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How Healthy are Migrants? Findings and Implications Drawn from the Study of Immigrants to Germany

Does migrating make you sick? In view of the large and increasing number of migrants worldwide, the question is relevant to any country migrants leave or enter – and that means just about every country in the world. People who migrate are taking a risk. They often travel long distances, frequently under difficult or dangerous circumstances. Upon arriving at their destination they are commonly disadvantaged from a socioeconomic perspective, often living and working, for example, under worse conditions than the non-migrant majority population. For this reason, migrants are exposed to greater health risks. Those particularly at risk are undocumented refugees and migrants without legal residence status (so-called "irregular" migrants). Migration, it seems, goes hand in glove with health risks and can make you sick.

On the other hand, migrants are especially active and courageous people who want to determine their own lives. They are mostly young, and their health is above average compared with the population in their country of origin. If they are going from a poorer, developing country to a richer, developed country, they can benefit from improved hygiene conditions and better health care. Therefore, compared with the population in their home country, it seems that migrants have vastly improved health prospects.

Migration makes you sick; migration improves your health prospects". The current debate on "migration and health" moves between these two opposing elements. Given the highly heterogeneous nature of migrants as a group, a still unsatisfactory situation as far as data is concerned, and a lack of theoretical models for the evaluation of migrant health, resolving this contradiction is going to take time. The aims of this policy brief are to illustrate the current state of debate on the health of migrants and its determinants, and to demonstrate the obstacles that lie in the way of health care for migrants.

Definition of Migration and of Migrants

The Federal Office for Migration and Refugees defines migration in the following way: "Migration occurs when a person changes the location of their usual place of residence. International migration occurs when this movement crosses national boundaries."¹

In this policy brief, the term "migration" refers exclusively to international migration; migration within a country ("internal migration") is not considered here. Based on the above definition of migration, it might at first appear simple to hone in on a definition of "migrants" as a group. A workable definition of "migrants" is a basic requirement if we wish to assess their state of health and measure any changes, such as those brought about by targeted health-related intervention.² In many data sets, official ones in particular, the term is refined through reference to a person's citizenship. This type of definition is unsatisfactory and imprecise in several regards.³ A few examples serve to illustrate this:

- Ethnic Germans immigrants from Eastern Europe and the former Soviet Union (*Aussiedler* and *Spätaussiedler*) arrive in Germany by crossing a national boundary and as such have migrated. As a rule, however, they possess German citizenship. Any definition dependent on citizenship would not include them as migrants.
- Ever more foreign citizens living in Germany are adopting German citizenship: from 1970 to 2005 more than 1.5 million foreigners were naturalised. Thus, not all migrants are foreign citizens. The percentage of people with a migration background and German citizenship is growing continuously with the passage of time.
- Foreign citizenship does not necessarily indicate that the person has migrated to Germany across a national border. Foreign citizens may be the children or grandchildren of former migrants who have been born in Germany and have retained their parents' or grandparents' foreign citizenship. These children have not migrated across any national border and cannot, therefore, be migrants. They are often referred to as "second or third generation migrants" and are included in debates about migration and health in order to be able to show any health risks based on cultural or genetic influences as well as any change in health risks that may occur over time from one generation to another.

Between 1913 and 2000, limited *jus sanguinis* (Latin for "right of blood") applied in Germany to the granting of citizenship. According to this right to citizenship based on parentage, only those who could prove German forebears were German citizens. Only under special circumstances could immigrants who had lived a certain time in Germany adopt German citizenship. In 2000 this old citizenship law was extended to include elements of *jus soli* (Latin for "right of the soil"). This automatically gives German citizenship to children born in Germany if one parent has been living legally in Germany for at least eight



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Hamburgisches WeltWirtschafts Institut years. This amendment has made it even more difficult to identify migrants by means of their citizenship.

In recent years the term "people with a migration background" has been commonly used as a collective term for the heterogeneous group of immigrants and their descendants. Even the Federal Statistical Office has used this definition since the 2005 microcensus.⁴ There are about 15 million people with a migration background living in Germany today, almost one fifth of the population. Given the heterogeneous nature of this group, a clear differentiation needs to be made between their social and health prospects and problems.

The Health Status of Migrants -Selected Empirical Results

The range of illnesses suffered by people with a migration background in Germany resembles to a large extent that of the non-migrant majority population (with the exception of some rare hereditary metabolic disorders suffered by migrants). Certain health risks, however, occur more frequently among migrants or lead to more marked symptoms. For many diseases this results in a different frequency distribution than in the nonmigrant majority population. A current focus report offered by the Federal Health Monitoring information system offers differentiated information in this regard.⁵ The health situation of migrants in Germany presented below is based on selected examples from this report. Age differences in the demographic structure have been adjusted where applicable; data sources derived from the report are shown in brackets. Publications with additional data are also quoted in individual cases.

The health report clearly indicates the distinctly heterogeneous situation among people with a migration background as regards their health. There are also certain results regarding their state of health that are not so easily explained. The following section discusses possible explanatory models to support the interpretation of the empirical findings.

Infectious diseases

Many migrants originate from poorer countries or were in an unfavourable socio-economic position in their country of origin. For this reason, infectious diseases common in their country of origin may be more prevalent amongst them than amongst the population in the country to which they are migrating. At the time of immigration, therefore, communicable diseases in migrants reflect the epidemiological situation in the country of origin. Taking the example of HIV, immigrants from so-called high-prevalence countries, predominantly sub-Saharan African countries, have a higher incidence of HIV than the majority population in Germany.⁶ Over the course of time, the incidence of newly diagnosed cases and the prevalence of infectious diseases will increasingly be determined by the living conditions in the host country and access to medical care. With 24.4 new cases of tuberculosis per 100,000 inhabitants and year, the incidence among foreign citizens is five times greater than among Germans. Cases also occur at a significantly younger age (the median age of migrant tuberculosis patients is 34 years, compared to 56 years for non-migrants).7 On the one

hand, this is attributable to migrants who have been resident for a short time and who bring the disease with them from their countries of origin. On the other hand, migrants with a low socio-economic status, similar to Germans in the same position, have an increased risk of tuberculosis.

Maternal mortality

The term maternal mortality refers to cases of death associated with pregnancy, childbirth and postpartum complications. Maternal mortality is calculated on the basis of the number of maternal deaths for every 100,000 live births. Since maternal deaths are essentially avoidable, maternal mortality is a sensitive indicator of inequalities with regard to access to and the use of health services. Until the mid-1990s, maternal mortality among foreign women was about 1.5 times greater than among German women. Since then, the figures, which show an overall decline, have become similar.⁶ Maternal mortality among Turkish women in Germany is substantially lower than that in Turkey, their country of origin, evidently a consequence of differences in access to and the quality of obstetric services.

Child health

The health of children is determined in particular by the lifestyle of their family, their socio-economic status, and also in part by genetic factors. The fact that the characteristics of these determinants vary from one population group to another results in variations in the incidence of certain diseases and risk factors. Access to and making use of health services and preventive measures can likewise play a major role. Thus, for example, according to the results of the German Health Interview and Examination Survey for Children and Adolescents (KiGGS) the uptake of vaccinations against diphtheria and tetanus for children aged between 11 and 17 with a migration background is lower than that for children with no migration background.9 According to the KiGGS results, participation in early detection examinations for children is also lower for children with a migration background. Thus 14% of children with a migration background did not take advantage of the standard early detection examinations (in German, the so-called U3 to U6) compared with 2% of children with no migration background.¹⁰

Growing up in less favourable hygiene conditions may be associated with a lower prevalence of allergies. Certainly, children below 18 with a migration background are less often affected by allergies than children with no migration background (27.4% v. 40.4%).¹¹ The issue of child obesity is attracting increasing attention. Nutrition and physical activity influence the prevalence of obesity. Migrants from poorer countries benefit on the one hand from the adequate and secure provision of food in Germany. On the other hand, malnutrition and a lack of exercise lead to the development of obesity in people with a migration background just as they do in Germans. According to KiGGS statistics, children with a migration background aged 3-17 are more often overweight than children of the same age from the non-migrant majority population (19.5% v. 14.1%).¹²

Risk factors for cardio-vascular diseases

The frequency of cardio-vascular diseases, in particular of coronary heart disease and heart attacks, is determined by the

prevalence of risk factors such as obesity and smoking; these, in turn, are influenced in migrants by customs in their country of origin, adaptation processes in the host country and by psychosocial stress. Corresponding differences may be found in the available empirical data. Thus the average Body Mass Index (BMI) of foreign women at 24.5 kg/m² may indeed be only minimally different than that of German women (24.8 kg/m²), yet a significantly larger percentage of foreign women aged 65 and above are obese compared to German women (BMI>= 30 kg/m^2 ; 28.1% v. 17.6% in 2005).¹³ In all age groups, a larger percentage of foreign men than German men smoke (36.3% v. 27.1% in 2005).¹⁴

Due to the somewhat higher prevalence of risk factors among migrants, it would be reasonable to expect increased incidence of heart attacks; to date, however, there is no empirical evidence to bear this out. Possible explanations lie in protective factors (e.g. in nutrition), a comparably smaller numbers of cigarettes consumed over a lifetime, and data distortion.

Cancer

The incidence of many cancers depends at least partly on nutrition, smoking and other lifestyle factors, and in the case of cervical cancer additionally on the frequency of (sexually transmitted) infection with the human papilloma virus (HPV). In the case of breast cancer and cervical cancer, participation in preventive examinations also plays a role. Cancer mortality is additionally influenced by opportunities to access or use health services. In view of the large range of factors associated with the onset of cancer, differences between population groups are not easy to interpret.

Descriptive studies of Turkish and ethnic German migrants from the former USSR show a slightly lower cancer risk overall compared with the German population; over time, and with increasing periods of residence in Germany, this risk increases. For particular types of cancer, such as stomach cancer, there is a slightly increased risk among migrants. This is explained by less favourable hygiene conditions during childhood. Such conditions promote the transmission of the stomach bacteria *helicobacter pylori*, which may cause stomach cancer later in life. For breast cancer, by contrast, there is a lower incidence and mortality rate among Turkish and ethnic German migrant women than among non-migrant German women.¹⁶

Death rates due to lung cancer are lower among Turkish citizens than among Germans, but have increased significantly since observations began in the 1980s. Among male ethnic German migrants, lung cancer mortality is already higher than that of the German population in general. This is in accordance with the consideration expressed above that not only the percentage of smokers in the population plays a role, but also the number of cigarettes smoked in the past (which in turn depends on the economic development of the country of origin, since the smoker incurs costs through smoking).

Health in the workplace

Indicators such as accident, illness and severe disablement rates can provide insights into the situation at work. Comparisons of the frequency of workplace accidents between migrants and the non-migrant majority population, for example, show that migrants more often carry out physical labour with a greater risk of accidents. It would therefore be more meaningful to make comparisons within a given occupation.

Overall, the number of accidents in Germany is decreasing. German and non-German males demonstrate similar (and declining) accident rates. Accidents in the workplace, including those resulting in death, however, are about 1.5 times more common among Turkish citizens than among German citizens, possibly due to the former more often carrying out dangerous physical work and having received inadequate safety instruction.¹⁶

Of the three indicators, the illness rate is the most difficult to interpret since it depends not only on the state of health but also on the person's concern for their job (and thus also directly on the economic situation). Among foreign men and women the illness rate, at 9.7% and 10.2% respectively, is lower overall than among German citizens (11.6% and 13.1%). One exception is the economically active middle-age group (40-64) where, partly due to the increased frequency of having hard, physical jobs on building sites or "underground" jobs, the rate is higher among foreigners.¹⁷

Health satisfaction

Satisfaction with one's own health is indeed a subjective measure; however, it is a very good illustrator of state of health. Satisfaction with one's health decreases with age. This decline takes its course at different speeds among different populations and so gives insight into differences in health prospects and health burdens.

Evaluations carried out by the German Socio-Economic Panel (SOEP) show that decreasing satisfaction with their health as they grow older is more marked among Turkish immigrants than among Germans.¹⁸ Even among immigrants from Eastern Europe, despite increasing socio-economic success over time, there is evidence of a stronger decline in the subjective perception of health with increasing age than among people with no migration background.¹⁹

Mental illness

Less well-documented, and therefore hard to quantify, are illnesses caused by psychosocial stress associated with being separated from one's family or with political persecution in the country of origin. Persons without a legally secured residence status are especially vulnerable to mental illness. However, there is hardly any dependable data available regarding their health situation.

The migration experience cannot sweepingly be equated with mental stress. However, a series of mental disorders can occur in conjunction with migration. These include depression, psychosomatic complaints, somatisation and post-traumatic stress.²⁰ Reasons for increased incidence include:

- Migration, being a critical life event, can overburden the previously acquired ability to make adjustments, cope and use problem-solving strategies.
- Stress caused by a risk-laden journey to the destination country can result in anxiety, depression or dissociative symptoms.
- · Stress can arise from being uprooted or separated from fam-

ily, partners and familiar customs or values.

- Stress can arise during the acculturation process, due to uncertainties with regard to living conditions, housing, stigmatisation etc.
- Economic and professional issues in the wake of a migration can elevate stress levels.
- Stress can be caused by social isolation, especially in the absence of family and friend networks, which represent an important resource for coping with stress.
- Stress can arise from disruptions to the parent-child-relationship when children are "forced" to adhere to cultural traditions that are different from those in the receiving society.

Available findings suggest that migrants are particularly vulnerable to mental illness shortly after immigration. Once they have been in the country longer and settled into their new life, the stress frequently diminishes.

Social status and health

Most routine records lack detailed information on the socioeconomic status of the registered cases. That makes it more difficult to analyse the causes of possible health disadvantages and point to strategies for overcoming them. If people with a migration background are, on average, in a worse state of health than the majority population, then this might be the outcome of some sort of disadvantage to this group. However, it might also be the consequence of a generally less favourable socio-economic situation, as is also the case within the nonmigrant German population.²¹ Any explanation firstly requires data records on the health of migrants that contain socio-economic variables, and secondly requires the further development of models with which to explain the association between migration and illness.²² These explanatory models are examined in more detail below.

Barriers to Accessing Health Care

People with a migration background are increasingly important as users of health services in Germany. Precisely in the area of research into health services we find a lack of data broken down according to migration background. Better data could, in the future, help people in this target group to look after their health and, should they become ill, ensure that they have the same opportunity to access health care as the majority population. Until now it has been assumed that language and cultural characteristics in particular prevent migrants from making use of health services and affect communication and interaction during treatment. Language barriers may prevent patients from understanding their doctors. Often, help is sought from lay interpreters such as family members, but this is not always successful, due to the lack of specialist medical knowledge, or due to feelings of shame and respect that lead to information not being translated correctly. Cultural differences can be expressed through a different perception of what illness is about, such as when the cause of the illness is attributed to the "evil eye" or illness is understood as fate willed by God. These differences, or also a different sense of what is shameful, can lead to people not accessing care or to the wrong care being provided.²³

People in an unfavourable social situation do not avail themselves sufficiently of health care. They are faced with barriers regardless as to whether they have a migration background or not. These include being less well-equipped with financial resources for paying mandatory personal contributions towards their health care (practice fees, dentures etc.) and a lack of education and knowledge about such matters as pathogenesis and health behaviour.²⁴ In view of their, on average, less favourable social situation compared with the majority population, migrants are exposed to multiple disadvantages in this regard.

Preventive Measures for Migrants

Migrants have special requirements in terms of preventive measures and health precautions. This is due on the one hand to their partly differing health risks and the group's behaviour patterns with regard to health matters. On the other hand, many preventive measures are less accessible to migrants than to the majority population. Such barriers to participation may be due on an individual level to a lack of knowledge of the language or of knowledge about what is available; on an institutional level it may be due to a failure to gear what is offered towards the heterogeneous nature of the target groups and thus also towards the specific situation of migrants.²⁵

Opportunities offered by preventive programmes are still not taken up often enough by migrants. That can be gauged from the limited data available on migrant participation in existing services such as early cancer detection in adults or health examinations for children. According to the current state of debate, however, no specific preventive or precautionary programmes for migrants are necessary; instead, existing systems should be better-geared towards the heterogeneity that has evolved within the population and thus also towards those with a migration background. For the most part, the burden of disease among migrants is similar to that among the majority population, making it appear more meaningful to improve the accessibility of existing programmes, for instance by means of a linguistic and, if applicable, cultural translation of informational materials. It would hardly be possible, by contrast, to offer new, comprehensive and quality-assured programmes or facilities especially geared towards migrants.

The priority of preventive measures is to reduce risks such as those associated with infant mortality or the, in part, very high prevalence of smoking among male migrants. In addition to this, however, the aim should also be to safeguard any existing health advantages such as the lower prevalence of smoking among many female migrants.

Explaining The Relationship Between Migration and Health

Studies of the connection between migration and health are often unsatisfactory because of the lack of explicitly-formulated explanatory models.²⁶ Determinants of disease and health in male and female migrants frequently go unmentioned, making systematic study more difficult. Even in the field of epidemiology, interest in including migrants in epidemiological studies has awoken only in recent years.²⁷ Then, when – and this is no rare occurrence – data on the health of migrants does not meet expectations, the search for possible explanations begins retrospectively. It often, and sometimes hastily, ends with the conclusion that there must have been a distortion or an artefact (in other words an ultimately false result arising from problems in the data or errors in their evaluation).

The "healthy migrant" phenomenon

Compared with the majority population, many migrants are socially and economically disadvantaged, and for that reason it might be expected that their health should also be measurably worse. Social epidemiology tells us that a lower socio-economic status raises the risk of disease and premature death. Adult migrants from many countries of origin who migrate to European countries or the USA, however, present lower mortality figures than the non-migrant majority population in the host countries. In some age groups their mortality can be up to 50% lower than in the majority population.²⁸ Table 1 shows examples from international literature.

This migrant mortality advantage observed in many data records is referred to in literature as the "healthy migrant effect", or the "phenomenon of the healthy migrant". It is unlikely that this is solely a selection effect among migrants. It is true that migrants are often especially healthy people. However, their health advantage should be apparent in relation to the population of the country from which they originate and not necessarily in relation to the population of the country to which they have migrated. In addition, the advantage is often still apparent years after migration, despite the unfavourable socioeconomic conditions under which migrants often live. In view of the inverse association between socio-economic status and mortality, the healthy migrant effect represents a paradox.²⁹

Distortions

Artefacts or distortions in the available data are repeatedly cited as explanations for the apparent health advantages or lower mortality of migrants.³⁰ Deaths among migrants abroad (for example during trips to their country of origin) are not registered in German cause of death statistics.³¹ Furthermore, migrants might have returned to their country of origin without giving notice in Germany of their departure; computers would therefore still show them as remaining within the migrant population, thereby "watering down" the observed mortality. Certainly such distortions partly contribute to explaining the differences. It is, however, striking that migrant mortality advantages also exist in studies that can exclude such distortions.³² Some health advantages also continue to exist after statistical adjustment, even if to a significantly lesser degree than previously.

Social support

Better "social support" among the migrant population than the majority population³⁴ could also explain part of the health advantages of migrants. This is accounted for by a salutogenetic, i.e. health-promoting effect of social support. However, what contribution it actually makes to explaining health inequality still remains largely unexplained.³⁵ "Better social support" is therefore mostly just an ad-hoc explanation for apparently paradoxical findings. The underlying consideration is, however, still important: any explanatory model on the health of migrants must not only stress factors that cause poorer health, but must

Table 1: Mortality of migrants relative to the population in the destination country

Origin	Destination country	Data source	Measure	Rela Men	tive risk Women	Reference
China	Canada	Canadian Mortality Database	RR	0.55	0.63	Sheth et al. 1999
Mexico	USA	National Longitudinal Mortality Study	HR	0.57	0.60	Abraido-Lanza et al. 1999
Vietnam	England	National Health Service Register	SMR	0.64	0.56	Swerdlow 1991
Southern Europe*	Germany	German Socio-Eco- nomic Panel (SOEP)	RR	0.68		Razum et al. 2000
Former USSR**	Germany (North Rhine- Westphalia)	Population and cause of death statistics	SMR	0.89	0.81	Ronellenfitsch et al. 2006
esp. Latin America, Asia	USA	National mortality data	RR	0,77	0,84	Singh & Hiatt 2006

* "Guest worker" recruitment countries in the Mediterranean area (Turkey, Yugoslavia, Italy, Spain, Portugal); men and women combined

** Ethnic Germans (Aussiedler / Spätaussiedler)

RR: Relative Risk; HR: Hazard Ratio; SMR: Standardised Mortality Ratio. These measures indicate the mortality of migrants relative to the population of the destination country.

Example: RR=0.55: male Chinese immigrants in Canada have a mortality factor of 0.55 in relation to Canadian males. This equates to a 45% lower mortality (calculated as $100 - 0.55 \times 100$).

Source: Razum (2006)

also include health resources and protective factors specific to migrants.³⁶

Migration as a health transition

The populations of poorer and richer countries are exposed to different factors that affect their health during their lifetime. Global differences in hygiene conditions or nutrition are examples of this. Anyone who migrates across national and also economic boundaries has, for this reason alone, a different risk of chronic disease than the non-migrant population in the country of immigration. This results in apparent paradoxes with regard to chronic disease among migrants.

To resolve these paradoxes it is possible to interpret migration from poorer countries to richer ones as a "health transition". The expression "health transition" is normally understood to mean the transition within a society from high mortality, primarily caused by infectious diseases as well as maternal and infant mortality, to a lower mortality, primarily caused by non-communicable, chronic diseases.³⁷ The health transition is made up of many components, of which the following are relevant here:

- therapeutic components, i.e. better prevention and treatment options for things like infectious diseases
- risk factor components, e.g. protection from disease due to the provision of clean drinking water, and also from new risks caused by things like smoking, poor nutrition and a lack of exercise.

A health transition towards chronic disease is proceeding worldwide but at different speeds. Many of the – poorer – countries of migrant origin are still at an earlier stage compared with rich, developed countries such as Germany. If people migrate from a poor country to Germany, the rate at which they acquire new diseases and the rate of death change, occurring at different speeds depending on the type of disease:³⁸

- The mortality of migrants from treatable infectious diseases and also maternal mortality (still high in many countries of origin) falls rapidly towards the level of the population of the country of immigration – in accordance with the "therapeutic" components of the health transition.
- New diseases and mortality among migrants from ischaemic heart disease (heart attack), the most common cause of death in Germany, remain initially on a low level, e.g. that of a country of origin in southern Europe. This is attributable to

the mostly long latency period between the escalation of the risk factors and the occurrence of disease. First-generation immigrants can therefore still have a lower risk of heart attack and mortality than the population of the country of immigration many years after migration.

With increasing length of residence - or in subsequent generations that grow up in the country of immigration - migrants adjust to the "Western" lifestyle. With time, this increases their risk of a heart attack³⁹ - in accordance with the "risk factor" components of health transition. This can take decades. For certain ethnic groups, however, this aspect of the health transition goes hand in hand with an especially rapid change in disease risks. One example of this is migrants from South Asia to England and Scotland. Probably due to increased insulin resistance, with a "Western" lifestyle and nutrition (high fat, high calorie nutrition, lack of exercise) their risk of a heart attack increases within years, surpassing the risk of the population of both the country of origin and the destination country.⁴⁰ There is debate as to whether people of Turkish origin also have an increased risk of heart attack in Germany if they adjust to the "Western" way of life. The reason could be a genetic polymorphism associated with low "protective" cholesterol (HDL cholesterol).41

The increased risk of new, lifestyle-related diseases is in addition to the increased risks to migrants of other chronic diseases listed above. Examples include stomach cancer and stroke. These occur in large numbers in people who have spent their childhood in poverty and poor hygiene conditions.⁴² These risks of disease that they bring with them are a negative side of

Figure 1: Variables influencing the heath of migrants from the perspective of lifecourse epidemiology

Genes			Influence of	
Situation in count of origin	ry	Have a continued effect	individual behaviours (continuous)	Genetic and migration-
system, lifestyles etc.	Migration process Critical event, loss of family/envi-	Have a continued effect	Health behaviour	related health inequality compared with the majority population in the destination
	tion requirements, language etc.	Situation in the destination	Usage behaviour	country
		country <u>Social status:</u> Underclass, segregati- on, poorer educational opportunities, unemployment <u>Acculturation</u> : Change in lifestyle ha- bits, conflict due to different values <u>Legal situation</u> : Residence status, discrimination	Personal characteristics	Migration- related health inequality compared with the population in the country
		Environment: "Better" health system, security, hygiene <u>Access barriers:</u> Knowledge of language, discrimination, gearing towards majority population		of origin
	Passage of time			

Source: Spallek and Razum (2008): 283.

the health transition migrants go through. Migrants from poorer countries therefore find themselves at a different stage on the health transition continuum than the majority population. This does not give rise to fundamentally different chronic diseases; rather, they occur in a different distribution pattern.

Migration and lifecourse epidemiology

Migrants have often been exposed to different experiences during their lives than those of the non-migrant majority population, especially during childhood in their country of origin. This can lead to unexpectedly different patterns in the occurrence of chronic disease. For some chronic diseases the risk of occurrence in later life – after a long period of latency – is already determined by exposure in early or very early childhood. This makes it necessary to study the entire lifecourse of migrants in order to be able to understand the pattern of their chronic diseases and their mortality. A snapshot at a time after migration is not sufficient. What is more necessary is a lifecourse epidemiology, in other words an epidemiology that factors in exposure throughout the person's life.⁴³ Figure 1 shows an overview of such an approach.

In studies on the health of migrants - and thus also in the development of an explanatory model - it is difficult to identify suitable control groups. The differences, for example in the mortality between male and female migrants on the one hand and the majority population on the other, result in part from factors relating to their lives in the country of origin. Anyone migrating to Germany from a southern country bordering the Mediterranean initially brings with them the cardiac mortality associated with that country - far lower than that of the German population. Due to the long latency periods between exposure to risk and disease, this advantage is retained even where there is socio-economic disadvantage. If we wish to differentiate between genetic predisposition and lifestyle influences, then comparison with the population in the country of origin is particularly meaningful. If, by contrast, we wish to make observations on access to health care, comparisons with the population in the migrants' country of destination are sensible.

Conclusions

The examples put forward here show how difficult it can be to judge the differences in morbidity and mortality between migrants and the majority population in the migrants' country of destination. Not all morbidity and mortality data, however, give reliable answers to questions as to whether migrants have a good life and whether they are treated with consideration. For this, it is necessary to draw on selected health indicators such as infant and maternal mortality or studies of the mental state and socio-economic situation of migrants. In addition, the health problems and care needs of older people with a migration background are of increasing – and, so far, underestimated – importance.

To date, many of the routine records available in Germany do not permit sufficient differentiation between people with and without a migration background. In addition, social epidemiological research on the health of migrants is primarily "dataladen", i.e. based only on the evaluation of existing data with no theoretical underpinning. Both need to change in the future. This cannot be achieved by better data alone: if the existing deficit in theory is not reviewed, then research into migration will continue to document health differences without being able to explain and eradicate their causes.

Endnotes

- ¹ See BAMF (2006).
- ² See Schenk et al. (2006).
- ³ See Robert Koch Institut (2008).
- ⁴ See Duschek et al. (2006).
- ⁵ See Robert Koch Institut (2008).
- ⁶ See Robert Koch Institut (2008).
- ⁷ See Robert Koch Institut (2008).
- ⁸ Source: Federal Statistical Office.
- ⁹ See Poethko-Müller et al. (2007).
- ¹⁰ See Kamtsiuris et al. (2007).
- ¹¹ See WHO adolescent health survey.
- ¹² See Kurth et al. (2007).
- ¹³ Source: Microcensus.
- ¹⁴ Source: Microcensus.
- ¹⁵ Data sources: Saarland Cancer Registry; Federal Statistical Office; State Statistical Office, North Rhine-Westphalia).
- ¹⁶ 1995-2003 and 2005; data sources: Microcensus, Federal Statistical Office, Federal Ministry of Labour and Social Affairs).
- ¹⁷ 2005; data sources: Microcensus, Federal Statistical Office).
- ¹⁸ See Robert Koch Institut (2008).
- ¹⁹ See Ronellenfitsch et al. (2004).
- ²⁰ See Kirkcaldy et al. (2006).
- ²¹ See Lampert (2005).
- ²² See Schenk (2007).
- ²³ See Robert Koch Institut.
- ²⁴ See Richter et al. (2007).
- ²⁵ See Robert Koch Institut (2008); Spallek und Razum (2007).
- ²⁶ See Schenk (2007).
- ²⁷ See Zeeb and Razum (2006).
- ²⁸ See Razum (2006); Razum and Twardella (2002); Singh and Hiatt (2006); Swerdlow (1991); Abraido-Lanza et al. (1999).
- ²⁹ See Razum (2006).
- ³⁰ See Ringbäck et al. (1999); Kibele et al. (2008); Raymond et al. (1996).
- ³¹ See Neumann (1991).
- ³² See Swerdlow (1991); Abraido-Lanza (1999).
- ³³ See Lechner and Mielck (1998).
- ³⁴ See White (1997).
- ³⁵ See Mielck (2005).
- ³⁶ See Schenk (2007).
- ³⁷ See Omran (1971); Feachem et al. (1992).
- ³⁸ See Razum and Twardella (2002).
- ³⁹ See Anand et al. (2000); Benfante (1992).
- ⁴⁰ See Khunti (2004); Bhopal et al. (1999).
- ⁴¹ See Hergenc et al. (1999); Mahley et al. (1995).
- ⁴² See Leon and Davey Smith (2000).
- ⁴³ See Lynch and Davey Smith (2005); Spallek and Razum (2008).

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References and Further Reading

- Abraido-Lanza, A. F., Dohrenwend, B. P., Ng-Mak D. S. and Turner J. B.(1999): "The Latino mortality paradox: a test of the ,Salmon Bias' and Healthy Migrant hypotheses." <u>American</u> <u>Journal of Public Health</u> 89 (10): 1543-1548.
- Anand, S. S., Yusuf, S., Vuksan, V., Devanesen, S., Teo, K. K., Montague, P. A. et al.(2000): "Differences in risk factors, atherosclerosis, and cardiovascular disease between ethnic groups in Canada: the study of health assessment and risk in ethnic groups (SHARE)." Lancet 356 (9226): 279-284.
- Benfante, R.(1992): "Studies of cardiovascular disease and cause-specific mortality trends in Japanese-American men living in Hawaii and risk factor comparisons with other Japanese populations in the Pacific region: a review." <u>Human Biology</u> 64 (6): 791-805.
- Bhopal, R., Unwin, N., White, M., Yallop, J., Walker, L., Alberti, K. G. et al.(1999): "Heterogeneity of coronary heart disease risk factors in Indian, Pakistani, Bangladeshi, and European origin populations: cross sectional study." <u>British Medical Journal</u> 319 (7204): 215-220.
- Bundesamt für Migration und Flüchtlinge (2006): <u>Migrations-</u> bericht 2005. Nürnberg.
- Duschek, K-J., Weinmann, J., Böhm, K., Laue, E. and Brückner, G.(2006): Leben in Deutschland Haushalte, Familien und Gesundheit Ergebnisse des Mikrozensus 2005. Wiesbaden: Statistisches Bundesamt.
- Feachem, R. G., Phillips, M. A. and Bulatao, R. A.(1992): "Introducing adult health." In: Feachem, R. G, Kjellstrom, T., Murray, C. J. L., Over, M. and Phillips, M. A., (Eds.), <u>The Health</u> <u>of Adults in the Developing World</u>. New York: Oxford University Press: 13-16.
- Hergenc, G., Schulte, H., Assmann, G. and von Eckardstein, A. (1999): "Associations of obesity markers, insulin, and sex hormones with HDL-cholesterol levels in Turkish and German individuals." <u>Atherosclerosis</u> 145 (1): 147-156.
- Kamtsiuris, P., Bergmann, E., Rattay, P. and Schlaud, M. (2007): "Inanspruchnahme medizinischer Leistungen. Ergebnisse des Kinder- und Jugendgesundheitssurveys (KiGGS)." <u>Bundesgesundheitsblatt Gesundheitsforschung Gesundheitsschutz</u> 50 (5-6): 836-850.
- Khunti, K. and Samani, N. J. (2004): "Coronary heart disease in people of south-Asian origin." <u>Lancet</u> 364 (9451): 2077-2078.

- Kibele, E., Scholz, R. and Shkolnikov, V. M. (2008): "Low migrant mortality in Germany for men aged 65 and older: fact or artifact?" <u>European Journal of Epidemiology</u> 23 (6): 389-393.
- Kirkcaldy, B., Wittig, U., Furnham, A., Merbach, M. and Siefen, R-G.(2006): "Migration und Gesundheit. Psychosoziale Determinanten." <u>Bundesgesundheitsblatt</u> <u>Gesundheitsforschung Gesundheitsschutz</u> 49 (9): 873-883.
- Kurth, B-M., Schaffrath and Rosario A. (2007): "Die Verbreitung von Übergewicht und Adipositas bei Kindern und Jugendlichen in Deutschland. Ergebnisse des bundesweiten Kinder- und Jugendgesundheitssurveys (KiGGS)." <u>Bundesgesundheitsblatt Gesundheitsforschung Gesundheitsschutz</u> 50 (5-6): 736-743.
- Lampert, T., Saß, A-C., Häfelinger, M. and Ziese, T. (2005): Armut, soziale Ungleichheit und Gesundheit. Expertise des Robert Koch-Instituts zum 2. Armuts- und Reichtumsbericht der Bundesregierung. Berlin: Robert Koch-Institut.
- Lechner, I. and Mielck, A. (1998): "Die Verkleinerung des 'Healthy Migrant Effects': Entwicklung der Morbidität von ausländischen und deutschen Befragten im Sozio-Ökonomischen Panel 1984 bis 1992." <u>Gesundheitswesen</u> 60: 715-720.
- Leon, D. A. and Davey Smith, G. (2000): "Infant mortality, stomach cancer, stroke, and coronary heart disease: ecological analysis." <u>British Medical Journal</u> 320 (7251): 1705-1706.
- Lynch, J. and Davey Smith G. (2005): "A life course approach to chronic disease epidemiology." <u>Annual Review of Public</u> <u>Health</u> 26: 1-35.
- Mahley, R. W., Palaoglu, K. E., Atak, Z., Dawson-Pepin, J., Langlois, A. M., Cheung, V. et al. (1995): "Turkish Heart Study: lipids, lipoproteins, and apolipoproteins." <u>Journal of Lipid Re-</u> <u>search</u> 36: 839-857.
- Mielck, A. (2005): <u>Soziale Ungleichheit und Gesundheit</u>. Bern: Verlag Hans Huber.
- Neumann, G.(1991): "Todesursachenstatistik Sterbetafeln." <u>Deutsches Ärzteblatt</u> 88 (15): 722-723.
- Omran, A. R.(1971): "The epidemiologic transition. A theory of the epidemiology of population change." <u>Milbank Memorial</u> <u>Fund Quarterly</u> 49 (4): 509-538.
- Poethko-Müller, C., Kuhnert, R. and Schlaud, M. (2007): "Durchimpfung und Impfstatus in Deutschland. Ergebnisse des bundesweiten Kinder- und Jugendgesundheitssurveys (KiGGS)." <u>Bundesgesundheitsblatt Gesundheitsforschung</u> <u>Gesundheitsschutz</u> 50 (5-6): 851-862.
- Raymond, L., Fischer, B., Fioretta, G. and Bouchardy, C. (1996): "Migration bias in cancer survival rates." <u>Journal of Epidemiology and Biostatistics</u> 1 (3): 167-173.
- Razum, O. (2006): "Migration, Mortalität und der Healthy-migrant-Effekt." In: Richter, M. and Hurrelmann, K., (Eds.), <u>Gesundheitliche Ungleichheit. Grundlagen, Probleme, Perspektiven</u>. Wiesbaden: VS Verlag für Sozialwissenschaften: 255-270.
- Razum, O. and Twardella, D. (2002): "Time travel with Oliver Twist – towards an explanation for a paradoxically low mortality among recent immigrants." <u>Tropical Medicine and International Health</u> 7 (1): 4-10.

- Razum, O., Zeeb, H. und Rohrmann, S. (2000): "The healthy migrant effect – not merely a fallacy of inaccurate denominator figures (letter)." <u>International Journal of Epidemiology</u> 29: 191-192.
- Richter, M. and Hurrelmann, K. (2006): <u>Gesundheitliche Un-</u> <u>gleichheit. Grundlagen, Probleme, Perspektiven</u>. Wiesbaden: VS Verlag für Sozialwissenschaften.
- Ringbäck Weitoft, G., Gullberg, A., Hjern, A. and Rosén, M. (1999): "Mortality statistics in immigrant research: method for adjusting underestimation of mortality." <u>International Journal</u> <u>of Epidemiology</u> 28: 756-763.
- Robert Koch-Institut (Ed.) (2008): <u>Migration und Gesundheit.</u> <u>Schwerpunktbericht der Gesundheitsberichterstattung des</u> <u>Bundes</u>. Berlin: Robert Koch-Institut.
- Ronellenfitsch, U., Kyobutungi, C., Becher, H., Razum, O. (2006): "All-cause and cardiovascular mortality among ethnic German immigrants from the Former Soviet Union: a cohort study." <u>BMC Public Health</u> 6: 16.
- Ronellenfitsch, U. and Razum, O.(2004): "Deteriorating health satisfaction among immigrants from Eastern Europe to Germany." International Journal of Equity in Health 3 (1): 4.
- Schenk, L., Bau, A-M., Borde, T., Butler, J., Lampert, T., Neuhauser, H. et al. (2006): "Mindestindikatorensatz zur Erfassung des Migrationsstatus. Empfehlungen für die epidemiologische Praxis." <u>Bundesgesundheitsblatt Gesundheitsforschung Gesundheitsschutz</u> 49 (9): 853-860.
- Schenk, L. (2007): "Migration und Gesundheit Entwicklung eines Erklärungs- und Analysemodells für epidemiologische Studien." <u>International Journal of Public Health</u> 52: 87-96.
- Sheth, T., Nair, C., Nargundkar, M., Anand, S. and Yusuf, S. (1999): "Caridovascular and Cancer Mortality among Canadians of European, South Asian and Chinese Origin from 1979 to 1993: An Analysis of 1.2 Million Deaths." <u>Canadian Medical Association Journal</u> 161:132-138.

- Singh, G. K. and Hiatt, R. A. (2006): "Trends and disparities in socioeconomic and behavioural characteristics, life expectancy, and cause-specific mortality of native-born and foreign-born populations in the United States, 1979-2003." <u>International Journal of Epidemiology</u> 35 (4): 903-919.
- Spallek, J. and Razum, O. (2007): "Gesundheit von Migranten: Defizite im Bereich der Prävention." <u>Med Klin</u> (Munich) 102 (6): 451-456.
- Spallek, J. and Razum, O.(2008): "Erklärungsmodelle für die gesundheitliche Situation von Migrantinnen und Migranten." In: Bauer, U., Bittlingmayer, U. H. and Richter, M. (Eds.): <u>Health Inequalities – Determinanten und Mechanismen gesundheitlicher Ungleichheit</u>. Wiesbaden: VS-Verlag: 271-288.
- Swerdlow, A. J. (1991): "Mortality and cancer incidence in Vietnamese refugees in England and Wales: a follow-up study." <u>International Journal of Epidemiology</u> 1991; 20 (1): 13-19.
- White, J. B.(1997): "Turks in the New Germany." <u>American An-</u> <u>thropology</u> 99 (4): 754-769.
- Zeeb, H. and Razum, O. (2006): "Epidemiologische Studien in der Migrationsforschung – ein einleitender Überblick." <u>Bundesgesundheitsblatt Gesundheitsforschung Gesundheitsschutz</u> 49 (9): 845-852.

Further Information Online

- International Centre for Migration and Health (ICMH): http://www.icmh.ch/
- International Organization for Migration (IOM), Migration Health Department (MHD): http://www.iom.int/jahia/Jahia/pid/543

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