connected with Medical Academies of Bydgoszcz, Katowice, Szczecin, and Gdansk.

Medical research institutes are designed to carry out studies, render specialist services, whether ambulatory or hospitals, organize postgraduate training, and supervise medical quality. The areas of their activity cover in practice the territory of the whole country.