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Migration and Health

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Introduction

The importance of place and the varied social, economic and environmental conditions and processes people are exposed to within these places are recognised as influences on health (Jones and Duncan, 1995; Macintyre et al., 2002; Marmot and Wilkinson, 2009; Srinivasan et al., 2003). As a result, a wide range of studies investigate geographical variations in health, comparing mortality and morbidity rates between different area-types. Yet traditionally, such studies often failed to account for the fact that people are mobile and experiencing a range of social, economic and environmental conditions throughout their lives; and that there are implications for changing health status (Gatrell, 2011). This omission was criticised by some (Prothero, 1977; Bentham, 1988) with others demonstrating its folly (for example, Mancuso and Sterling, 1974; Kliwer, 1992). Justifying the role of migration in health studies therefore seems plausible: if area-specific variations in health are under- or over-estimated because people migrate, this is an important issue for public health professionals. However, what of health in migration studies?

In the original volume which this book updates, a chapter exploring the links between migration and health was conspicuous in its absence. This was perhaps not surprising given the nature of the medical and population geography sub-discipline at this time, the lack of relevant morbidity and longitudinal microdata, and the then lack of engagement (by geographers) with the England and Wales longitudinal Census data. Elsewhere migration reflected little more than an occasional feature of epidemiological research studies. As such, discussions of **migration and health** shed little light on the pivotal question posed by Champion and Fielding: ‘who goes where, and why?’ (1992: 1). We would argue that health and well-being more broadly defined were omitted at some cost to understanding.

So how might migration and health be related to each other? Characteristics of migrants can be different from those of non-migrants and these tend to vary both demographically and by socioeconomic characteristics; according to either the types of areas migrants move from and to (i.e. origins and destinations); or the scale of the move itself, be it local, regional or international and/or short or long-term. One such characteristic is health status. Whether good or bad, health status can influence either a person’s propensity and ability to migrate, or even

be the reason for their move (Gatrell, 2011). If the health of migrant populations is different from that of non-migrant populations, net flows of in- and out-migration to an area may affect the overall health status of that area, whether for general or specific conditions (Norman et al., 2005; Boyle et al., 2009). This may possibly lead to ‘aging in place’ and higher rates of long-term illness (Rowland, 2003). Moreover, the health of the migrants themselves may be affected, either negatively or positively, depending on the circumstances arising during and after the move itself (e.g. possibly experiencing social exclusion and dis-attachment, loneliness, depression and mental health problems). A greater awareness and appreciation of these relationships and linkages between health and migration, as well as how this may influence health inequalities between different small areas, population (sub-) groups and also migrants and non-migrants has emerged since the publication of the previous volume. This chapter will review literature investigating these relationships to demonstrate the place of health within migration studies. It will then discuss possible future developments in the field which can further understanding as to who goes where and why.

The rest of the chapter will proceed by summarising how research into health and migration has moved from the fringes of epidemiology to the central folds of population and health geography in the intervening years. This will describe the importance of discussions of health inequalities within studies of migration and health, and accordingly, the influence on research into spatial variations in health. The remaining sections will explore subsequent developments in the field of migration studies in relation to health which are increasingly concerned with the extent to which migration can help us understand the nature of health inequalities in contemporary society. Drawing on an established literature on migration, characteristics of migrants and the relationship with health before, during and after the event of migration itself will be discussed. This will inform the latter half of the chapter which focuses on the dominant analytical and theoretical frameworks which govern recent developments. As such, the final sections will review the growing literature concerned with health selective migration and the possible influence on health gaps between population subgroups and area types. It is likely, as will be discussed, that future developments will build on these studies of health selective migration.

This review of migration and health sits in a volume concerned with subnational migration within the UK. Substantial discussion of the literature on international migration is therefore outside the remit. However, relevant literature which has been influential will be considered. The terms migration, residential mobility, population mobility or geographic mobility will be

used synonymously. While such definitional overlap is regarded suspiciously by some, particularly within the migration literature of the United States (de Beer et al., 2010 discuss the implications of differing definitions of migration), it is common practice in much of the research concerned with health.

From epidemiology to geography

The observation that migration may contribute to spatial variations in health is not a recent one. As early as the mid-nineteenth century, Farr (1864) noted that the health status of migrants moving from urban to rural areas differed from that of those moving in the opposite direction. Similar findings were then documented by Welton (1872) with respect to urban to rural female movers. Despite the implications of these early observations for comparisons of area-specific mortality and illness rates, as well as a number of subsequent calls for researchers to take heed of mobility (Prothero, 1977; Bentham, 1988), it was some time before studies of spatial variations in health specifically and routinely investigated the importance of mobility.

Traditionally, much of the research concerned with migration and health was born out of epidemiological studies seeking to map the spread and diffusion of disease (a longstanding focus of concern in epidemiology). Migrants were therefore to be 'feared', viewed as harbingers of disease (Ahmed, 2000). However, a more positive view is that these mobile populations can provide invaluable aetiological clues for different diseases which can help with the development of treatments. Moreover, they can aid development of preventative strategies by foregrounding important causes of morbidities that public health practitioners should target (e.g. immunisation strategies against childhood infectious diseases). More specifically, if one area was particularly attractive to migrants yet also exhibited high cause-specific mortality rates, failing to differentiate between the migrant and non-migrant population may mask that these mortality rates are not attributable to that area, rather to the origins of the migrant population (for example, Mancuso and Sterling, 1974; Kliewer, 1992; Greenberg and Schneider, 1992; Strachan et al., 1995; Haworth et al., 1999; Maheswaran et al., 2002). If medical providers recognise the differential risk of particular ethnic groups which may represent part of their local migrant population, studies such as these can aid in the management of population health; illustrate the need to devise preventative and treatment programmes for diverse groups (Harding et al., 2008; 2009); and reduce the risk of the spread of infectious diseases (Wagner et al., 2013). Consequently, migration's role within health

research both reveals the aetiology of specific diseases such as cancer, and serves to identify problem areas and/or 'at risk' groups requiring resources to tackle disease specific factors and manage population health. For those interested in reading more about the role migration plays in health studies, particularly with respect to the spread of disease, see the first half of Boyle and Norman's (2009) chapter on health and migration in *A Companion to Health and Medical Geography*. Gushulak and MacPherson (2006) provide a more technical account of the epidemiological approach to studying migrant health.

Spatial variations in health

Ignoring the spatial and temporal dimensions of mobility within studies of disease or variations in mortality rates can only be done at "considerable risk" (Prothero, 1977: 266), with these problems mounting as population mobility increases (Bentham, 1988). Whilst much of the previous research concerned with migration and health was conducted from the point of view of the epidemiologist and/or other health-related disciplines, more recent accounts have increasingly been conducted through the lens of the geographer. For example, consider the work of Rogerson and Han (2002); geographers who looked at the effect of migration in the detection of spatial differences in disease risk.

Human geographers are concerned with aspects of the human population collected in different spatial units (and increasingly this has become possible at finely grained spatial scales in the UK and elsewhere). Specifically, health and population geographers are concerned with aspects of population health collected in different spatial units. This includes research investigating spatial differences in health such as those between the North and South (Shaw et al., 1999, Copeland et al., 2014), between more and less deprived areas (Rees et al., 2003; Boyle et al., 2004; Norman et al., 2005), between urban and rural communities (Gould and Jones 1996; Haynes and Gale, 1999; Levin and Leyland, 2005; Riva et al., 2009; Riva et al., 2011), and between specific area-types such as 'accessible rural areas' compared to 'industrial districts' (Norman and Bamba, 2007). Such research is analogous to studies which have documented social gradients in health in medical sociology and population health, whereby health status varies according to attributes such as educational attainment, socioeconomic status and occupation (Marmot, 1986; Davey Smith et al., 1997; Mackenbach et al., 2008; Wilkinson and Pickett, 2010). It is this interest in compositional differences (see also below) in health status which now places health much more prominently in migration studies.

The study of social and spatial inequalities in health is an ever-fruitful source of academic inquiry since, despite the abundance of research investigating the nature of these inequalities, there is convincing evidence to suggest these inequalities are widening. Widening or just persisting inequalities are of political and public concern and therefore require research to inform policies designed to reduce the gap (Pearce and Dorling, 2006; Shaw et al., 1999). The reframing of health as a feature of migration studies can be attributed to efforts to understand the nature of persisting and possibly widening inequalities. For example, the publication of the Black Report (Department of Health, 1980; Townsend et al., 1992) sought to explain social gradients in the UK, offering four key explanations including 'social selection' (for a review of the report and explanations, see Macintyre, 1997). This holds that health determines social position and therefore acts as a natural filter ordering individuals according to their physical strength or intellectual ability. As yet, no consensus has been reached as to whether social selection, typically operationalised through health-related social mobility, either constrains or widens social gradients in health (Boyle et al., 2009). If social selection via social mobility may help explain social gradients in health, perhaps selective migration will help explain spatial gradients in health.

Research on social and/or spatial health inequalities has included debate on the relative merits of 'compositional' and 'contextual' explanations for area variations in health outcomes (Macintyre et al., 1993, Duncan et al., 1998; Smith and Easterlow, 2005). This debate encapsulates efforts to disentangle the extent of the influence of the characteristics of the individual versus the characteristics of the location on health. Smith and Easterlow (2005: 174) are geographers who have suggested that the prevailing paradigm governing research into inequalities in health is a "tale of risky places" whereby contextual accounts and narratives dominate; and in their principally qualitative analysis of the movement and selective (dis-) placement of the ill through the rented housing sector, argue for compositional accounts of (ill-) health. Others have argued we should recognise that the aggregate of the individual-level characteristics plays no small part in determining the [social and demographic] characteristics of the place itself, therefore the distinction between context and composition is not and should not be viewed as dichotomous (Macintyre et al., 2002). For Smith and Easterlow's (2005) critique of the 'strange geographies of health', this requires geographical narratives of health that not only consider context, but also composition and the way in which the health status of individuals influences their experience of place, and crucially, their possible mobility. By unifying rather than dichotomising the concepts of

context and composition, the importance of health for migration studies begins to take shape and is also better placed itself.

Placing health in migration

It is important to account for mobile populations and different forms of mobilities in studies of population health in an increasingly globalised world (Gatrell, 2011). This has been recognised by health researchers either mapping the spread of disease or seeking to identify ‘at risk’ groups or areas. So what of the field of migration studies? How have efforts to understand persisting inequalities in health shaped the literature and more importantly, what can health tell us about who migrates, where they go, and why they move? One feature of migration research is the recognition that migration increasingly shapes societies which are neither static nor immutable. Migration is a major component of population change which influences the sociodemographic structure of society. This is because migration is an inherently selective process, evident in the distinct characteristics of migrants compared to non-migrants.

Migrants differ from the non-migrant population by age, housing tenure, socioeconomic position and educational attainment (Boyle et al., 1998; Champion and Ford, 1998; Norman et al., 2005; Brown et al., 2012). Thus, migration is selective based on these types of person-level attributes. Decisions (not) to migrate and choices of destination will also vary according to these attributes as migrant destination is contingent on the differing social and economic ‘push’ and ‘pull’ factors which will also vary by age. In early adulthood choice to migrate could stem from the ‘pull’ of a higher education establishment or the ‘push’ of a less desirable, more deprived area not considered suitable for the raising of children. Conversely, choice to migrate in later life may relate to the ‘pull’ of an area with better formal or informal care provision. Recognising the importance of place characteristics as well as migrant characteristics is vital in conceptualising the selective nature of migration. Walters (2000) further discusses the importance of place characteristics in determining choices to migrate and subsequent destinations.

Health is another characteristic with which migrants and non-migrants can be distinguished; a characteristic which also varies by age and is considered a determinant of migration. However, as health not only varies by age, generally worsening over the lifecourse (particularly in later stages), but also varies along social and spatial gradients, then health may also be a consequence of migration. If living either in more or less deprived

circumstances is harmful or beneficial to health, it is logical to assume that moving to a more or less deprived area may therefore affect health outcomes. Moreover, other physical and psychosocial area characteristics associated with origins and destinations may have important health consequences (Macintyre et al., 1993; Elliott et al., 1993).

Younger migrants tend to be healthier than their immobile counterparts whereas the inverse is true for older migrants (Bentham, 1988; Findley, 1988; Verheij et al., 1998; Boyle et al., 2002; Rogerson and Han, 2002; Norman et al., 2005). Young adults in good health are highly mobile, moving for employment or education opportunities which are themselves correlates of good health (Verheij et al., 1998). As we age, reasons for mobility vary as will our choice of destination. For example, younger healthy adults may first move to a more deprived, less desirable, more central urban area but then move outwards as status, income and aspirations climb to the leafier suburbs characterised by lower deprivation. Thus, health as a selective criterion for migration will vary across the lifecourse and may also interact differently with different socioeconomic attributes.

Determining which characteristics migrants hold with respect to the push and pull of different origin and destination types across the lifecourse serves to establish an analytical framework within which the health status of migrants and non-migrants can be compared and contrasted. It also allows us to explore how health may not only be a determinant of migration, but also a consequence of migration. Figure 1 conceptualises health's place in migration studies according to the themes being discussed here.

[Figure 1 about here]

The distinct migrant characteristics are evident in the push or pull factors, the social determinants of health which are entwined with the migrants exposure to different socioeconomic circumstances and the context of the area in which they live. These all manifest at both origin and destination, and will vary across the lifecourse by age (Norman and Boyle, 2014). Health selective migration is based on a combination of the migrant characteristics and stage in lifecourse or age at migration. The movement of individuals with different health between origins and destinations influences spatial variations in health. This is compounded by the possible subsequent influence on the health of the migrants themselves: health may be influenced by the migration event itself, and the contextual and compositional circumstances of the destination area. This is important when thinking of

international migration and specifically relates to their adaptation, integration and acculturation into the new areas, social structures and ways of life.

Health as a consequence of migration

As previously discussed, the socially graded nature of health and the influence of place on health, whether contextual or compositional, suggests that the health of migrants may be influenced by the areas to which they move. Moving to a more advantaged area may result in improving health whereas moving to a less advantaged area may result in worsening health. This is likely to be true for both subnational and international migration. However, as the change in circumstances precipitated by international migration is often likely to be more marked than for subnational migration, the consequences of migration for international migrants may be more significant for health than for subnational migrants. As the act of migration itself can be stressful, this can also influence health for both subnational and international migrants. Research exploring these relationships has given rise to theories separately regarding either a migrant's ability to adapt to their new contextual and compositional circumstances, their ability to integrate, and their possible acculturation. As this literature largely falls outside of the scope of this review it will not be further discussed (for a review of such literature, see Acevedo-Garcia et al., 2012).

The literature on international migration, and the extent to which health may deteriorate or sometimes improve after migration, is concerned with the 'healthy migrant' effect. This relates to discussions of selective migration and health gradients insofar as it is indicative of the confounding influence of migration on spatial variations in health and substantiates claims as to the health-selective nature of migration. The health status of international migrants is typically better than the health of those they are leaving behind. Moreover, their health is usually better than expected given their socioeconomic and demographic characteristics (Fennelly, 2005; Newbold, 2005). The destinations for many of these migrants are often more deprived, characterised by lower socioeconomic circumstances. Such areas with high net in-migration from international migrants may temporarily exhibit lower mortality and morbidity rates than expected given the contextual circumstances. However, as duration of residence lengthens, a process of acculturation occurs whereby migrant health begins to converge with the local population (McDonald and Kennedy, 2004; Weishaar, 2008). In the wider context of migration studies, recognition of the 'healthy immigrant effect' could help policy-makers understand the impact of migration on the migrant population

which may aid local government planning as well as contributing to developing migration theories.

Having moved from epidemiology to geography, drawing on elements from the sociology and geography of health, the discussions in this chapter have laid the foundations for what increasingly constitutes the focus of migration and health research: exploring health selective migration and the contribution to health gradients. Research exploring the characteristics of migrants, varying propensities for migration, and migration's influence on spatial distributions of health has culminated in the idea that where social selection may help explain social inequalities in health, so may selective migration help explain spatial inequalities in health.

Selective migration and health gradients

Migration, as noted above, is inherently selective, based on individual-level attributes but also on the characteristics of origin and destination. Health can be understood as one of the possible individual-level selection attributes or as a strong influencing factor on the decision to migrate. As health influences the propensity for migration this may contribute to changing health gradients. Similar to the social selection hypothesis which argues that those in better health are selected into higher social groups, whereas those in poorer health are selected into lower social groups, proponents of selective migration would argue that those in poor health are either less able to escape less desirable areas or more likely to drift down into such areas, while those in good health are more able to leave these areas and will therefore tend to move to more desirable locations. However, attempting to empirically demonstrate this is problematic as it is difficult to disentangle cause and effect within the constraints of available data: does selective migration lead to concentrations of healthy people in more advantageous areas and unhealthy people in less advantageous areas, or do poor area conditions lead to concentrations of unhealthy people in these areas, and vice versa for healthy people.

Whilst health may influence migration propensity and the direction of migration, so may the act of migration or resulting changing area circumstances influence health. It is likely that a reciprocal relationship between health and migration is at work whereby the extent of the effect of health selective migration may vary according to the area or circumstances of the individuals. The extent of the effect of selective migration could also vary by demographic attributes such as gender or ethnicity. Whilst one American study did not find any relationship between mobility and health status for women, a relationship was evident for

men suggesting selective migration did influence male mobility (Halliday and Kimmitt, 2008). Similar ideas have been alluded to by others for whom migration involves a dynamic population group and theories should not be assumed to be universally applicable (Connolly and O'Reilly, 2007; Connolly et al., 2007; Stockdale and Catney, 2012).

Selective migration and health gradients: for and against

Let us look in more detail at the role selective migration plays in widening health gradients or at least, confusing spatial analyses of variations in health. In discussions of social selection, it is often argued that for selection to contribute to widening gradients, the health of those moving into higher social classes must be better than the health of those they are joining and the health of those moving down must be worse than that of those they are joining (Boyle et al., 2009). However, research has demonstrated both in the selective migration and social selection literature, health status of both those moving down and up is usually somewhere in between that of the origin and destination groups (Elstad, 2001). This has led some, particularly within the social mobility literature, to conclude that selection effects constrain rather than widen health gradients (Bartley and Plewis, 1997; 2007). However, as Boyle et al. (2009) point out, such analytical frameworks fail to account for the differential movement of upwardly and downwardly mobile persons. It is here where the influence on health gradients is likely to play out and this does not require health to be substantially worse or better than those in the destination social class. This is an important analytical point and relevant as this chapter discusses analogous research on migration.

Shortly after the publication of Champion and Fielding's original text, Verheij et al. (1998) noted that research into the influence of selective migration on changing health gradients was rare. The authors primarily attributed this to a lack of appropriate longitudinal data which is essential to effectively analyse the extent of the role of selective migration. Some studies using only cross-sectional data with limited retrospective information on health and other individual-level attributes found that selection effects were not important (Blazer et al., 1985; Lewis et al., 1992; Diderichsen et al., 1992). These conclusions have been largely overridden by subsequent evidence suggesting (using more recently and/or readily available longitudinal morbidity data) that, irrespective of the influence on widening health gradients, selective migration does occur.

Since Verheij et al. (1998) published their research into selective migration and commented on the lack of comparable research, this area of study has expanded. The authors of that study

concluded that for selective migration to contribute to urban-rural variations in health, the absolute numbers of migrants would need to be very high. However, they went on to suggest that this does not necessarily preclude the contribution of selective migration to variations in health according to deprivation, an idea which will later be discussed. So, the numbers of migrants involved are evidently important as Martikainen et al. (2008) also later concluded. Their analysis demonstrated that migration only had a small effect on area socioeconomic mortality differences due to the small migratory flows. The geographic scale at which migration is occurring has also been found to be important in terms of the extent of the influence of selective migration on spatial variations in health (Brown and Leyland, 2009). Brimblecombe et al. (1999) found that although selective migration did not account for variations in health at the regional level, major variations in health observed at district level could be attributed to selective migration. However, the authors subsequently concluded that area differences in mortality were due more to the cumulative lifetime advantage of certain migrant groups than the effects of selective migration (Brimblecombe et al., 2000).

Similarly negative conclusions regarding the role of selective migration in either widening or maintaining spatial variations in health have been reached by others at varying geographic scales and in different socio-political contexts (for example, Connolly and O'Reilly, 2007; Popham et al., 2011). Nevertheless, others have demonstrated the role of selective sorting in changing health gradients. For example, Norman et al. (2005) clearly demonstrate that selective migration was responsible for increasing health inequalities observed between less and more deprived areas as opposed to changing contextual circumstances. Most of the studies discussed so far look at physical health, conceptualised either in terms of cause-specific mortality or morbidity rates, or in terms of either general self-assessments of health or the presence of limiting long-term illness. However, there is perhaps stronger evidence of selective migration with respect to mental health (DeVerteuil et al., 2007).

Whilst choice of outcome is evidently important in terms of the role of selective migration in contributing to widening health gradients, it does not affect the overall significance of selective migration for spatial analyses of population health. Other studies have looked at direct and indirect selection. According to Verheij et al. (1998), indirect selection is the selection of migrants based on health-related behaviours or risk factors whereas direct selection is based on actual health. Studies looking at both have concluded that neither form of selection would significantly contribute to neighbourhood inequalities in health. This contrasts with Pearce and Dorling (2006) who found evidence to suggest that indirect

selection of smoking and non-smoking migrants could significantly exacerbate recorded geographic inequalities in health in New Zealand. Findings such as these have important implications for the provision of healthcare services and health promotion strategies. However, there is also a dilemma for anyone seeking to monitor population health and the prevalence or widening of inequalities in health: is the health of the population worsening or are widening health inequalities only a by-product of selective migration. Whilst the latter is still inequitable and requires careful consideration and service planning, it is not quite the public concern which would arise from overall worsening health.

A number of studies have demonstrated that selective migration may appear to widen health inequalities without requiring an overall worsening of population health (O'Reilly and Stevenson, 2003). These problems hark back to earlier concerns that analyses of spatial variations in health were not adequately accounting for migration. Indeed it has been noted that health geographers who ignore the impact of selective migration may therefore produce misleading conclusions with respect to spatial rates of mortality and morbidity thus requiring the input of population geographers who may be better equipped to account for selective migration (Boyle, 2004). That said, it should not be forgotten some health geographers have provided important warnings (Bentham 1988; Gatrell and Elliott 2009; Jones and Duncan, 1995).

The next section of this chapter will review more recent developments in the field and finally move on to exploring possible future developments we might expect in migration and health research. First, it is worth considering an analytical point, raised by Norman and Boyle (2014) which may have influenced some of the conflicting conclusions discussed here. Much of the work on selective migration and spatial variations in health produced in the Netherlands tends to find little or no evidence of a strong influence of selective migration (Verheij et al., 1998; van Lenthe et al., 2007 Martikainen et al., 2008; Jongeneel-Grimen et al., 2011; Jongeneel-Grimen et al., 2013, though see Kibele and Janssen, 2013). This may be because these studies focus on direct comparisons of the health differences between migrants and non-migrants, rather than the differences in health between the migrant flows (i.e. whether people with different health statuses are moving in or out of an area). Although Verheij et al., (1998) do investigate the differences between flows and between migrants and non-migrants, others (Jongeneel-Grimen et al., 2011; Jongeneel-Grimen et al., 2013) do not. As previously suggested, it is likely that if selective migration influences health gradients, analyses should focus on health differences between migrants and thus primarily be

concerned with migratory flows (as pointed out by Boyle et al., 2004 regarding social mobility), rather than differences between migrants and non-migrants. Jongeneel-Grimen et al. (2013) concluded that health-selection would not enlarge health differences between deprived and non-deprived areas, contrasting with a previously cited study in the UK which found convincing evidence that selective migration did indeed explain widening health inequalities between deprived and non-deprived areas (Norman et al., 2005). The analytical framework and the spatial scale adopted evidently affects the results which emerge.

As this field developed, research has increasingly exploited longitudinal data, often using logistic regression models (Larson et al., 2004; Malmusi et al., 2010; Tunstall et al., 2010) but also including methods such as survival analysis (Newbold, 2005) or the comparison of standardised illness and mortality rates between migrants and non-migrants (Bentham, 1988; Kliewer, 1992; Norman et al., 2005; Popham et al., 2011). Indeed much of the research combines these methods to enhance their conclusions. Incidentally, existing literature in this field is almost exclusively quantitative with qualitative research largely concerned with the motives of international migrants or the relationship with health during or after migration (for example, Elliott and Gillie, 1998; Silveira and Allebeck, 2001; Warfa et al., 2006; Weishaar, 2008).

Before concluding this section, it is worth revisiting the work of Smith and Easterlow (2005) introduced previously. Literature exploring context and composition typically dichotomises the argument giving rise to the label of context versus composition. However, as implied by Macintyre et al., (2002) and explicitly discussed by Smith and Easterlow (2005), research should seek to unite composition and contextual narratives recognising the entwined importance of each. Smith and Easterlow (2005) recognise that whilst contextual factors can differentially shape the health of individuals, compositional factors including health history can influence migration trajectories. They conclude that this can either lead to favourable selection into healthy or health enabling places, or to unfavourable selection into risky or health disabling places. Having migrated, either through favourable or unfavourable selection, contextual influences will then continue to influence individual health.

Although conclusions vary as to the importance of selective migration in either contributing to widening inequalities in health or influencing spatial variations in health, this section has provided evidence that health should be construed as a vital strand of migration research. Albeit this must take into account differing socio-political contexts, the geographic scale

involved and the size of migratory flows. If evidence to suggest selective migration does not contribute to widening health gradients is only based on the size of migratory flows, the fact that the global population is increasingly mobile at the national and sub-national scale may be important for future health gradients and therefore require further research. But what of the more recent developments in this field and how may these influence the direction of research in the future?

Inter-relationships and future research

Thus far, the relationship between migration and health has been discussed in a number of ways, some of which implicitly introduce the idea of ‘deprivation mobility’ (Boyle et al., 2009). Deprivation mobility is the mechanism by which an individual’s experience of deprivation changes whether resulting from either a move (i.e. to a different area) or even or a change in an existing residential area’s circumstances. An additional form of mobility, discussed in relation to explanations for social gradients in health, is social mobility. Social mobility may have an important inter-dependent relationship with migration, particularly if we consider the types of characteristics which distinguish between migrants.

Young healthy mobile adults, as already highlighted, may move in search of employment or education opportunities. If migrants, of any age, are mobile for employment or education, this focuses attention on the idea that perhaps residential mobility and social mobility are related. Notable work in this area by Fielding (1992a) observed that the South East of England seemed to disproportionately attract potentially upwardly mobile young adults who were then more likely to be promoted than those elsewhere in the country. These adults were also found to be more likely to attain a higher financial and social position than those residing elsewhere. Whilst this link has been established for some time, the logical step to link these interdependent mobilities to health has not yet been taken. Indeed, in an increasingly mobile world, the inter-dependence of these mobility processes, whether they be based on social structures, changing locations, or changing deprivation, gain in importance.

These ideas of inter-relationships and inter-dependent mobilities characterise some of the more recent literature and are indicative of what the future holds. Inter-dependent mobility introduces the idea of residualised populations created when people move away from certain areas perceived as less desirable: those that remain are the ‘social residue’, the population without the opportunity (or perhaps motivation or ability) to move away. Whilst immobile groups have featured in the chapter it has only been as a reference group for analytical

comparison. Yet reasons for immobility (or 'entrapment' as coined by Smith and Easterlow, 2005) are likely to be revealing in studies of population health.

Deprivation mobility and residualised populations

Poor health is known to be associated with increasing deprivation. This has been demonstrated by Boyle et al. (2004) who found that immobile residents were positively or negatively influenced by the increasing or decreasing deprivation of the area they lived in over time. If selective migration operates whereby healthy individuals are more likely to move to less deprived areas with the inverse being true for unhealthy individuals, then the associated deprivation mobility which corresponds with the residential mobility may have a further additive or multiplicative influence on health after migration. If unhealthy individuals who move to more deprived areas through a process of selective migration then experience even worse health, this reflects a significant public health concern. Similarly, what of those individuals in poor health who are immobile: what of the residualised and likely unhealthy populations? Whilst the role of immobility gets little specific coverage in much of the migration and health literature, it has recently come onto the agenda.

On the one hand, this is implied by the conclusions of Moorin et al. (2004) who found that unhealthy individuals were less able to migrate away from rural remote areas to the typically urban areas with adequate medical services. On the other hand, it could be explicit such as some of the growing research focussing on Scotland. Concentrating on residualised populations created through selective migration could, as suggested by Brown and Leyland (2009), help reduce widening inequalities in mortality for area-specific causes or premature mortality (Exeter et al., 2011). However, policy-makers should consider these conclusions and not assume, no matter how impractical the idea may seem, that such residualised populations would therefore benefit by being re-located to less deprived areas, thus enjoying the possible benefits. The opposite may be the case as this does not take into consideration wider determinants of health such as the existence of established social networks and social capital (Jackson et al., 2009) or feelings of social integration (Keene et al., 2013).

The relationship between social and residential mobility is well established (Fielding, 1992a) yet less so is the additional relationship with health. Whilst some have sought to elucidate the importance of accounting for the interaction between migration, health and social class (Malmusi et al., 2010), there has been little attempt to consider how propensity for social and residential mobility is influenced by health, or how these inter-dependent mobility processes

simultaneously influence health. So what of future research? A fuller recognition of the inter-dependence between social and residential mobility may provide more conclusive evidence as to the role of selective sorting on changing health gradients.

Recognition that a 'one size fits all' approach is not suitable for migration research warrants further study into the salience of selective migration for different subsets of the population. For example, as distinctive ethnic groups have very different residential patterns (Robinson, 1996) and experiences of social class, or social and residential mobility (Blackman, 2006; Smith and Easterlow 2005) they may have different experiences of selective migration evident in differing propensities for migration. This may contribute to observed ethnic differences in health or indeed the further marginalisation or 'residualisation' of certain ethnic groups in less advantaged circumstances. Thus, health may be influenced by but also influence social and geographic (im-) mobility. This therefore links contextual and compositional influences on health through the changing experience of place and social status, each widely recognised as important determinants of health. Furthermore, this fully accounts for the inter-dependence of social and geographic mobility, which has long been alluded to if not always made explicit. Ethnicity would then perhaps have an overarching or attenuating influence, but this may be more broadly in terms of wider demographic attributes, encompassing the relationships between health and the mobility processes (Darlington et al., forthcoming). This is but one example of how research in this area can develop, but hopefully serves to highlight how recent developments may facilitate future projects.

Before concluding, it is worth considering further directions for research, whether focussing exclusively on selective migration and health or widening to encompass the inter-dependence of mobility processes. This stems both from the limited existing qualitative research in this area, and the way in which health is conceptualised. As highlighted previously, much of the existing work is quantitative whereby health is conceptualised as the presence of limiting long-term illness, self-assessed general health, or in terms of mortality rates. Yet it was noted that evidence for health selective migration was perhaps stronger for mental health (DeVerteuil et al., 2007). Thus, future work could adopt a mixed methods approach to help disentangle the relationship between health and migration for a wider range of health outcomes, including mental health. Another research theme that deserves more future attention is health migration related to informal family care (Rogers et al., 1992). Whilst this is increasingly important in societies with aging populations, Ellis and Muckins' (1996) study of migration of people with AIDS in the USA reminds us that other demographic groups with

particular degenerative conditions can also need to move back and seek family support (and sometimes paradoxically from elderly parents).

At this juncture, it is worth noting that a new body of studies has begun emerging that is exploring very short-term health mobilities where individual travel to other countries for cosmetic surgery, dentistry and/or other therapeutic healing (Bell et al., 2011; Holliday et al., 2013; Smith and Puczko, 2013). Whilst perhaps not directly linked to more mainstream studies of migration and health status, this burgeoning field may uncover useful linkages with a focus on the consequence of the processes of globalisation and mobility, culture (see also Fielding, 1992b in the original volume and Halfacree, in this volume) and the importance of longitudinal biographical approaches in understanding processes and motivations (Boyle and Norman, 2009; Bailey 2005).

Conclusions

This chapter suggests that developments in the field of migration and health research have begun to enable academics to structure an answer to Champion and Fielding's original question of 'who goes where, and why?' So how does health shed light on this question? Who is determined by a wide range of socioeconomic and demographic characteristics, but also by health. Where is determined by the contrasting push factors in the origin area and pull factors of the destination area which are potentially attenuated by health. Perhaps the pull of an area with a worse environment or lower deprivation (the where) will be stronger for those in poor health than those in good health who are on an upward career trajectory (the why). Consequently, through empirical and theoretical developments in the separate fields of migration and health inequalities, analyses of migrant characteristics which vary across the lifecourse and the influence of health selective migration on spatial variations in health. Whilst the research presented is perhaps more conclusive with respect to who migrants and where they migrate to, perhaps the suggested future developments considering interdependent mobilities and factors such as ethnicity may provide a more conclusive answer to why.

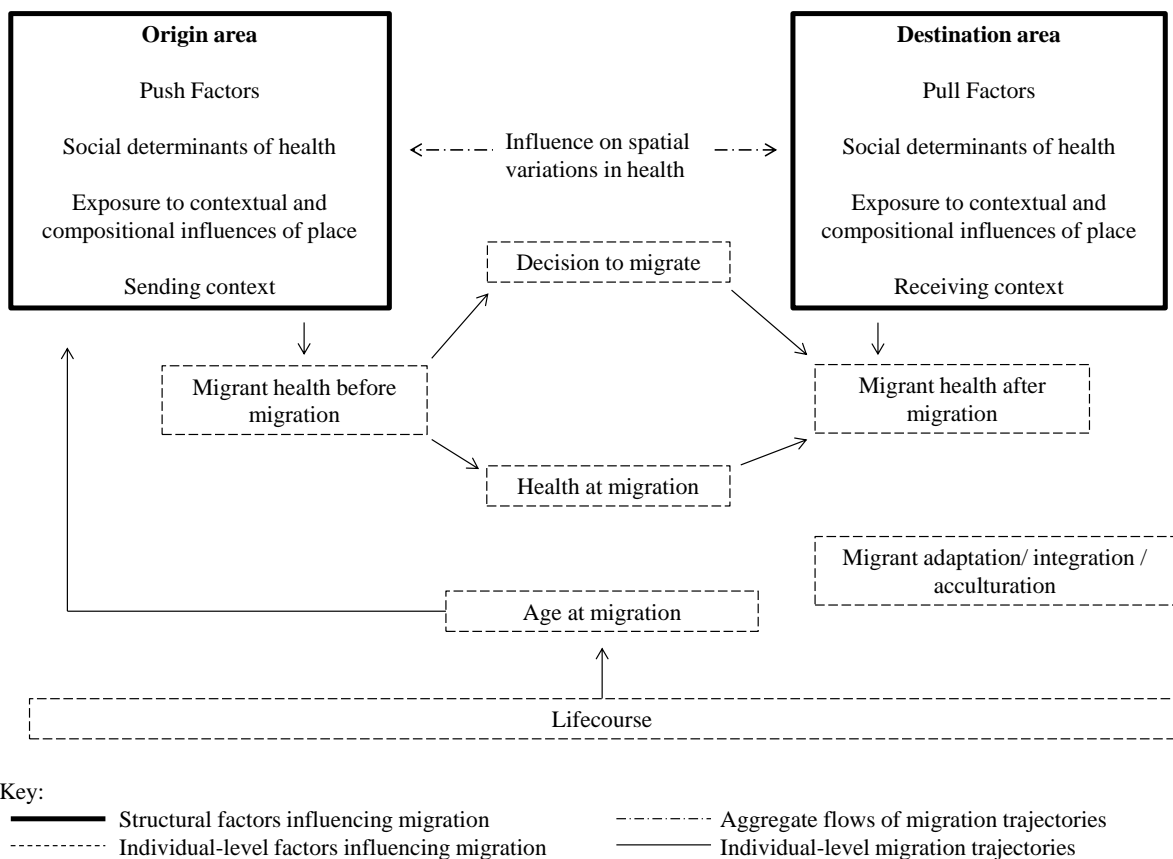


Figure 1: Placing health in migration: linking migrant characteristics, lifecourse and resulting spatial variations

Source: adapted from Acevedo-Garcia et al., 2012: 2061