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Health Monitoring of the Migrant Population in Northrhine-Westphalia, Germany: Experiences, Implications, and Perspectives

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Aim. To describe the benefits and restrictions that emerged in health monitoring of the Northrhine-Westphalian migrant population.

Methods. Analysis of official register data, description and classification of benefits and restrictions, and systematic derivation of implications of general validity.

Results. The comparison of the native German and migrant populations revealed which health relevant fields with specific problems require political intervention and further research. The results clearly reflected strongly differing socio-demographic structures. Moreover, insufficiencies in the design of official statistics were found, which led to the formulation of general principles of an integrated system for the health monitoring of migrant populations.

Conclusions. To serve as adequate data sources relevant for health monitoring that takes into account different dimensions of migration, official registers should fulfill certain requirements. Different indicators of migration and socioeconomic situation should be recorded, and classifications, such as national background and age, should be standardized in different statistical sources.

Key words: *age distribution; demography; disabled persons; emigration and immigration; Germany; health status indicators; infant mortality; socioeconomic factors; statistics*

The region of Northrhine-Westphalia in Germany is the federal state with the largest population in Germany of about 18 million inhabitants. In 1997, more than 2 million Northrhine-Westphalian inhabitants were not of German nationality. This represented about 11% of the total population of this federal state and about a quarter of the whole foreign population in Germany (Source: Federal Statistical Office). Our previous work on this subject (1) aimed to apply the methods for monitoring the health of the general population (2) on people of non-German national background. The work was commissioned and funded by the Ministry of Women, Youth, Family, and Health of the Federal State of Northrhine-Westphalia, Germany, carried out by the Scientific Institute of the German Medical Association, and published as an official document by the Northrhine-Westphalian government in 2000. We compared different migrant subgroups with one another and with German population, analyzing primarily health indicators from official socio-medical statistics. This work was prompted by increased official interest in empirical data on specific aspects of the health of migrant populations (3-5). Here we describe the health of a population whose demographic structure is shaped, among other influences, by different migration phenomena. We believe that the conclusions derived from the analysis should be considered when official health statistics and programs of health monitoring are designed, restructured, and implemented.

Methods

The migrant population was defined by its non-German nationality. The definition of migration itself as a demographic phenomenon is prescribed according to the classifications of most German official statistics. Other indicators, such as place of birth or residence, which reflect different dimensions of migration, were not considered in the analysis. Also, since other social indicators were not contained in the health statistics, we first considered social situation of the migrant population in comparison with that of the German inhabitants. Although the social situation could not be related statistically to the health phenomena and *vice versa*, the comparison proved to be helpful in learning about the population studied and in describing the social backgrounds influencing different health outcomes.

Results

Age

The age structure of the migrant population in Germany, as compared with that of the native Germans, was formed by two selection processes. The first process was a positive selection of more or less healthy guest workers that came to Germany, at-

tracted by acute manpower shortage in the country after World War II. Not only that potential working migrants were mainly young and healthy, but they also had to pass medical check-ups in their home countries, which represented another filter. Negative selection was the second, more recent, process caused by remigration of elder migrants and people with health problems. For these reasons, and also because of differences in birth and mortality rates, the age structure of the migrant and German populations clearly differ. Whereas in 1997 more than 60% of the migrants in Northrhine-Westphalia were less than 35 years old, this age group comprised less than 40% of the German population. Correspondingly, less than 4% of the migrants were 65 years old or older, whereas Germans of this age comprised nearly 20% of the German population (Fig. 1).

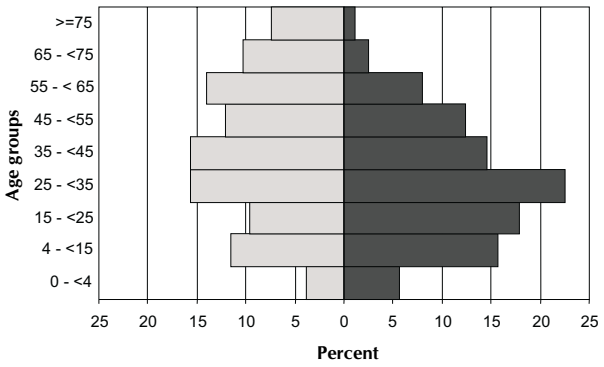

Figure 1. Age groups in German and migrant population. Reference region – Northrhine-Westphalia. Gray bars – German population; closed bars – non-German population. Source: Regional Statistical Office of Northrhine-Westphalia.

This age structure and especially the two selection processes mentioned above led to the so-called "healthy migrant effect" (originally: "healthy worker effect", ref. 6) in Germany as well as in other countries (7,8). This effect was not only limited to official statistics but was also found in survey analyses and therefore could not be seen as a general register-specific bias (7). It also had a major impact on many health and mortality data in the sense that in the migrant population even age-standardized and age-specific mortality rates were so low that it was impossible to offer a meaningful interpretation (1). This phenomenon seems to remain stable: for example, the second generation of the Turkish population living in Germany does not show any signs of a downward tendency (8).

Length of Stay in Germany

Another indicator that has to be taken into account is the distribution of the nationalities in the migrant subpopulation. In 1997, more than 65% of the non-German population in Northrhine-Westphalia came from the countries where guest workers were recruited after the World War II (Turkey, Greece, Italy, Spain, Portugal, and former Yugoslavia). After the Turks, the people from the former Yugoslavia (approximately 15%) formed the second largest group (9,10). However, the migrants from former Yugoslavia are set apart from other guest worker nationalities by the fact that this group comprises guest workers, their descendants, and refugees from the 1990s as well.

This fact is reflected in the analysis of the migrant groups by their length of stay in Germany (Fig. 2). In 1997, there was a considerable proportion of the peoples from former Yugoslavia who had come to Germany less than 6 years before, whereas the vast majority of the people from other guest worker countries had already been resident in Germany for more than 10 or even 20 years (Fig. 2). As the length of stay can be seen as an indicator of the integration into a society and its institutions, a shorter length of residence in Germany is a health-relevant disadvantage because it frequently represents a handicap for an adequate use of health services. Unfortunately, it was impossible to desegregate these two subgroups of very different migration populations (immigration vs forced migration) in the statistics, so the specific situation of the refugees could not be analyzed.

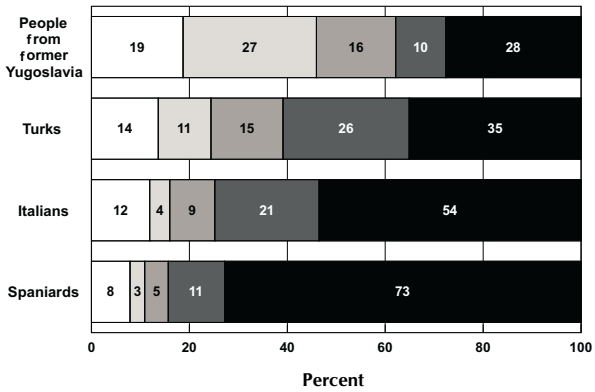

Figure 2. Migrant population by nationality and length of stay in Germany. Reference region – Northrhine-Westphalia. White segments – 4 years; light gray segments – 4-5 years; medium gray segments – 6-9 years; dark gray segments – 10-19 years; black segments – 20 years. The segments represent the percentages of the categories of length of stay and amount to 100% for each national subgroup. Source: Regional Statistical Office of Northrhine- Westphalia.

Occupational Status

Working conditions that threaten health are predominant among unskilled or semiskilled workers. Compared with the German population with only 10% of unskilled or semiskilled workers, the proportion of such workers is much higher in all migrant subgroups. In Northrhine-Westphalia in 1994, the Turks, with a proportion of 72% of unskilled and semiskilled workers, were the most disadvantaged and clearly exceeded the average of 59% of the whole migrant population (source: German Socio-economic Panel, ref. 11).

Infant Mortality

Two patterns of results emerged in the analysis of the health indicators. The first pattern comprised ar-

eas where the bias of the different age structures and especially the "healthy migrant effect" was more or less weak, unlike the second pattern of results, which was strongly influenced by these factors. Infant mortality, perinatal data, and maternal health are examples of health indicators that were not too much biased (1). Although it was quite clear that in Germany, as well as in Northrhine-Westphalia, the infant mortality was higher in the migrant population in the 1990s (e.g., 7.1 vs 5.6 per 1,000 for Germany in 1993, ref. 1), we faced the problem of too small number of cases in the migrant subgroups to get clear tendencies over this time period (source: Regional Statistical Office of Northrhine-Westphalia, ref. 12). However, this problem was partially solved by aggregating migrant subgroups and analyzing data for the reference region of Germany as a whole, which revealed a more stable tendency. During the 1988-1993 period, the infant mortality slightly decreased in the whole Germany, ie, in both Germans and migrants, but the basic difference between the two groups remained the same (Fig. 3). Although the migrants also profited from this positive development, the gap between the migrant and the native population proved to be more or less a stable phenomenon.

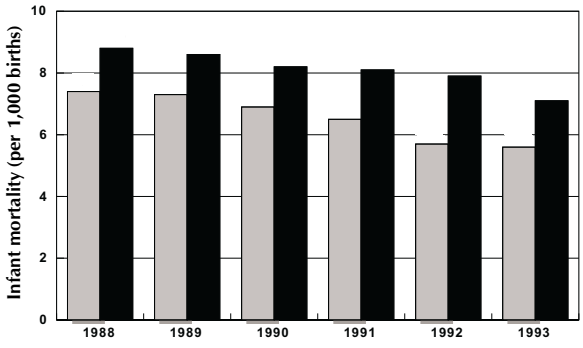

Figure 3. Infant mortality from 1988 to 1993 by national background. Reference region – Germany. Gray bars – German population; closed bars – non-German population. Source: Federal Statistical Office.

When analyzing other indicators from different statistical sources that can be seen as causally connected to infant mortality, we found increased rates of very young pregnant mothers in migrant population (e.g., 11.0% Turkish mothers between 15 and 20 years vs 3.3% German mothers in the same age range), underweight children at time of birth (e.g. 12.0% of male and 10.8% of female newborns of mothers from former Yugoslavia vs 8.6 and 8.3% of German mothers), and unfavorable patterns of early check-ups during pregnancy (up to 20% lower check-up rates in migrant women than in German mothers, who had 92% check-up rate up to the 13th week of pregnancy). However, these rates are rather rough indicators in comparison with infant mortality. First, these results are not homogeneous over the migrant groups but reveal different focal points in different subgroups. Second, there was a problem of different classification by nationality in different statistical sources, which rendered some of the comparisons rather difficult. For example, the medical association of Northrhine-Westphalia, which provided some of these data, does not classify the migrants by countries but by groups of countries, e.g., the Turks are included in the group of other countries from the Middle East, and the people from Former Yugoslavia are added to the Mediterranean countries.

Severely Disabled Persons

In 1997, the rate of severely disabled persons in the native German population in Northrhine-Westphalia was more than 100/1,000 inhabitants, whereas the rates in the migrant subgroups were half as high as the German rates. Alongside the "healthy migrant effect", this phenomenon has additionally been strengthened by a presumably lower use of health services among the migrants, as well as by the large proportion of elderly people in the German population. Correspondingly, the German and the migrant population clearly differed by the distribution of the severely disabled persons over the age categories (Fig. 4). Whereas more than 50% of the German severely disabled persons were aged 65 or above, this group among the migrants comprised only about 15%. In contrast, almost 40% of the non-German severely disabled persons were middle-aged (45-60 years). It is important to look for structural differences in the incidence and prevalence of severe handicaps for which the different age distributions are a broad hint. Migrants are more often registered as severely disabled for occupational reasons than Germans (1), indicating health threatening working conditions in the population of the guest workers. Also, the accidents of migrants at work more often lead to rehabilitation when compared with the German working population (7.5% vs 3.3% in 1993, ref. 1). Further analyses are likely to reveal more specific vulnerable groups. For example, half of the occupational diseases among the migrants were found in the Turkish population, which at the same time comprised only a third of the whole migrant population.

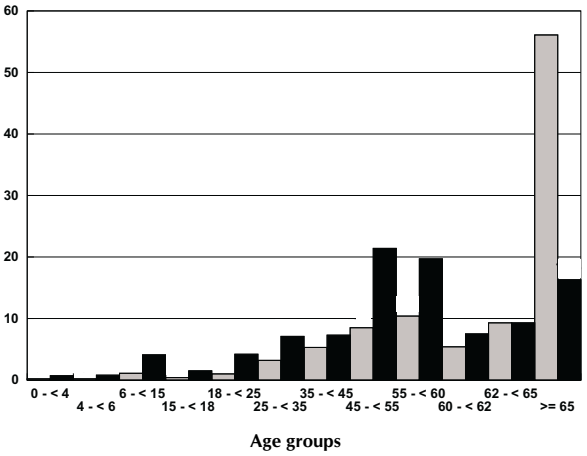

Figure 4. People registered as severely handicapped by different age groups and nationality. Reference region – Northrhine-Westphalia. Gray bars – German population; closed bars – non-German population. The age groups amount to 100% (ordinate) for both national subgroups. Source: Regional Statistical Office of Northrhine-Westphalia.

Perspectives

The following remarks form the basic principles of an integrated health monitoring system that complements analyses of optimized official statistics with the demand of further in-depth research.

Basic Principles of an Integrated Monitoring System

Indicators of the national background of registered persons should be included in all health statistics. This is important because in Germany the current topics of health monitoring of the migrant population depend upon the availability of statistics that can be desegregated by national backgrounds. Consequently, rather than showing an extensive picture, health monitoring with socio-medical data describes the health status of the migrant population very selectively.

Migration should not only be defined by national status but also by other relevant dimensions. Depending upon the laws of naturalization, the indicator of nationality is more or less valid when analyzing the phenomenon of migration. In countries where it is easy to adopt the nationality of the host country, even recent migrants are classified as members of the host population. Therefore, the indicators "country of birth" and "parents' country of birth" should allow more adequate classification. By use of these parameters, it would be possible to reveal differences between migrants born in foreign countries and migrants born in their new home countries. Moreover, it would be possible to discover if the second generation immigrants are better integrated than the first generation immigrants in relation to their use of health services. It may also be helpful to consider further parameters, such as the status of residence, to clarify the influence of indicators that have more to do with individual situational conditions than with ethnicity or nationality.

Classifications of the national background and other indicators should be standardized. Different classifications of nationality in different statistical sources means that indicators cannot be compared directly and therefore cannot be interpreted clearly. Another problem emerges with age categories if the classification in a certain statistical source differs from the classification in general population statistics, because age specific prevalence and incidence cannot be calculated.

Basic socioeconomic indicators should be included in the health statistics. This is of relevance because, at present, socioeconomic influences cannot be separated from effects that result from the experience of migration. The description of social indicators roughly reflects how socioeconomic factors could be linked to special health problems, because these influences are mixed with factors related to the home country, which may still be effective, as well as with problems of integration in the host countries.

The mortality of people who remigrate to their home countries should be registered. The mortality of persons that remigrated is unknown in many countries and it is very difficult to interpret mortality data because these people are not in any way included in the relevant statistics.

Health monitoring has to be a continuous process. Especially in monitoring migrant subpopulations, researchers and practitioners often have to work with results that are not easy to interpret. Only a continuous description of the indicators can secure meaningful interpretations. Efforts to improve the situation of the population in general or subgroups in particular have to be evaluated by continuous monitoring, which could highlight the influences of smaller changes against the background of long-lasting tendencies.

There should be a systematic consideration of the migrant population in large health surveys. Health surveys based on large samples and comprising questionnaires as well as medical inspections are the most sophisticated quantitative tool for solving some of the problems that emerge from insufficient official statistics. These tools are also useful if relevant parameters, such as health behavior or psychosocial complaints, are to be included. They offer the possibility of moving from the mere comparison of indicators to direct statistical correlation because all health relevant variables are included in a single data set.

Additional research must be funded. This is one of the most important points because many of the results we found through the analysis of official data are only crude indications of phenomena that require further clarification. Although there are some indicators that show valid and stable results and tendencies, mere description of these indicators only reveals the focal points of potential preventive interventions. However, the analysis of official statistics does not explain the phenomena themselves. The understanding of the underlying structures and processes that cause different health outcomes should be the main task of future public health research. Beside the given insufficiencies of official statistical systems, there may be indicators, such as ethnicity, that due to potential stigmatization are usually not included in official statistics. Nevertheless, ethnicity independent of nationality can be a health-relevant social indicator if specific disadvantages are predominant in certain ethnic subgroups. Whereas the analysis of official statistics cannot sufficiently unveil such interrelations, research projects can fill this gap by specifically focusing on these topics.

Acknowledgment

The official report on migrant population in Germany (in German language) can be obtained free of charge from *wiad@wiad.de*.

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